Transition Networks Catalog

Intelligently Transforming Networks

TRANSITION
NETWORKS®

About Transition Networks

Is your network flexible enough to meet rapidly evolving business needs and emerging technologies for business? We help companies advance their networks by providing built-to-perform hybrid fiber/copper network integration solutions that increase bandwidth, extend distance, improve security and simplify management of networks. We transition networks to perform better, quicker, and more securely.

We are known for delivering high quality products and exceptional customer service to distributors, integrators and end users in over 71 countries. We are proud to have long standing relationships with many large distributors. Together, we support integrators, end users, the Federal government, state and local education, and utility customers worldwide.

With over 30 years of experience, Transition Networks, a Minneapolis company, has delivered over three million devices to customers worldwide including 67 of the Fortune 100 companies. Transition Networks is a Communications Systems Inc. company (NASDAQ: JCS).

Transition Networks Stats

- Founded: 1987
- Type: Public company. A Communications Systems Inc. company (NASDAQ: JCS)
- Industry: Data Networking, Information & Communications Technology
- Main Office: Minneapolis, Minnesota, USA
- Countries Serviced: 71
- Employees: 106
- Customers Served: Thousands of customer worldwide including 67 of the Fortune 100 companies
- Devices Distributed: Millions of devices deployed to customers globally
- Customer Acceptance Rating: 99.5%
- Government Approved Supplier: TAA Compliant Products – 96.7% of total products
- Technologies: Fast Ethernet, Gigabit Ethernet, 10Gb Ethernet SFPs, Wireless LAN/WAN connectivity, PoE, Carrier Ethernet, CWDM, NIDs

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Media Converters Product Line Card

Ethernet	Slide-in Card	Stand-Alone	Mini	PoE Stand-Alone	Hardened Stand-Alone	Hardened Mini
10Base-T to 10Base-FL		E-TBT-FRL-05 Series				
10Base-5 AUI to 10Base-T RJ-45		E-TBT-MC05				
Fast Ethernet						
100Base-TX to 100Base-FX	C2110 Series	E-100BTX-FX-05 Series	M/E-TX Series		E-100BTX-FX-05(HT) Series	
Ethernet / Fast Ethernet						
10/100Base-TX to 100Base-FX	C2210 Series	SBFTF Series	M/E-PSW Series	SPOEB Series	SISTF Series	M/E-ISW Series
10/100Base-TX to 100Base-FX with OAM/IP-Based Management	C2220 Series	S2220 Series				
10/100Base-TX Fault-Tolerant Redundant Link Protector		SBFTF1010-130				
Gigabit Ethernet						
1000Base-T to 1000Base-SX/LX	C3110 Series	SGETF Series	M/GE-T Series			
Ethernet / Fast Ethernet / Gigabit Ethernet						
10/100/1000Base-T to 1000Base-SX/LX	C3210 Series	SGFEB Series	M/GE-PSW Series	SGPOE Series	SISTG10xx-211-LRT-B Series	M/GE-ISW Series M/GE-ISW-SFP-01-PD
Uni-directional 10/100/1000Base-T to 1000Base-X SFP Slot			M/GE-xSW-SFP-01-xx-UxX Series			M/GE-xSW-SFP-01-xx-UxX Series
10/100/1000Base-T PoE+ PSE to 1000Base-X				SGPAT Series		
100/1000Base-X + 10/100/1000Base-T PoE+				SI-IES-111D-LRT	SI-IES-111D-LRT	
100/1000Base-X + (2) 10/100/1000Base-T PoE+				SI-IES-121D-LRT	SI-IES-121D-LRT	
10/100/1000Base-T to 1000Base-X with 802.3ah OAM/IP-Based Management	C3220 Series	S3220 Series			S3220 Series	
10/100/1000Base-T to 1000Base-X with 802.1ag OAM/IP-Based Management	C3230 Series	S3230 Series				
Remotely Managed NID with Built-in Traffic Generator		S3290 Series				
10 Gigabit Ethernet						
10GBase-T Copper to Fiber	C4120-1048	S4120-1048				
10GBase-X to 10GBase-X + 10/100/1000Base-T with Remote Layer 2 Management	C4221-4848					
Fiber to Fiber Multi-Rate						
SFP to SFP for Data Rates from 100Mbps to 2.5 Gbps	C3100-4040	S3100-4040				
Fiber to Fiber for Data Rates from 100Mbps to 155Mbps		F-SM-MM-02				
Fiber to Fiber for 1000Base-X or 1000Base Fiber Channel		SFMFF1314-220				
SFP+ to SFP+ for Data Rates from 1 Gbps to 11.5 Gbps	C4110-4848	S4110-4848				

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Media Conversion Platform

Media Converters Continued

Ethernet Extenders	Slide-in Card	Stand-Alone	Mini	PoE Stand-Alone	Hardened Stand-Alone	Hardened Mini
10/100/1000Base-X + 1000Base-T RJ-45 or 2-Wire Terminal Block				EO2PSE4052-111 & EO2PD4052-111	EO2PSE4052-111 & EO2PD4052-111	
100/1000Base-X + 1000Base Coax BNC				EOCPSE4020-110 & EOCPD4020-110	EOCPSE4020-110 & EOCPD4020-110	
100Base-TX RJ-45 + 2-Wire Terminal Block		IPOTW1052-111-LRT	*Note: For SFP Ethernet Extender option, view Copper SFPs*			
DS3 - T3/E3						
DS3 – T3/E3 Coax over Fiber	C6210 Series				S6210 Series	
DS1 - T1/E1/J1						
T1/E1 over Fiber	C6010 Series				S6010 Series	
4 x T1/E1/J1 over Fiber	C6110 Series				S6110 Series	
4 x T1/E1/J1 + 10/100 Ethernet over Fiber	C6120 Series				S6120 Series	
Serial						
RS232 Copper to Fiber Media Converter		J/R232 Series				
RS-232/422/485 + (2) 10/100Base-TX Slim					SDSTX3110-121S-LRT	
(4) RS-232/422/485 + (2) 10/100Base-TX					SDSTX3110-124-LRT-B	

PoE Mid-span Injectors *Note: For more PoE options, view Power-over-Ethernet Products.*

10/100Base-T 1-Port PoE Mid-Span Injector				MIL-L100i		
10/100/1000Base-T PoE+ Injector				L1000i-at		
10/100/1000Base-T + 10/100/1000Base-T PoE+				SI-IES-1200-LRT	SI-IES-1200-LRT	

Chassis	Chassis	Accessories	AC Power Supply	DC Power Supply		
1-Slot ION Chassis	ION001-A					
2-Slot ION Chassis	ION002-AD					
6-Slot ION Chassis	ION106		IONPS6-A	IONPS6-D		
19-Slot ION Chassis	ION219		IONPS-A-R1	IONPS-D		
ION Management Module		IONMM Series				
ION Adapter Card		IONADP				
18-Slot Mini Media Converter Chassis	M-MCR-01					
12-Slot Media Converter Rack	E-MCR-05					
4-Slot Media Converter Shelf	RMS19-SA4-02					
2-Slot Shelf for S3290 Series NID	RMS19-NID2-01					

ION219

ION106

Switches Product Line Card

Enterprise

Fast Ethernet	7 or Less Ports	8 to 12 Ports	13-18 Ports	19 or More Ports	Managed	PoE	PoE+	PoE++	APR
(8) 10/100Base-TX Ports		S8TXA							
(24) 10/100Base-TX Ports				S24TXA					
Gigabit Ethernet									
(4) 10/100/1000Base-T Ports + (4) 100/1000 SFP Slots		SM4T4DPA			X				
(8) 10/100/1000Base-T Ports		S8TB							
(8) 10/100/1000Base-T Ports + (2) 100/1000 SFP Slots		SM8TAT2SA			X	X	X		X
(8) 10/100/1000Base-T Ports + (2) 100/1000 SFP/RJ-45 Ports		SM10T2DPA			X				
(12) 100/1000Base-X SFP Slots + (2) 1G/10GBase-X SFP+ Slots + (2) 10/100/1000Base-T RJ-45 Ports			SM12DP2XA		X				
(16) 10/100/1000Base-T Ports + (2) 100/1000 SFP Slots			SM16TAT2SA		X	X	X		X
(24) 10/100/1000Base-T Ports + (2) 100/1000 SFP/RJ-45 Combo Ports				SM24TAT2DPA	X	X	X		X
(24) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP/RJ-45 Combo Ports				SM24TBT2DPA	X	X	X	X	X
(24) 10/100/1000Base-T Ports + (2) 100/1000 SFP Slots				SM24TAT2SA	X	X	X		X
(20) 100/1000Base-X SFP Ports + (4) 100/1000Base-X SFP/RJ-45 Combo Ports				SM24DPB	X				
(20) 10/100/1000Base-T Ports + (4) 100/1000 SFP/RJ-45 Combo Ports + (2) 100/1000 SFP Ports				SM24T6DPA	X				
(24) 10/100/1000Base-T Ports + (4) 1000/10GBase SFP+ Ports				SM24TAT4XA	X	X	X		X
10 Gigabit Ethernet									
(24) 100/1000Base SFP Ports + (4) 1000Base/10GBase SFP+ Ports				S4224 Series	X				

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SM8TAT2SA, SM16TAT2SA, SM24TAT2SA

SM24TBT2DPA

SISPM1040-362-LRT & SISPM1040-384-LRT-C

SISPM1040-582-LRT

Note: APR - Auto Power Reset - is a unique feature offered on our PoE Devices to remotely reboot and power-cycle unresponsive PoE powered devices, saving time and money.

Switches Continued

Hardened

Fast Ethernet	7 or Less Ports	8 to 12 Ports	13-18 Ports	19 or More Ports	Managed	PoE	PoE+	PoE++	APR
(4) 10/100Base-TX Ports + (1) 100Base-FX Port	SISTF101x-241-LRT								
(4) 10/100Base-TX PoE Ports + (1) 100Base-FX Port	SISTP101x-141-LRT					X			
(8) 10/100Base-TX Ports		SISTF1010-280-LRT							
(7) 10/100Base-TX Ports + (3) 100/1000Base-X Combo Ports		SISTM1040-173D-LRT			X				
(16) 10/100Base-TX Ports + (2) 10/100/1000Base-T Ports or (2) 100/1000Base-X SFP Combo Ports			SISTF1040-162D-LRT						
(16) 10/100Base-TX Ports + (2) 10/100/1000Base-T Ports or (2) 100/1000Base-X SFP Combo Ports			SISTM1040-262D-LRT-B		X				
Gigabit Ethernet									
(4) 10/100/1000Base-T PoE++ Ports + (1) 10/100/1000Base-T or 100/1000Base-X SFP/RJ-45 Combo Port	SESPM1040-541-LT-xx Series				X	X	X	X	X
(4) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP Slots	SISTG1040-242-LRT								
(4) 10/100/1000Base-T PoE+ Ports + (2) 100/1000Base-X SFP Slots	SISTP1040-342-LRT					X	X		
(4) 10/100/1000Base-T PoE+ + (2) 10/100/1000Base-T RJ-45 + (2) 100/1000Base-X SFP Ports		SISPM1040-362-LRT			X	X	X		X
(4 or 7 or 8) 10/100/1000Base RJ-45 Ports + (1 or 2) 100/1000Base-X SFP Ports + (2) 100/1000/2500Base-X SFP Ports		INDURA			X				
(8) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP Slots		SISTG1040-282-LRT							
(8) 10/100/1000Base-T PoE+ Ports + (2) 100/1000Base-X SFP Slots		SISTP1040-382-LRT				X	X		
(8) 10/100/1000Base-T PoE++ Ports + (2) 100/1000Base-X SFP Slots		SISPM1040-582-LRT			X	X	X	X	X
(8) 10/100/1000Base-TX Ports + (4) 100/1000Base-X SFP Slots		SISGM1040-184D-LRT			X				
(8) 10/100/1000Base-T PoE+ Ports + (4) 100/1000Base-X SFP Slots		SISPM1040-384-LRT-C			X	X	X		X
10 Gigabit Ethernet									
(16) 10/100/1000Base-T PoE+ Ports + (4) 100/1000Base-X SFP Slots + (4) 1G/10GBase-X SFP+ Slots			SISPM1040-3166-L		X	X	X		X
3 Full size bays – accommodates (8) port 100/1000Base modules, 1 Half size bay – accommodates (2) or (4) port 1000/10Gb SFP module		SISGM-CHAS-Lx	SISGM-CHAS-Lx	SISGM-CHAS-Lx	X				
(24) 10/100/1000Base-T PoE+ Ports + (4) 100/1000Base-X SFP Slots + (4) 1G/10GBase-X SFP+ Slots				SISPM1040-3248-L	X	X	X		X

Note: APR - Auto Power Reset - is a unique feature offered on our PoE Devices to remotely reboot and power-cycle unresponsive PoE powered devices, saving time and money.

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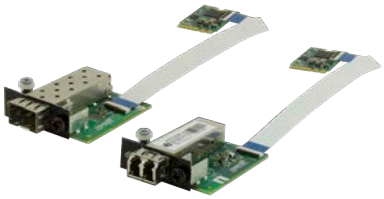
Network Adapters Product Line Card

M.2	Fast Ethernet	Gigabit Ethernet	10 Gigabit Ethernet	PoE
100Base-FX for Dell OptiPlex™ 7040/7050 & Wyse 7000	NM2-FXS-2230-SFP-01			
100Base-FX for Dell OptiPlex™ 7060/5060/3060	NM2-FXS-2230-SFP-201			
1000Base-SX/X for Dell OptiPlex™ 7040/7050 & Wyse 7000		NM2-GXE-2230-xx-01 Series		
1000Base-X for Dell OptiPlex™ 7060/5060/3060		NM2-GXE-2230-xx-201 Series		
PCI				
100Base-FX	N-FX-xx-03 Series			
PCIe				
100Base-FX	N-FXE-xx-02 Series			
1000Base-X and 10/100/1000Base-T PoE+		N-GXE-PoE-xx-01 Series		X
1000Base-SX with Windows 10 Support and Wake-on-LAN		N-GXE-xx-02 Series		
PCMCIA				
100Base-FX	PCM32-FX-xx-01 Series			
USB				
100Base-FX	TN-USB-FX-01 Series			
1000Base-SX		TN-USB3-SX-01 Series		



NM2-GXE-2230-xx-01 Series

TN-USB3-SX-01 Series

N-GXE-POE-xx-01 Series

N-FX-xx-03 Series

SFP Product Line Card

Duplex

Fast Ethernet		Fiber Type	Compatability	Enterprise	Hardened	Distance	CWDM Wavelength
100Base-FX multimode (LC)	TN-JX-GE-100FX	MM	Juniper	X		2KM	
100Base-FX/OC-3 multimode (LC) with DMI	TN-SFP-OC3M Series	MM	MSA	X	X	2KM	
100Base-FX (LC)	TN-GLC-FE-100xX Series	MM / SM	Cisco	X	X	10KM - 120KM	
100Base-FX/OC-3 single mode (LC) with DMI	TN-SFP-OC3Sx Series	SM	MSA	X	X	20KM - 120KM	
100Base-FX/OC-3 single mode (LC) with DMI	TN-SFP-OC3S8-Cxx Series	SM	MSA	X		80KM	X
100Base-LX/SONET OC-3/SDH STM-1 single mode (LC) with DMI	TN-CWDM-100LX-1xx0 Series	SM	Cisco	X		80KM	X
OC-12/OC-3							
OC-12/STM-4 SFP (LC) with DMI	TN-SFP-OC12 Series	MM / SM	MSA	X		1KM - 80KM	
Gigabit Ethernet							
1000Base-SX multimode (LC)	TN-SFP-SX Series	MM	MSA	X		220/550m	
1000Base-SX multimode (LC)	TN-GLC-SX-MM Series	MM	Cisco	X	X	220m - 2KM	
1000Base-X (LC)	TN-EX-SFP-1GE Series	MM / SM	Juniper	X		220m - 160KM	
1000Base-X (LC)	TN-J48xxC Series	MM / SM	HP	X		220m - 80KM	
1000Base-X (LC) with DMI	TN-SFP-GE-x Series	MM / SM	Cisco		X	220m - 80KM	
1000Base-SX multimode (LC) with DMI	TN-SFP-ESXx Series	MM	MSA	X		2KM	
1000Base-LX single mode (LC)	TN-GLC-LH-SM Series	SM	Cisco	X	X	10KM - 40KM	
1000Base-LX single mode (LC)	TN-SFP-LX Series	SM	MSA	X	X	10KM - 200KM	
1000Base-LX/ZX Fiber Channel single mode (LC) with DMI	TN-CWDM-SFP-1xx0-40 Series	SM	Cisco	X		40KM	X
1000Base-LX/Fiber Channel 1x single mode (LC) with DMI	TN-SFP-LX8-Cxxx Series	SM	MSA	X	X	80KM	X
1000Base-LX/ZX Fiber Channel single mode (LC) with DMI	TN-CWDM-SFP-1xx0 Series	SM	Cisco	X		80KM	X
1000Base-LX single mode (LC) with DMI	TN-GLC-ZX-SM Series	SM	Cisco	X	X	80KM - 150KM	
1000Base-LX/ZX Fiber Channel single mode (LC) with DMI	TN-CWDM-SFP-1xx0-16 Series	SM	Cisco	X		160KM	X
1000Base-LX/Fiber Channel 1x single mode (LC) with DMI	TN-SFP-LX16-Cxx Series	SM	MSA	X		160KM	X
Gigabit Ethernet OC-48/OC-12 Fiber Channel 2x 1x							
Fiber Channel 2x/1x/OC-48/STM-16/1000Base-X (LC) with DMI	TN-SFP-FC2XM	MM	MSA	X		150-300m	
Gigabit Ethernet / 10 Gigabit Ethernet							
10GBase-X/1000Base-X, SFP+ with DMI single mode (LC)	TN-10GSFP-LRxM Series	SM	MSA	X		10KM-80KM	
10GBase-ZR/1000Base-ZX, SFP+ with DMI single mode (LC)	TN-10GSFP-LR8M-Cxx Series	SM	MSA	X		80KM	X

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Fiber Type Note: MM = Multimode Fiber, SM = Single Mode Fiber

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SFPs Continued

10 Gigabit Ethernet		Fiber Type	Compatability	Enterprise	Hardened	Distance	CWDM Wavelength
10GBase-SR/1000Base-SX, SFP+ With DMI Multimode (LC)	TN-10GSFP-SRM	MM	MSA	X		33m - 300m	
10GBase-X, SFP+ with DMI (LC)	TN-10GSFP-xRx Series	MM / SM	MSA	X	X	33m - 10KM	
10GBase-X Fiber Channel, XFP with DMI (LC)	TN-XFP-xxx Series	MM / SM	MSA	X		33m - 100KM	
10GBase-X/ 10G Fiber Channel / OC-192 (LC) with DMI	TN-XFP-10Gxxx Series	MM / SM	Cisco	X		33m - 80KM	
10GBase-X, SFP+ with DMI (LC) for HP X130	TN-JD09xB Series	MM / SM	HP	X		220m - 10KM	
10GBase-X, SFP+ with DMI (LC) for HP X132	TN-J915xA Series	MM / SM	HP	X		220m - 40KM	
10GBase-X, SFP+ with DMI (LC)	TN-SFP-10G-xR Series	MM / SM	Cisco	X		220m - 80KM	
10GBase-LR/LW/10G Fiber Channel, SFP+ with DMI single mode (LC)	TN-CWDM-10G-1xx0-40 Series	SM	Cisco	X		40KM	X
XFP, 10GBase-ER/10G Fiber Channel single mode (LC) with DMI	TN-XFP-LR4-Cxx Series	SM	MSA	X		40KM	X
10GBase-ER/ZR or 1000Base-LX/ZX, SFP+ With DMI Single Mode (LC)	TN-10GSFP-LRxM-Dxx Series	SM	MSA	X		40KM - 80KM	DWDM
XFP, 10GBase-ZR/10G Fiber Channel single mode (LC) with DMI	TN-XFP-LR7-Cxx Series	SM	MSA	X		70KM	X
10GBase-LR/LW/10G Fiber Channel, SFP+ with DMI single mode (LC)	TN-CWDM-10G-1xx0-80 Series	SM	Cisco	X		80KM	X
40 Gigabit Ethernet							
QSFP+ 40GBase-X with DMI	TN-QSFP-40G Series	MM / SM	Cisco	X		100m - 30KM	
100 Gigabit Ethernet							
QSFP+ 100GBase-X with DMI	TN-QSFP-100G Series	MM / SM	Cisco	X		70m - 10KM	
Simplex							
Fast Ethernet							
100Base-FX multimode (SC) with DMI	TN-SFP-OC3MB Series	MM	MSA	X		2KM	
100Base-BX single fiber single mode (LC)	TN-GLC-FE-100BX Series	SM	Cisco	X	X	10KM - 120KM	
100Base-FX/OC-3 single mode (LC) with DMI	TN-SFP-OC3SB Series	SM	MSA	X		20KM - 200KM	
Fast Ethernet / Gigabit Ethernet							
OTDR SFP, 1000Base-LX/100Base-FX single fiber single mode	TN-SFP-BC55-x Series	SM	MSA		X	40KM	
Gigabit Ethernet							
1000Base-SX multimode (LC) with DMI	TN-SFP-SXB Series	SM	MSA	X		500m	
1000Base-BX single fiber single mode (LC) with DMI	TN-GLC-BX Series	SM	Cisco	X		10KM - 120KM	
1000Base-LX single mode (LC) with DMI	TN-SFP-LXB Series	SM	MSA	X	X	10KM - 160KM	
10 Gigabit Ethernet							
10GBase-X / 10G Fiber Channel single fiber single mode (LC) with DMI	TN-XFP-10G-x Series	SM	Cisco	X		10KM - 40KM	
10GBase-X, SFP+ with DMI (LC)	TN-SFP-10G-x-xx Series	SM	Cisco	X		220m - 80KM	

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Fiber Type Note: MM = Multimode Fiber, SM = Single Mode Fiber

TN-10GSFP-LRxM Series

TN-QSFP-100G Series

TN-QSFP-40G Series

SFPs & CWDM Modules Product Line Card

Copper

Fast Ethernet		Compatability	Enterprise	Hardened	Distance	CWDM Wavelength
100Base-TX (RJ-45)	TN-SFP-TX	MSA	X		100m	
Gigabit Ethernet						
1000Base-T (RJ-45)	TN-GLC-T Series	Cisco	X		100m	
1000Base-T (RJ-45)	TN-SFP-GE-T	Cisco		X	100m	
10/100/1000Base-T (RJ-45)	TN-SFP-T-MG	MSA	X		100m	
Ethernet Extender SFP, 1000Base-X, RJ-45	TN-EOT-xx Series	MSA		X	3000m	

CWDM Modules

Add/Drop Mux		Channels	Enterprise	Hardened
1 Channel with E/W lines	CWDM-A2A8xxLCR Series	1	X	
Mux/Demux				
4 Channel + OSC Duplex LC	CWDM-M551LCR	4	X	
8 Channel + OSC Duplex LC	CWDM-M947LCR	8	X	
16 Channel + OSC Duplex LC	CWDM-M1631LCR Series	16	X	X

TN-EOT-xx Series

CWDM-M1631LCR

CWDM-A2A8xxLCR

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Media Converters, Extenders, & NIDs

Fiber Integration Technology that Leverages Existing Network Infrastructure for Future Growth

Transition Networks' full line of feature-rich media converters transparently connect one type of media, or cabling, to another – typically copper to fiber. By bridging the gap between legacy copper infrastructures and fiber growth, our media converters provide an economical path towards extending the distance of an existing network, extending the life of non-fiber based equipment, or extending the distance between two like devices.

Available in stand-alone or modular chassis-based configurations, Transition Networks' media converters offer copper to fiber and fiber to fiber media conversion in the following supported protocols: Ethernet, Fast Ethernet, Gigabit Ethernet, 10 Gigabit Ethernet, Power-over-Ethernet, 10/100, 10/100/1000, DS1 - T1/E1, DS3- T3/E3, POTS, RS232, RS485 and more.

With industry leading advanced features such as Auto-Negotiation, Auto-MDI/MDIX, Link Pass Through, Active Link Pass Through, Far End Fault, and Automatic Link Restoration – Transition Networks' media converters make an invisible component in the physical layer "visible" to network managers; allowing more efficient troubleshooting and less on-site maintenance. These cost and time saving features have made Transition Networks' media converters the #1 choice among industry IT professionals.

ION219 Chassis

19-Slot Chassis for ION Slide-in Modules

The ION219 is an intelligent, high-density, multi-protocol system supporting a variety of network interface devices. Designed for both carrier class and enterprise network applications where multiple points of fiber integration and secure network management of the fiber interface devices is essential. An end-to-end fiber integration solution can be achieved by pairing the modules in a high density ION chassis with the modules in another ION chassis, or a Transition Networks' stand-alone device. To take full advantage of all the features and functions available with the ION Chassis, an ION Management Module is required. The ION Management Module connects to the chassis backplane and communicates with the individual cards in the ION Chassis. Each slide-in module for the ION Chassis has specific features and functions that are controlled via the ION Management Module. A network administrator can configure, monitor and troubleshoot ION slide-in modules remotely via the ION Management Module.

Transition Networks understands that no network is managed in the same manner and that different security levels and management interfaces are often required depending on the deployment of the ION Chassis. With that in mind, the ION Platform has been designed to be one of the most versatile and secure fiber integration systems available today.

Ordering Information

ION219-A
19-Slot Chassis for the ION Platform with (1) AC Power Supply

ION219-D
19-Slot Chassis for the ION Platform with (1) DC Power Supply

Optional Accessories

IONPS-A-R1
ION Power Supply Module
Universal Input 100 - 240 VAC

IONPS-D
-48 VDC Power Supply Module

IONMM
ION Management Module

IONFP
ION Face Plate (required for all empty slots)
(10 face plates included with the ION219)

WMBC-2RU
Wall mount brackets for 2RU Chassis

IONRE-23
ION 23" Rack Mount Ears for ION 19-Slot Chassis (19" ears included with the ION219)

Security Features

When the optional management module is used, the following security features are available, allowing you to control access to the ION Chassis via the ION Management Module, ensuring that only authorized personnel are able to view and change the settings to the slide-in modules.

- Management VLAN
- SSL
- SSH
- 802.1x
- SNMPv1 & V2c, +V3

Management Features

- Variety of management access methods including; telnet, web, SNMP
- Single slot management module design allows for more slide-in modules to be inserted in the ION Chassis
- Management VLAN
- Based on Public MIBs
- (2) 10/100 Ethernet interfaces
- USB console port
- TFTP upgrade/backup of slide-in modules
- Import/Export configuration files in human readable/editable format
- Multiple community strings

Specifications

Slots	(19) Slots in front for ION slide-in modules (2) Slots in rear for power supply modules
Status LEDs	Power On LED for each installed power supply module
Dimensions	Width: 17" [430 mm] Depth: 15.8" [401 mm] Height: 3.5" [89 mm]
Power Input	*Two open bays for ION power supply modules supporting: AC: 100 - 240VAC DC: -48VDC
Power Output	12VDC rated at 200 Watts (max)
Environment	Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	19 lbs. [8.6 kg]
Compliance	UL listed, EN55022, EN55024, CE Mark, FCC Class A, CISPR Class A
Warranty	Lifetime

*Note: Power supply module supplies +12 VDC maximum to each slot in the chassis. Only one power supply module is required to power the chassis and the installed modules, the optional second power supply module provides redundancy for instant fail-over.

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: ION219-A-NA

Note: Only for ION219-A

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Access Method

- Web-browser: Access the ION Management Module using a standard web browser.
- Command Line Interface (CLI): CLI access can be done via telnet remotely or via the local console port on the ION Management Module.
- SNMP: Since the ION platform is based on public MIBs you can easily manage the ION with a standard network management system (NMS) such as SNMPc, HPOV or any other standard SNMP platform.
- Focal Point: Transition Networks offers a free SNMP graphical user interface (GUI) software for management purposes. Focal Point offers full read and read/write capabilities in a user friendly GUI.

ION106 Chassis

6-Slot Chassis for ION Slide-in Modules

The ION106 is an intelligent, multi-service integration platform that offers first-rate solutions for integrating, optimizing and navigating networks, all in a 19" rack mountable 1RU form factor.

By cost-effectively integrating copper-based equipment into a fiber infrastructure, the ION Platform equips networks for the bandwidth, distance, and security demands of today, tomorrow, and every point in between. Designed for service providers, data centers, and core network applications, the ION Platform provides the secure network management of fiber interface points required for both carrier-class and enterprise-class services.

Media conversion technology allows for the integration of fiber optic cabling into environments with copper-based equipment. Transition Networks' ION media converters provide a quick, inexpensive method for connecting new or embedded fiber with copper-based networking devices. The ION Platform accommodates a variety of modules and interface devices supporting multiple protocols and networking environments, including Ethernet and TDM networks. With optimum flexibility built in, ION is equally suited for either single-unit network edge or high-density applications within enterprises or central offices. The ION Platform provides simple navigation of all the connected network interfaces, allowing various components to be easily configured, monitored and managed remotely while providing a high level of secure access to the management data. Transition Networks' ION solutions allow users to easily integrate copper and fiber in order to extend networks within a building, between buildings, or throughout a campus where multiple points of fiber integration and secure network management of the fiber interface devices is essential.

An end-to-end fiber integration solution can be achieved by pairing the modules in an ION chassis with the modules in another ION chassis or an ION stand-alone device. To take full advantage of all the features and functions available with the ION Chassis, an ION Management Module is required. The ION Management Module connects to the chassis backplane and communicates with the individual cards in the ION Chassis. Each slide-in module for the ION Chassis has specific features and functions that are controlled via the ION Management Module. A network administrator can configure, monitor and troubleshoot ION slide-in modules remotely via the ION Management Module.

Ordering Information

ION106-A
6-Slot ION Chassis with (1) AC power supply

ION106-D
6-Slot ION Chassis with (1) DC power supply

ION106-AAB
6-Slot ION Chassis with (2) AC power supplies

ION106-AAMB
6-Slot ION Chassis with (2) AC power supplies and (1) ION Management Module

Optional Accessories

IONPS6-A
Redundant ION Power Supply Module for ION 6-Slot Chassis, Universal input 100 – 250 VAC

IONPS6-D
Redundant ION Power Supply Module for ION 6-Slot Chassis, -21 to -72VDC and +21 to +72VDC input

IONMM
ION Management Module

IONFP
ION Face Plate (required for all empty slots) (4 face plates included with the ION106)

IONRE6-23
23" Rack Mount Ears for ION 6-Slot Chassis (19" ears included with the ION106)

Management Features

- Variety of management access methods including; telnet, web, SNMP
- The single slot management module design allows for more slide-in modules to be inserted in the ION Chassis
- Management VLAN
- Based on Public MIBs
- (2) 10/100 Ethernet interfaces
- USB console port
- TFTP upgrade/backup of slide-in modules
- Import/Export configuration files in human readable/editable format
- Multiple community strings

Specifications

Slots	(6) Slots in front for ION slide-in modules (2) Slots in front for power supply modules
Status LEDs	Power On LED for each installed power supply module
Dimensions	Width: 17" [430 mm] Depth: 10" [254 mm] Height: 1.75" [44.45 mm]
Power Supply	*Two open bays for ION 6-slot power supply modules supporting: AC: 100-240VAC DC: -21 to -72VDC and +21 to +72VDC
Environment	Operating: 0°C to 50°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Shipping Weight	10 lbs. [4.5 kg]
Compliance	UL listed, EN55022 Class A, EN55024, CE Mark, FCC Class A, CISPR Class A
Warranty	Lifetime

*Note: Power supply module supplies +12VDC maximum to each card slot in the chassis. Only one power supply module is required to power the chassis and the installed modules, the optional second power supply module provides redundancy for instant fail-over.

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: ION106-A-NA

Note: Only for ION106-A, ION106-AAB, and ION106-AAMB

-NA = Country Code
-NA = North America, -LA = Latin America, -EU = Europe, -UK = United Kingdom
-SA = South Africa, -JP = Japan, -OZ = Australia, -BR = Brazil

Security Features

When the optional management module is used, the following security features are available, allowing you to control access to the ION Chassis via the ION Management Module, ensuring that only authorized personnel are able to view and change the settings to the slide-in modules.

- Management VLAN
- SSL
- SSH
- 802.1x
- SNMPv1 & V2c, +V3

Access Method

- Web-browser: Access the ION Management Module using a standard web browser.
- Command Line Interface (CLI): CLI access can be done via telnet remotely or via the local console port on the ION Management Module.
- SNMP: Since the ION platform is based on public MIBs you can easily manage the ION with a standard network management system (NMS) such as SNMPc, HPOV or any other standard SNMP platform.
- Focal Point: Transition Networks offers a free SNMP graphical user interface (GUI) software for management purposes. Focal Point offers full read and read/write capabilities in a user friendly GUI.

ION Chassis

1-Slot and 2-Slot Chassis for ION Modules

ION001-A

ION002-AD

The ION Platform consists of a 19-slot, 6-slot, 2-slot, and 1-slot chassis, along with a variety of slide-in media converter modules. The higher density chassis are designed for core network and Data Center applications where there is a need for high volume and centralized points of media conversion. While at the network edge, the 1-slot and 2-slot ION chassis' are designed to allow a single card, two cards, or one double-wide card to be deployed as a stand-alone media converter.

Ordering Information

ION001-A
1-Slot Chassis for the ION Platform
AC Powered

ION002-AD
2-Slot Chassis for the ION Platform with AC or DC power options

Optional Accessories (sold separately)

IONFP
ION Blank Face Plate

WMBP
Wall Mount Bracket: 5" [127 mm]

WMBD
DIN Rail Mount Bracket

Features

- Desktop installation
- Supports WMBP wall mount brackets
- Unmanaged Chassis
- Supports any ION slide-in card that requires 6 Watts or less of power (C4120-1048 is not supported)
- Fan-less design
- External AC power
- DC power input is an option on the 2 slot chassis
- Support IP addressable managed ION slide-in cards

Specifications

Slots	ION001-A ION002-AD	(1) Slot in front for ION slide-in modules (2) Slot in front for ION slide-in modules
Status LEDs	None, Power indicator is on the slide-in card	
Dimensions	ION001-A ION002-AD	Width: 4" [102 mm] Depth: 7.1" [180 mm] Height: 1.2" [30.48 mm] Width: 4" [102 mm] Depth: 7.1" [180 mm] Height: 2.2" [55.88 mm]
Power Supply	ION001-A ION002-AD	External AC/DC power supply included, 120-240VAC input, 12VDC Output External AC/DC power supply included, 120-240VAC input, 12VDC Output or an optional two-wire 21-60 VDC input terminal block
Environment	Operating: 0°C to 50°C Storage: -40°C to +85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.	
Weight	ION001-A: 2 lbs. [0.9 kg] ION002-AD: 3 lbs. [1.35 kg]	
Compliance	UL listed, EN55022, EN55024, CE Mark, FCC Class A, CISPR Class A	
Warranty	Lifetime	

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: ION001-A-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

IONPS-A-R1

AC Power Supply Module For The ION Platform

IONPS-A-R1

The ION Platform is an intelligent, high-density, multi-protocol system supporting a variety of network interface devices. Designed for both carrier class and enterprise network applications where multiple points of fiber integration and secure network management of the fiber interface devices is essential.

The ION 19-slot chassis can support up to two power supply modules which mount in the rear of the chassis. A single power supply can be used to power all the devices installed in the chassis; however the system can be made redundant with the use of a second power supply. In this configuration, the power supplies operate in an instant fail-over mode and can be installed in either an AC or DC powered chassis.

Specifications

Application	Up to 2 power supply modules can be used in the 19-slot ION chassis, ION219-A
Dimensions	Width: 8.3" [211 mm] Depth: 9" [229 mm] Height: 3.4" [86 mm]
Power Input	100 – 240 VAC, 47 – 63 Hz, 3.5 A @ 100 VAC, and 120 - 250 VDC
Environment	Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	3.4 lbs. [1.5 kg]
Compliance	UL Listed (UL60950), FCC Class A, CISPR Class A, CE Mark
Warranty	Lifetime

Ordering Information

IONPS-A-R1
Redundant AC Power Supply for 19-Slot ION Chassis

Power Cord Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: IONPS-A-R1-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

IONPS-D

DC Power Supply Module For The ION Platform

IONPS-D

The ION Platform is an intelligent, high-density, multi-protocol system supporting a variety of network interface devices. Designed for both carrier class and enterprise network applications where multiple points of fiber integration and secure network management of the fiber interface devices is essential.

The ION chassis can support up to two power supply modules which mount in the rear of the chassis. A single power supply can be used to power all the devices installed in the chassis; however the system can be made redundant with the use of a second power supply. In this configuration, the power supplies operate in an instant fail-over mode.

Specifications

Application	Up to 2 power supply modules can be used in the 19-slot ION chassis, ION219-D
Status LEDs	PWR(Power): Indicates the power supply module is providing power to the ION chassis
Dimensions	Width: 8.3" [211 mm] Depth: 9" [229 mm] Height: 3.4" [86 mm]
Power Input	48 VDC (40-60 VDC) @ 5A
Environment	Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	4 lbs. [1.81 kg]
Compliance	UL Listed (UL60950), FCC Class A, CISPR Class A, CE Mark
Warranty	Lifetime

Ordering Information

IONPS-D
Redundant -48 VDC Power Supply Module for 19-Slot ION Chassis

Optional Accessories (sold separately)

IONDCR-R1
Dry contact relay module for DC Power Supply - See Below

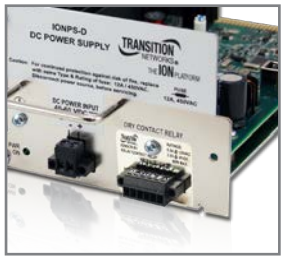
IONDCR-R1

Dry Contact Relay Module

The IONDCR-R1 is a field installable dry contact relay module for the IONPS-D power supply. This module mounts in the lower right-hand corner of the IONPS-D face-plate, allowing the power supply to be tied into a separate alarm circuit. Contacts will be activated on the loss of power, enabling an external visual or audible alarm.

Applications for this type of fault alarm output would include enterprise networks as well as in industrial applications. The dry contact relay modules provides another layer of fault indicators, complementing network management software by providing a signal to either a local or remote alarm system.

IONDCR-R1

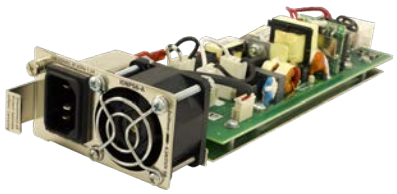


Ordering Information

IONDCR-R1
Dry contact relay module for DC Power Supply

IONPS6-A

AC Power Supply Module for the ION 6-Slot Chassis



The IONPS6-A is a redundant AC power supply module for use in the ION106 chassis, which is an intelligent, multi-service integration platform that offers first-rate solutions for integrating, optimizing and navigating networks. By cost-effectively integrating copper-based equipment into a fiber infrastructure, the ION Platform equips networks for the bandwidth, distance, and security demands of today, tomorrow, and every point in between. Designed for service providers, data centers, and core network applications, the ION Platform provides the secure network management of fiber interface points required for both carrier-class and enterprise-class services.

The ION 6-Slot Chassis can support up to two hot-swappable power supply modules which mount in the front of the chassis. A single power supply can be used to power all of the slide-in modules installed in the chassis, additionally; the system can be made redundant with the use of a second AC or DC power supply. In this configuration, the power supplies operate in an instant fail-over mode.

Management and configuration of the power supply modules is available when the IONMM management module card is installed in the ION106 chassis.

Specifications

Application	Up to 2 power supply modules can be used in the 6-Slot ION Chassis, ION106
Status LEDs	Power On LEDs for each installed power supply module are installed on the frame of the ION106 chassis
Dimensions	Width: 1.63" [41.4 mm] Depth: 3" [76.2 mm] Height: 9.75" [247.7 mm]
Power Input	100-240 VAC, 47-63 Hz, 1.2A, and 120 - 300 VDC
Environment	Operating: 0°C to 50°C Storage: -40°C to 70°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft. (with de-rating)
Weight	0.94 lbs. [0.43 kg]
Compliance	UL listed, EN55022 Class A, EN55024, CE Mark, FCC Class A, CISPR Class A
Warranty	Lifetime

Ordering Information

IONPS6-A
Redundant AC power supply for ION 6-Slot Chassis, 100 to 240 VDC input

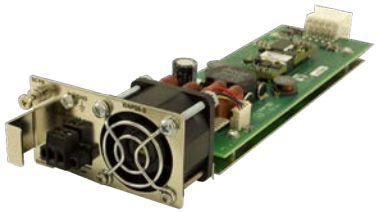
Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: IONPS6-A-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

IONPS6-D

DC Power Supply Module for the ION 6-Slot Chassis



The IONPS6-D is a redundant DC power supply module for use in the ION106 chassis, which is an intelligent, multi-service integration platform that offers first-rate solutions for integrating, optimizing and navigating networks. By cost-effectively integrating copper-based equipment into a fiber infrastructure, the ION Platform equips networks for the bandwidth, distance, and security demands of today, tomorrow, and every point in between. Designed for service providers, data centers, and core network applications, the ION Platform provides the secure network management of fiber interface points required for both carrier-class and enterprise-class services.

The ION 6-Slot Chassis can support up to two hot-swappable power supply modules which mount in the front of the chassis. A single power supply can be used to power all of the slide-in modules installed in the chassis, additionally; the system can be made redundant with the use of a second AC or DC power supply. In this configuration, the power supplies operate in an instant fail-over mode.

Management and configuration of the power supply modules is available when the IONMM management module card is installed in the ION106 chassis.

Ordering Information

IONPS6-D
Redundant DC power supply for ION 6-Slot Chassis, -21 to -72 VDC and +21 to +72 VDC input

Specifications

Application	Up to 2 power supply modules can be used in the 6-Slot ION Chassis, ION106
Status LEDs	Power On LEDs for each installed power supply module are installed on the frame of the ION106 chassis
Dimensions	Width: 1.63" [41.4 mm] Depth: 3" [76.2 mm] Height: 9.75" [247.7 mm]
Power Input	-21 to -72 VDC and +21 to +72 VDC input
Environment	Operating: 0°C to 50°C Storage: -40°C to 70°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft. (with de-rating)
Weight	0.94 lbs. [0.43 kg]
Compliance	UL listed, EN55022 Class A, EN55024, CE Mark, FCC Class A, CISPR Class A
Warranty	Lifetime

IONMM Series

The ION Management Modules

IONMM

IONMM-232

To take full advantage of the features and functions available with the ION Chassis, an ION Management Module is required. The ION Management Module connects to the chassis backplane and communicates with the individual cards in the ION Chassis. To maintain data security, only management traffic, no end-user data traffic, is sent across the ION Chassis backplane.

Each slide-in module for the ION Chassis has specific features and functions that are controlled via the ION Management Module. A network administrator can configure, monitor and troubleshoot ION slide-in modules remotely via the ION Management Module. This remote management helps reduce Operating Expenses (OpEx) by reducing technician dispatches. Remote management allows for faster mean-time-to-repair (MTTR) by proactively sending traps and alerts on potential issues. With less downtime you are able to focus on the revenue generating aspects of your business.

Transition Networks understands that no network is managed in the same manner and that different security levels and management interfaces are often required depending on the deployment of the ION Chassis. With that in mind, we have made the ION Management Module one of the most versatile and secure management modules available today.

Ordering Information

IONMM
Management Module for the ION Chassis with a USB Type B CLI port

IONMM-232
Management Module for the ION Chassis with a RS232 RJ-45 CLI port

Optional Accessories (sold separately)

Cable-CCC-06
Cisco DB9 to RJ-45 console cable, Blue 6ft.

Features

- Management VLAN
- TLS/SSL
- SSH
- 802.1x/RADIUS
- SNMPv1 & v2c, and v3
- ACL Rules

Management Features

- Variety of management access methods including; telnet, web, SNMP
- Single slot design allows for more slide-in modules to be inserted in the ION Chassis
- Based on Public MIBs
- (2) 10/100 Ethernet interfaces
- TFTP upgrade/backup of slide-in modules
- Import/Export configuration files in human readable/editable format
- Multiple community strings
- SNTP

Specifications

Standards	IEEE 802.3 IEEE 802.1X
Ports	IONMM: (2) 10/100 Mbps RJ-45 USB 2.0 device port USB 2.0 host port IONMM-232: (2) 10/100 Mbps RJ-45 USB 2.0 device port (1) RS232 RJ-45 host port
Dimensions	Width: 0.86" [22 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	2 Watts under normal operation 4.8 Watts with full 2.5 Watts used by USB host port (Example: Flash Drive connected requiring 2.5 Watts)
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	EN55022 Class A, EN55024, CE Mark
Warranty	Lifetime

Access Methods

- Web-browser: Access the ION Management Module using a standard web browser.
- Command Line Interface (CLI): CLI access can be done via telnet remotely or via the local console port on the ION Management Module.
  - Choose between a management module with a USB Type B CLI port or a RS232 RJ-45 CLI port
- SNMP: Since the ION platform is based on public MIBs you can easily manage the ION with a standard network management system (NMS) such as SNMPc, HPOV or any other standard SNMP platform.
- Focal Point: Transition Networks offers a free SNMP graphical user interface (GUI) software for management purposes. Focal Point offers full read and read/write capabilities in a user friendly GUI.

IONADP

The ION Adapter

Use to Mount Point System™ Converter Modules in an ION Chassis

IONADP

The IONADP is an adapter card that allows the ION Platform chassis to be backwards compatible with Point System™ modules. This adapter is designed to sit between a Point System™ module and the backplane of the ION chassis. The purpose of the IONADP is to lengthen the Point System™ module so it can be securely mounted in an ION chassis while also connecting to the backplane allowing the ION chassis to power the Point System™ module.

SNMP management of the Point System™ modules installed in the ION chassis is possible by using a Point System™ management module along with IONADP. The ION modules and the Point System™ modules are managed independently by their own respective management modules. The ION management module and the Point System™ management module would each require a unique IP address assigned to them, while Focal Point can be used to access the management information from each management module simultaneously.

Ordering Information

IONADP
Point System™ Adapter for the ION chassis, includes bracket and screws

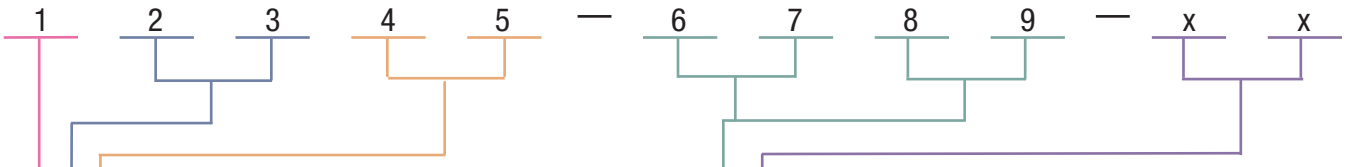
Features

- Ease the migration from Point System™ to the ION Platform
- Deploy the Point System™ cards in the ION chassis
- Lengthens a Point System™ card to match the size of the ION card
- Can be used with any Point System™ card
- Manage Point System™ cards in the ION chassis
- IONADP kit includes adapter card, bracket, and four screws

Specifications

Dimensions	Width: 0.5" [12.7 mm] Depth: 1.25" [31.75 mm] Height: 2.9" [73.66 mm]
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Storage: -40°C to +85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	0.5 lbs. [0.22 kg]
Warranty	Lifetime

ION Part Number Key



Character #1

S	Stand-Alone
C	Chassis

Characters #2, 3

21	100Base Ethernet
22	10/100 Ethernet
31	1000Base Ethernet
32	10/100/1000 Ethernet
41	10GBase Ethernet
42	10/100/1000/10G
60	T1/E1
61	4xT1
62	DS3-T3/E3

Characters #4, 5

10	Standard Conversion
20	Advanced Management
xx	Unique Identifier

Characters #6, 7, 8, 9

10	RJ-45
11	Multimode ST
13	Multimode SC
14	Single Mode SC
15	Single Mode SC Long Haul
16	Single Mode SC Extra Long Haul
17	Single Mode SC Long Wave 1550
19	Single Mode LC
24	Extended Multimode SC
29	Single Fiber SC
30	Dual BNC
33	RJ-11
35	Single Mode SC Long Wave 1550 Extended
39	Multimode LC
40	SFP Slot
47	XFP Slot
48	SFP+ Slot

Additional Expandable Characters (xx)

Part numbers grow as new products with new features or capabilities are designed. For example:

A1	Single Strand 1310TX/1550RX
A2	Single Strand 1550TX/1310RX

C2110 Series

ION Fast Ethernet Media Converter Module

100Base-TX to 100Base-FX

C2110-1013

The ION C2110 is a media converter module that provides an interface between 100Base-TX ports and 100Base-FX ports, allowing users to integrate fiber optic cabling into 100Base-TX copper environments. Operating at Layer 1, the physical layer, data is passed through the converter at line speed, making it ideal for applications where low latency is essential. The ION C2110 is a manageable device when installed in a managed ION chassis.

Features

- Auto-Negotiation of speed and duplex on TP port
- Auto-MDI/MDIX on TP port
- Link Pass Through (LPT)
- Far-End-Fault (FEF) detection
- Automatic Link Restoration
- Pause advertisement
- Field Upgradeable Firmware
- Can be used in any ION Platform Chassis
- Standards based, will link with any Standard 100Base-TX and any Standard 100Base-FX ports

Manageable Features

- Report converter status to chassis management software:
  - TP and Fiber Link Status
  - Hardware switch settings
  - Copper Port Speed
  - TP and Fiber Port Duplex
  - Fault condition
- Write operation includes:
  - Power on/off device
  - Auto-Negotiation enable/disable
  - Force 10 Mbps or 100 Mbps
  - Force half or full-duplex
  - Select advertising modes when Auto-Negotiation is enabled
  - LPT enable/disable
  - FEF enable/disable
  - Pause enable/disable
  - Auto-MDI/MDIX enable/disable

Note: Manageable Features are available when used in an ION Platform chassis along with an ION Management Module.

Specifications

Standards	IEEE 802.3
Data Rate	100 Mbps, Layer 1
Switches	SW1: Auto-Negotiation (UP = enabled) SW2: Pause (UP=enabled) SW3: Link Pass Through (UP = enabled) SW4: Far-End-Fault (FEF) (UP = enabled)
Internal Jumpers	Auto-MDI/MDIX: Enable/Disable
Jumpers	Hardware: Mode of operation is determined by the settings on the 4-position switch Software: Mode of operation is determined by the most recently saved on-board microprocessor settings
Status LEDs	PWR (Power): ON = Connection to powered backplane LKC (Copper Link): ON = Copper Link RXC (Receive Copper): Blinking = Data received on Copper link LKF (Fiber Link): ON = Fiber Link RXF (Receive Fiber): Blinking = Data received on Fiber Link
Dimensions	Width: 0.86" [22 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	2.5 Watts, 200 mA @ 13.9 VDC
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	CISPR/EN55022 Class A, FCC Class A, CE Mark
Warranty	Lifetime

Ordering Information

C2110-1011
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (ST) [2 km/1.2 mi.] Link Budget: 11.0 dB

C2110-1013
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (SC) [2 km/1.2 mi.] Link Budget: 11.0 dB

C2110-1039
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (LC) [2 km/1.2 mi.] Link Budget: 11.0 dB

C2110-1014
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (SC) [20 km/12.4 mi.] Link Budget: 16.0 dB

C2110-1019
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (LC) [20 km/12.4 mi.] Link Budget: 17.3 dB

C2110-1040
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-X SFP Slot (empty)

Single Fiber Products

Recommended use in pairs

C2110-1029-A1
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm TX/1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

C2110-1029-A2
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1550nm TX/1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

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C2210 Series

ION Fast Ethernet Media and Rate Converter Module

10/100Base-TX to 100Base-FX

C2210-1013

The ION C2210 is a media converter module that provides an interface between 10/100Base-TX ports and 100Base-FX ports, allowing users to integrate fiber optic cabling into 10/100 copper environments. Operating at Layer 2, the data link layer, this converter not only converts copper to fiber, it also provides rate conversion allowing legacy 10Base-T copper devices to connect to 100Base-FX fiber. The ION C2210 is a manageable device when installed in a managed ION chassis.

Features

- Auto-Negotiation of speed and duplex on TP port
- Auto-MDI/MDIX on TP port
- Link Pass Through (LPT)
- Far-End-Fault (FEF) detection
- Pause (Software Controlled)
- Automatic Link Restoration
- Field Upgradeable Firmware
- Can be used in any ION Platform Chassis
- Standards based, will link with any standard 10/100Base-TX and any standard 100Base-FX ports

Manageable Features

- Report converter status to chassis management software:
  - TP and Fiber Link Status
  - Hardware switch settings
  - Copper Port Speed
  - TP and Fiber Port Duplex
  - Fault condition
- Write operation includes:
  - Power on/off device
  - Auto-Negotiation enable/disable
  - Force 10 Mbps or 100 Mbps
  - Force half or full-duplex
  - Select advertising modes when Auto-Negotiation is enabled
  - LPT enable/disable
  - FEF enable/disable
  - Pause enable/disable
  - Auto-MDI/MDIX enable/disable

Note: Manageable Features are available when used in an ION Platform chassis along with an ION Management Module.

Specifications

Standards	IEEE 802.3u IEEE 802.3x
Data Rate	10 Mbps; 100 Mbps Layer 2
MAC Address Table	1K
Frame Buffer Memory	512 Kbits
Max Frame Size	2048 bytes
Switches	SW1: Auto-Negotiation (UP = enabled) SW2: Forced 100 Mbps/10 Mbps with Auto-Neg. off (UP = 100 Mbps) SW3: Forced Full/Half-Duplex with Auto-Neg. off (UP = Full) SW4: Full/Half-Duplex on fiber port (UP = Full) SW5: Auto-MDI/MDIX on UTP (UP = enabled) SW6: Link Pass Through (UP = enabled)
Internal Jumpers	Auto-MDI/MDIX: Enable/Disable
Jumpers	Hardware: Mode of operation is determined by the settings on the 4-position switch Software: Mode of operation is determined by the most recently saved on-board microprocessor settings
Status LEDs	FD (Fiber Duplex): ON= Full-duplex on fiber LACT (Fiber Link/Activity): ON = Fiber Link PWR (Power): ON=Connection to powered backplane (TP. Duplex/Link): Yellow = Half duplex, Green = Full-Duplex (TP. Speed): Yellow = 10Mbps, Green = 100 Mbps
Dimensions	Width: 0.86" [22 mm] Depth: 6.5" [165 mm] Height: 3.4"[86 mm]
Power Consumption	2.5 Watts, 200 mA @ 13.9 VDC
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	CISPR/EN55022 Class A, FCC Class A, CE Mark, EN55024
Warranty	Lifetime

Ordering Information

C2210-1011
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (ST) [2 km/1.2 mi.] Link Budget: 11.0 dB

C2210-1013
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (SC) [2 km/1.2 mi.] Link Budget: 11.0 dB

C2210-1039
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (LC) [2 km/1.2 mi.] Link Budget: 11.0 dB

C2210-1014
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (SC) [20 km/12.4 mi.] Link Budget: 16.0 dB

C2210-1019
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (LC) [20 km/12.4 mi.] Link Budget: 17.3 dB

C2210-1040
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-X SFP Slot (empty)

Single Fiber Products

Recommended use in pairs

C2210-1029-A1
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm TX/1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

C2210-1029-A2
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1550nm TX/1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

C2220 Series

ION Fast Ethernet Remotely Managed NID Module

10/100/1000Base-T to 100Base-FX with OAM/IP-Based Management

C2220-1013

The ION C2220 is a managed Network Interface Device (NID) module that provides an interface between 10/100/1000Base-T ports and 100Base-FX ports, allowing users to manage their links while integrating fiber optic cabling into 10/100/1000 copper environments. As a remotely manged device, the C2220 can be managed individually via an IP address or it can be managed by the ION Management Module when installed in a managed ION chassis. With advanced features like IEEE 802.3ah Link OAM, VLAN, QoS, SSH/SSL, jumbo frame support, and bandwidth allocation, the C2220 provides various methods for secure delivery of Ethernet services in business and mobile backhaul applications.

Features

- MEF 9, 14 + 21 certified
- 802.3ah Link OAM
- 10K Jumbo Frame Support
- Two selectable Remote Management modes:
  - IP-Based Remote Management
  - In-Band (remote device managed by local peer)
- Auto-MDI/MDIX
- Auto-Negotiation
- Pause
- Link Pass Through
- Far-End-Fault (FEF)
- Remote Loopback
- Field Upgradeable Firmware
- IEEE 802.1p QoS Packet Classification
- IEEE 802.1q VLAN and double VLAN tagging with 4096 VIDs
- DHCP client
- SNTP
- TFTP
- RADIUS client
- RMON counters for each port
- Bandwidth profiling
- DMI Optical Management
- Cable diagnostic function for copper ports
- SSH
- Telnet
- Command Line Interface (CLI)
- Web management
- Focal Point management
- SNMP v1, v2c, and v3
- USB port for basic setup
- Management VLAN

Specifications

Standards	IEEE 802.3 IEEE 802.3ah IEEE 802.1P IEEE 802.1Q
Data Rate	Copper: 10/100/1000 Mbps Fiber: 100 Mbps
Filtering Address	8K MAC Addresses
Max Frame Size	10,240 bytes
Dimensions	Width: 0.86" [22 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	4.5 Watts
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	EN55022 Class A, EN55024, CE Mark
Warranty	Lifetime

Ordering Information

C2220-1011
10/100/1000Base-T (RJ-45) [100 m]
to 100Base-FX 1300nm multimode (ST)
[2 km/1.2 mi.] Link Budget: 11.0 dB

C2220-1013
10/100/1000Base-T (RJ-45) [100 m]
to 100Base-FX 1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB

C2220-1014
10/100/1000Base-T (RJ-45) [100 m]
to 100Base-FX 1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB

C2220-1040
10/100/1000Base-T (RJ-45) [100 m]
to 100Base-X SFP Slot (empty)

*Note all units feature USB port for local management application.

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C3100-4040

ION Fiber to Fiber Media Converter Module

SFP to SFP for Data Rates from 100Mbps to 2.5 Gbps

The ION C3100 is a fiber to fiber media converter module. It is protocol independent and supports data rates from 100Mbps to 2.5Gbps through two open SFP slots. This any-rate to same-rate converter can be used to perform reliable and cost-effective single mode to multimode fiber conversion or it can be used to provide wavelength conversion in CWDM applications. The ION C3100 is a manageable device when installed in a managed ION chassis.

Ordering Information

C3100-4040
100Mbps to 2.5Gbps fiber repeater with two open SFP slots, any-rate to same-rate. ION Chassis Card media converter

Features

- Protocol Transparent
- Supports data rates from 100Mbps to 2.5Gbps
- Any-rate to same-rate conversion
- SFP to SFP Fiber Repeater
- Specific wavelength CWDM Transponder
- Supported protocols: Fast Ethernet, Gigabit Ethernet, SONET (OC-3/12/48), 1 & 2 Gig Fiber Channel, 2.5G InfiniBand, FDDI, ESCON/SBCON
- DMI, Digital diagnostics statistics available through ION Management Module
- Link Pass Through
- Automatic Link Restoration

Specifications

Standards	Multi-Source Agreement (MSA) Small Form Factor Pluggable (SFP)
Data Rates	Protocol Independent 100Mbps to 2.5 Gbps
Max Frame Size	16384 bytes Jumbo Frames Supported
Status LEDs	PWR ON (Green) = Power Port 1 Link ON = Fiber Signal Detected Port 2 Link ON = Fiber Signal Detected
Dimensions	Width: 0.86" [22 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	2-3 Watts, based on the SFP modules used
Power Supply	External AC/DC required: 12VDC
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
MTBF	Greater than 250,000 hours (MIL-HDBK-217F) Greater than 687,000 hours (Bellcore)
Compliance	FCC Class A, EN55022 Class A, EN55024, CE Mark
Warranty	Lifetime

C3110 Series

ION Gigabit Ethernet Media Converter Module

1000Base-T to 1000Base-SX/LX

C3110-1013

The ION C3110 is a media converter module that provides an interface between 1000Base-T ports and 1000Base-SX/LX ports, allowing users to integrate fiber optic cabling into 1000Base-T copper environments.

Operating at Layer 1, the physical layer, data is passed through the converter at line speed, making it ideal for applications where low latency is essential. The ION C3110 is a manageable device when installed in a managed ION chassis.

Features

- Copper and Fiber Auto-Negotiation
- Auto-MDI/MDIX on TP port
- Transparent Link Pass Through
- Remote Fault Detect
- Loopback
- Pause
- Automatic Link Restoration
- Field Upgradeable Firmware
- Can be used in any ION Platform Chassis
- Cost effective fiber deployment by pairing C3110 with lower cost 1000Base-T switches, offering the benefits of fiber without the high costs
- Standards based, will link with any standard 1000Base-T and any standard 1000Base-SX or LX ports

Manageable Features

- Report converter status to chassis management software:
  - Copper and Fiber link/receive status
  - Hardware switch settings
  - Receive error count
- Write operation includes:
  - Write operation enable/disable
  - Power on/off device
  - Auto-Negotiation enable/disable
  - Remote Fiber Fault Detect
  - Transparent Link Pass Through enable/disable
  - Pause enable/disable
  - Symmetric Pause
  - Asymmetric TX Pause
  - Asymmetric RX Pause

Note: Manageable Features are available when used in an ION Platform chassis along with an ION Management Module.

Specifications

Standards	IEEE 802.3ab IEEE 802.3z IEEE 802.3 2000
Data Rate	1000 Mbps, Layer 1
Switches	SW1: Remote Fiber Fault Detect SW2: Pause (symmetric) SW3: Pause (asymmetric) SW4: Transparent Link Pass Through (Up=Enabled) SW5: Fiber Auto-Negotiation (Down=Enabled) SW6: Loopback
Jumpers	Hardware: Mode of operation is determined by the settings on the 4-position switch Software: Mode of operation is determined by the most recently saved on-board microprocessor settings
Status LEDs	LKF (fiber link): On = Fiber Link, blinking activity PWR (Power): On = Connection to powered backplane TP LED 1 (Copper Link): On = Link, blinking activity TP LED2 (Copper Duplex): On = Full-Duplex
Dimensions	Width: 0.86" [22 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	3.6 Watts, 300mA @ 112 VDC
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	CISPR/EN55022 Class A, FCC Class A, CE Mark, EN55024
Warranty	Lifetime

Ordering Information

C3110-1013
1000Base-T (RJ-45) [100 m/328 ft.]
to 1000Base-SX 850nm multimode (SC)
[62.5/125 µm fiber: 220 m/722 ft.]
[50/125 µm fiber: 550 m/1804 ft.]
Link Budget: 8.5 dB

C3110-1039
1000Base-T (RJ-45) [100 m/328 ft.]
to 1000Base-SX 850nm multimode (LC)
via SFP
[62.5/125 µm fiber: 220 m/722 ft.]
Link Budget: 8.0 dB
[50/125 µm fiber: 550 m/1804 ft.]
Link Budget: 8.0 dB

C3110-1024
1000Base-T (RJ-45) [100 m/328 ft.]
to 1000Base-SX 1310nm extended multimode
[62.5/125 µm fiber only] (SC) [2 km/1.2 mi.]
Link Budget: 7.0 dB

C3110-1014
1000Base-T (RJ-45) [100 m/328 ft.]
to 1000Base-LX 1310nm single mode (SC)
[10 km/6.2 mi.] Link Budget: 10.5 dB

C3110-1040
1000Base-T (RJ-45) [100 m/328 ft.]
to 1000Base-X SFP Slot (empty)

Single Fiber Products

C3110-1029-A1
1000Base-T (RJ-45) [100 m/328 ft.]
to 1000Base-LX 1310nm TX/1550nm RX
single fiber single mode (SC)
[20 km/12.4 mi.] Link Budget: 13.0 dB

C3110-1029-A2
1000Base-T (RJ-45) [100 m/328 ft.]
to 1000Base-LX 1550nm TX/1310nm RX
single fiber single mode (SC) [20 km/12.4 mi.]
Link Budget: 13.0 dB

C3210 Series

ION Gigabit Ethernet Media and Rate Converter Module

10/100/1000Base-T to 1000Base-SX/LX

The ION C3210 is a media converter module that provides an interface between 10/100/1000Base-T ports and 1000Base-SX/LX ports, allowing users to integrate fiber optic cabling into 10/100/1000 copper environments. Operating at Layer 2, the data link layer, this converter not only converts copper to fiber, it also provides rate conversion allowing legacy 10/100 copper devices to connect to 1000Base-SX/LX fiber. The ION C3210 is a manageable device when installed in a managed ION chassis.

Features

- Copper and Fiber Auto-Negotiation
- Switch Selectable Speeds
- Auto-MDI/MDIX
- Link Pass Through
- Remote Fault Detect
- Pause
- Automatic Link Restoration
- IEEE 802.1P QoS, IPv4 TOS/DiffServ, IPv6 traffic class
- IEEE 802.1q Port VLAN, tagging and doubling tagging (Q in Q)
- Field Upgradeable Firmware
- Virtual Cable Test on UTP port
- Uni-directional data transmission
- Bandwidth Allocation
- DMI, digital diagnostics per SFF-8472
- RMON counters for each port
- Can be used in any ION Platform Chassis
- Secure uni-directional transmission
- Standards based, will link with any standard 10/100/1000Base-T and any standard 1000Base-SX or -LX ports

Specifications

Standards	IEEE 802.3 IEEE 802.3ab IEEE 802.3u IEEE 802.3z IEEE 802.3p IEEE 802.3q
Data Rate	10/100/1000 Mbps; Layer 2
Max Frame Size	10,240 Bytes (jumbo frame support) 1,632 Bytes when linked to an xGFEB10xx-120
Switches	SW1: TP Auto-Negotiation SW2: TP Speed SW3: TP Duplex SW4: Link Pass Through SW5: Fiber Duplex SW6: Unused
Jumpers	Hardware/Software mode, Auto-MDI/MDIX
Status LEDs	PWR (Power): ON = Connection to powered backplane LACT (Fiber Link): ON=Fiber link, Blinking=activity UTP Duplex/Link: Orange=half duplex link, Blinking = half duplex activity, Green = Full duplex link, Blinking =Full duplex activity, Off = 10 Mbps operation (or no link), Orange = 100 Mbps operation, Green = 1000 Mbps operation
Dimensions	Width: 0.86" [22 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	3.6 Watts, 300mA @ 12 VDC
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	CISPR/EN55022 Class A, EN55024, EN61000, FCC Class A, CE Mark
Warranty	Lifetime

Ordering Information

C3210-1013
10/100/1000Base-T (RJ-45) [100 m]
to 1000Base-SX 850nm multimode (SC)
[62.5/125 µm fiber: 220 m/722 ft.]
[50/125 µm fiber: 550 m/1804 ft.]
Link Budget: 8.5 dB

C3210-1039
10/100/1000Base-T (RJ-45) [100 m/328 ft.]
to 1000Base-SX 850nm multimode (LC)
via SFP
[62.5/125 µm fiber: 220 m/722 ft.]
[50/125 µm fiber: 550 m/1804 ft.]
Link Budget: 8.0 dB

C3210-1024
10/100/1000Base-T (RJ-45) [100 m]
to 1000Base-SX 1310nm extended multimode
[62.5/125 µm fiber only] (SC) [2 km/1.2 mi.]
Link Budget: 7.0 dB

C3210-1014
10/100/1000Base-T (RJ-45) [100 m]
to 1000Base-LX 1310nm single mode (SC)
[10 km/6.2 mi.] Link Budget: 10.5 dB

C3210-1040
10/100/1000Base-T (RJ-45) [100 m]
to 1000Base-X SFP Slot (empty)

Single Fiber Products

C3210-1029-A1
10/100/1000Base-T (RJ-45) [100 m]
to 1000Base-LX 1310nm TX/1550nm RX
single fiber single mode (SC) [20 km/12.4 mi.]
Link Budget: 13.0 dB

C3210-1029-A2
10/100/1000Base-T (RJ-45) [100 m]
to 1000Base-LX 1550nm TX/1310nm RX
single fiber single mode (SC) [20 km/12.4 mi.]
Link Budget: 13.0 dB

C3220 Series

ION Gigabit Ethernet Remotely Managed NID Module

10/100/1000Base-T to 1000Base-X with OAM/IP-Based Management

C3220-1040

The ION C3220 is a managed Network Interface Device (NID) module that provides an interface between 10/100/1000Base-T ports and 1000Base-SX/LX ports, allowing users to manage their links while integrating fiber optic cabling into 10/100/1000 copper environments. As a remotely managed device, the C3220 can be managed individually via an IP address or it can be managed by the ION Management Module when installed in a managed ION chassis. With advanced features like IEEE 802.3ah Link OAM, VLAN, QoS, SSH/SSL, jumbo frame support, and bandwidth allocation, the C3220 provides various methods for secure delivery of Ethernet services in business and mobile backhaul applications.

Features

- MEF 9, 14 and 21 certified
- 802.3ah Link OAM
- 10K Jumbo Frame Support
- Two selectable Remote Management modes:
  - IP-Based Remote Management
  - In-Band (remote device managed by local peer)
- Auto-MDI/MDIX
- Auto-Negotiation
- Pause
- Transparent Link Pass Through
- Far-End-Fault (FEF)
- Remote Loopback
- Field Upgradeable Firmware
- IEEE 802.1p QoS packet classification
- IPv4 IP TOS, DiffServ and IPv6 traffic class QoS classification
- IEEE 802.1q VLAN and double VLAN tagging with 4096 VIDs
- DHCP client
- SNTP
- TFTP
- RADIUS client
- RMON counters for each port
- Bandwidth profiling
- DMI Optical Management
- Cable diagnostic function for copper ports
- SSH
- Telnet
- Command Line Interface (CLI)
- Web management
- Focal Point Management
- SNMP v1, v2c, and v3
- USB port for basic setup
- Management VLAN

Specifications

Standards	IEEE 802.3 IEEE 802.3ah IEEE 802.1P IEEE 802.1Q IEEE 802.1X
Data Rate	Copper: 10/100/1000 Mbps Fiber: 1000 Mbps
Filtering Addresses	8K MAC Addresses
Max Frame Size	10,240 bytes
Dimensions	Width: 0.86" [22 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	4.5 Watts
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	EN55022 class A, EN55024, CE Mark
Warranty	Lifetime

Ordering Information

C3220-1013
10/100/1000Base-T (RJ-45) [100 m] to 1000Base-SX 850nm multimode (SC) [62.5/125 µm fiber: 220 m/722 ft.] [50/125 µm fiber: 550 m/1804 ft.] Link Budget: 8.5 dB

C3220-1014
10/100/1000Base-T (RJ-45) [100 m] to 1000Base-LX 1310nm single mode (SC) [10 km/6.2 mi.] Link Budget: 10.5 dB

***C3220-1040**
10/100/1000Base-T (RJ-45) [100 m] to (1) 100/1000Base-X SFP Slot (empty)

***C3221-1040**
10/100/1000Base-T (RJ-45) [100 m] to (2) 100/1000Base-X SFP Slots (empty)

Note: all units feature USB port for local management application.

***C3220-1040 and C3221-1040 have SGMII support for use with 10/100/1000Base-T copper SFPs.**

Optional Accessories (sold separately)

SFP Modules

USB Cables

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C3230 Series

ION Gigabit Ethernet Remotely Managed NID Module

10/100/1000Base-T to 1000Base-X with OAM/IP-Based Management

The ION C3230 is a managed multi-service Network Interface Device (NID) module that provides an interface between 10/100/1000Base-T ports and 1000Base-SX/LX ports, allowing users to provide SLA-assurance and advanced fault management while integrating fiber optic cabling into 10/100/1000 copper environments. As a remotely managed device, the C3230 can be managed individually via an IP address or it can be managed by the ION Management Module when installed in a managed ION chassis. With advanced features like IEEE 802.1ag Service OAM, IEEE 802.3ah Link OAM, ITU Y.1731 Performance Monitoring, VLAN, QoS, SSH/SSL, jumbo frame support, and bandwidth allocation, the C3230 provides various methods for secure delivery of business Ethernet and mobile backhaul deployments.

Features

- MEF 9, 14 and 21 certified
- 802.3ah Link OAM
- ITU Y.1731
- 802.1ag Service OAM
- 10K Jumbo Frame Support
- Two selectable Remote Management modes:
  - IP-Based Remote Management
  - In-Band (remote device managed by local peer)
- Auto-MDI/MDIX
- Auto-Negotiation
- Pause
- Link Pass Through
- Far-End-Fault (FEF)
- Remote Loopback
- Field Upgradeable Firmware
- IEEE 802.1p QoS packet classification
- IPv4 IP TOS, DiffServ and IPv6 traffic class QoS classification
- IEEE 802.1q VLAN and double VLAN tagging with 4096 VIDs
- DHCP client
- SNTP
- TFTP
- RADIUS client
- RMON counters for each port
- Bandwidth profiling
- DMI Optical Management
- Cable diagnostic function for copper ports
- SSH
- Telnet
- Command Line Interface (CLI)
- Web management
- Focal Point Management
- SNMP v1, v2c, and v3
- USB port for basic setup
- Management VLAN

Specifications

Standards	IEEE 802.3 IEEE 802.3ah IEEE 802.1P IEEE 802.1Q
Data Rate	Copper: 10/100/1000 Mbps Fiber: 1000 Mbps
Filtering Address	8K MAC Addresses
Max Frame Size	10,240 bytes
Dimensions	Width: 3.25" [82 mm] Depth: 6.5" [165 mm] Height: 1" [25 mm]
Power Input	100-240 VAC,1A
Power Output	12 VDC, 1.25A
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	EN55022 Class A, EN55024, UL60950,CE Mark
Warranty	Lifetime

Ordering Information

***C3230-1040**
10/100/1000Base-T (RJ-45) [100 m] to
(1) 100/1000Base-X SFP Slot (empty)

***C3231-1040**
10/100/1000Base-T (RJ-45) [100 m] to
(2) 100/1000Base-X SFP Slots (empty)

Note: all units feature USB port for local management application.

***C3230-1040 and C3231-1040 have SGMII support for use with 10/100/1000Base-T copper SFPs.**

Optional Accessories (sold separately)

SFP Modules

USB Cables

CARRIER ETHERNET MEF Certified Compliant

Media Converters

C4110-4848

ION Fiber to Fiber Media Converter Module

SFP+ to SFP+ for Data Rates from 1 Gbps to 11.5 Gbps

C4110-4848

The C4110 is a fiber to fiber media converter module. It is protocol independent and supports data rates from 1Gbps to 11.5Gbps through two open SFP+ ports. This allows network managers to customize the C4110 with a pair of SFP+ modules to meet their network requirements. The open SFP+ port supports a wide variety of Transition Networks 10Gbps SFP+ fiber modules. This any-rate to same-rate converter can be used to perform reliable and cost-effective single mode to multimode conversion or it can be used to provide wavelength conversion in CWDM applications. The ION C4110 is a manageable device when installed in a managed ION chassis.

Ordering Information

C4110-4848
1 Gbps to 11.5 Gbps fiber repeater with two open SFP+ slots, any-rate to same-rate ION slide-in card media converter

Optional Accessories (sold separately)

SFP or SFP+ Modules

Features

- Fiber to fiber repeater
- Remotely Managed when installed in a Managed ION Chassis
- Supports data rates from 1Gbps to 11.5Gbps
- Support Any-rate to Same-rate
- Protocol Transparent supports:
  - Ethernet: 10Gig LAN, 10Gig Wan, 1Gig LAN
  - Fiber Channel: 10, 8, 4, 2, 1Gig
  - SONET/SDN OC-192, OC-48
- SFP to SFP or SFP+ to SFP+
- Provides conversion between different types of fiber
- Supported transmission distance based on the SFP modules and type of fiber used
- Supports 3R (Reamplify, Reshape, and Retime) signal regeneration
- No frame size limitations
- Use as a fiber mode converter
- Use as a specific wavelength CWDM Transponder
- Also available as a stand-alone converter: S4110-4848

Specifications

Standards	IEEE 802.3ae ITU.G.709 SFF8431 Multi-sourcing Agreement (MSA) Small Form Factor Pluggable (SFP)
TDM Port (T1)	PWR: On = Power Port 1 Link/Act: On = Link, Flashing = Network Traffic Port 2 Link/Act: On = Link, Flashing = Network Traffic
Data Rate	Protocol Independent, 1Gbps to 11.5Gbps
Dip Switches	Only 4 of the 8 Dip Switches are used to select the operational data rate, see the user guide for the supported dip switch configurations
Dimensions	Width: 0.86" [22 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	4.2 Watts
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
MTBF	Greater than 250,000 hours (MIL-HDBK-217F) Greater than 687,000 hours (Bellcore)
Compliance	FCC Class A, CE Mark, EN55022 Class A, EN55024
Warranty	Lifetime

C4120-1048

ION 10 Gigabit Ethernet Media Converter Module

10GBase-T to 10GBase-X

The C4120 is a media converter module that provides an interface between 10GBase-T ports and 10GBase-X ports via an open SFP+ port, allowing users to convert their 10Gig Ethernet ports to the preferred type of cabling used in their networks. The open SFP+ port supports a wide variety of Transition Networks 10GE SFP+ fiber modules. Operating at Layer 1, the physical layer, data is passed through the converter at line speed, making the C4120 ideal for applications where low latency is essential. The ION C4120 is a manageable device when installed in a managed ION chassis.

Ordering Information

C4120-1048
10GBase-T RJ-45 100m
to 10GBase-X SFP+ Slot (Empty)

Optional Accessories (sold separately)

SFP+ Modules
Supports any SFP+ 10G Modules

Features

- Transparent Link Pass Through
- Auto-Negotiation
- Auto-MDI/MDIX
- Automatic Link Restoration
- Loopback on Fiber and Copper
- DMI
- For use in the ION 19-Slot or 6-Slot Chassis only
- Manageable when installed in a managed ION Chassis
- Remote Firmware Upgrade
  Fiber Port supported standards
  - 10GBase-SR
  - 10GBase-LRM
  - 10GBase-LR
  - 10GBase-ER
  - 10GBase-ZR
- The open SFP+ port also supports:
  - Direct attached 10G copper cable assemblies
  - Both Class-I and Class-II fiber
  - SFP+ modules
  - SFP modules supporting WDM technology
- Support 100m on Cat6a or higher UTP
- Per Energy Efficient Ethernet standards, IEEE 802.3az, UTP cable length is detected and power is adjusted according, to reduce power consumption on shorter UTP cable installs

Specifications

Standards	IEEE 802.3 IEEE 802.3an IEEE 802.3ae IEEE 802.3az
Data Rate	10 Gbps
Dip Switches	SW1: Copper Loopback SW2: Fiber Loopback SW3: not used SW4: Transparent Link Pass Through
Status LEDs	PWR (Power): On = power is on L/A SFP+ (Fiber port link and activity statue): On = Link OK Flashing = Link and Activity OK Copper Link (Copper Link Status): On = Link OK Copper Act (Copper Link Activity): On = Activity OK
Dimensions	Width: 0.86" [21.85 mm] Depth: 6.5" [165 mm] Height: 3.4" [86.36 mm]
Power Consumption	10.5 Watts See product manual for chassis power guidelines
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
MTBF	Greater than 250,000 hours (MIL-HDBK-217F) Greater than 687,000 hours (Bellcore)
Compliance	FCC Class A, EN55022 Class A, EN55024, CE Mark
Warranty	Lifetime

C4221-4848

ION 10 Gigabit Ethernet Remotely Managed Media and Rate Converter NID

10GBase-X to 10GBase-X + 10/100/1000Base-T with Remote Layer 2 Management

The ION C4221 Series of Network Interface Devices (NIDs) is a remotely managed product that offers management via the ION Management Module for secure delivery of Ethernet services for business and mobile backhaul applications. The C4221 is a 10 Gig product with advanced features like remote management of the local and remote cards, VLAN, jumbo frame support, and bandwidth allocation of 10 Gig interfaces. The C4221 offers the additional functionality of a rate converter by also offering a 10/100/1000Base-T RJ-45 port allowing 10/100/1000 based devices to connect to 10 Gigabit Ethernet fiber backbone.

Ordering Information

C4221-4848
(2) 10GBase-X SFP+ slot (empty)
+ (1) 10/100/1000Base-T RJ-45 ports

Optional Accessories (sold separately)

SFP Modules
SFP+ modules supported:
100FX, 1000X, SGMII, and 10 Gig

Features

- Full non-blocking switching on all interfaces
- (2) 10 Gig SFP+ ports supporting 100FX, 1000X, SGMII, and 10 Gig
- SFP ports individually support same or different speeds simultaneously
- (1) 10/100/1000Base-T port
- Local and remote units can be fully managed by the ION platform
- IPv4 IP TOS, DiffServ and IPv6 traffic class QoS classification via IONMM
- Bandwidth Allocation, per port, from 1 Gig to 10 Gig in 1 Gig increments
- Basic VLAN support
- Jumbo frame support, up to 10,240 bytes
- 16K maximum MAC Addresses
- 8Mbit shared buffer memory
- Remote firmware upgrades
- Auto-MDI/MDIX
- Auto-Negotiation
- Can be used in the ION 19-Slot, 6-Slot, and 1-Slot chassis

Specifications

Standards	IEEE 802.3 IEEE 802.3ah IEEE 802.1p IEEE 802.1Q IEEE 802.1x IEEE 802.3u IEEE 802.3x IEEE 802.3z IEEE 802.3ab IEEE 802.3ae
Ports	(1) Copper RJ-45 10/100/1000Base-T port (2) Fiber 10 Gig SFP+ ports supporting 100FX, 1000X, SGMII, and 10 Gig USB port for basic setup
Status LEDs	Power SFP+ Link/Activity for each port TP – Left LED: Duplex, TP Link/Activity TP – Right LED: TP Speed USB – Activity
Switches/Jumpers	One jumper to load factory defaults
Dimensions	Width: 0.86" [21.85 mm] Depth: 6.5" [165 mm] Height: 3.4" [86.36 mm]
Power Input	ION Chassis Backplane
Power Consumption	6.24 Watts, 520mA!@ 12VDC
Environment	Operating: 0°C to 50°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	Safety: CE Mark; Emissions: EN55022 Class A; Immunity: EN55024
Warranty	10 Years

Features Continued

- Management provided by IONMM
  - DHCP client
  - Telnet
  - Command Line Interface (CLI)
  - Web management
  - SNMP v1, v2c, and v3
  - Management VLAN

Features Coming Soon

- SFP+ DMI monitoring
- Fully compliant with OAM from IEEE 802.3ah – 2004 standard
- Loopback
- IEEE 802.1p QoS
- Transparent Link Pass Through
- Utilizes USB Type B connector for basic setup
- Full IEEE 802.1q VLAN and double VLAN tagging
- RMON/Statistics counters per port
- Pause
- IP-addressable management support

C6010 Series

ION DS1 - T1/E1 Network Interface Device Module

DS1 - T1/E1 over Fiber

C6010-1040

The ION C6010 is a managed media converter that offers a solution for extending T1/E1 or PRI connections over fiber optic cabling. It provides fiber extension though a twisted pair RJ-48 port and a fiber port. These T1/E1 converters must be used in pairs, one on each end of the fiber link. Typical installations include a chassis card installed in a centrally located managed ION chassis, linked over fiber to a stand-alone converter at the remote location. The T1/E1 converters are available with fixed fiber connectors or an open SFP slot, with support for various fiber types, distances, and wavelengths to provide maximum flexibility for any network topology. CWDM SFPs can also be used to further increase the bandwidth capacity of the fiber infrastructure.

Features

- Remote in-band management
- Local or Remote Loopbacks - Copper or Fiber
- Switch selectable for T1 or E1
- Remote firmware upgrade
- LEDs for immediate visual status
- Supports dual or single fiber
- Supports multimode and single mode fiber at a variety of distances
- Supports CWDM SFPs
- SNMP management when used with ION chassis and management module
- Remote stand-alone can be managed by local peer
- Extend PRI over fiber
- Must be used in pairs

Specifications

Standards	ANSI T1.102 T1.402 T1.408 ITU I.431 G.703 G.736 G.775 G.823 ETSI 300-166 ETSI 300-233 TBR12/12
Copper Connectors	RJ-48, BNC
Fiber Connectors	SFP: LC connector Uses standard 100Base-X/OC-3 SFP Fixed Optics: ST or SC connector
Data Rates	T1 = 1.544 Mbit/s, E1 = 2.048 Mbit/s
Status LEDs	Power, Signal Detect Copper, Signal Detect Fiber
Dimensions	Width: 0.86" [22 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	2.6 Watts
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
MTBF	Greater than 250,000 hours (MIL-HDBD-217F) Greater than 687,000 hours (Bellcore)
Compliance	CISPR/EN55022 Class A, FCC Class A, CE Mark
Warranty	Lifetime

Ordering Information

C6010-1011
Twisted Pair (RJ-48) [1.5 km/0.9 mi.]
to 1300nm multimode (ST) [2 km/1.2 mi.]
Link Budget: 11.0 dB

C6010-1013
Twisted Pair (RJ-48) [1.5 km/0.9 mi.]
to 1300nm multimode (SC) [2 km/1.2 mi.]
Link Budget: 12.0 dB

C6010-1014
Twisted Pair (RJ-48) [1.5 km/0.9 mi.]
to 1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB

C6010-1040
Twisted Pair (RJ-48) [1.5 km/0.9 mi.]
*to SFP slot (empty)

C6010-3040
(2) Coax (BNC) *to SFP slot (empty)

Single Fiber Products

Must be used in pairs

C6010-1029-A1
Twisted Pair (RJ-48) [1.5 km/0.9 mi.]
to 1310nm TX /1550nm RX single fiber single mode (SC) [20 km/12.4 mi.]
Link Budget: 19.0 dB

C6010-1029-A2
Twisted Pair (RJ-48) [1.5 km/0.9 mi.]
to 1550nm TX /1310nm RX single fiber single mode (SC) [20 km/12.4 mi.]
Link Budget: 19.0 dB

*SFP port uses standard 100Base-x/oc-3 SFP

C6110 Series

ION DS1 - T1/E1/J1 Network Interface Device Module

4 x DS1 - T1/E1/J1 over Fiber

The ION C6110 is a managed T1/E1/J1 mux media converter module that provides a solution for those users that need to extend multiple T1/E1/J1 connections over fiber. The C6110 includes (4) RJ-48 ports and (1) fiber port. The device is available in versions that support fixed fiber connectors as well as SFP fiber modules offering support for a variety of fiber types, distances, and wavelengths to provide maximum flexibility across a variety of network topologies. CWDM SFPs can also be utilized to further increase the bandwidth capacity of the fiber infrastructure.

The C6110 converter must be used in pairs. A typical installation will include a modular card installed in a managed ION chassis linked over fiber to a stand-alone S6110 in a remote location.

Features

- (4) RJ-48 copper interfaces
- (1) fiber interface (fixed or SFP)
- (2) SFP ports on C6111-1040 model
- Loopback via test set
- Local and remote loopbacks
- LEDs for device status and troubleshooting
- Settings for line code, line build out, loopbacks and Alarm Indication Signal (AIS)
- Access to complete status and configuration on local and remote device
- Remote firmware upgrade
- Remote management
- Must be used in pairs

Specifications

Standards	ANSI T1.102 T1.403 T1.408 ITU I.431 G.703 G.736 G.775 G.823 ETSI 300-166 ETSI 300-233 TBR 12/13 AT&T Pub 62411
Data Rate	Copper ports (RJ-48): T1(J1) = 1.544Mb/s, E1 = 2.048Mb/s SFP port(s) (empty): 100Base-X/OC-3
Switches	Numerous switch settings for line coding, line build out, loopback and AIS
Status LEDs	Power, Port Status, Loopback and AIS
Dimensions	Width: 1.72" [44 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	6 Watts (max: dual fiber model) 5.5 Watts (max: single fiber model)
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	EN55022 Class A, EN55024, CE mark
Warranty	Lifetime

Ordering Information

C6110-1011
1300nm multimode (ST) [2 km/1.2 mi.]
Link Budget: 11.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]

C6110-1013
1300nm multimode (SC) [2 km/1.2 mi.]
Link Budget: 11.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]

C6110-1014
1310nm single mode (SC) [20 km/12.4 mi.]
Link Budget: 16.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]

C6110-1040
*1 SFP port (Empty)
to (4) RJ-48 [1.5 km/0.9 mi.]

C6111-1040
*2 SFP ports (Empty)
to (4) RJ-48 [1.5 km/0.9 mi.]

Single Fiber Products

Must be used in pairs

C6110-1029-A1
1310nm TX/1550nm RX single fiber single mode (SC) [20 km/12.4 mi.]
Link Budget: 19.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]

C6110-1029-A2
1550nm TX/1310nm RX single fiber single mode (SC) [20 km/12.4 mi.]
Link Budget: 19.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]

*SFP port uses standard 100Base-x/oc-3 SFP

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C6120 Series

ION DS1 - T1/E1/J1 Network Interface Device Module

4 x DS1 - T1/E1/J1 + 10/100 Ethernet over Fiber

C6120-1013

The ION C6120 is a managed T1/E1/J1 mux media converter module that provides a solution for those users that need to extend multiple T1/E1/J1 connections, along with a 10/100 Ethernet connection, all over fiber. The C6120 includes (4) RJ-48 ports, (1) 10/100 Ethernet port, and (1) fiber port. The device is available in versions that support fixed fiber connectors as well as SFP fiber modules offering support for a variety of fiber types, distances, and wavelengths to provide maximum flexibility across a variety of network topologies. CWDM SFPs can also be utilized to further increase the bandwidth capacity of the fiber infrastructure.

The C6120 converter must be used in pairs. A typical installation will include a modular card installed in a managed ION chassis linked over fiber to a stand-alone S6120 in a remote location.

Features

- (4) RJ-48 copper interfaces
- (1) fiber interface (fixed or SFP)
- (2) SFP ports on C6121-1040 model
- (1) RJ-45 10/100Mbps Ethernet port
- Auto-MDI/MDIX
- Pause (Flow Control on Ethernet port)
- Loopback via test set
- Local and remote loopbacks
- LEDs for device status and troubleshooting
- Settings for line code, line build out, loopbacks and Alarm Indication Signal (AIS)
- Access to complete status and configuration on local and remote device
- Remote firmware upgrade
- Remote management
- Must be used in pairs

Specifications

Standards	ANSI T1.102 T1.403 T1.408 ITU I.431 G.703 G.736 G.775 G.823 ETSI 300-166 ETSI 300-233 TBR 12/13 AT&T Pub 62411 IEEE 802.3™-2008
Data Rate	Copper ports (RJ-48): T1(J1) = 1.544Mb/s, E1 = 2.048Mb/s Ethernet port (RJ-45): 10/100Mbps SFP port(s) (empty): 100Base-X/OC-3
Switches	Numerous switch settings for line coding, line build out, loopback and AIS
Status LEDs	Power, Port Status, Loopback and AIS
Dimensions	Width: 1.72" [44 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	6 Watts (max: dual fiber model) 5.5 Watts (max: single fiber model)
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	EN55022 Class A, EN55024, CE mark
Warranty	Lifetime

Ordering Information

C6120-1011
1300nm multimode (ST) [2 km/1.2 mi.]
Link Budget: 11.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

C6120-1013
1300nm multimode (SC) [2 km/1.2 mi.]
Link Budget: 11.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

C6120-1014
1310nm single mode (SC) [20 km/12.4 mi.]
Link Budget: 16.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

C6120-1040
*1 SFP port (Empty)
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

C6121-1040
*2 SFP ports (Empty)
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

Single Fiber Products

Must be used in pairs

C6120-1029-A1
1310nm TX/1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] LB: 19.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

C6120-1029-A2
1550nm TX/1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] LB: 19.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

*SFP port uses standard 100Base-x/oc-3 SFP

C6210 Series

ION DS3 - T3/E3 Network Interface Device Module

DS3 – T3/E3 Coax over Fiber

C6210-3040

The ION C6210 is a managed media converter module that provides a solution for those users that need to extend DS3-T3/E3 connections over fiber. The C6210 is available in versions that support fixed fiber connectors as well as SFP fiber modules offering support for a variety of fiber types, distances, and wavelengths to provide maximum flexibility across a variety of network topologies. CWDM SFPs can also be utilized to further increase the bandwidth capacity of the fiber infrastructure.

The C6210 DS3-T3/E3 converters must be used in pairs. A typical installation will include a modular card installed in a managed ION chassis linked over fiber to a stand-alone S6210 in a remote location.

Features

- AIS (Alarm Indication Signal)
- Coax Line Build Out
- Switch selectable for DS3/T3 or E3
- Remote firmware upgrade
- Loopback – Coax and Fiber
- LEDs for immediate visual status
- Supports dual or single fiber
- Supports multimode and single mode fiber at a variety of distances
- Supports CWDM SFPs
- SNMP management when used with ION chassis and management module
- Remote stand-alone can be managed by local peer
- Must be used in pairs

Specifications

Standards	ANSI ITU-TS ETSI G.823 for jitter tolerance G.755 for loss of signal
Coax Connectors	75 ohm coax
Fiber Connectors	SFP: LC connector Uses standard 100Base-X/OC-3 SFP Fixed Optics: ST or SC connector
Data Rates	DS3/T3 = 44.7Mbps; E3 = 34.4Mbps
Status LEDs	Power, Coax link status, coax loopback status, AIS on coax link; Fiber link status, fiber loopback status, AIS on fiber link
Dimensions	Width: 0.86" [22 mm] Depth: 6.5" [165 mm] Height: 3.4" [86 mm]
Power Consumption	2.5 Watts
Environment	**Environment specs are dependent on the chassis chosen** Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
MTBF	Greater than 250,000 hours (MIL-HDBD-217F) Greater than 687,000 hours (Bellcore)
Compliance	CISPR/EN55022 Class A, FCC Class A, CE Mark
Warranty	Lifetime

Ordering Information

C6210-3011
(2) Coax (BNC) to 1300nm multimode (ST)
[2 km/ 1.2 mi.] Link Budget: 11.0 dB

C6210-3013
(2) Coax (BNC) to 1300nm multimode (SC)
[2 km/ 1.2 mi.] Link Budget: 11.0 dB

C6210-3014
(2) Coax (BNC) to 1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB

C6210-3040
(2) Coax (BNC) to *SFP slot (empty)

Single Fiber Products

Must be used in pairs

C6210-3029-A1
(2) Coax (BNC) to 1310nm TX/1550nm RX single fiber single mode (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

C6210-3029-A2
(2) Coax (BNC) to 1550nm TX/1310nm RX single fiber single mode (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

*SFP port uses standard 100Base-x/oc-3 SFP

E-MCR-05

12-Slot Media Converter Rack

Flexible Design for growing networks simplify your installation of Transition Networks' stand-alone media converters with the Media Converter Rack. This 19" rack-mountable unit supports up to twelve media converters while the unique design allows for multiple connections, consolidated into a single device, making network connections easier and more efficient.

- Space Saving Design: This device is powered by a single internal universal power supply; eliminating the need for the multiple power connections often associated with multiple converter installations. The unit saves space in the wiring closet by providing a means for mounting (12) converters in (3) units of rack space while reducing the number of wall outlet power connections required.
- Convenience: The media converters are hot-swappable. They can also be removed from the rack, powered externally, and used as stand-alone units in new applications as your network needs change in the future.
- Cost Effective: Easily rack mount the single-wide, 12 volt powered, Transition Networks' media converters that you already own, or buy stand-alone units today and rack mount them in the future.
- Includes: (12) Universal rack mount media converter brackets.

(Media Converters Sold Separately)

Specifications

Dimensions	Width: 17" [432 mm] Depth: 15" [381 mm] Height: 4.75" [121 mm]
Power Supply	Universal, internal power supply; AC 85 – 264V, 47 – 63 Hz.
Environment	Operating: 0°C to 50°C Humidity: 10% to 90% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	12 lbs. [5.2 kg]
Compliance	UL Listed, cUL Listed (Canada), CISPR/EN55022 Class A, FCC Class A, CE Mark
Warranty	Lifetime

Ordering Information

E-MCR-05
12-Slot Media Converter Rack

Optional Accessories (sold separately)

Mounting Options

RMBU
Universal Rack Mount Bracket for Stand-Alone Converters

RMBM
Rack Mount Bracket for Mini Media Converters

RMS19-NID2-01

2-Slot Shelf for S3290 Series NID

- Clean up your S3290 installations with this 19" rack mountable shelf
- Rack mount up to 2 of the S3290 devices in 1 unpowered shelf
- Space saving design: save rack space in low density deployments: 19" rack mount, 1RU high
- Includes reversible rack mount ears for either 19" or 23" rack mount installations
- Flexible:
  - Mix and match up to 2 Transition Networks S3290 Series NID devices
  - Deep enough to hold the external AC/DC power supply that ships with the S3290
  - Can also accommodate the S3290-RPS wide input DC power supply
- Includes 4 mounting brackets, 2 for each of the S3290 Series NIDs
- Securely mounts the S3290 into the shelf
- Non-powered design: don't pay for power supplies twice. This low cost design allows the use of the power supplies that ship with the media converter.
- Power cord tie-down clamps: help to eliminate the accidental disconnection of power supplies from the media converters.

Specifications

Dimensions	Width: 19" [482.6 mm] Depth: 12" [304.8 mm] Height: 1.75" [44.5 mm]
Weight	4.3 lbs. [1.95 kg]
Warranty	Lifetime

Ordering Information

RMS19-NID2-01
2-Slot S3290 shelf, includes 4 device brackets and reversible rack mount ears

RMS19-SA4-02

4-Slot Media Converter Shelf

- Clean up your stand-alone media converter installations with this 19" rack mountable shelf
- Rack mount up to 4 stand-alone devices in a 1RU unpowered shelf
- Space saving design: save rack space in low density deployments: 19" rack mount, 1RU high
- Flexible: mix and match up to 4 Transition Networks stand-alone media converters
  - Including ION stand-alone converters
  - Including Ethernet Extenders
  - Excluding the double-high converters
- Includes 4 converter mounting brackets
- Includes 3 slot blanks to cover unused slots
- Securely mounts the converters to the shelf
- Non-powered design: don't pay for power supplies twice. This low cost design allows the use of the power supplies that ship with the media converters.
- The shelf is deep enough to hold the power supply, helping to reduce the strain on the power connections
- Power cord tie-downs: help to eliminate the accidental disconnection of power supplies from the media converters.

(Media Converters Sold Separately)

Specifications

Dimensions	Width: 19" [482.6 mm] Depth: 14" [355.6 mm] Height: 1.75" [44.5 mm]
Weight	4.6 lbs. [2.08 kg]
Warranty	Lifetime

Ordering Information

RMS19-SA4-02
4-Slot Media Converter Shelf, includes 4 brackets and 3 slot blanks

Mounting Options

RMBU
Universal Rack Mount Bracket for Stand-Alone Converters

RMBM
Rack Mount Bracket for Mini Media Converters

Wall, Rack, DIN Rail Mounting Brackets

Wall Mount Brackets are small simple "L-shaped" tabs that allow a single Transition Networks' media converter to be mounted anywhere. The brackets are sold in pairs and are available in several sizes and types to match the different sized media converters and space requirements.

DIN Rail Brackets allow stand-alone media converters to be mounted to a DIN Rail, common in industrial environments, in either a flat mount against the DIN Rail or in a vertical mount in which the converter mounts on its edge.

Mini Wall Mount brackets allow a mini media converter to be securely mounted to a wall or any other flat surface.

Mini Mounting Options

RMBM

DRBM

WMBM

Specifications

Weight	1 lb. [0.45 kg]
Warranty	Lifetime

Standard Mounting Options

WMBL; WMBP; WMBS

WMBV; WMBD

RMBU

Ordering Information

WMBD
5" [127 mm] DIN Rail Mount Bracket
Fits all Stand-Alone Converters; 1- or 2-Slot ION Chassis

WMBD-F
3.3" [84 mm] DIN Rail Mount Bracket (flat)
Fits all Stand-Alone Converters
3.25" [82 mm] wide

WMBD-FS
3.1" [79 mm] DIN Rail Mount Bracket (flat, small) Fits Stand-Alone Converters 3" [76 mm] wide

WMBL
4" [102 mm] Fits Stand-Alone Converters size 4.8" [122 mm] and 6.5" [165 mm]

WMBP
5" [127 mm] Fits 1- or 2-Slot ION Chassis

WMBS
3.2" [81 mm] Fits Stand-Alone Converters size 3.9" [99 mm]

WMBV
5" [127 mm] Vertical Mount
Fits all Stand-Alone Converters;
1- or 2-slot Point System™ Chassis

RMBU
Rack mount bracket for stand-alone converters, used with E-MCR-05 and RMS19-SA4-02

Mini Media Converters

WMBM
3.3" [84 mm] Fits all "Mini" Media Converters

RMBM
Rack mount bracket for mini converters, used with E-MCR-05 and RMS19-SA4-01

DRBM
3.3" [84 mm] DIN Rail Mount Bracket for "Mini" Media Converters
Fits all "Mini" Media Converters

SPS-2460-xx

External DC Power Supply

For Stand-alone Media Converters

SPS-2460-PS
Piggy-Back Power Supply

SPS-2460-SA
Stand-Alone Power Supply

Transition Networks' wide input external power supplies allow you to provide a wide range of input voltages to power your stand-alone converters and chassis. Input voltages of 24 – 60 VDC and 24 – 42 VRMS allow for installation of any of Transition Networks' stand-alone media converters in most industrial, telecom and commercial applications, as well as HVAC and building controlled environments.

Multiple form factors allow flexibility to meet your application. The stand-alone form factor can be used with all Transition Networks' stand-alone media converters. The piggy back form factor allows the power supply to attach directly to the converter and eliminate the power cable commonly found between the power supply and the converter. Once the piggy back supply is attached to the converter, the combined assembly is much easier to wall mount or attach to DIN Rail environments than using a separate supply.

Specifications

Output	Voltage: 12.25 VDC Current: 1.0A Load Regulation: ±5% at 10% load to full rated load Noise and Ripple: ±40 mV peak-to-peak of output voltage
Input	Voltage: 24 – 60 VDC; 24 – 42 VMRS Efficiency: 80% (typical)
Isolation Voltage	(Dielectric withstand) Meets IEC 950 for one minute 1500 VAC: Output/Input 1500 VAC: Input/Safety GND 1500 VAC: Output/CASE
Protection	Over Load Protection (OLP): When the average power rating exceeds 125%-150% of maximum power, output voltages reduced to a safe dissipation level; protects against short circuit of any output No Load Protection: No damage to power supply when operating at no load Transient Protection: No voltage spike at power-on, power-off, or power failure
Dimensions	SPS-2460-SA: Width: 3.75" [95 mm] Depth: 3.1" [79 mm] Height: 1" [25 mm] SPS-2460-PS: Width: 4.5" [114 mm] Depth: 3.4" [86 mm] Height: 1" [25 mm]
Power Consumption	3 Watts (max) @ 24 VDC input, 12.25 VDC output
Environment	Operating: -20°C to 65°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
MTBF	Greater than 250,000 hours with typical load Operating at 25°C temperature (calculated according to MIL-HDBK-217E)
Compliance	CISPR/EN55022, Class A, FCC Class A
Warranty	Lifetime

Ordering Information

SPS-2460-PS
Piggy-Back for use with stand-alone media converters 3.25" wide

SPS-2460-SA
Stand-Alone
For use with: All stand-alone media converters

J/E-CX-TBT-02

Stand-alone Ethernet Media Converter

10Base-2 to 10Base-T

J/E-CX-TBT-02

The J/E-CX-TBT-02 is a stand-alone Ethernet media converter that provides an interface between 10Base-2 devices and 10Base-T devices, allowing users to connect legacy 10Base-2 BNC ports to Ethernet segments supporting 10Base-T RJ-45 ports. The J/E-CX-TBT-02 does not add the latency associated with a repeater or reduce the total number of repeaters allowed within a given network topology.

Ordering Information

J/E-CX-TBT-02
10Base-T (RJ-45) [100 m/328 ft.]
to 10Base-2 (BNC) [185 m/607 ft.]

Note: Not rack-mountable

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: J/E-CX-TBT-02-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- Protects your equipment investment by allowing you to upgrade-not replace-your current network.
- Provides (1) RJ-45 twisted pair connector and (1) BNC 10Base-2 compliant port.
- Supports up to (24) devices daisy-chained on (1) coax segment per twisted pair segment.
- MDI/MDI-X selection switch allows converter to be connected to either a workstation/NIC or hub, switches and routers without changing the cable type.
- BNC T-connector included for daisy chain applications.

Specifications

Standards	IEEE 802.3 10Base-T 10Base-2
Switches	MDI/MDI-X: Selects correct RJ-45 port setting
Status LEDs	PWR (Power): ON = Connected to external power BNC/ACT (BNC Activity): Flashing = 10Base2 data traffic TP/ACT (TP Activity): ON = 10Base-T link connection; Flashing = 10Base-T data traffic COL (Collision): Flashing = Collision present
Dimensions	Width: 2.75" [71 mm] Depth: 3.7" [94 mm] Height: 1" [25 mm]
Power Input	External AC/DC: 5 VDC, 1.0 A
Environment	Operating: 0°C to 50°C Humidity: 5% to 90% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply: UL Listed and CSA certified; CISPR22/EN55022 Class A, FCC Class A, CE Mark
Warranty	Lifetime

E-TBT-FRL-05 Series

Stand-alone Ethernet Media Converter

10Base-T to 10Base-FL

E-TBT-FRL-05(SC)

The E-TBT-FRL-05 is a stand-alone media converter that provides an interface between 10Base-T ports and 10Base-FL ports, allowing users to integrate fiber optic cabling into 10Base-T copper environments. Operating at Layer 1, the physical layer, data is passed through the converter at line speed, making it ideal for applications where low latency is essential.

Features

- Auto-MDI/MDIX
- Link Pass Through
- Automatic Link Restoration
- Integrate mixed cabling environments using either switched or shared Ethernet

Specifications

Standards	IEEE 802.3 10Base-T 10Base-FL
Switch	S1: Enables/disables Link Pass Through
Status LEDs	PWR (Power): ON = connection to external AC power Link: ON = unit is receiving link pulses from a compliant device RX (Receive): ON = packets are being received
Dimensions	Width: 3" [76 mm] Depth: 3.9" [99 mm] Height: 1" [25 mm]
Power Input	External AC/DC required; 12 VDC, 0.5A, unregulated, standard
Environment	Operating: 0°C to 50°C Humidity: 5% to 90% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply: UL Listed, cUL Listed (Canada) Regulatory: FCC Class A, CISPR22/EN55022 Class A, EN55024, EN61000, CE Mark
Warranty	Lifetime

Ordering Information

E-TBT-FRL-05
10Base-T (RJ-45) [100 m/328 ft.]
to 10Base-FL 850nm multimode (ST)
[2 km/1.2 mi.] Link Budget: 13.5 dB

E-TBT-FRL-05(SC)
10Base-T (RJ-45) [100 m/328 ft.]
to 10Base-FL 850nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 13.5 dB

E-TBT-FRL-05(L)
10Base-T (RJ-45) [100 m/328 ft.]
to 10Base-FL 1300nm multimode (ST)
[5 km/3.1 mi.] Link Budget: 13.5 dB

E-TBT-FRL-05(SM)
10Base-T (RJ-45) [100 m/328 ft.]
to 10Base-FL 1310nm single mode (ST)
[20 km/12.4 mi.] Link Budget: 7.0 dB

E-TBT-FRL-05(XC)
10Base-T (RJ-45) [100 m/328 ft.]
to 10Base-FL 1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 7.0 dB

E-TBT-FRL-05(LH)
10Base-T (RJ-45) [100 m/328 ft.]
to 10Base-FL 1310nm single mode (ST)
[40 km/24.9 mi.] Link Budget: 19.0 dB

Optional Accessories (sold separately)

Wide Input (24 - 60 VDC) Power Supplies

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

E-MCR-05
12-Slot Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

WMBD
DIN Rail Bracket 5" [127 mm]

WMBD-FS
DIN Rail Bracket (flat, small) 3.1" [79 mm]

WMBS
Wall Mount Bracket 3.2" [81 mm]

WMBV
Vertical Wall Mount Bracket 5" [127 mm]

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: E-TBT-FRL-05-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

E-TBT-MC05

Stand-alone Ethernet Transceiver

10Base-5 AUI to 10Base-T RJ-45

E-TBT-MC05

The E-TBT-MC05 is an Attachment Unit Interface (AUI) transceiver that provides a method for connecting a workstation, or any other device with an AUI port, to twisted pair cabling in a 10Base-T network. Devices with AUI ports could include: servers, hubs, bridges and routers. The E-TBT-MC05 transceiver allows twisted pair, UTP or STP, to be connected to these AUI ports.

Ordering Information

E-TBT-MC05
10Base-5 (AUI) dB-15 male [50 m/164 ft.] to 10Base-T (RJ-45) [100 m/328 ft.]

Features

- Provides a complete interface of the AUI to Ethernet UTP cable
- Supports data transfer rate of 10 Mbps
- CSMA/CD access mechanism
- Capable of driving the UTP cable segment up to 100 m (328 ft.) without the use of a repeater
- Selectable Link test and SQE test functions
- AUI locking post design allows the E-TBT-MC05 to directly attach to a host's AUI connector
- Can be used with or without an AUI cable
- LED indicators for network monitoring and diagnosing
- The RJ-45 port will automatically detect and reverse the polarity on the receive pair, if needed

Specifications

Standards	IEEE 802.3 10Base-T
Switches	SW1: SQE Test: UP is enabled SW2: Link Test: UP is enabled SW3: Half or Full-Duplex: UP is for Half, Down is for Full
Status LEDs	COL: Blinks when detecting collisions STAT: Solid Green: UTP Link established; Blinks Green: No UTP Link; 4-Blink Pattern: Polarity reversal detected on UTP cable TX: Blinks when transmitting data on the RJ-45 RX: Blinks when receiving data on the RJ-45
Dimensions	Width: 3.1" [79 mm] Depth: 0.8" [20 mm] Height: 1.7" [43 mm]
Power Consumption	Not to exceed 75mA@12 VDC
Power Supply	No external power required
Input Voltage	10.2 to 15.75 VDC
Input Current	250mA@12 VDC
Environment	Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	FCC & CISPR Class A, CE Mark
Warranty	Lifetime

E-100BTX-FX-05 Series

Stand-alone Fast Ethernet Media Converter

100Base-TX to 100Base-FX

E-100BTX-FX-05

The E-100BTX-FX-05 is a stand-alone media converter that provides an interface between 100Base-TX ports and 100Base-FX ports, allowing users to integrate fiber optic cabling into 100Base-TX copper environments. Operating at Layer 1, the physical layer, data is passed through the converter at line speed, making it ideal for applications where low latency is essential.

Features

- Operates under heavy traffic loads without excess heat, so there is no need for a failure-prone internal fan
- Round trip delay of only 40 bit times - far below the Class II rating of 92 bit times
- Auto-Negotiation
- Auto-MDI/MDIX
- Active Link Pass Through
- Far-End-Fault (FEF)
- Pause
- Automatic Link Restoration

Specifications

Standards	IEEE 802.3 100Base-FX 100Base-TX
Switches	SW1: Auto-Negotiation On/Off SW2: Pause TX On/Off SW3: Active Link Pass Through On/Off SW4: Far-End-Fault (FEF) On/Off
Jumpers	Jumper Block 1: Auto-MDI/MDIX enable
Status LEDs	PWR (Power) SDF or LKF (Link Fiber) SDC or LKC (Link Copper) RXF (Receive Fiber) RXC (Receive Copper)
Dimensions	Width: 3" [76 mm] Depth: 4.7" [119 mm] Height: 1" [25 mm]
Power Supply	External AC/DC required:120-240VAC input, 12VDC Output; unregulated, standard
Environment	Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Regulatory: FCC Class A, EN55024, EN55022 Class A, EN61000, CE Mark
Warranty	Lifetime

Ordering Information

E-100BTX-FX-05
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (ST) [2 km/1.2 mi.] Link Budget: 11.0 dB

E-100BTX-FX-05(SC)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (SC) [2 km/1.2 mi.] Link Budget: 11.0 dB

E-100BTX-FX-05(LC)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (LC) [2 km/1.2 mi.] Link Budget: 11.0 dB

E-100BTX-FX-05(MT)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (MT-RJ) [2 km/1.2 mi.] Link Budget: 14.5 dB

E-100BTX-FX-05(SM)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (SC) [20 km/12.4 mi.] Link Budget: 16.0 dB

E-100BTX-FX-05(SMLC)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (LC) [20 km/12.4 mi.] Link Budget: 17.3 dB

E-100BTX-FX-05(LH)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (SC) [40 km/24.9 mi.] Link Budget: 26.0 dB

E-100BTX-FX-05(XL)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (SC) [60 km/37.3 mi.] Link Budget: 29.0 dB

E-100BTX-FX-05(LW)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1550nm single mode (SC) [80 km/49.7 mi.] Link Budget: 29.0 dB

Single Fiber Products

E-100BTX-FX-05(100)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm TX/1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

E-100BTX-FX-05(101)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1550nm TX/1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

E-100BTX-FX-05(102)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm TX/1550nm RX single fiber single mode (SC) [40 km/24.9 mi.] Link Budget: 25.0 dB

E-100BTX-FX-05(103)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1550nm TX/1310nm RX single fiber single mode (SC) [40 km/24.9 mi.] Link Budget: 25.0 dB

Optional Accessories (sold separately)

Wide Input (24 - 60 VDC) Power Supplies

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

E-MCR-05
12-Slot Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

WMBD
DIN Rail Bracket 5" [127 mm]

WMBD-FS
DIN Rail Bracket (flat, small) 3.1" [79 mm]

WMBL
Wall Mount Bracket 4" [102 mm]

WMBV
Vertical Wall Mount Bracket 5" [127 mm]

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: E-100-BTX-FX-05-NA

-NA = Country Code
NA = North America, LA = Latin America, EU = Europe, UK = United Kingdom, SA = South Africa, JP = Japan, OZ = Australia, BR = Brazil

E-100BTX-FX-05(HT) Series

Unmanaged Hardened Fast Ethernet Media Converter

(1) 100Base-TX Port + (1) 100Base-FX Port

The E-100BTX-FX-05(HT) is a Hardened Ethernet stand-alone media converter that provides an interface between 100Base-TX ports and 100Base-FX ports, allowing users to integrate fiber optic cabling into extreme 100Base-TX copper environments, by supporting an operating temperature range of -25°C to 65°C. Operating at Layer 1, the physical layer, data is passed through the converter at line speed, making it ideal for applications where low latency is essential.

Features

- Extended Temperature Capable: Designed to operate in environments where ambient temperatures can rise as high as 65°C (149°F)
- Auto-Negotiation
- Auto-MDI/MDIX
- Link Pass Through
- Far-End-Fault Detection
- Automatic Link Restoration
- Pause

Specifications

Standards	IEEE 802.3
Switches	SW1: Auto-Negotiation On/Off SW2: Pause TX On/Off SW3: LPT On/Off SW4: FEF On/Off
Jumpers	Jumper Block 1: Auto-MDI/MDIX enable
Status LEDs	PWR (Power): Lit for normal operation SDF (Signal Detect Fiber): Lit for fiber link SDC (Signal Detect Copper): Lit for copper link RXF (Receive Fiber): Flashing = RX data RXC (Receive Copper): Flashing = RX data
Dimensions	Width: 3" [76 mm] Depth: 4.7" [119 mm] Height: 1" [25 mm]
Power Supply	External AC/DC required; Output: 9 VDC. 1.0A; 120-240VAC input, unregulated; standard
Environment	Operating: -25°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply: UL Listed, cUL Listed (Canada) FCC Class A, CISPR22/EN55022 Class A, EN55024, EN61000, CE Mark
Warranty	Lifetime

Ordering Information

E-100BTX-FX-05(HT)
100Base-TX (RJ-45) [100 m/328 ft.]
to 100Base-FX 1300nm multimode (ST)
[2 km/1.2 mi.] Link Budget: 11.0 dB

E-100BTX-FX-05(SCHT)
100Base-TX (RJ-45) [100 m/328 ft.]
to 100Base-FX 1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 11.0 dB

E-100BTX-FX-05(SMHT)
100Base-TX (RJ-45) [100 m/328 ft.]
to 100Base-FX 1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB

Optional Accessories (sold separately)

Power Supplies

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

RMS19-SA4-02
4-Slot Media Converter Shelf

WMBD
DIN Rail Bracket 5" [127 mm]

WMBD-FS
DIN Rail Bracket (flat, small) 3.1" [79 mm]

WMBL
Wall Mount Bracket 4" [102 mm]

WMBV
Vertical Wall Mount Bracket 5" [127 mm]

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: E-100-BTX-FX-05(HT)-NA

-NA = Country Code
NA = North America, LA = Latin America, EU = Europe, UK = United Kingdom, SA = South Africa, JP = Japan, OZ = Australia, BR = Brazil

SBFTF1010-130

Stand-alone Fault-Tolerant Redundant Link Protector

10/100Base-TX

SBFTF1010-130

The SBFTF1010-130 Redundant Link Protector is a 10/100 Ethernet fault-tolerant transceiver that significantly reduces network down time by adding a new level of redundancy to 10/100 Ethernet connections. The Redundant Transceiver has three ports: one for the critical (main) device, one for the default (primary) path to the critical device, and another (backup) for the backup path. It is a smart device that will not send any signal on a path that is inactive. If the primary path loses its link, then the transceiver will switch to the backup path in approximately 189 milliseconds.

When the primary path re-establishes its link, the Redundant Link Protector will automatically switch back to the primary path. Optional functionality, controlled via a dip switch, allows the unit to move from the fault-tolerant mode to a 3-port switch mode.

Features

- Fault-tolerant redundant connections
- Easy to install and use
- Supports half and full-duplex transmission
- Auto-MDI/MDIX
- Auto-Negotiation
- IEEE 802.3 compliant
- 9 diagnostic LEDs
- Optional 3-port switch mode

Specifications

Standards	IEEE 802.3
RJ-45 Connectors	Type: 8-position, RJ-45 receptacle: 1: TX+5: NC (no connection) 2: TX-6: RX- 3: RX+7: NC (no connection) 4: NC (no connection) 8: NC (no connection)
Dip Switches	SW1: Auto-Negotiation Enable/Disable SW2: 10/100 Mbps SW3: Full/Half-Duplex SW4: Redundancy/Switch
System LEDs	Power (PWR): Indicates the presence of POWER Primary (PRI): Indicates a link is established on the Primary port Backup (BKP): Indicates the link has moved over to the Backup port
Port LEDs	Lower Right: Green indicates 100 Mbps; Orange indicates 10 Mbps; Flashing indicates Activity Lower Left: Green indicates full-duplex; Off half-duplex
Dimensions	Width: 3.25" [82.55 mm] Depth: 4.8" [121.92 mm] Height: 1" [25 mm]
Power Input	120 VAC @ 60 Hz. (Domestic) 100 – 240 VAC @ 50 Hz. (International)
Power Output	12 VDC, 0.5 Amp (Domestic) 12 VDC, 1.25 Amp (International)
Environment:	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply: UL Listed & CSA Certified; FCC Class A, EN55024, UL 60950, CE Mark
Warranty	Lifetime

Ordering Information

SBFTF1010-130
10/100Base-TX Link Protector Transceiver
(3) 10/100Base-TX (RJ-45) [100 m/328 ft.]

Optional Accessories (sold separately)
Wide Input (24 - 60 VDC) Power Supplies

SPS-2460-PS
Piggy Back Power Supply

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

E-MCR-05
12-Slot Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

WMBD
DIN Rail Bracket 5" [127 mm]

WMBD-F
DIN Rail Bracket (flat) 3.3" [84 mm]

WMBL
Wall Mount Bracket 4" [102 mm]

WMBV
Vertical Wall Mount Bracket 5" [127 mm]

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: SBFTF1010-130-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

SBFTF Series

Stand-alone Fast Ethernet Media and Rate Converter

10/100Base-TX to 100Base-FX

SBFTF1014-105

The SBFTF Series is a stand-alone media converter that provides an interface between 10/100Base-TX ports and 100Base-FX ports, allowing users to integrate fiber optic cabling into 10/100 copper environments. Operating at Layer 2, the data link layer, this converter not only converts copper to fiber, it also provides rate conversion allowing legacy 10Base-T copper devices to connect to 100Base-FX fiber.

Features

- Auto-Negotiation
- Auto-MDI/MDIX
- Link Pass Through
- Far-End-Fault (FEF) Detection
- Automatic Link Restoration Extend network distance up to 120km
- Bridging devices will provide conversion and integration solutions for half and full-duplex environments
- 10 Mbps or 100 Mbps on TP port
- Half or full-duplex on all ports including fiber

Specifications

Standards	IEEE 802.3
Data Rate	10 Mbps; 100 Mbps, Layer 2
Filtering Addresses	1K MAC addresses
Filtering & Forwarding	14,880 pps for Ethernet; Rate 148,800 pps for Fast Ethernet
RAM Buffers	512 KB
Max Packet Size	2044 bytes untagged; 2048 bytes tagged
Switches	SW1 (TP): Auto-Negotiation On/Off SW2 (TP): Half or Full-duplex with Auto-Negotiation Off SW3 (TP): 10Mbps or 100 Mbps with Auto-Negotiation Off SW4 (Fiber): Half or Full-duplex SW5: Link Pass Through On/Off SW6: Far-End-Fault (FEF) On/Off
Status LEDs	PWR (Power): ON = connection to external power FD (Fiber Duplex): ON=Full-duplex; Off=Half duplex LNK/ACT (Fiber Link/Activity): ON=Link; Blinking=Activity CD (Copper Duplex): ON = Full-duplex; Off = Half-duplex LNK/ACT (Copper Link/Activity): ON = Link; Blinking = Activity 100 (Copper): Off = 10 Mbps; ON = 100 Mbps
Dimensions	Width: 3.25" [82.55 mm] Depth: 4.8" [121.92 mm] Height: 1" [25 mm]
Power Consumption	External AC/DC; 12 VDC, 0.8A min
Environment	Operating: 0°C to 50°C Humidity: 5% to 90% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply: UL Listed; FCC Class A, VCCI Class 1, CISPR22/EN55022 Class A, EN55024, EN61000, CE Mark
Warranty	Lifetime

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: SBFTF1011-105-NA

-NA = Country Code

-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Ordering Information

SBFTF1011-105
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (ST) [2 km/1.2 mi.] Link Budget: 11.0 dB

SBFTF1013-105
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (SC) [2 km/1.2 mi.] Link Budget: 11.0 dB

SBFTF1039-105
10/100Base-TX (RJ-45) 100 m/328 ft.] to 100Base-FX 1300nm multimode (LC) [2 km/1.2 mi.] Link Budget: 11.0 dB

SBFTF1014-105
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (SC) [20 km/12.4 mi.] Link Budget: 16.0 dB

SBFTF1019-105
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (LC) [20 km/12.4 mi.] Link Budget: 17.3 dB

SBFTF1040-105
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-X SFP Slot (empty)

Single Fiber Products

SBFTF1029-105
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm TX/1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

SBFTF1029-106
10/100Base-TX (RJ-45) [100 m/328 ft.]to 100Base-FX 1550nm TX/1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

Optional Accessories (sold separately)

SFP Modules

Wide Input (24 - 60 VDC) Power Supplies

SPS-2460-PS
Piggy Back Power Supply

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

E-MCR-05
12-slot Media Converter Rack

RMS19-SA4-02
4-slot Media Converter Shelf

WMBD
DIN Rail Bracket 5" [127 mm]

WMBD-F
DIN Rail Bracket (flat) 3.3" [84 mm]

WMBL
Wall Mount Bracket 4" [102 mm]

WMBV
Vertical Wall Mount Bracket 5" [127 mm]

IPOTW1052-111-LRT

Unmanaged IP Over 2-Wire Ethernet Extender

(1) 100Base-TX RJ-45 Port + (1) 2-Wire Terminal Block

Transition Networks IP Over 2-Wire Ethernet Extender provides the ability to leverage existing 2-Wire cable infrastructure to extend the Ethernet network to remote locations, such as light poles or traffic signal poles. The extenders are a cost-effective alternative to running new Cat5/6 cable and reducing implementation time.

These extenders are used as a pair of devices, with a local and remote device at opposite ends of the 2-Wire cable. The local and remote devices can each accept a 100Base-TX RJ-45 connection. The local and remote devices can communicate over non-UTP 24AWG wire lengths of up to 200M. The wide input power range allows the extenders to work with a variety of power sources to suit specific applications.

Ordering Information

***IPOTW1052-111-LRT**
(1) 100Base-TX
+ (1) 2-Wire Terminal Block

Optional Accessories (sold separately)
Industrial Power Supplies:

25135
Input: 85-264 VAC, 120-370 VDC
Output: 24VDC, .42A, 10 Watts
(For use when required 12-48 VDC power is not available)

***Note: Products must be purchased as a pair.**

Features

- Auto-MDI/MDIX
- Full/Half-Duplex
- Store-and-Forward Processing
- Extend Ethernet distances up to 200m on 24AWG 2-Wire Cable
- IP30 Enclosure
- Single unit is user-selectable as Master or Slave
- 12~48 Power Input
- DIN Rail/Wall Mountable
- Eliminates cost of running CAT5/6 Cable

Specifications

Standards	IEEE 802.3p IEEE 802.3u IEEE 802.3x
Status LEDs	Power, RJ-45 Link, 2-Wire Link
Dimensions	Width: 0.9" [23 mm] Depth: 2.75" [70 mm] Height: 3.74" [95 mm]
Power Consumption	2 Watts
Power Input	12 - 48 VDC
Fault Relay	1A at 24 VDC capacity
Ingress Protection	IP30
Environment	Operating: -40°C to +70°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	0.53 lbs. [0.24 kg]
Compliance	Safety: EN60950-1, FCC Part 15, CISPR22/EN55022 Class A, Immunity: EN61000-4-2, EN61000-4-3, EN-61000-4-4, EN61000- 4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Warranty	Lifetime

S2220 Series

Stand-alone Fast Ethernet Remotely Managed NID

10/100/1000Base-T to 100Base-FX with OAM/IP-Based Management

S2220-1013

The ION S2220 is a stand-alone managed Network Interface Device (NID) that provides an interface between 10/100/1000Base-T ports and 100Base-FX ports, allowing users to manage their links while integrating fiber optic cabling into 10/100/1000 copper environments. As a remotely managed device, the S2220 can be managed individually via an IP address or it can be managed in-band, over the fiber when linked to a C2220 card installed in a managed ION chassis. With advanced features like IEEE 802.3ah Link OAM, VLAN, QoS, SSH/SSL, jumbo frame support, and bandwidth allocation, the S2220 offers a variety of methods for the secure delivery of Ethernet services in business and mobile backhaul applications.

Features

- MEF 9, 14 and 21 certified
- 802.3ah Link OAM
- 10K Jumbo Frame Support
- Two selectable Remote Management modes:
  - IP-Based Remote Management
  - In-Band (remote device managed by local peer)
- Auto-MDI/MDIX
- Auto-Negotiation
- Pause
- Transparent Link Pass Through
- Far-End-Fault (FEF)
- Remote Loopback
- Field Upgradeable Firmware
- IEEE 802.1p QoS packet classification
- IPv4 IP TOS, DiffServ and IPv6 traffic class QoS classification
- IEEE 802.1q VLAN and double VLAN tagging with 4096 VIDs
- DHCP client
- SNTP
- TFTP
- RADIUS client
- RMON counters for each port
- Bandwidth profiling
- DMI Optical Management

Specifications

Standards	IEEE 802.3 IEEE 802.3ah IEEE 802.1P IEEE 802.1Q
Data Rate	Copper: 10/100/1000 Mbps Fiber: 100 Mbps
Filtering Addresses	8K MAC Addresses
Max Frame Size	10,240 bytes
Dimensions	Width: 3.25" [82.55 mm] Depth: 6.5" [165 mm] Height: 1" [25 mm]
Power Input	100-240 VAC, 1A
Power Output	12 VDC, 1.25A
Environment	Operating: 0°C to 50°C Humidity: 5% to 90% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	EN55022 class A, EN55024, UL60950, CE Mark
Warranty	Lifetime

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: S2220-1013-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Ordering Information

S2220-1011
10/100/1000Base-T (RJ-45) [100 m] to 100Base-FX 1300nm multimode (ST) [2 km/1.2 mi.] Link Budget: 11.0 dB

S2220-1013
10/100/1000Base-T (RJ-45) [100 m] to 100Base-FX 1300nm multimode (SC) [2 km/1.2 mi.] Link Budget: 11.0 dB

S2220-1014
10/100/1000Base-T (RJ-45) [100 m] to 100Base-LX 1310nm single mode (SC) [10 km/6.2 mi.] Link Budget: 16.0 dB

S2220-1040
10/100/1000Base-T (RJ-45) [100 m] to 100Base-X SFP Slot (empty)

*Note all units feature USB port for local management application.

Optional Accessories (sold separately)

SFP Modules

Mounting Options

WMBL
Wall Mount Bracket 4" [102 mm]

WMBD
DIN Rail Bracket 5" [127 mm]

RMS19-SA4-02
4-Slot Media Converter Shelf

Features (Continued)

- Cable diagnostic function for copper ports
- SSH
- Telnet
- Command Line Interface (CLI)
- Web management
- Focal Point Management
- SNMP v1, v2c, and v3
- USB port for basic setup
- Management VLAN

SPOEB Series

Stand-alone Fast Ethernet PoE Media Converter

10/100Base-TX PoE PSE to 100Base-FX

SPOEB1039-105

The SPOEB Series is a 10/100 Ethernet copper to fiber PoE media converter that enables enterprises to provide power to network devices over the existing CAT5 data connection.

Transition Networks' AC powered PoE media converters combine data received over a fiber optic link with -48 VDC power; providing power to Data Terminal Equipment (DTE) Power Devices (PD) over unshielded twisted pair cable. The PoE converters are Power Sourcing Equipment (PSE) and are fully compatible with Powered Devices (PD) that comply with the IEEE 802.3af standard. The converters also include a PD signature sensing and power monitoring features per the IEEE 802.3af standard. Other features include Over-Current Protection, Under-Current Detection and Fault Protection Input.

This feature enhanced model offers the ability to enable/disable many of the features as well as force port capabilities. In addition, with the PSE/LPT switch enabled, a loss of Fiber RX will disable PSE power output on the UTP port for 2 seconds to allow remote device to re-initialize, also known as Powered Device Reset.

The PoE converter is fully compatible with devices that comply with the IEEE 802.3af standard. The PoE converter is capable of inserting power on data pairs or spare pair of the MDI.

Ordering Information

SPOEB1040-105
10/100Base-TX PoE (RJ-45) [100 m/328 ft.] to 100Base-X SFP Slot (empty)

SPOEB1011-105
10/100Base-TX PoE (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (ST) [2 km/1.2mi.] Link Budget: 11.0 dB

SPOEB1013-105
10/100Base-TX PoE (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (SC) [2 km/1.2mi.] Link Budget: 11.0dB

SPOEB1039-105
10/100Base-TX PoE (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (LC) [2 km/1.2 mi.] Link Budget: 11.0 dB

Optional Accessories (sold separately)

Mounting Options

WMBL
Wall Mount Bracket 4" [102 mm]

WMBV
Vertical Wall Mount Bracket 5" [127 mm]

WMBD
DIN Rail Bracket 5" [127 mm]

RMS19-SA4-02
4-Slot Media Converter Shelf

Features

- External AC power supply
- IEEE 802.3af Power-over-Ethernet Compatible
- 48 VDC PSE Output Voltage
- Signal Pair or Spare Pair Power Insertion
- PD Detection Signature
- Over-Current Protection & Under-Current Detection
- Powered Device Reset
- Switch selectable features and port settings
- Minimum Load Sensing
- Fault Protection Input
- Auto-Negotiation
- Auto-MDI/MDIX
- Link Pass Through (LPT)
- Far-End-Fault (FEF)
- Automatic Link Restoration

Specifications

Standards	IEEE 802.3 IEEE 802.3af
Max Frame Size	1600 bytes
Switches	SW1: Auto-Negotiation On/Off (TP) SW2: Speed TP: Force 10 Mbps or 100 Mbps (SW1 off) SW3: Duplex TP: Force Half or Full-Duplex (SW1 off) SW4: Duplex Fiber: Half or Full-Duplex SW5: Link Pass Through On/Off SW6: PSE On/Off SW7: PSE/LPT on/off SW8: N/A
Status LEDs	Power Fiber Link, Activity, & Duplex Copper Link, Activity, Speed, & Duplex PoE Status
Dimensions	Width: 3.25" [82.55 mm] Depth: 4.8" [121.92 mm] Height: 1" [25 mm]
Power Consumption	20 Watts (max)
Power Supply	External power supply: 90 – 250 VAC Input; 48VDC Output
Environment	Operating: 0°C to 50°C Storage: -25° to +85°C Humidity: 5% to 90% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	EN55022:1994+A1:1996+A2:1997 Class A, FCC Part 15 Subpart B, UL 1950
Warranty	Lifetime

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: SPOEB1040-105-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

SISTF Series

Unmanaged Hardened Fast Ethernet Media Converter

(1) 10/100Base-TX Port + (1) 100Base-FX Port

The SISTF Series is an unmanaged hardened Fast Ethernet media converter supporting multimode or single mode fiber connections with SC or ST connectors for extended distance communications up to 30 kilometers. These converters are Class 1, Div 2 Certified, have redundant input power connections, and a fault alarm relay to ensure safe reliable operation in temperatures between -40°C and +75°C.

Ordering Information

SISTF1011-211-LRT
(1) 10/100Base-TX (RJ-45) [100 m/328 ft.] to (1) 100Base-FX 1310nm multimode (ST) [2 km/1.2mi.Link Budget: 11.0 dB

SISTF1013-211-LRT
(1) 10/100Base-T X (RJ-45) [100 m/328 ft.] to (1) 100Base-FX 1310nm multimode (SC) [2 km/1.2 mi.] Link Budget: 11.0 dB

SISTF1014-211-LRT
(1) 10/100Base-TX (RJ-45) [100 m/328 ft.] to (1) 100Base-FX 1310nm single mode (SC) [30 km/18.6 mi.] Link Budget: 17.0 dB

Optional Accessories (sold separately)

External AC/DC Power Supply

SPS-UA12DHT
Input: 90-264VAC
Output: 12 VDC, 1.3A, 18 Watts

25083
Input: 85-264VAC, 120-370VDC
Output: 10.8 ~ 13.2 VDC, 2A, 24 Watts

Features

- Auto-Negotiation
- Auto-MDI/MDIX
- Link Pass Through
- DIN Rail Mounting and Wall Mount Brackets Included
- Dry Contact Relay Alarm Output
- Dual Auto-Sensing Redundant DC Power Inputs
- Media Converter Mode or Switch Converter Mode
- Barrel connector interface cable included for connecting external AC/DC power supply
- Extended operating temperature (-40°C to 75°C)
- Reverse Polarity Protection
- Overload Current Protection
- Class 1, Div 2 Certified

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3x
Dip Switches	1: Enable/Disable Port Alarms 2: Enable/Disable Link Pass Through 3: Full/Half-Duplex 100Base-FX 4: Converter/Switch Mode
Status LEDs	PWR (Power): ON = Unit has power connected PWR 1 (Power): ON = primary power connected PWR 2 (Power): ON = backup power connected Fault: ON = Power failure or port link failure LNK/ACT (Ports 1 – 2): ON = Link; Flashing = data transmitting HDX/FDX (Ports 1 – 2): ON = Full duplex mode 10/100 (UTP): ON = 100 Mbps
Dimensions	Width: 1.2" [30 mm] Depth: 3.7" [95 mm] Height: 5.5" [140 mm]
Power Consumption	3.36 Watts
Power Input	12 to 48 VDC, 0.2A-0.7A, redundant inputs with reverse polarity protection; overload current protection Additional barrel connector; SISTF1011-211-LRT also supports 24 VAC (18~30 VAC)
Fault Output	Relay output contacts, 1A@24VDC load capacity
Ingress Protection	IP30
Environment	Operating: -40°C to +75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1.4 lbs. [0.63 kg]
Compliance	Safety: UL 60950-1, UL508, CSA C22.2 no 60950 UL Class 1, Div 2 for hazardous environments, cUL CISPR/EN55022 Class A, FCC Class A, CE Mark, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, IEC60068-2-32 (Free fall) IEC60068-2-27 (Shock) IEC60068-2-6 (Vibration)
Warranty	Lifetime

SISTG10xx-211-LRT-B Series

Unmanaged Hardened Gigabit Ethernet Media Converter

(1) 10/100/1000Base-T Port + (1) 1000Base-SX/LX Port or (1) 100/1000Base-X Port

The SISTG10xx-211-LRT-B Series is a new generation of unmanaged hardened Gigabit Ethernet media converter. The converter can provide multimode or single mode fiber connections with fixed SC connectors for extending the Ethernet service distance over fiber. The converter also has a SFP version that provides the ultimate flexibility to choose the appropriate SFP module to match your communication and distance needs.

It has redundant input power connections to ensure safe reliable operation in temperatures between -40°C and +75°C. Transition Networks' hardened switches are certified with UL Class 1 Division 2 to operate reliably in hazardous locations such as Oil & Gas, manufacturing, and the chemical industry.

Features

- Auto-Negotiation
- Auto-MDI/MDIX
- Link Pass Through
- Extended operating temperature (-40°C to 75°C)
- Dual, Redundant, 12-48 VDC Power Inputs
- Reverse Polarity Power Input Protection
- Overload Current Protection
- DIN Rail Mounting Brackets Included
- Class 1, Div 2 Certified
- Jumbo Frame: 9K bytes

Specifications

Standards	IEEE 802.3 IEEE 802.3ab IEEE 802.3u IEEE 802.3x IEEE 802.3z
Data Rate	Copper: 10/100/1000 Mbps Fiber: 1000 Mbps SFP: 100/1000 Mbps
Dip Switches	1: SFP - Enable Auto Negotiation for the SFP / Force Gigabit speed for SFP port 2: Copper - Enable Auto Negotiation for the copper / Force Gigabit speed for copper 3: LPT - Enable/Disable Link Pass Through
Status LEDs	PWR (Power): ON = powered correctly LNK/ ACT (ports 1-2): ON = Link; FLASHING = data transmitting
Dimensions	Width: 1.2" [30 mm] Depth: 3.86" [98 mm] Height: 4.25" [108 mm]
Power Consumption	3.4 Watts (max)
Power Input	12 to 48 VDC, 0.2A-0.5A, redundant inputs with reverse polarity protection
Ingress Protection	IP30
Environment	Operating: -40°C to +75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	0.97 lbs. [0.44 kg]
Compliance	UL Class 1, Div 2 for hazardous environments CISPR/EN55022 Class A, FCC Class A, CE Mark, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Warranty	5 Years

Ordering Information

SISTG1013-211-LRT-B
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-SX 850nm multimode (SC) [62.5/125 µm: 220 m/722 ft.] [50/125µm: 550 m/1804 ft.] Link Budget: 8.5 dB

SISTG1014-211-LRT-B
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-LX 1310nm single mode (SC) [9/125µm: 10 km/6.2 mi.] Link Budget: 10.5 dB

SISTG1040-211-LRT-B
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 100/1000Base-X SFP slot (empty)

Optional Accessories (sold separately)

External AC/DC Power Supply

SPS-UA12DHT
Input: 90-264VAC
Output: 12 VDC, 1.3A, 18 Watts

25135
Input: 85-264VAC, 120-370VDC
Output: 24VDC, 10 Watts, -20°C to +70°C

+1.952.941.7600 | www.transition.com | sales@transition.com

F-SM-MM-02

Stand-alone Fiber to Fiber Media Converter

Fiber to Fiber for Data Rates from 100Mbps to 155Mbps

F-SM-MM-02

The F-SM-MM-02 fiber to fiber stand-alone media converter extends distance up to 20 km with network protocols that use 1300nm wavelength for fiber optic transmission. In fact, distances can be extended in any networking protocol between 100 Mbps and 155 Mbps.

Features

- Link Pass Through
- Automatic Link Restoration

Specifications

Standards	IEEE 802.3
Status LEDs	PWR (Power): Steady green LED indicates connection to external AC power LKM or Link (Left): Lit for multimode Link LKS or Link (Right): Lit for single mode Link
Dimensions	Width: 3" [76 mm] Depth: 4.7" [119 mm] Height: 1" [25 mm]
Power Supply	External AC/DC required; 12 VDC. 0.5A Output; 120-240VAC input; unregulated; standard
Environment	Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply: UL Listed and CSA certified; CISPR/EN55022 Class A, EN55024, EN61000, FCC Class A, CE Mark
Warranty	Lifetime

Ordering Information

F-SM-MM-02
1300nm multimode (SC) [2 km/1.2 mi.]
Link Budget: 11.0 dB
to 1310nm single mode (SC) [20 km/12.4 mi.]
Link Budget: 16.0 dB

Optional Accessories (sold separately)

WMBD-FS
DIN Rail Bracket (flat, small) 3.1" [79 mm]

SPS-2460-SA
Wide Input (24 - 60 VDC) Stand-Alone Power Supply

E-MCR-05
12-Slot Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

WMBD
DIN Rail Bracket 5" [127 mm]

WMBL
Wall Mount Bracket 4" [102 mm]

WMBV
Vertical Wall Mount Bracket 5" [127 mm]

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: F-SM-MM-02-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

S3100-4040

Stand-alone Fiber to Fiber Media Converter

SFP to SFP for Data Rates from 100Mbps to 2.5 Gbps

S3100-4040

The ION S3100 is a stand-alone fiber to fiber media converter. It is protocol independent and supports data rates from 100Mbps to 2.5Gbps through two open SFP slots. This any-rate to same-rate converter can be used to perform reliable and cost-effective single mode to multimode fiber conversion or it can be used to provide wavelength conversion in CWDM applications.

Features

- Protocol Transparent
- Supports data rates from 100Mbps to 2.5Gbps
- Any-rate to same-rate conversion
- SFP to SFP Fiber Repeater
- Specific wavelength CWDM Transponder
- Supported protocols: Fast Ethernet, Gigabit Ethernet, SONET (OC-3/12/48), 1 & 2 Gig Fiber Channel, 2.5G InfiniBand, FDDI, ESCON/SBCON
- Link Pass Through
- Automatic Link Restoration

Specifications

Standards	Multi-Source Agreement (MSA) Small Form Factor Pluggable (SFP)
Data Rates	Protocol Independent 100Mbps to 2.5 Gbps
Max Frame Size	16384 bytes Jumbo Frames Supported
Status LEDs	PWR: ON (Green) = Power Port 1 Link: ON = Fiber Signal Detected Port 2 Link: ON = Fiber Signal Detected
Dimensions	Width: 3.25" [82 mm] Depth: 6.5" [165 mm] Height 1" [25 mm]
Power Consumption	2-3 Watts (based on the SFP modules used)
Power Supply	External AC/DC required: 12VDC Output; 120-240VAC input
Environment	Operating: 0°C to 50°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
MTBF	Greater than 250,000 hours (MIL-HDBK-217F) Greater than 687,000 hours (Bellcore)
Compliance	FCC Class A, EN55022 Class A, EN55024, CE Mark
Warranty	Lifetime

Ordering Information

S3100-4040
100Mbps to 2.5Gbps fiber repeater with two open SFP slots, any-rate to same-rate stand-alone media converter

Optional Accessories (sold separately)

SFP Modules
SFP and SFP+ modules supported

Mounting Options

WMBL
Wall Mount Bracket 4" [102 mm]

WMBD
DIN Rail Bracket 5" [127 mm]

E-MCR-05
12-Slot Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: S3100-4040-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

SGETF Series

Stand-alone Gigabit Ethernet Media Converter

1000Base-T to 1000Base-SX/LX

SGETF1013-110

The SGETF Series is a stand-alone media converter that provides an interface between 1000Base-T ports and 1000Base-SX/LX ports, allowing users to integrate fiber optic cabling into 1000Base-T copper environments. Operating at Layer 1, the physical layer, data is passed through the converter at line speed, making it ideal for applications where low latency is essential.

Features

- Auto-MDI/MDIX
- Copper & Fiber Auto-Negotiation
- Transparent Link Pass Through
- Automatic Link Restoration
- Pause
- Remote Fault Detect

Specifications

Standards	IEEE 802.3ab IEEE 802.3z
6-position Switch	SW1: Remote Fiber Fault Detect (Down=Enabled) SW2: Symmetric Pause SW3: Asymmetric Pause SW4: Transparent Link Pass Through (UP=Enabled) SW5: Fiber Auto-Negotiation (Down=Enabled) SW6: Loopback (Down=Enabled)
Status LEDs	PWR (Power): Steady green LED indicates connection to external AC power RXF (Fiber receive): Flashing LED indicates reception of data on fiber link LKF (Fiber link): Steady LED indicates fiber link connection RXC (Copper receive): Flashing LED indicates reception of data on copper link LKC (Copper link): Steady LED indicates copper link connection
Dimensions	Width: 3.25" [82.55 mm] Depth: 4.8" [121.92 mm] Height: 1" [25 mm]
Power Supply	External AC/DC required; 12 VDC, 0.8A min Output; 120-240VAC input
Environment	Operating: 0°C to 50°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply: UL Listed, cUL Listed (Canada); FCC Class A, CISPR22/EN55022 Class A, EN55024, EN61000, CE Mark
Warranty	Lifetime

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: SGETF1013-110-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Ordering Information

SGETF1013-110
1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-SX 850nm multimode (SC) [62.5/125 µm fiber: 220 m/722 ft.] Link Budget: 7.0 dB [50/125 µm fiber: 550 m/1804 ft.] Link Budget: 7.0 dB

SGETF1024-110
1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-SX 1300nm Extended multimode (62.5/125 µm fiber only) (SC) [2 km/1.2 mi.] Link Budget: 7.0 dB

SGETF1039-110
1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-SX 850nm multimode (LC) (via TN-SFP-SX) [62.5/125 µm fiber: 220 m/722 ft.] Link Budget: 8.0 dB [50/125 µm fiber: 550 m/1804 ft.] Link Budget: 8.0 dB

SGETF1014-110
1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-LX 1310nm single mode (SC) [10 km/6.2 mi.] Link Budget: 10.5 dB

SGETF1040-110
1000Base-T (RJ-45) [100 m/328 ft.] to SFP slot (empty)

Single Fiber Products

SGETF1029-110
1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-LX 1310nm TX/1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 13.0 dB

SGETF1029-111
1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-LX 1550nm TX/1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 13.0 dB

Optional Accessories (sold separately)

SFP Modules

Wide Input (24 - 60 VDC) Power Supplies

SPS-2460-PS
Piggy Back Power Supply

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

E-MCR-05
12-Slot Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

WMBD
DIN Rail Bracket 5" [127 mm]

WMBD-F
DIN Rail Bracket (flat, small) 3.1" [79 mm]

WMBL
Wall Mount Bracket 4" [102 mm]

WMBV
Vertical Wall Mount Bracket 5" [127 mm]

SGFEB Series

Stand-alone Gigabit Ethernet Media and Rate Converter

10/100/1000Base-T to 1000Base-SX/LX

SGFEB1013-130

SGFEB1040-330

The SGFEB Series is a stand-alone media converter that provides an interface between 10/100/1000Base-T ports and 1000Base-SX/LX ports, allowing users to integrate fiber optic cabling into 10/100/1000 copper environments. Operating at Layer 2, the data link layer, this converter not only converts copper to fiber, it also provides rate conversion allowing legacy 10/100 copper devices to connect to 1000Base-SX/LX fiber.

Features

- Auto Negotiation
- Auto-MDI/MDIX
- Link Pass Through
- Far End Fault (FEF)
- Remote Fault Detect
- Provides rate conversion while also increasing transmission distances
- Supports multimode or single mode fiber
- Versions available with fixed SC or LC optics, as well as modular SFP optics
- Long haul transmission distances are supported with a variety of SFP modules
- SFP ports support dual speeds: 100/1000/SGMII
- Multiport versions provide 3 or 4 port switch functionality or provide redundant fiber links
- Supports IEEE 802.3az Energy Efficient Ethernet

Specifications

Standards	IEEE 802.3 IEEE 802.3ab IEEE 802.3u IEEE 802.3z IEEE 802.3az
Data Rates	Copper: 10/100/1000 Mbps Fiber: 1000Mbps, 100Mbps also supported via SFP port
Filtering Addresses	8k MAC Addresses
Max Frame Size	10,260 byte Jumbo Frames
Dip Switches	Two Port Models Switch 1: TP1 - Auto-Negotiation Enable / Disable Switch 2: TP1 – Force 100Mbps or 10Mbps with switch 1 disabled Switch 3: TP1 – Force Full or Half-Duplex with switch 1 disabled Switch 4: Link Pass Through Enable / Disable Switch 5 & 6: Controls the Fiber SFP port for 1000M, 100M, or SGMII Multiport Models with additional 4 position dip-switch: Switch 1 & 2: Controls the 2nd Fiber SFP port for 1000M, 100M, or SGMII Switch 3 & 4: Fiber Redundancy Enable/Disable, Revertive Mode, and Fiber P2/P3 blocking
Status LEDs	PWR (Power): On = Power is provided to converter LACT (Fiber Link/Activity): On = Link, Blink = Activity RJ-45 Upper Left (TPLink/Activity/Duplex): Green = Link Full-Duplex, Blink = Activity, Amber = Link Half-Duplex, Blink = Activity RJ-45 Upper Right (Speed): Green = 1000Mbps, Amber = 100Mbps, Off = 10Mbps
Dimensions	Width: 3.25" [82.55 mm] Depth: 4.8" [121.92 mm] Height: 1" [25 mm]
Power Consumption	2.2 Watts
Power Input	7.5 to 24 VDC, Provided by wide input AC Wall Mount Adapter
Environment	Operating: 0°C to 50°C Storage: -15°C to 65° C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	EN55022 Class A, EN55024, FCC Class A, CE Mark Safety: Wall Mounted Power Supply: UL Listed, UL60950 and CSA Certified
Warranty	Lifetime

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU
Ex: SGFEB1040-130-NA

-NA = Country Code
NA = North America, LA = Latin America, EU = Europe, UK = United Kingdom, SA = South Africa, JP = Japan, OZ = Australia, BR = Brazil

Ordering Information

SGFEB1040-130
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 100/1000Base-X SFP Slot (empty)

SGFEB1013-130
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-SX 850nm multimode (SC) [62.5/125 um: 220 m/722 ft.] [50/125 um: 550 m/1804 ft.] Link Budget 7.5dB

SGFEB1039-130
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-SX 850nm multimode (LC) [62.5/125 um: 220 m/722 ft.] [50/125 um: 550 m/1804 ft.] Link Budget 8.0dB

SGFEB1014-130
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-LX 1310nm single mode (SC) [10 km/6.2 mi.] Link Budget 10.5dB

SGFEB1024-130
10/100/1000Base-T (RJ-45) [100 m/328ft.] to 1000Base-SX 1310nm Extended multimode (62.5/125mm fiber only) (SC) [up to 2 km] Link Budget 7.0dB

SGFEB1019-130
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-LX 1310nm single mode (LC) [10 km/6.2 mi.] Link Budget 10.5dB

SGFEB1040-230
(1) Port 10/100/1000Base-T (RJ-45) [100 m/328 ft.] to (2) Ports 100/1000Base-X SFP Slot (empty)

SGFEB1040-330
(2) Port 10/100/1000Base-T (RJ-45) [100 m/328 ft.] to (2) Ports 100/1000Base-X SFP Slot (empty)

Single Fiber Products

SGFEB1029-130
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-LX 1310nm TX/1550nm RX single mode (SC) [20 km/12.4 mi.] Link Budget 13.0dB

SGFEB1029-131
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-LX 1550nm TX/1310nm RX single mode (SC) [20 km/12.4 mi.] Link Budget 13.0dB

Optional Accessories (sold separately)

SFP Modules
Supports 100Mbps and 1000Mbps fiber SFPs

DC Power Supply
SPS-2460-SA or SPS-2460-PS: wide input 24 – 60 VDC power supply

Mounting options

E-MCR-05
12 Slot Powered Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

WMBL
Wall Mount Bracket

WMBD
DIN Rail Mount Bracket

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SGPOE Series

Stand-alone Gigabit Ethernet PoE Media Converter

10/100/1000Base-T PoE PSE to 1000Base-X

SGPOE1040-110

Transition Networks' AC powered PoE media converters combine data received over a fiber optic link with -48 VDC power; providing power to Data Terminal Equipment (DTE) Powered Devices (PD) over unshielded twisted pair cable. The PoE converters are Power Sourcing Equipment (PSE) and are fully compatible with Powered Devices (PD) that comply with the IEEE 802.3af standard. The converters also includes a PD signature sensing and power monitoring feature per the IEEE 802.3af standard. This feature enhanced model offers the ability to enable/disable many of the features as well as force port capabilities (see switches section under Specifications).

In addition, with the PSE/LPT switch enabled, a loss of Fiber RX will disable PSE power output on the UTP port for 2 seconds to allow remote device to re-initialize, also known as Powered Device Reset. The PoE converter is fully compatible with devices that comply with the IEEE 802.3af standard as well as select legacy PDs. The PoE converter is capable of inserting power on data mode A or mode B pairs of the MDI.

Ordering Information

SGPOE1013-100
10/100/1000Base-T PoE (RJ-45)
[100 m/328 ft.]
to 1000Base-SX 850nm multimode (SC)
[62.5/125 µm: 220 m/722 ft.] Link Budget: 8.0 dB [50/125 µm: 550 m/1804 ft.] Link Budget: 8.0 dB

SGPOE1039-100
10/100/1000Base-T PoE (RJ-45)
[100 m/328 ft.]
to 1000Base-SX 850nm multimode (LC)
[62.5/125 µm: 220 m/722 ft.] Link Budget: 8.0 dB [50/125 µm: 550 m/1804 ft.] Link Budget: 8.0 dB

SGPOE1040-100
10/100/1000Base-T PoE (RJ-45)
[100 m/328 ft.]
to 100/1000Base-X SFP Slot (empty)

SGPOE1040-110
10/100/1000Base-T PoE (RJ-45)
[100 m/328 ft.]
to (2) 100/1000Base-X SFP slots (empty)

Optional Accessories (sold separately)

SFP Modules

Mounting Options

WMBD
DIN Rail Mount Bracket 5" [127 mm]

WMBL
Wall Mount Bracket 4" [102 mm]

RMS19-SA4-02
4-Slot Media Converter Shelf

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: SGPOE1013-100-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- SFP ports support either 100Base or 1000Base fiber
- Redundant SFP port option
- IEEE 802.3af Power-over-Ethernet Compatible
- 48 VDC PSE Output Voltage
- Mode A or Mode B Pairs Power Insertion
- PD Detection Signature
- PoE Legacy Detect for non-IEEE 802.3af compatible Powered Devices (PD)
- Over-Current Protection
- Under-Current Detection
- Powered Device Reset
- Minimum Load Sensing
- Fault Protection Input
- Auto-Negotiation
- Auto-MDI/MDIX
- Link Pass Through available on SGPOE10xx-100
- Automatic Link Restoration
- External AC power supply

Specifications

Standards	IEEE 802.3 IEEE 802.3af
MAC Addresses	8K
Max Packet Size	1632 bytes untagged 1628 bytes tagged
Switches	SW1: Auto-Negotiation TP On/Off SW2: Speed TP: Force 10 Mbps or 100 Mbps (SW1 off) SW3: Duplex TP: Force Half or Full-Duplex (SW1 off) SW4: Duplex Fiber: Half or Full-Duplex SW5: Auto-MDI/MDIX On/Off SW6: PSE On/Off SW7: PSE/LPT on/off SW8: Unused
Dimensions	Width: 4.4" [112 mm] Depth: 5.1" [129 mm] Height: 1" [25 mm]
Power Consumption	20 Watts (max)
Power Supply	External AC/DC required; 48 VDC 0.67A Output; 90 – 250VAC external power supply input
Environment	Operating: 0°C to 40°C Storage: -25°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	EN55022:1994+A1:1996+A2:1997 Class A, FCC Part 15 Subpart B, UL 1950
Warranty	Lifetime

SGPAT Series

Stand-alone Gigabit Ethernet PoE+ Media Converter

10/100/1000Base-T PoE+ PSE to 1000Base-X

SGPAT1040-305

SGPAT1013-105

The SGPAT Series is a 10/100/1000Base-T to 1000Base-SX/LX Gigabit Ethernet Media Converter, that easily and affordably facilitates the connection between different types of network cabling, while also injecting PoE+ power through the copper RJ-45 port.

Being a Power Sourcing Equipment (PSE) device, the SGPAT media converter combines data received over a fiber optic link with 56VDC input power to provide power and data to a Powered Device (PD) over twisted pair cabling while complying with the IEEE 802.3at PoE+ standard, which is also backwards compatible with the IEEE 802.3af PoE standard.

The converter is available in 2-port, 3-port, and 4-port versions and includes PD signature sensing and power monitoring features. Other features include over-current protection, under-current protection, and fault protection input. Active Link Pass Through (ALPT) is supported, which is an automatically activated version of Link Pass Through (LPT) that allows the converter to detect the loss of Receive (Rx) signals on either fiber or copper port and propagate the failure to the end devices, preventing the media converter from isolating those link failures. During a Link Pass Through event, the Auto Power Reset feature will re-set the power to the end PD device, ensuring it is ready to go when the LPT event is corrected.

Features

- Wall mount, DIN Rail, or table top
- External AC/DC power supply included
- 2-port 10/100/1000 copper to fiber media conversion with IEEE 802.3at PoE+ on the copper port
- Supports full 30 Watts of power to each twisted pair port
- Various fiber versions available supporting fixed SC, LC, and open SFP
- 3-port version offers (1) RJ-45 PoE+ port and (2) open SFP slots, device can be configured as a 3-port switch or as a 2-port media converter with redundant fiber links
- With redundant fiber enabled, supports a 50ms fail-over time
- 4-port version offers (2) RJ-45 PoE+ ports and (2) open SFP slots, device can be configured as a 4-port switch (with or without redundant fiber) or as two independent PoE+ media converters in one housing
- SFP slots can support 100Base-FX, 1000Base-X, or SGMII based (MSA compliant) SFP modules
- Supports Auto-Negotiation, Auto MDI/MDIX, Active Link Pass Through (ALPT), and Remote Fault Detection
- Jumbo frame support
- LEDs indicators for power status; per port link, duplex, and activity status; and PoE status
- Legacy PoE status

Specifications

Standards		IEEE 802.3-2012 IEEE 802.3af IEEE 802.at PSE-PoE+ IEEE 802.3U IEEE 802.3ab IEEE 802.3z IEEE 802.3x IEEE 802.3az
Switch Features		Max Packet Size: 10,000 bytes Max MAC Addresses: 8k Shared buffer memory: 1Mbit
Dip Switches	Switch 1 Switch 2 Switch 3 Switch 4 Switch 5 Switch 6	Port 3: SFP Mode Up=100/1000 or Down=SGMII Port 4: 2nd SFP Mode Up=100/1000 or Down=SGMII ALPT: Up=Disabled or Down=Enabled Redundant fiber mode: Up-Normal or Down=Redundant Revertive mode: Up=Revertive or Down=Non-revertive 2x Converter mode: Up=Disabled or Down=Enabled (See user manual for complete dip switch functionality)
Status LEDs		PWR: Power being applied to converter PoE+: PoE+ Status TP – Left LED per Port: Copper Port Link Status TP – Right LED per port: Copper Port Speed Status Fiber L/A – per port: Fiber Port Link Status (See user manual for complete LED Descriptors)
Dimensions		Width: 3.25" [82 mm] Depth: 4.8" [122 mm] Height: 1" [25 mm]
Power Source		External AC/DC 56VDC power adapter
Power Consumption		56VDC, 1.17A, 65.5 Watts (assumes both PoE ports are delivering the full 30 Watts)
Environment		Operating: 0°C to +45°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft. (with de-rating)
Weight		2 lbs. [0.9 kg]
Compliance		EN55022 Class A, EN55024, CE Mark, Power Supply is UL listed
Warranty		Lifetime

Ordering Information

SGPAT1013-105
10/100/1000Base-T PoE+ (RJ-45) [100 m/328 ft.] to 1000Base-SX 850nm multimode (SC) [62.5/125um: 220m / 722 ft.] [50/125um: 550m / 1804 ft.] Link Budget: 8.5dB

SGPAT1039-105
10/100/1000Base-T PoE+ (RJ-45) [100 m/328 ft.] to 1000Base-SX 850nm multimode (LC) [62.5/125um: 220m / 722 ft.] [50/125um: 550m / 1804 ft.] Link Budget: 8.0dB

SGPAT1040-105
10/100/1000Base-T PoE+ (RJ-45) [100 m/328 ft.] to 100/1000Base-X Open SFP Slot

SGPAT1040-205
(1) 10/100/1000Base-T PoE+ (RJ-45) [100 m/328 ft.] to (2) 100/1000Base-X Open SFP Slot

SGPAT1040-305
(2) 10/100/1000Base-T PoE+ (RJ-45) [100 m/328 ft.] to (2) 100/1000Base-X Open SFP Slot

Optional Accessories (sold separately)

SFP Modules

Cable-CCC-06
Cisco DB9 to RJ-45 Console Cable, Blue 6 ft.

Mounting Options (sold separately)

WMBL
Wall Mount Bracket 4" [102 mm]

WMBD
DIN Rail Bracket 5" [127 mm]

RMS19-SA4-02
4-Slot Media Converter Shelf

Features Continued

- Twisted pair ports support IEEE 802.3az Energy Efficient Ethernet for power saving
- Dip switch control of basic feature configuration
- RJ-45 serial port for Command Line Interface (CLI) of advanced port configuration (115200 baud)

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: SGPAT1013-105-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

S3220 Series

Stand-alone Gigabit Ethernet Remotely Managed NID

10/100/1000Base-T to 1000Base-X with OAM/IP-Based Management

S3220-1040

The ION S3220 is a stand-alone managed Network Interface Device (NID) that provides an interface between 10/100/1000Base-TX ports and 1000Base-SX/LX ports, allowing users to manage their links while integrating fiber optic cabling into 10/100/1000 copper environments. As a remotely managed device, the S3220 can be managed individually via an IP address or it can be managed in-band, over the fiber when linked to a C3220 card installed in a managed ION chassis. With advanced features like IEEE 802.3ah Link OAM, VLAN, QoS, SSH/SSL, jumbo frame support, and bandwidth allocation, the S3220 offers a variety of methods for the secure delivery of Ethernet services in business and mobile backhaul applications.

Features

- MEF 9, 14 and 21 certified
- 802.3ah Link OAM
- 10K Jumbo Frame Support
- Two selectable Remote Management modes:
  - IP-Based Remote Management
  - In-Band (remote device managed by local peer)
- Auto-MDI/MDIX
- Auto-Negotiation
- Pause
- Transparent Link Pass Through
- Far-End-Fault (FEF)
- Remote Loopback
- Field Upgradeable Firmware
- IEEE 802.1p QoS packet classification
- IPv4 IP TOS, DiffServ and IPv6 traffic class QoS classification
- IEEE 802.1q VLAN and double VLAN tagging with 4096 VIDs
- DHCP client
- SNTP
- TFTP
- RADIUS client
- RMON counters for each port
- Bandwidth profiling
- DMI Optical Management
- Cable diagnostic function for copper ports
- SSH
- Telnet
- Command Line Interface (CLI)
- Web management
- Focal Point Management
- SNMP v1, v2c, and v3
- USB port for basic setup
- Management VLAN

Specifications

Standards	IEEE 802.3 IEEE 802.3ah IEEE 802.1P IEEE 802.1Q
Data Rate	Copper: 10/100/1000 Mbps Fiber: 1000 Mbps
Filtering Address	8K MAC Addresses
Max Frame Size	10,240 bytes
Dimensions	Width: 3.25" [82 mm] Depth: 6.5" [165 mm] Height: 1" [25 mm]
Power Input	100-240 VAC,1A
Power Output	12 VDC, 1.25A
Environment	Operating: 0°C to +50°C Storage: -25° to +85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft. S3221-1040-T Operating: -40°C to +65°C Storage: -40° to +85°C
Weight	2 lbs. [0.90 kg]
Compliance	EN55022 Class A, EN55024, UL60950, CE Mark
Warranty	Lifetime

Ordering Information

S3220-1013
10/100/1000Base-T (RJ-45) [100 m] to 1000Base-SX 850nm multimode (SC) [62.5/125 µm fiber: 220 m/722 ft.] [50/125 µm fiber: 550 m/1804 ft.] Link Budget: 8.5 dB

S3220-1014
10/100/1000Base-T (RJ-45) [100 m] to 1000Base-LX 1310nm single mode (SC) [10 km/6.2 mi.] Link Budget: 10.5 dB

***S3220-1040**
10/100/1000Base-T (RJ-45) [100 m] to (1) 100/1000Base-X Open SFP Slot

***S3221-1040**
10/100/1000Base-T (RJ-45) [100 m] to (2) 100/1000Base-X Open SFP Slot

***S3221-1040-T**
10/100/1000Base-T (RJ-45) [100 m] to (2) 100/1000Base-x Open SFP Slots, Extended Operating Temp Range

Optional Accessories (sold separately)

SFP Modules

Mounting Options

WMBL
Wall Mount Bracket 4" [102 mm]

WMBD
DIN Rail Bracket 5" [127 mm]

RMS19-SA4-02
4-Slot Media Converter Shelf

Note: all units feature USB port for local management application.

***S3220-1040, S3221-1040, and S3221-1040-T have SGMII support for use with 10/100/1000Base-T copper SFPs.**

S3221-1040-T must use extended temperature SFP modules in order to meet the -40° to +65°C operating temperature range.

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: S3220-1013-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

S3230 Series

Stand-alone Gigabit Ethernet Remotely Managed NID

10/100/1000Base-T to 1000Base-X with OAM/IP-Based Management

S3231-1040

Features

- MEF 9, 14 and 21 certified
- 802.3ah Link OAM
- ITU Y.1731
- 802.1ag Service OAM
- 10K Jumbo Frame Support
- Two selectable Remote Management modes:
  - IP-Based Remote Management
  - In-Band (remote device managed by local peer)
- Auto-MDI/MDIX
- Auto-Negotiation
- Pause
- Transparent Link Pass Through
- Far-End-Fault (FEF)
- Remote Loopback
- Field Upgradeable Firmware
- IEEE 802.1p QoS packet classification
- IPv4 IP TOS, DiffServ and IPv6 traffic class QoS classification
- IEEE 802.1q VLAN and double VLAN tagging with 4096 VIDs
- DHCP client
- SNTP
- TFTP
- RADIUS client
- RMON counters for each port
- Bandwidth profiling
- DMI Optical Management
- Cable diagnostic function for copper ports
- SSH
- Telnet
- Command Line Interface (CLI)
- Web management
- Focal Point Management
- SNMP v1, v2c, and v3
- USB port for basic setup
- Management VLAN

The ION S3230 is a stand-alone managed multi-service Network Interface Device (NID) that provides an interface between 10/100/1000Base-TX ports and 1000Base-SX/LX ports, allowing users to provide SLA-assurance and advanced fault management while integrating fiber optic cabling into 10/100/1000 copper environments. As a remotely managed device, the S3230 can be managed individually via an IP address or it can be managed in-band, over the fiber when linked to a C3230 card installed in a managed ION chassis. With advanced features like IEEE 802.1ag Service OAM, IEEE 802.3ah Link OAM, ITU Y.1731 Performance Monitoring, VLAN, QoS, SSH/SSL, jumbo frame support, and bandwidth allocation, the S3230 offers a variety of methods for the secure delivery of business Ethernet and mobile backhaul deployments.

Specifications

Standards	IEEE 802.3 IEEE 802.3ah IEEE 802.3ag IEEE 802.1P IEEE 802.1Q
Data Rate	Copper: 10/100/1000 Mbps Fiber: 1000 Mbps
Filtering Address	8K MAC Addresses
Max Frame Size	10,240 bytes
Dimensions	Width: 3.25" [82 mm] Depth: 6.5" [165 mm] Height: 1" [25 mm]
Power Input	100-240 VAC,1A
Power Output	12 VDC, 1.25A
Environment	Operating: 0°C to 50°C Storage: -25°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	EN55022 Class A, EN55024, UL60950, CE Mark
Warranty	Lifetime

Ordering Information

S3230-1040
10/100/1000Base-T (RJ-45) [100 m]
to (1) 100/1000Base-X SFP Slot (empty)

S3231-1040
10/100/1000Base-T (RJ-45) [100 m]
to (2) 100/1000Base-X SFP Slots (empty)

Optional Accessories (sold separately)

SFP Modules

Mounting Options

WMBL
Wall Mount Bracket 4" [102 mm]

RMS19-SA4-02
4-Slot Media Converter Shelf

Note: all units feature USB port for local management application and have SGMII support for use with 10/100/1000Base-T copper SFPs.

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: S3230-1040-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

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SFMFF1314-220

Stand-alone Fiber to Fiber Media Converter

1000Base-SX or 1000Base Fiber Channel

The SFMFF1314-220 stand-alone, when used individually or in pairs, functions as a mode converter that extends Gigabit Ethernet or Fiber Channel signals over single mode fiber up to 125 kilometers. The SFMFF1314-220 also converts 1000Base-SX ports on a Gigabit Ethernet switch to 1000Base-LX on a port-by-port basis.

Features

- Auto-Negotiation (1000Base-X ports)
- Link Pass Through
- Pause
- Automatic Link Restoration
- Protocol Transparency

Specifications

Standards	IEEE 802.3 ATM, OC-3 STM-1 HSTR FDDI
Fiber Optic Connectors	Multimode: Min TX PWR: -10.0 dBm Max TX PWR: -4.0 dBm RX Sensitivity: -17.0 dBm Max In PWR: 0.0 dBm Link Budget: 7.00 dB Single Mode: Min TX PWR: -13.0 dBm Max TX PWR: -3.0 dBm RX Sensitivity: -20.0 dBm Max In PWR: -3.0 dBm Link Budget: 7.00 dB
Status LEDs	Power: Lit for normal operation Port LKS (Single Mode fiber link): Steady LED indicates single mode fiber link Port LKM (Multimode fiber link): Steady LED indicates multimode fiber link
Dimensions	Width: 3.25" [82.55 mm] Depth: 4.7" [119.38 mm] Height: 1" [25 mm]
Power Supply	External AC/DC required 12VDC, 0.5 A; unregulated; standard; Output 12VDC, 1.0 A, 12 watts; 120-240VAC input
Environment	Operating: 0°C to 50°C Humidity: 5% to 90% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply: UL listed and CSA certified Regulatory: FCC Class A & B, CISPR/EN55022 Class A & B, CE Mark
Warranty	Lifetime

Ordering Information

SFMFF1314-220
1000Base-SX 850nm multimode (SC) [62.5/125 µm fiber: 220 m/722 ft.] [50/125 µm fiber: 550 m/1804 ft.] Link Budget: 7.0 dB
to 1000Base-LX 1310nm single mode (SC) [10 km/6.2 mi.] Link Budget: 7.0 dB

Optional Accessories (sold separately)

Wide Input (24 - 60 VDC) Power Supplies

SPS-2460-PS
Piggy Back Power Supply

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

E-MCR-05
12-Slot Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

WMBD
DIN Rail Bracket 5" [127 mm]

WMBD-F
DIN Rail Bracket (flat) 3.3" [84 mm]

WMBL
Wall Mount Bracket 4" [102 mm]

WMBV
Vertical Wall Mount Bracket 5" [127 mm]

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: SFMFF1314-220-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

S3290 Series

Remotely Managed NID with Built-in Traffic Generator

Transition Networks' managed S3290 NID provides advanced packet performance metering and service creation directly at the customer premises and cell sites. The S3290 is optimized for business Ethernet and mobile backhaul deployments.

The S3290 is a multi-service NID that provides SLA-assurance and advanced fault management that is MEF CE 2.0 certified. The S3290 supports advanced features and numerous security features. The S3290 can be managed and provisioned with Transition Networks Converge™ EMS or via Web, CLI and SNMP (v1, v2c & v3). The S3290 offers AC or DC power inputs for operation in a variety of environments. The SFP ports support 100Mbps, 1000Mbps or SGMII SFPs. CWDM and Bi-Di SFPs are also supported, allowing for flexible network architectures.

Features

- Any port can be network (NNI) or client (UNI)
- MPLS-TP
- SNMP v1, v2c, and v3
- IPv6 and IPv4 support
- VLAN (802.1Q) in-Q (C-Tag / S-Tag)
- RMON and SYSLOG
- OAM Support:
  - IEEE 802.3ah Link OAM.
  - IEEE 802.1ag Service OAM and
  - ITU Y.1731 Performance Monitoring
- Protection:
  - ITU G.8032/G.8031
  - IEEE RSTP, MSTP
- IEEE 1588v2
- DC or AC power input
- Jumbo Frame Support (10K)
- Fan-less design
- Wire speed loopbacks
- RFC 2544 and Y.1564 Traffic Generation and Reports
- SLA Enforcement Performance statistics

Software Features

- E-LINE (EPL and EVPL)
  E-LAN (EP-LAN and EVP-LAN)
  E-ACCESS (ACCESS EPL and EVPL)
  E-TREE (EP-TREE and EVP-TREE)
- UNI or NNI configuration
- TOS/DiffServ
- Quality of Service (802.1p): 8 queues; strict priority and WRR, shaping, policing, P-bit and DSCP
- Management via Converge™ EMS, CLI, Web, SSH/SSL and SNMP (V1, V2, &V3)

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ab IEEE 802.3x IEEE 802.3ad IEEE 802.1p IEEE 802.1Q IEEE 802.1w IEEE 802.1s IEEE 802.1x IEEE 802.1AB IEEE 802.3ah IEEE 802.1ag IEEE 1588-2008 (v2) ITU Y.1731 PM
Data Rate	Copper: 10/100/1000 Mbps (RJ-45) SFP (empty): 100/1000 Mbps or SGMII
Max MAC Address	8K
Max VLANs	4K
Max Frame Size	10,000 bytes (10K)
Status LEDs	Power, Port Activity, Port Duplex
Dimensions	Width: 5.95" [151.13 mm] Depth: 6.5" [165.1 mm] Height: 1" [25.4 mm]
Power Input	AC: 12 VDC via barrel connector using 100-250VAC The following AC adapters are available: Power Supply 25025 temperature range: 0°C to 30°C (included with product) Power Supply 25132 temperature range: -30°C to 70°C (sold separately) DC: 21-60VDC via terminal block
Environment	Operating: -20°C to +65°C Storage: -40°C to +85°C Humidity: 5% to 95% (non-condensing)
Compliance	UL listed, CE, EN55022 Class A
Warranty	5 Year Hardware

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: S3290-24-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Ordering Information

S3290-24
(2) 10/100/1000Mbps RJ-45 ports with
(4) 100/1000Mbps SFP ports

S3290-42
(4) 10/100/1000Mbps RJ-45 ports with
(2) 100/1000Mbps SFP ports

Optional Accessories

25132
Optional Power Supply supporting an operating environment of -30°C to 70°C

S3290-RPS
Isolated Wide Input 20W Power Supply Assembly

Mounting Options

WMBL
Wall Mount Bracket Long Kit

WMBD
DIN Rail Vertical Mount Kit

S3290-RM-BRKT
Single Rack Mount Bracket for one S3290; The use of two brackets allows two S3290 units to be installed in 1U of rack space

RMS19-NID2-01
2-Slot S3290 shelf, includes 4 device brackets and reversible rack mount ears

Software Features Continued

- Port configuration, status, statistics and monitoring
- RADIUS, TACACS+ and ACL
- Remote backup / restore configuration
- Remote firmware upgrades
- Alarms via SYSLOG & SNMP
- Remote loopbacks
- L2CP
- LLDP
- Diagnostic Monitoring Interface SFF-8472
- Dying/Last Gasp
- Port Mirroring
- Link Aggregation Control Protocol (LACP)

E02PSE4052-111 & E02PD4052-111

Ethernet Over 2-Wire Extender With PoE+

(1) 10/100/1000Base RJ-45/SFP Combo Port + (1) 1000Base-T RJ-45 Port or 2-Wire Terminal Block

Local & Remote Must Be Used As a Pair

Transition Networks Ethernet Over 2-Wire Extender With PoE+ provides the ability to quickly and easily upgrade Ethernet networks with modern PoE powered IP devices without the need to replace the existing copper wire infrastructure. The extenders leverage existing 18-24 AWG unshielded twisted pair (CAT 5, CAT 3 and other twisted 2-wire phone wire) cabling infrastructure to extend the Ethernet network at near Gigabit speeds and provide data and power to IP devices in remote locations, saving time and money over installing new cable.

The Ethernet Over 2-Wire Extenders With PoE+ are used in pairs, with a local device at one end and a remote device at the other end of the copper link. The extenders provide flexibility for connecting to either copper or fiber Ethernet network equipment. The Local device offers a 10/100/1000Base-T RJ-45 and 100/1000Base-X open SFP combo port and a RJ-45 or 2-wire terminal block connection to provide safety extra low voltage (SELV) power over UTP or twisted 2-wire to the Remote device. The Remote device receives power through the RJ-45 or 2-wire terminal block connection and provides a 10/100/1000Base-T RJ-45 output with PoE+ power or a 100/1000Base-X open SFP combo port connection for IP cameras, wireless access points or other PoE powered end devices.

Power for the Local device can be supplied through a properly isolated +48VDC power source or through the designated 90 Watt power adapter. Power for the Remote device can be supplied with PoE from the Local unit, through a properly isolated +48VDC power source, or through the designated power adapter for providing redundant power or for additional power requirements at the Remote device.

The Ethernet Over 2-Wire Extenders With PoE+ are supplied with a web GUI, which allows password-protected access to various configuration options of both the Local and Remote devices through a single IP address. It also allows easy upgrades to firmware.

Features

- Copper or fiber combo Ethernet port
- IEEE 802.3af/at compliant Remote PoE+ port for powering cameras or other remote devices
- Full PoE+ at 335-1,500 ft. over a single pair or 1,500-6,800 ft. over multiple pairs* (dependent on cable type)
- Half-Gigabit Ethernet speeds over UTP cable at distances of 660 feet (200m) or Fast Ethernet speeds at 2000 feet (610m) (dependent on wire gauge*)
- Proprietary SELV classification prevents unintended power delivery to non-Transition Networks devices
- Power monitoring
- Auto Power Reset (APR) and power-saving mode
- Web browser configurable
- Plug-and-Play installation
- Field upgradeable firmware

***Minimum distance stated is 24 AWG cable DC resistance of 29.9 ohm per 1000 ft. Cable with less DC resistance will increase distance. Use of multiple pairs vs a single twisted pair will increase distance and available power. To determine power distance for specific cable types, refer to online calculator.**

Specifications

Standards	IEEE 802.1p IEEE 802.1Q IEEE 802.3 IEEE 802.3ab IEEE 802.3af/at IEEE 802.3az IEEE 802.3u IEEE 802.3x IEEE 802.3z
Ports	Ethernet: 10/100/1000Base-T RJ-45 or 100/1000Base-X SFP Combo 2-Wire: 10/100/1000Base-T RJ-45 or 2-wire terminal block PoE: 10/100/1000Base-T RJ-45 PoE+
Status LEDs	Power, Copper Power, Copper ACT, Copper Security, Combo Port Link/ACT, PoE+
Dimensions	Width: 3.25" [82.5 mm] Depth: 5.38" [136.7 mm] Height: 1.25" [31.75 mm]
Power Consumption	45 Watts (max)
Power Input	48 VDC
Ingress Protection	IP30
Environment	Operating: 0°C to +65°C (Industrial +85°C SFP modules must be used above 50°C ambient temperature) Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1.05 lbs. [0.48 kg]
Compliance	Safety: External Power Supply: CE Mark; Emissions: FCC Part 15, CISPR22/EN55022 Class A; Immunity: EN55024
Warranty	5 Years

Ordering Information

ONE LOCAL UNIT MUST BE PAIRED WITH ONE REMOTE UNIT

***E02PSE4052-111 (Local)**
(1) 10/100/1000Base-T RJ-45 or
(1) 100/1000Base-X SFP Combo Port and
(1) 10/100/1000Base RJ-45 or
2-Wire Terminal Block Combo Port

***E02PD4052-111 (Remote)**
(1) 10/100/1000Base-T RJ-45 or
2-Wire Terminal Block Combo Port and
(1) 10/100/1000Base-T IEEE 802.3af/at or
(1) 100/1000Base-X SFP Combo Port

*Note: Local and Remote must be used as a pair. A properly isolated power source is required for each Local unit and an external power supply is optional for Remote units depending on power requirements.

Industrial Power Supplies (sold separately)

25148 (Power Adapter)
90 ~ 264 VAC; 127 ~ 370 VDC
(Country specific power cord included)

Optional Accessories (sold separately)

SFP Modules

Mounting Options (sold separately)

WMBL
Wall Mount Bracket 4" [102 mm]

WMBD
DIN Rail Bracket 5" [127 mm]

WMBD-F
DIN Rail Bracket (flat) 3.3" [82 mm]

WMBV
Vertical Wall Mount Bracket 5" [127 mm]

RMS19-SA4-02
4-Slot Media Converter Shelf, includes 4 brackets and 3 slot blanks

Features Continued

- Can be managed through a single IP address
- Auto MDI/MDIX
- 128 Bit AES encryption over 2-wire
- IPv4 and IPv6 supported
- Client for DHCP, DNS, NTP
- Connection for optional power on Remote device
- Preserves investment in existing UTP or twisted 2-wire infrastructure

EOCPSE4020-110 & EOCPD4020-110

Ethernet Over Coax Extender With PoE+

(1) 100/1000Base RJ-45/SFP Combo Port + (1) 1000Base Coax BNC Port

Local & Remote Must Be Used As a Pair

Transition Networks Ethernet Over Coax Extender With PoE+ provides the ability to quickly and easily upgrade older analog surveillance systems with modern PoE powered IP video cameras without the need to replace the wiring infrastructure. These products leverage the existing CCTV 75 ohm coax infrastructure to extend the Ethernet network and provide power to remote camera locations, saving time and money over installing new cable. These extenders communicate at near Gigabit speeds and can also be used in other applications besides surveillance to extend Ethernet networks over an existing coax infrastructure.

The Ethernet Over Coax Extenders with PoE+ are used as a pair of devices, with a local device at one end and a remote device the other end of the coax cable. The extenders provide flexibility for connecting to either copper or fiber Ethernet network equipment. The Local device offers both a 10/100/1000Base-T RJ-45 and 100/1000Base-X SFP connection, and provides a Gigabit BNC connection with power over coax to the Remote device. The Remote device receives power over coax through the BNC connection and provides both a 100/1000Base-X SFP and a 10/100/1000Base-T RJ-45 connector output with PoE+ power for IP cameras, wireless access points or other PoE powered end devices. Power for the Local device can be supplied through a properly isolated +48VDC power source or through the designated 90 Watt power adapter. The designated power adapter is optional for providing redundant power at the Remote device.

The Ethernet Over Coax Extenders With PoE+ are supplied with a web GUI, which allows password-protected access to various configuration options of both the Local and Remote devices through a single IP address. It also allows easy upgrades to firmware.

Features

- Copper or fiber combo Ethernet port
- Remote PoE+ Port IEEE 802.3at for powering cameras or other remote devices
- Full PoE+ at 400 ft. or less* (dependent on cable type)
- Coax distance in excess of 1000 ft. at near Gigabit speeds or 2000 ft. at Fast Ethernet speeds (dependent on remote power requirements)
- Proprietary coax end device classification prevents unintended power delivery to non-Transition Networks devices
- Power monitoring
- Auto Power Reset (APR) and power-saving mode
- Web browser configurable
- Plug-and-Play installation
- Field upgradeable firmware
- Managed through a single IP address

***Typical RG59U cable DC resistance of 50 ohm per 1000 ft. Cable with less DC resistance may increase distance. To determine power distance for specific cable types, refer to online calculator.**

Specifications

Standards	IEEE 802.1p IEEE 802.1Q IEEE 802.3 IEEE 802.3ab IEEE 802.3af/at IEEE 802.3az IEEE 802.3u IEEE 802.3x IEEE 802.3z
Ports	Ethernet: 10/100/1000Base-T RJ-45 or 100/1000Base-X SFP Combo Coax: 1000Base BNC PoE: 10/100/1000Base-T RJ-45 PoE+
Status LEDs	Power, Coax Power, Coax ACT, Coax Security, Combo Port Link/ACT, PoE+
Dimensions	Width: 3.25" [82.5 mm] Height: 1.25" [31.75 mm] Depth: 5.38" [136.7 mm]
Power Consumption	45 Watts (max)
Power Input	48 VDC
Ingress Protection	IP30
Environment	Operating: 0°C to +65°C (Industrial +85°C SFP modules must be used above 50°C ambient temperature) Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1.05 lbs. [0.48 kg]
Compliance	Safety: External Power Supply: CE Mark; Emissions: FCC Part 15, CISPR22/EN55022 Class A; Immunity: EN55024
Warranty	5 Years

Ordering Information

ONE LOCAL UNIT MUST BE PAIRED WITH ONE REMOTE UNIT

***EOCPSE4020-110 (Local)**
(1) 10/100/1000Base-T Port
or (1) 100/1000Base-X SFP Combo Port
+ (1) 1000Base BNC Port

***EOCPD4020-110 (Remote)**
(1) 10/100/1000Base-T PoE+ Port IEEE 802.3af/at
or (1) 100/1000Base-X SFP Combo Port
+ (1) 1000Base BNC Port

*Notes: Local and Remote must be used as a pair. A properly isolated power source is required for each Local unit and an external power supply is optional for Remote units depending on power requirements.

Industrial Power Supplies (sold separately)

25148 (Power Adapter)
90 ~ 264 VAC; 127 ~ 370 VDC
(Country specific power cord included)

Optional Accessories (sold separately)

SFP Modules

Mounting Options (sold separately)

WMBL
Wall Mount Bracket 4" [102 mm]

WMBD
DIN Rail Bracket 5" [127 mm]

WMBD-F
DIN Rail Bracket (flat) 3.3" [82 mm]

WMBV
Vertical Wall Mount Bracket 5" [127 mm]

RMS19-SA4-02
4-Slot Media Converter Shelf, includes 4 brackets and 3 slot blanks

Features Continued

- Auto MDI/MDIX
- 128 Bit AES encryption over coax
- IPv4 and IPv6 supported
- 1518 Byte frames
- Client for DHCP, DNS, NTP
- Connection for optional power on Remote device
- Preserves investment in existing coax infrastructure

S4140

10G Carrier Ethernet NID

(4) 1000/10GBase SFP+ Ports

Transition Networks' Carrier Ethernet solution delivers the promise of simplicity deployed. This comprehensive solution includes CE 2.0 compliant demarcation devices, access switches, and the Converge™ element and service management platform.

With the goal of enabling new service generating revenue, Transition Networks' S4140 10G network interface device is designed to support a wide range of MEF-based Carrier Ethernet services for Mobile Backhaul, Business Ethernet, Cloud Assurance and Carrier Exchange E-Access Services.

Ordering Information

S4140
(4) 1000/10GBase SFP+ ports
Includes 19" Rack Mount ears.

Optional Accessories (sold separately)

SFP Modules
SFPs, copper Ethernet cables and fiber patch cables

Power Supplies

CES-PSU-AC
AC power supply for S4140 and S4224 (100-250 VAC)

CES-PSU-DC
DC power supply for S4140 and S4224 -21V DC to -72V DC / +21V DC to +72V DC

Features

- (4) 1000Base/10G SFP+ ports
  Any port can be network or client
- E-Line (EPL and EVPL)
  E-LAN (EP-LAN and EVP-LAN)
  E-Access (Access EPL and EVPL)
- Blended Ethernet Service Activation testing supporting RFC2544 and "services" testing via EVC bandwidth policies or CoS ingress and egress tags with 1-way delay measurements reported in 1-milliseconds
- Hardware based Precision Time Protocol 1588v2 with clock off-set reporting and monitoring between grandmaster and slave with nanosecond accuracy
- Multi-CoS 802.1p and IPv4, IPv6, DiffServ/TOS to ensure any level of service between operator and customer networks
- Hardware based Service OAM (IEEE 802.1ag) and Performance Monitoring (ITU Y.1731) ensure accurate service performance delivery with two and one-way delay measurement reporting.

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad IEEE 80.1AB IEEE 802.3ah IEEE 802.1ag IEEE 1588-2008 (v2) Precision Time Protocol (PTP) ITU G.8261 Sychronous Ethernet ITU Y.1731 PM
Data Rate	SFP ports 1Gbps/10Gbps
Max MAC Addresses	32K
Max Frame Size	10,056bytes
Status LEDs	Power, Port Activity, Port Duplex
Dimensions	Width: 17.378" [441.33 mm] Depth: 10" [254 mm] Height: 1.75" [44.45 mm]
Power Supply	Redundant, hot-swappable AC 100-250 VAC DC 21-72 VDC
Environment	Operating: 0°C to 50°C
Compliance	Safety: UL listed EMI: EN55022 Class A, CE
Warranty	5 Years Hardware

Features Continued

- Bandwidth policies enforced by rate limiting the port, VLAN ID or EVC with configurable CIR, CBS, EIR, EBS, with real-time green/yellow/red/discarded frame monitoring.
- ITU G.8031 linear APS and G.8032 (v1 and v2) rings offer sub 50ms failover.
- Strong security authentication/ verification including SSH/SSL RSA/ DSA certificate generation, TACACS+, RADIUS, HTTPs, SNMP v1, v2c and v3, up to 15 different levels of user administrative access rights
- IPv6 and IPv4 dual-stack addressing
- Dual firmware banks/images
- Configuration backup/restore
- Dying / Last gasp
- Industry Standard CLI
- InterVLAN routing

S4110-4848

Stand-alone Fiber to Fiber Media Converter

SFP+ to SFP+ for Data Rates from 1 Gbps to 11.5 Gbps

S4110-4848

The S4110 is a stand-alone fiber to fiber media converter. It is protocol independent and supports data rates from 1Gbps to 11.5Gbps through two open SFP+ slots. This allows network managers to customize the S4110 with a pair of SFP+ modules to meet their network requirements. The open SFP+ ports support a wide variety of Transition Networks 10GE SFP+ fiber modules. This any-rate to same-rate converter can be used to perform reliable and cost-effective single mode to multimode conversion or it can be used to provide wavelength conversion in CWDM applications.

Features

- Fiber to fiber repeater
- Supports data rates from 1Gbps to 11.5Gbps
- Support any-rate to same-rate
- Protocol Transparent, supports:
  - Ethernet: 10Gig LAN, 10Gig Wan, 1Gig LAN
  - Fiber Channel: 10, 8, 4, 2, 1Gig
  - SONET/SDN OC-192, OC-48
- SFP to SFP or SFP+ to SFP+
- Provides conversion between different types of fiber
- Supported transmission distance based on the SFP modules and fiber type used
- Supports 3R (Reamplify, Reshape, and Retime) signal regeneration
- No frame size limitations
- Use as a fiber mode converter
- Use as a specific wavelength CWDM Transponder
- Also available as an ION slide-in card: C4110-4848

Specifications

Standards	IEEE 802.3ae ITU.G.709 SFF8431 Multi-sourcing Agreement (MSA) Small Form Factor Pluggable (SFP)
TDM Port (T1)	PWR: On = Power Port 1 Link/Act: On = Link, Flashing = Network Traffic Port 2 Link/Act: On = Link, Flashing = Network Traffic
Data Rate	Protocol Independent, 1Gbps to 11.5Gbps
Dip Switches	Only 4 of the 8 Dip Switches are used to select the operational data rate, see the user guide for the supported dip switch configurations
Dimensions	Width: 3.25" [82 mm] Depth: 6.5" [165 mm] Height: 1" [25 mm]
Power Supply	External AC/DC power supply, Universal AC 120-240VAC input, 12VDC 1.5A output
Environment	Operating: 0°C to 50°C Storage: -40° to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
MTBF	With Power Supply: Greater than 41,660 hours (MIL-HDBK-217F) Greater than 114,580 hours (Bellcore) Without Power Supply: Greater than 250,000 hours (MIL-HDBK-217F) Greater than 687,000 hours (Bellcore)
Compliance	FCC Class A, CE Mark, EN55022 Class A, EN55024
Warranty	Lifetime

Ordering Information

S4110-4848
1 Gbps to 11.5Gbps fiber repeater with two open SFP+ slots, any-rate to same-rate stand-alone media converter

Optional Accessories (sold separately)

SFP Modules
SFP and SFP+ modules supported

Mounting Options

WMBL
Wall Mount Bracket 4" [102mm]

WMBD
DIN Rail Bracket 5" [127mm]

E-MCR-05
12 Slot Media Converter Rack

RMS19-SA4-02
4 Slot Media Converter Shelf

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: S4110-4848-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

S4120-1048

Stand-alone 10 Gigabit Ethernet Media Converter

10GBase-T Copper to Fiber

S4120-1048

The S4120 is a stand-alone media converter that provides an interface between 10GBase-T ports and 10GBase-X ports via an open SFP+ slot, allowing users to convert their 10Gig Ethernet ports to the preferred type of cabling used in their networks. The open SFP+ slot supports a wide variety of Transition Networks 10GE SFP+ fiber modules. Operating at Layer 1, the physical layer, data is passed through the converter at line speed, making the S4120 ideal for applications where low latency is essential. The ION S4120 can be managed, in-band, over the fiber, when it is linked back to a C4120 card installed in a managed ION chassis.

Ordering Information

S4120-1048
10GBase-T RJ-45 100m
to 10GBase-X SFP+ Slot (Empty)

Optional Accessories (sold separately)

SFP+ Modules
Supports 10G SFP+ Modules

Mounting Brackets

WMBL
Wall Mount Bracket 4" [102 mm]

WMBD
5" [127 mm] DIN Rail Mount Bracket

E-MCR-05
12-Slot Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

Media Converters

Features

- Transparent Link Pass Through
- Auto-Negotiation
- Auto-MDI/MDIX
- Automatic Link Restoration
- Loopback on Fiber and Copper
- DMI
- Support Remote In-band Management and Remote Firmware Upgrade when linked to a C4120 card installed in a managed ION chassis
- Fiber Port supported standards
  - 10GBase-SR
  - 10GBase-LRM
  - 10GBase-LR
  - 10GBase-ER
  - 10GBase-ZR
- The open SFP+ port also supports:
  - Direct attached 10G copper cable assemblies:
  - Both Class-I and Class-II fiber
  - SFP+ modules
  - SFP modules supporting WDM technology
- Support 100m on Cat6a or higher UTP Per Energy Efficient Ethernet standards, IEEE 802.3az, UTP cable length is detected and power is adjusted according, to reduce power consumption on shorter UTP cable installs

Specifications

Standards	IEEE 802.3 IEEE 802.3an IEEE 802.3ae IEEE 802.3az
Data Rate	10 Gbps
Dip Switches	SW1: Copper Loopback SW2: Fiber Loopback SW3: not used SW4: Transparent Link Pass Through
Status LEDs	PWR (Power): On = power is on L/A SFP+ (Fiber port link and activity statue): On = Link OK Flashing = Link and Activity OK Copper Link (Copper Link Status): On = Link OK Copper Act (Copper Link Activity): On = Activity OK
Dimensions	Width: 3.25" [82.55 mm] Depth: 6.5" [165 mm] Height: 1" [25.4 mm]
Power Consumption	10.5 Watts
Power Supply	External AC/DC power supply, Universal AC input, 12VDC 1.6A output
Environment	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.91 kg]
MTBF	With Power Supply: Greater than 41,660 hours (MIL-HDBK-217F) Greater than 114,580 hours (Bellcore) Without Power Supply: Greater than 250,000 hours (MIL-HDBK-217F) Greater than 687,000 hours (Bellcore)
Compliance	FCC Class A, EN55022 Class A, EN55024, CE Mark
Warranty	Lifetime

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: S4120-1048-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

S6010 Series

Stand-alone DS1 - T1/E1 Remotely Managed NID

DS1 - T1/E1 over Fiber

S6010-1040

The ION S6010 is a stand-alone managed media converter that offers a solution for extending DS1 - T1/E1 or PRI connections over fiber optic cabling. It provides fiber extension though a twisted pair RJ-48 port and a fiber port. These DS1 - T1/E1 converters must be used in pairs, one on each end of the fiber link. Management of the stand-alone converter is supported, in-band, over the fiber, when the remote S6010 is linked to a C6010 card installed in a managed ION Chassis. These DS1 - T1/E1 converters are available with fixed fiber connectors or an open SFP slot, with support for various fiber types, distances, and wavelengths to provide maximum flexibility for any network topology. CWDM SFPs can also be used to further increase the bandwidth capacity of the fiber infrastructure.

Features

- Remote in-band management
- Local or Remote Loopbacks - Copper or Fiber
- Switch selectable for T1 or E1
- Remote firmware upgrade
- LEDs for immediate visual status
- Supports dual or single fiber
- Supports multimode and single mode fiber at a variety of distances
- Supports CWDM SFPs
- SNMP management when used with ION chassis and management module
- Remote stand-alone can be managed by local peer
- Extend PRI over fiber
- Must be used in pairs

Specifications

Standards	ANSI T1.102 T1.402 T1.408 ITU I.431 G.703 G.736 G.775 G.823 ETSI 300-166 300-233 TBR12/12
Copper Connectors	RJ-48, BNC
Fiber Connectors	SFP: LC connector Uses standard 100Base-X/OC-3 SFP Fixed Optics: ST or SC connector
Data Rates	T1 = 1.544 Mbit/s, E1 = 2.048 Mbit/s
Status LEDs	Power, Signal Detect Copper, Signal Detect Fiber
Dimensions	Width: 3.25" [82 mm] Depth: 6.5" [165 mm] Height: 1" [25 mm]
Power Consumption	2.6 Watts
Power Input	100-240 VAC
Power Output	12 VDC
Environment	Operating: -10°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
MTBF	With Power Supply: Greater than 41,660 hours (MIL-HDBD-217F) Greater than 114,580 hours (Bellcore) Without Power Supply: Greater than 250,000 hours (MIL-HDBD-217F) Greater than 687,000 hours (Bellcore)
Compliance	CISPR/EN55022 Class A, FCC Class A, CE Mark, UL60950
Warranty	Lifetime

Ordering Information

S6010-1011
Twisted Pair (RJ-48) [1.5 km/0.9 mi.] to 1300nm multimode (ST) [2 km/1.2 mi.] Link Budget: 11.0 dB

S6010-1013
Twisted Pair (RJ-48) [1.5 km/0.9 mi.] to 1300nm multimode (SC) [2 km/1.2 mi.] Link Budget: 12.0 dB

S6010-1014
Twisted Pair (RJ-48) [1.5 km/0.9 mi.] to 1310nm single mode (SC) [20 km/12.4 mi.] Link Budget: 16.0 dB

S6010-1040
Twisted Pair (RJ-48) [1.5 km/0.9 mi.] to *SFP slot (empty)

S6010-3040
(2) Coax (BNC) to *SFP slot (empty)

Single Fiber Products

Must be used in pairs

S6010-1029-A1
Twisted Pair (RJ-48) [1.5 km/0.9 mi.] to 1310nm TX /1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

S6010-1029-A2
Twisted Pair (RJ-48) [1.5 km/0.9 mi.] to 1550nm TX /1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

Optional Accessories (sold separately)

SFP Modules

Wide Input (24 - 60VDC) Power Supplies

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

WMBL
Wall Mount Bracket 4" [102 mm]

WMBD
DIN Rail Bracket 5" [127 mm]

E-MCR-05
12-Slot Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

*SFP port uses standard 100Base-x/oc-3 SFP

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: S6010-1011-NA

-NA = Country Code
NA = North America, LA = Latin America, EU = Europe, UK = United Kingdom, SA = South Africa, JP = Japan, OZ = Australia, BR = Brazil

S6110 Series

Stand-alone DS1 - T1/E1/J1 Network Interface Device

4 x DS1 - T1/E1/J1 over Fiber

S6110-1013

The ION S6110 is a managed stand-alone DS1 - T1/E1/J1 media converter mux that provides a solution for those users that need to extend multiple DS1 - T1/E1/J1 connections over fiber. The S6110 includes (4) RJ-48 ports and (1) fiber port. The device is available in versions that support fixed fiber connectors as well as SFP fiber modules offering support for a variety of fiber types, distances, and wavelengths to provide maximum flexibility across a variety of network topologies. CWDM SFPs can also be utilized to further increase the bandwidth capacity of the fiber infrastructure.

The S6110 converter must be used in pairs. Management of the stand-alone converter is supported, in-band, over the fiber, when the remote S6110 is linked to a C6110 card installed in a managed ION chassis.

Features

- (4) RJ-48 copper interfaces
- (1) fiber interface (fixed or SFP)
- (2) SFP ports on S6111-1040 model
- Loopback via test set
- Local and remote loopbacks
- LEDs for device status and troubleshooting
- Settings for line code, line build out, loopbacks and Alarm Indication Signal (AIS)
- Access to complete status and configuration on local and remote device
- Remote firmware upgrade
- Remote management
- Extended operating temperature
- Must be used in pairs

Specifications

Standards	ANSI T1.102 T1.403 T1.408 ITU I.431 G.703 G.736 G.775 G.823 ETSI 300-166 300-233 TBR 12/13 AT&T Pub 62411
Data Rate	Copper ports (RJ-48): T1(J1) = 1.544Mb/s, E1 = 2.048Mb/s SFP port(s) (empty): 100Base-X/OC-3
Switches	Numerous switch settings for line coding, line build out, loopback and AIS
Status LEDs	Power, Port Status, Loopback and AIS
Dimensions	Width: 3.7" [94 mm] Depth: 6.5" [165 mm] Height: 1.8" [46 mm]
Power Consumption	6 Watts (max) for dual fiber model 5.5 Watts (max) for single fiber model
Power Input	AC: 12 VDC via barrel connector using 100-240VAC, UL listed power supply
Environment	Operating: -10°C to 65°C Storage: -40°C to +85°C Humidity: 5% to 95% (non-condensing)
Weight	2 lbs. [0.90 kg]
Compliance	EN55022 Class A, EN55024, CE mark
Warranty	Lifetime

Ordering Information

S6110-1011
1300nm multimode (ST) [2 km/1.2 mi.]
Link Budget: 11.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]

S6110-1013
1300nm multimode (SC) [2 km/1.2 mi.]
Link Budget: 11.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]

S6110-1014
1310nm single mode (SC) [20 km/12.4 mi.]
Link Budget: 16.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]

S6110-1040
1 *SFP port (Empty)
to (4) RJ-48 [1.5 km/0.9 mi.]

S6111-1040
2 *SFP ports (Empty)
to (4) RJ-48 [1.5 km/0.9 mi.]

Single Fiber Products

Must be used in pairs

S6110-1029-A1
1310nm TX/1550nm RX single fiber single mode (SC) [20 km/12.4 mi.]
Link Budget: 19.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]

S6110-1029-A2
1550nm TX/1310nm RX single fiber single mode (SC) [20 km/12.4 mi.]
Link Budget: 19.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]

Optional Accessories (sold separately)

SFP Modules

Wide Input (24 - 60VDC) Power Supplies

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

WMBL
Wall Mount Bracket 4" [102 mm]

*SFP port uses standard 100Base-x/oc-3 SFP

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: S6110-1011-NA

-NA = Country Code
NA = North America, LA = Latin America, EU = Europe, UK = United Kingdom, SA = South Africa, JP = Japan, OZ = Australia, BR = Brazil

S6120 Series

Stand-alone DS1-T1/E1/J1 Network Interface Device

4 x DS1 - T1/E1/J1 + 10/100 Ethernet over Fiber

S6120-1013

The ION S6120 is a managed stand-alone DS1 - T1/E1/J1 media converter mux that provides a solution for those users that need to extend multiple DS1 - T1/E1/J1 connections, along with a 10/100 Ethernet connection, all over fiber. The S6120 includes (4) RJ-48 ports, (1) 10/100 Ethernet port, and (1) fiber port. The device is available in versions that support fixed fiber connectors as well as SFP fiber modules offering support for a variety of fiber types, distances, and wavelengths to provide maximum flexibility across a variety of network topologies. CWDM SFPs can also be utilized to further increase the bandwidth capacity of the fiber infrastructure.

The S6120 converter must be used in pairs. Management of the stand-alone converter is supported, in-band, over the fiber, when the remote S6120 is linked to a C6120 card installed in a managed ION chassis.

Features

- (4) RJ-48 copper interfaces
- (1) fiber interface (fixed or SFP)
- (2) SFP ports on S6121-1040 model
- (1) RJ-45 10/100Mbps Ethernet port
- Auto-MDI/MDIX
- Pause (Flow Control on Ethernet port)
- Loopback via test set
- Local and remote loopbacks
- LEDs for device status and troubleshooting
- Settings for line code, line build out, loopbacks and Alarm Indication Signal (AIS)
- Access to complete status and configuration on local and remote device
- Remote firmware upgrade
- Remote management
- Extended operating temperature
- Must be used in pairs

Specifications

Standards	ANSI T1.102 T1.403 and T1.408 ITU I.431 G.703 G.736 G.775 G.823 ETSI 300-166 300-233 TBR 12/13 AT&T Pub 62411 IEEE 802.3
Data Rate	Copper ports (RJ-48): T1(J1) = 1.544Mb/s, E1 = 2.048Mb/s Ethernet port (RJ-45): 10/100Mbps SFP port(s) (empty): 100Base-X/OC-3
Switches	Numerous switch settings for line coding, line build out, loopback and AIS
Status LEDs	Power, Port Status, Loopback and AIS
Dimensions	Width: 3.7" [94 mm] Depth: 6.5" [165 mm] Height: 1.8" [46 mm]
Power Consumption	6 Watts (max) for dual fiber model 5.5 Watts (max) for single fiber model
Power Input	AC: 12 VDC via barrel connector using 100-240VAC, UL listed power supply
Environment	Operating: -10°C to 65°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing)
Weight	2 lbs. [0.90 kg]
Compliance	EN55022 Class A, EN55024, CE mark
Warranty	Lifetime

Ordering Information

S6120-1011
1300nm multimode (ST) [2 km/1.2 mi.]
Link Budget: 11.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

S6120-1013
1300nm multimode (SC) [2 km/1.2 mi.]
Link Budget: 11.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

S6120-1014
1310nm single mode (SC) [20 km/12.4 mi.]
Link Budget: 16.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

S6120-1040
1 *SFP port (Empty) to (4) RJ-48 [1.5 km/0.9 mi.] plus 10/100Base-TX (RJ-45) [100m]

S6121-1040
2 *SFP ports (Empty) to (4) RJ-48 [1.5 km/0.9 mi.] plus 10/100Base-TX (RJ-45) [100m]

Single Fiber Products

Must be used in pairs

S6120-1029-A1
1310nm TX/1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] LB: 19.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

S6120-1029-A2
1550nm TX/1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] LB: 19.0 dB
to (4) RJ-48 [1.5 km/0.9 mi.]
plus 10/100Base-TX (RJ-45) [100m]

Optional Accessories (sold separately)

SFP Modules

Wide Input (24 - 60VDC) Power Supplies

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

WMBL
Wall Mount Bracket 4" [102 mm]

*SFP port uses standard 100Base-x/oc-3 SFP

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: S6120-1011-NA

-NA = Country Code
NA = North America, LA = Latin America, EU = Europe, UK = United Kingdom, SA = South Africa, JP = Japan, OZ = Australia, BR = Brazil

+1.952.941.7600 | www.transition.com | sales@transition.com

S6210 Series

Stand-alone DS3-T3/E3 Network Interface Device

DS3 – T3/E3 Coax over Fiber

S6210-3040

The ION S6210 is a managed stand-alone media converter that provides a solution for those users that need to extend DS3-T3/E3 connections over fiber. The S6210 is available in versions that support fixed fiber connectors as well as SFP fiber modules offering support for a variety of fiber types, distances, and wavelengths to provide maximum flexibility across a variety of network topologies. CWDM SFPs can also be utilized to further increase the bandwidth capacity of the fiber infrastructure.

The S6210 DS3-T3/E3 converters must be used in pairs. Management of the stand-alone converter is supported, in-band, over the fiber, when the remote S6210 is linked to a C6210 card installed in a managed ION chassis.

Features

- AIS (Alarm Indication Signal)
- Coax Line Build Out
- Switch selectable for DS3/T3 or E3
- Remote firmware upgrade
- Loopback – Coax and Fiber
- LEDs for immediate visual status
- Supports dual or single fiber
- Supports multimode and single mode fiber at a variety of distances
- Supports CWDM SFPs
- SNMP management when used with ION chassis and management module
- Remote stand-alone can be managed by local chassis card
- Must be used in pairs

Specifications

Standards	ANSI ITU-TS ETSI G.823 for jitter tolerance G.755 for loss of signal
Coax Connectors	75 ohm coax
Fiber Connectors	SFP: LC connector Uses standard 100Base-X/OC-3 SFP Fixed Optics: ST or SC connector
Data Rates	DS3/T3 = 44.7Mbps; E3 = 34.4Mbps
Status LEDs	Power, Coax link status, coax loopback status, AIS on coax link; Fiber link status, fiber loopback status, AIS on fiber link
Dimensions	Width: 3.5" [82 mm] Depth: 6.5" [165 mm] Height: 1" [25 mm]
Power Consumption	2.4 Watts
Power Input	100-240 VAC
Power Output	12 VDC
Environment	Operating: -10°C to +65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
MTBF	With Power Supply: Greater than 41,660 hours (MIL-HDBD-217F) Greater than 114,580 hours (Bellcore) Without Power Supply: Greater than 250,000 hours (MIL-HDBD-217F) Greater than 687,000 hours (Bellcore)
Compliance	CISPR/EN55022 Class A, FCC Class A, CE Mark, UL60950
Warranty	Lifetime

Ordering Information

S6210-3011
(2) Coax (BNC) to 1300nm multimode (ST)
[2 km/ 1.2 mi.] Link Budget: 11.0 dB

S6210-3013
(2) Coax (BNC) to 1300nm multimode (SC)
[2 km/ 1.2 mi.] Link Budget: 11.0 dB

S6210-3014
(2) Coax (BNC) to 1310nm single mode (SC)
[20 km/12.4 mi.] Link Budget: 16.0 dB

S6210-3040
(2) Coax (BNC) to *SFP slot (empty)

Single Fiber Products

Must be used in pairs

S6210-3029-A1
(2) Coax (BNC) to 1310nm TX/1550nm RX single fiber single mode (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

S6210-3029-A2
(2) Coax (BNC) to 1550nm TX/1310nm RX single fiber single mode (SC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

Optional Accessories (sold separately)

SFP Modules

Wide Input (24 - 60VDC) Power Supplies

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

WMBL
Wall Mount Bracket 4" [102 mm]

WMBD
DIN Rail Bracket 5" [127 mm]

E-MCR-05
12-Slot Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

*SFP port uses standard 100Base-x/oc-3 SFP

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: S6210-3011-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

J/RS232 Series

Stand-alone RS232 Media Converter

RS232 Copper to Fiber

J/RS232-CF-01

Link a remote terminal to a host computer: Connect multiple devices, such as security scanners, POS devices, remote terminals and building access/alarming systems to a host computer. Ideal for campus or business environments where remote devices can be networked in a point-to-point configuration where distances are greater than the 15 meter limitation of conventional copper serial cables.

Transition Networks' Just Convert It serial RS232 to Fiber Media Converter is an inexpensive, no frills way to extend the distance between serial connections with the use of fiber optic cable. This converter supports full or half-duplex data transmission at speeds up to 120 Kbps. Unit and Port LEDs allow for quick status information on the converter.

Features

- Offered with either a male or female connector
- Full/Half-duplex transmission at speeds up to 120 Kbps
- Fiber LED lights to show link with or without data transmission

Specifications

Standards	EIA/TIA-574 EIA/TIA RS-232E
Status LEDs	PWR (Power): Lit for normal operation RX: Steady = Link; Flashing = Rx Data FL: Steady = Fiber Link
Dimensions	Width: 3" [76 mm] Depth: 3.9" [100 mm] Height: 1" [25 mm]
Power Consumption	3.0 Watts
Power Supply	External AC/DC; 12 VDC, 0.5A min Output; 120-240VAC input
Environment	Operating: 0°C to 50°C Storage: -40°C to +85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply: UL Listed and CSA certified Emissions: CISPR22/EN55022 Class A + EN55024, EN60950 Class A, FCC Class A, CE Mark
Warranty	Lifetime

Ordering Information

J/RS232-CF-01
DB-9 (female) [15 m/49 ft.]
to 1300nm multimode (ST) [2 km/1.2 mi.]
Link Budget: 11.0 dB

J/RS232-CF-01(SC)
DB-9 (female) [15 m/49 ft.]
to 1300nm multimode (SC) [2 km/1.2 mi.]
Link Budget: 11.0 dB

J/RS232-TF-01
DB-9 (male) [15 m/49 ft.]
to 1300nm multimode (ST) [2 km/1.2 mi.]
Link Budget: 11.0 dB

J/RS232-TF-01(SC)
DB-9 (male) [15 m/49 ft.]
to 1300nm multimode (SC) [2 km/1.2 mi.]
Link Budget: 11.0 dB

Optional Accessories (sold separately)

Wide Input (24 - 60 VDC) Power Supplies

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

E-MCR-05
12-Slot Media Converter Rack

RMS19-SA4-02
4-Slot Media Converter Shelf

WMBD
DIN Rail Bracket 5" [127 mm]

WMBD-FS
DIN Rail Bracket (flat) 3.1" [79 mm]

WMBS
Wall Mount Bracket 3.2" [81 mm]

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: J/RS232-CF-01-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

SDSTX3110-121-LRT-B

Hardened Serial Device Server

(1) RS-232/422/485 Serial Port + (2) 10/100Base-TX Fast Ethernet Ports

Transition Networks serial device server provides the ability to communicate serial data across an Ethernet network. The SDSTX3110-121-LRT-B contains (2) 10/100Base Fast Ethernet ports that can be configured to one or multiple redundant servers. Security of the data transmission is assured through HTTPS, SSH, and SSL data encryption.

The SDSTX3110-121-LRT-B comes with COM port redirector software enabling communication of serial data to a virtual COM port on a server, or can be used in pairs to provide serial tunneling across the Ethernet network.

The SDSTX3110-121-LRT-B is a hardened device designed to operate in the harshest environments. Enclosed in an IP30 enclosure and accepting input voltage of 12 to 48 VDC, the device is certified to operate in temperatures of -40°C to +70°C.

Ordering Information

SDSTX3110-121-LRT-B
(1) RS232/422/485 DB9 ports
+ (2) 10/100Base-TX RJ-45 ports

Optional Accessories (sold separately)

25135
Input: 85-264 VAC, 120-370 VDC
Output: 24VDC, .42A, 10 Watts

25130
Input: 85-264 VAC, 120-370 VDC
Output: 48VDC, .83A, 39.8 Watts

Features

- Operating Modes: Virtual Com, Serial Tunnel, TCP Server, TCP Client, UDP
- Security: SSL data encryption; secured management by HTTPS and SSH IP Access: IP White List
- Event Warning by SYSLOG, Email, SNMP traps
- Extended operating temperature (-40°C to 70°C)
- Various Windows O.S. supported: Windows NT/2000/ XP/ 2003/ VISTA(32/64bit)/Windows 7(32/64bit) / Windows 8

Specifications

Standards		IEEE 802.3™ IEEE 802.3u
Protocols		ICMP, IP, TCP, UDP, DHCP, BOOTP, SSH, DNS, SNMP V1/V2c, HTTPS, SMTP, SSL
Serial	Ports	(1) DB9M
	Protocols	RS-232/422/485 (2 and 4 wire)
	Baud Rates	110bps to 460Kbps
	Data Bits	7, 8
	Parity	Odd, Even, None, Space
	Stop Bits	1, 1.5, 2
	RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
	RS-422	Tx+. Tx-, Rx+, Rx-, GND
	RS-485 (4 wire)	Tx+. Tx-, Rx+, Rx-, GND
	RS-485 (2 Wire)	Data+, Data-
	Flow Control	XON/XOFF, RTS/CST, DTR/DSR
Status LEDs		Power, Ethernet Port Link/Act, Serial TX/RX
Dimensions		Width: 1.77" [45 mm] Depth: 3.19" [81 mm] Height: 3.74" [95 mm]
Power Consumption		3.36 Watts
Power Input		12~48 VDC; redundant inputs
Ingress Protection		IP30
Environment		Operating: -40°C to +70°C Storage: -40°C to +85°C Humidity: 5% to 90% (non-condensing)
Weight		0.66 lbs. [.3 kg]
Compliance		Safety: EN60950-1 FCC Part 15, CISPR22/EN55022 Class A, EN61000-4-2, EN61000-4-3, EN-61000-4-4, EN61000- 4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Warranty		5 Years

SDSTX3110-121S-LRT

Hardened Slim Serial Device Server

(1) RS-232/422/485 Serial Port to (2) 10/100Base-TX Fast Ethernet Ports

Transition Networks hardened serial device server provides the ability to communicate secured serial data across an Ethernet network. The SDSTX3110-121S-LRT contains two 10/100 Fast Ethernet ports that can be configured to communicate to one or multiple redundant servers. Security of the data transmission is assured through HTTPS, SSH, and SSL data encryption.

The SDSTX3110-121S-LRT comes with COM port redirector software enabling communication of serial data to a virtual COM port on a server, or can be used in pairs to provide serial tunneling across the Ethernet network. The SDSTX3110-121S-LRT is a hardened device designed to operate in the harshest environments. It has a slim IP30 enclosure that can fit into space-constraining cabinets. The device accepts 12-48VDC power input and it is also certified to operate in temperatures of -40°C to +70°C.

Ordering Information

SDSTX3110-121S-LRT
(1) RS232/422/485 DB9 port
+ (2) 10/100Base-TX RJ-45

Optional Accessories (sold separately)

25135
Input: 85-264 VAC, 120-370 VDC
Output: 24VDC, 0.42A, 10 Watts

25130
Input: 85-264 VAC, 120-370 VDC
Output: 48VDC, 0.83A, 39.8 Watts

Features

- Operating Modes: Virtual Com, Serial Tunnel, TCP Server, TCP Client, UDP
- Security: SSL data encryption; secured management by HTTPS and SSH IP Access: IP White List
- Event Warning by SYSLOG, Email, SNMP trap
- Extended operating temperature (-40°C to 70°C)
- Various Windows O.S. supported: Windows NT/2000/ XP/ 2003/ VISTA(32/64bit)/Windows 7(32/64bit) / Windows 8

Specifications

Standards	IEEE 802.3™ IEEE 802.3u	
Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, SSH, DNS, SNMP V1/V2c, HTTPS, SMTP, SSL	
Serial	Ports (1)	DB9M
	Protocols	RS-232/422/485 (2 and 4 wire)
	Baud Rates	110bps to 921Kbps
	Data Bits	7, 8
	Parity	Odd, Even, None, Space
	Stop Bits	1, 1.5, 2
	RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND RS-422 Tx+. Tx-, Rx+, Rx-
	RS-485	(4 wire) Tx+. Tx-, Rx+, Rx-
	RS-485	(2 Wire) Data+, Data-
	Flow Control	XON/XOFF, RTS/CST, DTR/DSR
Status LEDs	Power, Ethernet Port Link/Act, Serial TX/RX	
Dimensions	Width: 1.02" [26 mm] Depth: 2.95" [75 mm] Height: 4.33" [110 mm]	
Power Consumption	1.44 Watts	
Power Input	12 ~ 48 VDC; redundant inputs	
Ingress Protection	IP30	
Environment	Operating: -40°C to 70°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing)	
Weight	0.5 lb. [0.23 kg]	
Compliance	FCC Part 15, CISPR (EN55022) class A, EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11, IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration) Safety: EN60950-1	
Warranty	5 Years	

SDSTX3110-124-LRT-B

Hardened Serial Device Server

(4) RS-232/422/485 Serial Ports + (2) 10/100Base-TX Fast Ethernet Ports

Transition Networks serial device server provides the ability to communicate serial data across an Ethernet network. The SDSTX3110-124-LRT-B contains (2) 10/100Base Fast Ethernet ports that can be configured to one or multiple redundant servers. Security of the data transmission is assured through HTTPS, SSH, and SSL data encryption.

The SDSTX3110-124-LRT-B comes with COM port redirector software enabling communication of serial data to a virtual COM port on a server, or can be used in pairs to provide serial tunneling across the Ethernet network.

The SDSTX3110-124-LRT-B is a hardened device designed to operate in the harshest environments. Enclosed in an IP30 enclosure and accepting input voltage of 12 to 48 VDC, the device is certified to operate in temperatures of -40°C to +70°C.

Ordering Information

SDSTX3110-124-LRT-B
(4) RS232/422/485 DB9 ports
+ (2) 10/100Base-TX RJ-45 ports

Optional Accessories (sold separately)

25135
Input: 85-264 VAC, 120-370 VDC
Output: 24VDC, .42A, 10 Watts

25130
Input: 85-264 VAC, 120-370 VDC
Output: 48VDC, .83A, 39.8 Watts

Features

- Operating Modes: Virtual Com, Serial Tunnel, TCP Server, TCP Client, UDP
- Security: SSL data encryption; secured management by HTTPS and SSH IP Access: IP White List
- Event Warning by SYSLOG, Email, SNMP traps
- Extended operating temperature (-40°C to 70°C)
- Various Windows O.S. supported: Windows NT/2000/ XP/ 2003/ VISTA(32/64bit)/Windows 7(32/64bit) / Windows 8

Specifications

Standards		IEEE 802.3™ IEEE 802.3u
Protocols		ICMP, IP, TCP, UDP, DHCP, BOOTP, SSH, DNS, SNMP V1/V2c, HTTPS, SMTP, SSL
Serial	Ports	(4) DB9M
	Protocols	RS-232/422/485 (2 and 4 wire)
	Baud Rates	110bps to 460Kbps
	Data Bits	7, 8
	Parity	Odd, Even, None, Space
	Stop Bits	1, 1.5, 2
	RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
	RS-422	Tx+. Tx-, Rx+, Rx-, GND
	RS-485 (4 wire)	Tx+. Tx-, Rx+, Rx-, GND
	RS-485 (2 Wire)	Data+, Data-, GND
	Flow Control	XON/XOFF, RTS/CST, DTR/DSR
Status LEDs		Power, Ethernet Port Link/Act, Serial TX/RX
Dimensions		Width: 2.6" [66 mm] Depth: 3.19" [81 mm] Height: 3.74" [95 mm]
Power Consumption		4.32 Watts
Power Input		12~48 VDC; redundant inputs
Ingress Protection		IP30
Environment		Operating: -40°C to +70°C Storage: -40°C to +85°C Humidity: 5% to 90% (non-condensing)
Weight		0.83 lbs. [.38 kg]
Compliance		Safety: EN60950-1 FCC Part 15, CISPR22/EN55022 Class A, EN61000-4-2, EN61000-4-3, EN-61000-4-4, EN61000- 4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Warranty		5 Years

M-MCR-01

18-Slot Mini Media Converter Chassis

M-MCR-01
Mini Media Converters Sold Separately

The Mini Media Converter Chassis is a 19" rack mountable powered chassis for the Mini line of stand-alone media converters. Designed for Transition Networks' line of office grade, non-hardened, mini media converters, this chassis is ideal for installations where multiple Minis are being deployed in the same location. It offers an easy and cost-effective method for securely mounting up to 18 Mini converters while requiring only one AC power connection.

As networks grow, so does the need to interface between various types of cabling infrastructure and the Mini copper-to-fiber media converters offer a low cost, space saving option for making those connections between disparate cable types. The Mini Media Converter Chassis is suitable for Enterprise, or any Government, application where multiple points of fiber connectivity are required. The chassis can accept any combination of Transition Networks' Layer 1 100Base and 1000Base Mini media converters as well as the Layer 2 10/100 and 10/100/1000 Mini media converters, all with the barrel-type DC power input connector.

The chassis occupies 1.5U of rack space, allowing two chassis to be mounted in 3 units of rack space, efficiently using critical rack space in datacenters or wiring closets. The mini converters are hot-swappable and directly connect to the chassis backplane to receive their power connection. Three lock-down bars can be raised and lowered to allow the installation of a hot-swappable mini converter. These bars are also used to securely hold the Mini converter in the chassis, even when the copper and fiber data cables are being inserted and removed from the individual Mini converters.

Ordering Information

M-MCR-01
18-Slot Powered Chassis for non-hardened Mini Media Converters, Includes 19" Rack Mount Ears

Optional Accessories (sold separately)

M-RE23
23" Rack Mount Ears for the M-MCR-01

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: M-MCR-01-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- 19" rack mountable powered chassis
- Install up to 18 Mini Media Converters
- Universal AC power
- Mini converters are hot-swappable
- Any combination of non-hardened Mini converters
- Provides modular, centralized, high density media conversion
- 23" rack mount brackets are available
- Applications for
  - Enterprise Networks
  - Higher Education or Corporate Campus
  - Physical Security & Surveillance
  - Government Agency Networks

Specifications

Slots	(18) Slots in front for Mini Media Converters
Status LEDs	Power: LED on power supply, ON = Lit for normal operation
Dimensions	Width: 17.3" [439.42 mm] Depth: 12" [304.79 mm] Height: 2.62" [66.54 mm]
Power Supply	Meanwell GST60A12-P1J, 60 Watts Power Supply (UL, cUL, CE); Power cord included
Power Input	Unit accepts 100 – 240 VAC, 1.6A, 50-60Hz, 3 Pole AC inlet IEC320-C14
Power Output	12VDC, 5.0A
Environment	Operating: 0°C to +50°C Storage: -40°C to +85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	7.4 lbs. [3.35 kg]
Warranty	Lifetime

M/E-TX Series

Mini Fast Ethernet Media Converter

100Base-TX to 100Base-FX

M/E-TX-FX-01

The M/E-TX Series is a Fast Ethernet stand-alone Mini media converter that provides cost effective media conversion between 100Base-TX ports and 100Base-FX ports. With its fixed configuration, deployments are just plug-and-play, and its small size makes it ideal for locations where space is limited. Operating at Layer 1, the physical layer, data is passed through the converter at line speed, making it ideal for applications where low latency is essential.

Features

- Fiber integration used in pairs or as a single unit, this mini media converter will ease the integration of fiber optic cabling into copper-rich fast Ethernet environments
- Extend Network Distance as fiber supports the transmission of Fast Ethernet data over much longer distances than possible twisted pair
- Low-Latency Layer 1 Design, this mini converter will retransmit Fast Ethernet signals without any store-and–forward packet inspection delays found in other Layer 2 devices
- Small Size is ideal for conversion locations where available space is limited - 65% smaller than standard media converter
- Unit and port LEDs allow for quick status information
- Auto-Negotiation
- Auto-MDI/MDIX

Specifications

Standards	IEEE 802.3u 100Base-TX 100Base-FX
Status LEDs	PWR (Power) below RJ-45: On = Power FX-Link/Act (Fiber Link / Activity) Upper Left on RJ-45: On = link, Flashing = Activity TX-Link/Act (Copper Link / Activity) Upper Right on RJ-45: On = link, Flashing = Activity
Dimensions	Width: 1.8" [46 mm] Depth: 3.3" [85 mm] Height: 0.85 [22 mm]
Power Consumption	2.6 Watts
Power Supply	External AC/DC required; +12VDC, 0.5A
Power Input	7.5VDC to 13.9VDC
Environment	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Wall Mount Power Supply, UL Listed, cUL Listed (Canada)
Warranty	Lifetime

Ordering Information

M/E-TX-FX-01
100Base-TX (RJ-45) [100m/328 ft.] to 100Base-FX 1300nm multimode (ST) [2km/1.2mi.] Link Budget: 11.0db

M/E-TX-FX-01(SC)
100Base-TX (RJ-45) [100m/328 ft.] to 100Base-FX 1300nm multimode (SC) [2km/1.2mi.] Link Budget: 11.0db

M/E-TX-FX-01(SM)
100Base-TX (RJ-45) [100m/328 ft.] to 100Base-FX 1310nm single mode (SC) [20km/12.4mi.] Link Budget: 16.0db

M/E-TX-FX-01(SFP)
100Base-TX (RJ-45) [100m/328 ft.] to 100Base-X SFP Slot (empty)

M/E-TX-FX-01(100)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm TX/1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

M/E-TX-FX-01(101)
100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1550nm TX/1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

Optional Accessories (sold separately)

Wide Input DC Power Supply

SPS-2460-SA
24VDC to 60VDC input Stand-alone Power Supply

Mounting Options

WMBM
Wall Mount Bracket for Mini

M-MCR-01
18-Slot Powered Mini Chassis

DRBM
DIN Rail Mount Bracket for Mini

RMBM
Rack Mount Bracket for Mini, use with RMS19-SA4-02 and/or E-MCR-05

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: M/E-TX-FX-01-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

M/E-PSW Series

Mini Fast Ethernet Media Converter

10/100Base-TX to 100Base-FX

M/E-PSW-FX-02(SM)

The M/E-PSW Series is a Fast Ethernet stand-alone Mini media converter that provides cost effective media conversion between 10/100Base-TX ports and 100Base-FX ports. With its fixed configuration, deployments are just plug-and-play, and its small size makes it ideal for locations where space is limited. Operating at Layer 2, the data link layer, this converter not only converts copper to fiber, it also provides rate conversion allowing legacy 10Base-T copper devices to connect to 100Base-FX fiber.

Features

- Unit and Port LEDs allow for quick status information
- Auto-Negotiation
- Fixed Full-Duplex on fiber
- Auto-MDI/MDIX
- Automatic Link Restoration
- Far-End-Fault (FEF)
- Connect to legacy network equipment
- Eliminate Collision Domains

Specifications

Standards	IEEE 802.3
Max Frame Size	1632 bytes
Status LEDs	PWR (Power): (below RJ-45) ON = Link; Flashing = Activity FX-Link/Act (Fiber Link/Activity): (Upper Left on RJ-45) ON = Link; Flashing = Activity TX-Link/Act (Copper Link/Activity): (Upper Right on RJ-45) ON = Link; Flashing = Activity
Dimensions	Width: 1.8" [46 mm] Depth: 3.3" [85 mm] Height: 0.85" [22 mm]
Power Consumption	2.6 Watts
Power Supply	External AC/DC required; +12VDC, 0.5A min
Power Input	7.5 VDC to 13.9 VDC
Environment	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply: UL Listed, cUL Listed (Canada) FCC Class A, CISPR22/EN55022 Class A, EN55024, CE Mark
Warranty	Lifetime

Ordering Information

M/E-PSW-FX-02
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (ST) [2 km/1.2 mi.] Link Budget: 11.0 dB

M/E-PSW-FX-02(SC)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1300nm multimode (SC) [2 km/1.2 mi.] Link Budget: 11.0 dB

M/E-PSW-FX-02(SM)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (SC) [20 km/12.4 mi.] Link Budget: 16.0 dB

Optional Accessories (sold separately)

Wide Input Power Supplies

SPS-2460-SA
Stand-Alone Power Supply

Mounting Options

WMBM
Wall Mount Bracket for Mini

M-MCR-01
18-Slot Powered Mini Chassis

DRBM
DIN Rail Mount Bracket for Mini

RMBM
Rack Mount Bracket for Mini, use with RMS19-SA4-02 and/or E-MCR-05

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: M/E-TX-FX-02-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

M/E-ISW Series

Hardened Mini Fast Ethernet Media Converter

10/100Base-TX to 100Base-FX

M/E-ISW-FX-01

The M/E-ISW Series is an hardened Fast Ethernet Mini media converter that provides a cost effective, plug-and-play media conversion between 10/100Base-TX ports and 100Base-FX ports for hardened or outdoor 10/100 environments. With its supported operating temperature range of -40°C to 75°C, the Mini offers a space saving alternative for converting copper to fiber in extreme environments.

Features

- Unit and Port LEDs provide quick status
- Auto-Negotiation
- Fixed Full-Duplex on fiber
- Auto-MDI/MDIX
- Link Pass Through
- Automatic Link Restoration
- Far-End-Fault (FEF)
- DC and AC powered models
- Overload Current Protection
- Reverse Polarity Protection
- Easily integrate fiber into industrial, hardened, or outdoor locations to reach devices at the edge of the network
- Tiny mechanical size allows use in small enclosures
- No configuration required
- Available with LC, ST or SC fiber interfaces and is available for multimode or single mode fiber; Single fiber options are also available

Specifications

Standards	IEEE 802.3
Status LEDs	PWR (Power): (below RJ-45) FX-Link/Act (Fiber Link/Activity): (Upper Left on RJ-45) ON = Link; Flashing = Activity TX-Link/Act (Copper Link/Activity): (Upper Right on RJ-45) ON = Link; Flashing = Activity
Dimensions	Width: 1.8" [46 mm] Depth: 3.3" [85 mm] Height: 0.85" [22 mm]
Power Consumption	2.5 Watts
Power Supply	12-48 VDC AC version also supports 22-36 VAC ± 10% Overload Current Protection Reverse Polarity Protection
Environment	Operating: -40°C to 75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	FCC Class A, CISPR22/EN55022 Class A, EN55024, CE Mark
Warranty	Lifetime

Ordering Info

AC = AC powered option available
M/E-ISW-FX-01 or M/E-ISW-FX-01AC

M/E-ISW-FX-01
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310 nm multimode (ST) [2 km/1.2 mi.] Link Budget: 14.0 dB

M/E-ISW-FX-01(SC)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310 nm multimode (SC) [2 km/1.2 mi.] Link Budget: 14.0 dB

M/E-ISW-FX-01(MMLC)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310 nm multimode (LC) [2 km/1.2 mi.] Link Budget: 11.0 dB

M/E-ISW-FX-01(SM)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310 nm single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

M/E-ISW-FX-01(SMLC)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310 nm single mode (LC) [20 km/12.4 mi.] Link Budget: 19.0 dB

M/E-ISW-FX-01(100)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm TX/1550nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 18.0 dB

M/E-ISW-FX-01(101)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1550nm TX/1310nm RX single fiber single mode (SC) [20 km/12.4 mi.] Link Budget: 18.0 dB

M/E-ISW-FX-01AC
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310 nm multimode (ST) [2 km/1.2 mi.] Link Budget: 14.0 dB

M/E-ISW-FX-01AC(SC)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310 nm multimode (SC) [2 km/1.2 mi.] Link Budget: 14.0 dB

M/E-ISW-FX-01AC(MMLC)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310 nm multimode (LC) [2 km/1.2 mi.] Link Budget: 11.0 dB

M/E-ISW-FX-01AC(SM)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310 nm single mode (SC) [20 km/12.4 mi.] Link Budget: 19.0 dB

M/E-ISW-FX-01AC(SMLC)
10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1550 nm single mode (LC) [20 km/12.4 mi.] Link Budget: 19.0 dB

Optional Accessories (sold separately)

AC Power Supplies

SPS-UA12DHT
(100-240 VAC input
0°C to +70°C Operating temperature)

25083
Universal AC/DC Input DIN Rail Mountable +12 VDC Power Supply

Mounting Options

WMBM
Wall Mount Bracket for Mini Converters

M/GE-T Series

Mini Gigabit Ethernet Media Converter

1000Base-T to 1000Base-SX/LX

M/GE-T-SX-01

The M/GE-T Series is a Gigabit Ethernet stand-alone Mini media converter that provides cost effective media conversion between 1000Base-T ports and 1000Base-SX/LX ports. With its fixed configuration, deployments are just plug-and-play, and its small size makes it ideal for locations where space is limited. Operating at Layer 1, the physical layer, data is passed through the converter at line speed, making it ideal for applications where low latency is essential.

Features

- Auto-Negotiation
- Auto-MDI/MDIX
- Automatic Link Restoration
- Interoperable with other 1000Base-T/SX/LX NICs or switch ports
- Status LEDs for easy monitoring
- Supports SFP modules
- Supports Jumbo Frames up to 13312bytes
- 65% smaller than standard media converter
- Extend Network Distance
- Low-Latency Design
- Fiber Link Pass Through

Specifications

Standards	IEEE 802.3z IEEE 802.3ab
Status LEDs	PWR (Power) below RJ-45: On = Power FX-Link/Act (Fiber Link / Activity) Upper Left on RJ-45: On = link, Flashing = Activity TX-Link/Act (Copper Link / Activity) Upper Right on RJ-45: On = link, Flashing = Activity
Dimensions	Width: 1.8" [46 mm] Depth: 3.3" [85 mm] Height: 0.85" [22 mm]
Power Consumption	2.6 Watts
Power Supply	External AC/DC required; +12VDC, 0.5A
Power Input	7.5VDC to 13.9VDC
Environment	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply, UL Listed, cUL Listed (Canada), FCC Class A, CISPR22 / EN55022 Class A, EN55024, CE Mark
Warranty	Lifetime

Ordering Information

M/GE-T-SX-01
1000Base-T (RJ-45) [100m/328 ft.] to 1000Base-SX 850nm multimode (SC) [62.5/125 µm fiber: 220 m/722 ft.] [50/125 µm fiber: 550 m/1804 ft.] Link Budget: 7.0 dB

M/GE-T-SX-01(LC)
1000Base-T (RJ-45) [100m/328 ft.] to 1000Base-SX 850nm multimode (LC) [62.5/125 µm fiber: 220 m/722 ft.] [50/125 µm fiber: 550 m/1804 ft.] Link Budget: 8.5 dB

M/GE-T-LX-01
1000Base-T (RJ-45) [100m/328 ft.] to 1000Base-LX 1310m single mode (SC) [10 km/6.2 mi.] Link Budget: 10.5db

M/GE-T-SFP-01
1000Base-T (RJ-45) [100m/328 ft.] to SFP slot (empty)

Optional Accessories (sold separately)

SFP Modules

Wide Input DC Power Supply

SPS-2460-SA
24VDC to 60VDC input Stand-alone Power Supply

Mounting Options

WMBM
Wall Mount Bracket for Mini

M-MCR-01
18-Slot Powered Mini Chassis

DRBM
DIN Rail Mount Bracket for Mini

RMBM
Rack Mount Bracket for Mini, use with RMS19-SA4-02 and/or E-MCR-05

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: M/GE-T-SX-01-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

M/GE-PSW Series

Mini Gigabit Ethernet Media Converter

10/100/1000Base-T to 1000Base-SX/LX

M/GE-PSW-SX-01

The M/GE-PSW Series is a Gigabit Ethernet stand-alone Mini media converter that provides cost effective media conversion between 10/100/1000Base-T ports and 1000Base-SX/LX ports. With its fixed configuration, deployments are just plug-and-play, and its small size makes it ideal for locations where space is limited. Operating at Layer 2, the data link layer, this converter not only converts copper to fiber, it also provides rate conversion allowing legacy 10/100 copper devices to connect to 1000Base-SX/LX fiber.

Features

- Unit & Port LEDs allow for quick status information
- Auto-Negotiation
- Fixed Full-Duplex on fiber
- Auto-MDI/MDIX
- Active Link Pass Through
- Automatic Link Restoration
- Space saving design
- Connect Legacy Networking Equipment: Connect an existing 10/100 Mbps device to 1000 Mbps devices.
- Jumbo Frame (up to 10,240 Bytes)
- USB Power Option, requires the use of a USB to DC barrel connector cable (USBC-AM-DC)

Specifications

Standards	IEEE 802.3
Max Frame Size	Up to 10,240 bytes
Status LEDs	PWR (Power): (below RJ-45) ON = Lit for normal operation FX-Link/Act (Fiber Link/Activity): (Upper Left on RJ-45) ON = Link; Flashing = Activity TX-Link/Act (Copper Link/Activity): (Upper Right on RJ-45) ON = Link; Flashing = Activity
Dimensions	Width: 1.8" [46 mm] Depth: 3.3" [85 mm] Height: 0.85" [22 mm]
Power Consumption	3.15 Watts
Power Supply	Unit accepts 4.5 VDC to 28 VDC Wall Mount AC adapter: 12 VDC 400mA
Environment	Operating: 0°C to 50°C Storage: -15°C to +65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: Wall Mount Power Supply, UL Listed, cUL Listed (Canada) FCC Class A, CISPR22/EN55022 Class A, EN55024, CE Mark
Warranty	Lifetime

Ordering Information

M/GE-PSW-SX-01(ST)
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-SX 850nm multimode (ST) [62.5/125 µm fiber: 220 m/722 ft.] Link Budget: 7.0 dB [50/125 µm fiber: 550 m/1804 ft.] Link Budget: 7.0 dB

M/GE-PSW-SX-01
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-SX 850nm multimode (SC) [62.5/125 µm fiber: 220 m/722 ft.] Link Budget: 7.0 dB [50/125 µm fiber: 550 m/1804 ft.] Link Budget: 7.0 dB

M/GE-PSW-SX-01(LC)
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-SX 850nm multimode (LC) [62.5/125 µm fiber: 220 m/722 ft.] Link Budget: 7.0 dB [50/125 µm fiber: 550 m/1804 ft.] Link Budget: 7.0 dB

M/GE-PSW-LX-01
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 1000Base-LX 1310nm single mode (SC) [10 km/6.2 mi.] Link Budget: 10.5 dB

M/GE-PSW-SFP-01
10/100/1000Base-T (RJ-45) [100 m/328 ft.] to 100/1000Base-X SFP Slot (empty)

Optional Accessories (sold separately)
Wide Input (24 - 60 VDC) Power Supply

SPS-2460-SA
Stand-Alone Power Supply

USBC-AM-DC
USB 2.0 cable male to barrel connector USB Power Cable

Mounting Options

WMBM
Wall Mount Bracket for Mini

M-MCR-01
18-Slot Powered Mini Chassis

DRBM
DIN Rail Mount Bracket for Mini

RMBM
Rack Mount Bracket for Mini, use with RMS19-SA4-02 and/or E-MCR-05

Note: Long Haul single mode and Single Strand single mode are available upon request.

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU; Ex: M/GE-PSW-SX-01-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

M/GE-ISW Series

Hardened Mini Gigabit Ethernet Media Converter

10/100/1000Base-T to 1000Base-SX/LX

M/GE-ISW-SFP-01

The M/GE-ISW Series is an hardened Gigabit Ethernet Mini media converter that provides a cost effective media conversion between 10/100/1000Base-T ports and 1000Base-SX/LX ports for hardened or outdoor 10/100/1000 environments. With its supported operating temperature range of -40°C to +75°C, the Mini offers a space saving alternative for converting copper to fiber in extreme environments.

Features

- Unit & Port LEDs allow for quick status information
- Auto-Negotiation
- Fixed Full-Duplex on Fiber
- Auto-MDI/MDIX on copper port
- Active Link Pass Through
- Jumbo Frame (up to 10240Bytes)
- Supports DC and AC Input Power via terminal block
  - Includes barrel connector pig-tail cable
- Multiple mounting options
  - DIN Rail clip and Velcro included
  - Wall mount bracket sold separately
- Overload Current Protection
- Reverse Polarity Protection

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3x
Max Frame Size	10240 bytes
Status LEDs	PWR (Power): (below RJ-45) ON = Lit for normal operation FX-Link/Act (Fiber Link/Activity): (Upper Left on RJ-45) On = link; Flashing = Activity TX-Link/Act (Copper Link/Activity): (Upper Right on RJ-45) On = link; Flashing = Activity
Dimensions	Width: 1.8" [46 mm] Depth: 3.3" [85 mm] Height: 0.85" [22 mm]
Power Consumption	1.2 Watts
Power Input	Unit accepts 12 - 48 VDC or 24 – 36VAC (External power supplies sold separately)
Environment	Operating: -40°C to +75°C Storage: -40°C to +85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	0.40 lbs. [0.18 kg]
Compliance	FCC Class A, CISPR22/EN55022 Class A, EN55034, CE Mark
Warranty	Lifetime

Ordering Information

M/GE-ISW-SX-01
Hardened Mini 10/100/1000Base-T (RJ-45) to 1000Base-SX, SC, multimode, [62.5/125 um: 220 m/722 ft.] [50/125 um: 550 m/1804 ft.] Link Budget: 7.5 dB

M/GE-ISW-LC-01
Hardened Mini 10/100/1000Base-T (RJ-45) to 1000Base-SX, LC, multimode, [62.5/125 um: 220 m/722 ft.] [50/125 um: 550 m/1804 ft.] Link Budget: 8.0 dB

M/GE-ISW-LX-01
Hardened Mini 10/100/1000Base-T (RJ-45) to 1000Base-LX, SC, single mode, [10 km/6.2 mi.] Link Budget: 10.5 dB

M/GE-ISW-SFP-01
Hardened Mini 10/100/1000Base-T (RJ-45) to 100/1000Base-X Open SFP Slot

Optional Accessories (sold separately)

SPS-UA12DHT
12 VDC, 18W, External AC/DC Desktop Power Supply

25083
10.8 – 13.2 VDC, 24W, External AC/DC DIN Rail Mount Power Supply

WMBM
Wall Mount Bracket Mini

RMBM
Rack Mount Bracket for Mini Media Converters in the RMS19-SA4-02

SFP Modules
Supports Hardened Grade SFP Modules

M/GE-ISW-SFP-01-PD

Hardened Mini Powered Device Gigabit Ethernet Media Converter

10/100/1000Base-T to 1000Base-X

M/GE-ISW-SFP-01-PD

The M/GE-ISW-SFP-01-PD is a hardened Gigabit Ethernet Mini media converter that provides a cost effective media conversion between 10/100/1000Base-T ports and 100/1000Base-X ports for hardened or outdoor 10/100/1000 environments. The device is powered through the RJ-45 copper port in compliance with IEEE 802.3af standards, when connected to power sourcing equipment, meaning no separate power connection is required. With its supported operating temperature range of -40°C to +75°C, the Mini offers a space saving alternative for converting copper to fiber in extreme environments.

Ordering Information

M/GE-ISW-SFP-01-PD
PoE Powered Hardened Mini
10/100/1000Base-T (RJ-45) to
100/1000Base-X Open SFP Slot

Optional Accessories (sold separately)

SFP Modules
Supports Hardened Grade SFP Modules

Features

- IEEE 802.3af PD Power Input from RJ-45 TP interface
- Unit & Port LEDs allow for quick status information
- Auto-Negotiation
- Fixed Full-Duplex on Fiber
- Auto-MDI/MDIX on copper port
- Active Link Pass Through
- Jumbo Frame (up to 10240 bytes)
- DIN Rail clip and Velcro included

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3x IEEE 802.3af
Max Frame Size	10240 bytes
Status LEDs	PWR (Power): ON = Lit for normal operation FX-Link/Act (Fiber Link/Activity): On = link; Flashing = Activity TX-Link/Act (Copper Link/Activity): On = link; Flashing = Activity
Dimensions	Width: 1.8" [46 mm] Depth: 3.3" [85 mm] Height: 0.85" [22 mm]
Power Consumption	1.8 Watts
Power Input	IEEE 802.3af supplied through TP RJ-45
PoE Power Classification	Class 1 Powered Device (0.44 Watts - 3.84 Watts)
Environment	Operating: -40°C to +75°C Storage: -40°C to +85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	0.40 lbs. [0.18 kg]
Compliance	FCC Class A, CISPR22/EN55022 Class A, EN55024, CE Mark
Warranty	Lifetime

MIL-L100i

(1) Port PoE Mid-Span Injector

Transition Networks' Power-over-Ethernet solutions deliver a unified supply of data, voice, and video as well as electrical power through a single source by sending power over standard CAT5 and above twisted pair cables. Power-over-Ethernet simplifies installation and eliminates the need to run separate power cords and LAN cables to each Access Point or port locations.

Our PoE products provide organizations with affordable, easy-to-use solutions that enable them to migrate their network infrastructure to support a growing number of advanced cost-saving, performance enhancing applications, such as streamlining wireless, VoIP, Network IP camera deployments, and centralized power backup solutions. Whether on a factory floor or in an enterprise facility, running power to hard to reach locations with Transition Networks' Power-over-Ethernet solutions significantly reduces cabling and outlet requirements while providing the lowest total cost of ownership.

Ordering Information

MIL-L100i
(1) 10/100Base-T Port PoE Mid-Span Injector

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU
Ex: MIL-L100i-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- Ensures uninterrupted network operation by providing a "power safe" path to the user
- Intelligent detection process to detect Power-over-Ethernet enabled terminals and protect legacy endpoints
- Furnishes easy and cost-effective installation with fewer cables and electrical outlets
- Provides one central secure location for power
- IEEE 802.3af compliant
- Ensures safe delivery of power to existing legacy devices as well as power-enabled terminals
- Avoids altering existing wiring and does not damage cabling infrastructure already in place
- Power delivery over Ethernet cables does not cause data degradation or loss of data integrity
- Easiest way to add support of PoE to an existing network without replacing existing equipment

Specifications

Standards	IEEE 802.3af IEEE 802.3 IEEE 802.3u
Ports	(1) DATA IN RJ-45 Ethernet Port (1) DATA OUT PoE Injector RJ-45 Ethernet Port
Status LEDs	Power: PoE power is being injected into the Data Out port
Cable Requirements	10Base-T: 2-pair UTP/STP Cat.3,4, 5 cable EIA/TIA-568100-ohm(100 m) 100Base-TX: 2-pair UTP/STP Cat.5 cable EIA/TIA-568 100-ohm(100 m)
Dimensions	Width: 4.6" [117 mm] Depth: 2.3" [60 mm] Height: 1.3" [35 mm]
Power Output	-48 VDC, 300 mA
Power Input	AC 100~240V, 50~60 Hz, 0.3A
Environment	Operating: 0°C to 40°C Storage: 0°C to 70°C Humidity: 5% to 95% (non-condensing)
Weight	0.44 lbs. [0.2 kg]
Compliance	Safety: UL, cUL, CE/EN60950 Emissions: FCC Class B, CE Mark
Warranty	Lifetime

L1000i-at

(1) Port PoE+ Mid-Span Injector

Transition Networks' L1000i-at is a 1-port 10/100/1000Base-T PoE+ mid-span injector which provides a simple, cost-effective, fully IEEE 802.3at compliant solution to upgrade existing infrastructure with PoE+. Powering high-powered PoE+ enabled network devices, such as PTZ dome network cameras, can be done without the need to install power outlets and electrical cabling.

PoE technology allows IP phones, wireless access points, and security network cameras to receive power, along with data, over standard Ethernet cables, leaving the network infrastructure completely unaltered. PoE technology also allows for easier installation in areas where power cabling and outlets are unavailable, thereby reducing installation costs.

Mid-span injectors offer users the ability to take advantage of PoE technology while protecting investments they've made in purchasing, configuring, and deploying non-PoE supported devices such as standard Ethernet switches.

Ordering Information

L1000i-at
(1) 10/100/1000Base-T port PoE+ Injector

Power Supply Included

To order the corresponding country specific power supply, add the extension from the list below to the end of the SKU
Ex: L1000i-at-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- Power-over-Ethernet Injector for 10/100/1000Base-T
- Remote Power Feeding
- Overload and short circuit protection
- Mixes Ethernet and power on the RJ-45 port
- Delivers power up to 100 meters
- Light weight and compact size
- Plug-and-play
- IEEE 802.3at and IEEE 802.3af compliant

Specifications

Standards	IEEE 802.3 IEEE 802.3U IEEE 802.3ab IEEE 802.3af IEEE 802.3at
Ports	(1) DATA IN RJ-45 Ethernet Port (1) DATA OUT PoE Injector RJ-45 Ethernet Port
Status LEDs	AC Power Feeding Power
Cable Requirements	10Base-T: 2-pair UTP/STP Cat.3,4,5 cable EIA/TIA-568 100-ohm(100 m) 100Base-TX: 2-pair UTP/STP Cat.5 cable (Cat. 5e recommended); EIA/TIA-568 100-ohm(100 m) 1000Base-T: 4-pair UTP/STP Cat.5e or above cable; EIA/TIA-568 100-ohm, 100m
Dimensions	Width: 2.65" [65 mm] Depth: 5.51" [140 mm] Height: 1.42" [36 mm]
Power Input	AC input voltage range: 100 – 240 VAC; 50 – 60Hz 0.72A
Power Output	55V @ 0.6A
Environment	Operating: 0°C to 40°C Storage: -40°C to 70°C
Weight	1 lb. [0.45 kg]
Compliance	Safety: UL, cUL, CE/EN60950-1 Emissions: FCC Class B, CE Mark
Warranty	Lifetime

SI-IES-1200-LRT

Unmanaged Hardened PoE+ Injector

(1) 10/100/1000Base-T Port + (1) 10/100/1000Base-T PoE+ Port

The SI-IES-1200-LRT is an unmanaged hardened PoE+ injector that adds up to 30 Watts of power on a network segment. Injectors are commonly used to power PoE devices in locations where a power source does not exist. The injector has redundant input power connections, and a fault alarm relay to ensure safe reliable operation in temperatures between -40°C and +75°C.

Transition Networks' hardened PoE injectors are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other challenging environments.

Ordering Information

SI-IES-1200-LRT
(1) 10/100/1000Base-T Port
+ (1) 10/100/1000Base-T PoE+ Port

Optional Accessories (sold separately)

Industrial Power Supplies:

25130
Input: 85-264VAC, 120-370VDC
Output: 48VDC, .83A, 39.8 Watts

Features

- IEEE 802.3at PoE+ to supply 30 Watts
- IEEE 802.3af Compatible
- Non-blocking architecture
- Compact size
- IP30 housing protection
- Link Pass Through
- Extended operating temperature (-40°C to 75°C)
- DIN Rail mount / optional wall mount brackets included

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3ab IEEE 802.3at IEEE 802.3af
Connectors	(1) DATA IN RJ-45 Ethernet Port (1) DATA OUT PoE+ RJ-45 Ethernet Port 30 Watts
Status LEDs	PWR1 (Power): ON=primary power connected PWR2 (Power): ON=backup power connected
Dimensions	Width: 1.2" [30 mm] Depth: 3.7" [95 mm] Height: 5.5" [140 mm]
Power Consumption	3.53 Watts (No PoE) 33.36 Watts (1 port PoE)
Power Input	24-48VDC
Ingress Protection	IP30
Environment	Operating: -40°C to 75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1.3 lbs. [0.59 kg]
Compliance	Safety: UL508 FCC Class A, CE Mark, EN61000-4, EN61000-6-2, EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6(CS) EN61000-4-8 (Magnetic Field), IEC60068-2-27(Shock), IEC60068-2-32 (Free fall), IEC60068-2-6 (Vibration)
Warranty	Lifetime

SI-IES-111D-LRT

Unmanaged Hardened PoE+ Injector/Converter

(1) 100/1000Base-X SFP Slot + (1) 10/100/1000Base-T PoE+ Port

The SI-IES-111D-LRT is a (2) port unmanaged hardened PoE+ injector that adds up to 30 Watts of power from it's PoE+ Port onto a network segment. The gigabit speed SFP slot provides the ultimate flexibility by allowing fiber SFP uplink ports with varying communication distances.

Ordering Information

SI-IES-111D-LRT
(1) 100/1000Base-X SFP Slot
+ (1) 10/100/1000Base-T PoE+ Port

Optional Accessories (sold separately)
Industrial Power Supplies:

25130
Input: 88-264VAC, 120-370VDC
Output: 48-55VDC, 0.83A, 39.8Watts

25131
Input: 88-264VAC, 124-370VDC
Output: 48-55VDC, 1.6A, 76.88Watts

Features

- IEEE 802.3at PoE+ to supply 30 Watts on 10/100/1000Base-T port
- IEEE 802.3af Compatible
- Supports dual speed for SFP slot
- Non-blocking architecture
- Compact size
- IP31 housing protection
- Link Pass Through
- Extended operating temperature (-40°C to 75°C)
- DIN Rail mount / optional wall mount brackets included
- Supports full/half-duplex flow control
- Supports Auto-MDI/MDIX
- Supports Auto-Negotiation
- Supports store-and-forward transmission
- Supports 10K byte jumbo frames

Specifications

Standards	IEEE 802.3 IEEE 802.3x IEEE 802.3u IEEE 802.3ab IEEE 802.3at IEEE 802.3z IEEE 802.3af
Max Frame Size	10K byte jumbo frames
Connectors	(1) DATA IN SFP Ethernet Port (1) DATA OUT PoE+ RJ-45 Ethernet Port 30 Watts
Status LEDs	Copper Port: Link/ACT Copper Port: Gigabit Transmission SFP Port: Link/ACT PoE Power Input Power
Dimensions	Width: 1.44" [36.7 mm] Depth: 3.72" [94.5 mm] Height: 4.26" [108.4 mm]
Power Consumption	3.53 Watts (No PoE) 32.725 Watts (1 port PoE)
Power Input	48-57VDC Higher Voltage (50-53VDC) may be required for some high powered PD loads
Ingress Protection	IP31
Environment	Operating: -40°C to 75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1.3 lbs. [0.59 kg]
Compliance	Safety: UL508 Class I, Division 2, Groups A, B, C, and D Hazardous Locations, FCC Class A, CE Mark, EN61000-4, EN61000-6-2, EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6(CS) EN61000-4-8 (Magnetic Field), EN61000-6-4 (EMC), IEC60068-2-27(Shock), IEC60068-2-32 (Free fall), IEC60068-2-6 (Vibration) IEC61850-3
Warranty	Lifetime

+1.952.941.7600 | www.transition.com | sales@transition.com

SI-IES-121D-LRT

Unmanaged Hardened PoE+ Injector/Converter

(1) 100/1000Base-X SFP Slot + (2) 10/100/1000Base-T PoE+ Ports

The SI-IES-121D-LRT is a (3) port unmanaged hardened PoE+ injector / converter that adds up to 30 Watts of power from its (2) PoE+ ports onto 2 network segments. The gigabit speed SFP slot provides the ultimate flexibility by allowing fiber SFP uplink ports with varying communication distances.

Ordering Information

SI-IES-121D-LRT
(1) 100/1000Base-X SFP Port
+ (2) 10/100/1000Base-T PoE+ Ports

Optional Accessories (sold separately)

Industrial Power Supplies:

25131
Input: 88-264VAC, 124-370VDC
Output: 48-55VDC, 1.6A, 76.88 Watts

Features

- IEEE 802.3at PoE+ to supply 30 Watts per port
- IEEE 802.3af Compatible
- Supports dual speed for SFP slot
- Non-blocking architecture
- Compact, space saving size
- IP31 housing protection
- Link Pass Through
- Extended operating temperature (-40°C to 75°C)
- DIN Rail mount / optional wall mount brackets included
- Supports full/half-duplex flow control
- Supports Auto-MDI/MDIX
- Supports Auto-Negotiation
- Supports store-and-forward transmission
- Supports 10K byte jumbo frames

Specifications

Standards	IEEE 802.3 IEEE 802.3x IEEE 802.3u IEEE 802.3ab IEEE 802.3at IEEE 802.3z IEEE 802.3af
Max Frame Size	10K byte jumbo frames
Connectors	(1) DATA IN SFP Ethernet Port (2) DATA OUT PoE+ RJ-45 Ethernet Port 30 Watts
Status LEDs	Copper Port: Link/ACT Copper Port: Gigabit Transmission SFP Port: Link/ACT PoE Power Input Power
Dimensions	Width: 1.44" [36.7 mm] Depth: 3.72" [94.5 mm] Height: 4.26" [108.4 mm]
Power Consumption	3.53 Watts (No PoE) 63.5 Watts (2 ports PoE)
Power Input	48-57VDC Higher Voltage (50-53VDC) may be required for some high powered PD loads
Ingress Protection	IP31
Environment	Operating: -40°C to 75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1.3 lbs. [0.59 kg]
Compliance	Safety: UL508 Class I, Division 2, Groups A, B, C, and D Hazardous Locations, FCC Class A, CE Mark, EN61000-4, EN61000-6-2, EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6(CS), EN61000-6-4 (EMC), EN61000-4-8 (Magnetic Field), IEC60068-2-27(Shock), IEC60068-2-32 (Free fall), IEC60068-2-6 (Vibration) IEC61850-3
Warranty	Lifetime

25148

Industrial Power Supply

25148

Features

- Universal AC input/full range
- 3 pole AC inlet IEC320-C14
- Built-in active power factor controller function
- Industrial (-30°C to +70°C) operating temperature
- No load power consumption ≤0.15 Watts
- Energy efficiency Level VI
- Compliant with EIASA 2007/DoE, NRCan, AU/NZ MEPS, EU ErP and CoC Version 5
- Class 1 power (with earth pin)
- Short circuit/overload/over voltage/over temperature protection
- Fully enclosed 94V-0 flame retardant plastic case
- LED power on indicator

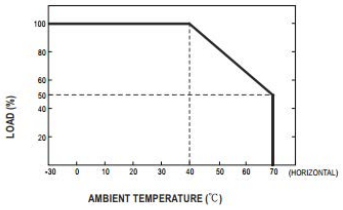
Specifications

Connector	4-pin DIN plug (see plug assignment)
Cable	UL1185 16AWG
Output Voltage	48V (Output voltage set at point measure by plug terminal +50% load)
Rated Current	1.87A
Current Range	0-1.87A
Rated Power	90W (max)
Ripple & Noise	240mVp-p (max) (Measured at 20MHz by using a 12" twisted pair terminated with a 0.1uf &47uf capacitor)
Voltage Tolerance	±2.5% (Includes set up tolerance, line regulation, load regulation)
Line Regulation	±1.0% (Line regulation is measured from low line to high line at rated load)
Load Regulation	±2.5%
Setup, Rise Time	1000ms, 50ms/230VAC; 1000ms, 50ms/115VAC at full load (Length of setup time is measured at first cost start. Turning ON/OFF the power supply may lead to increase of the setup time)
Hold Up Time	20ms/230VAC typ; 20ms/115VAC at full load typical
Input Voltage	90-264VAC, 127-370VDC (Derating may be needed under low input voltages. Check the derating curve for more details.)
Input Frequency Range	47-63 Hz
Power Factor	PF>0.91/230VAC typical; PF>0/95/115VAC at full load typical
Efficiency	91% typical
AC Current	1.3A/115VAC typical; 0.6A/230VAC typical
Inrush Current	70A/230VAC (max)
Leakage Current	1mA/240VAC (max)
Withstand Voltage	I/P-O/P: 3KVAC, I/P-FG: 2KVAC. O/P-FG: 0.5KVAC
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100M Ohms/500VDC/25°C/70%RH
Protection	Overload: 110-150% rated output power (Hiccup mode, recovers automatically after fault condition is removed) Overvoltage: 105-135% rated output voltage (Shut down o/p voltage, re-power on to recover) Over Temperature: Shut down o/p voltage, re-power on to recover
Dimensions	Width: 5.71" [145 mm] Depth: 2.36" [60 mm] Height: 1.26" [32 mm]
Environment	Operating: -30°C to +70°C (See derating curve) Storage: -40°C to +85°C Humidity: 20% to 90% (non-condensing)
Weight	0.99 lbs. [0.45 kg]
MTBF	348.7K hours min MIL-HDBK-217F (25°C)
Vibration	10-500Hz, 2G 10min/1 cycle period for 60 min each along X,Y,Z axes
Compliance	Safety: UL60950-1, CSA C22.2, TUV EN60950-1, BSMI CNS 14336, CCC Gb4943, PSE J60950-1, AS/NZS 60950.1 approved Emmisions: EN55022 class B, EN61000-3-2,3, FCC Part 15/CISPR22 class B, CNS13438 class B, GB9254, GB17625.1 Immunity: EN61000-4-2,3,4,5,6,8,11 light industry level, criteria A

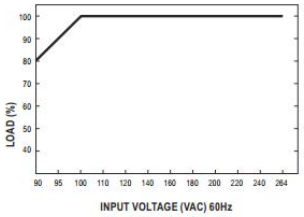
Ordering Information

25148
90 ~ 264 VAC; 127 ~ 370 VDC
(Country specific power cord included)

■ Derating Curve



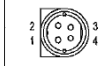
■ Static Characteristics



■ Plug Assignment

DC plug: power DIN 4 pin with lock type

KYCON KPPX-4P



Pin No.	OUTPUT
1, 2	+V
3, 4	-V
Shell	NC

Switches

Enterprise Switching Built for a High Level of Service and Reliability

You need your enterprise network to do more, for more users, for less. As a result, new technologies may have outpaced your cabling infrastructure. You could begin an expensive upgrade of your cabling plant, or, you could use Transition Networks solutions to migrate to a fiber-based cabling system at a fraction of the cost.

Transition Networks' portfolio of multilayer Ethernet switching products are designed to facilitate low-cost network evolution by allowing customers to only pay for the port counts and features they need. Our switching portfolio offers customers unique configurations and a high level of service and reliability, all while serving to ease network stress caused by high bandwidth demand and applications requiring advanced capacity to run them.

Transition Networks solutions can link new fiber cabling with legacy copper-based network devices – including RJ-45 based switches, routers, and NICs – to greatly reduce the expense of a fiber upgrade while improving bandwidth, distance and security throughout the network.

Hardened Ethernet Devices - Built to Perform

Transition Networks is an industry leader with over 30 years experience designing fiber integration products which affordably deliver the reliability that today's industrial networks require. With unparalleled experience serving the unique needs of our customers, world-class 24/7 support, and a Lifetime Hardware Warranty, Transition Networks is the choice for cost-effective fiber integration, extending from the office to the factory floor, and other environments where the need for performance in extended temperatures is critical.

Our hardened Ethernet switches and media converters all provide interoperable networking solutions that will operate under extreme conditions, improve network performance and reduce operational expenses. Providing Class 1, Div 2 certified products for hazardous environments; shock, vibration and temperature enduring products for transportation networks; and intelligent products that meet security protocols for maximum protection and control in utility and process networks, Transition Networks offers the ability to affordably integrate the benefits of fiber optics into any data network – in any application – in any environment.

S8TXA

Unmanaged Fast Ethernet Switch

(8) 10/100Base-TX Ports

This is a (8) 10/100Base-TX port compact switch with an internal power supply. This switch Auto-Negotiates 10/100Mbps connections for fast and simple switching in workgroup, small office and home environments.

Ordering Information

S8TXA
(8) 10/100Base-TX ports

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: S8TXA-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- Small Form Factor
- Internal Power Supply
- Auto-Negotiation
- Auto-MDI/MDIX
- Supports IEEE 802.3x flow control for full-duplex and back pressure flow control for half-duplex
- Wire-speed packet filtering and forwarding rate
- Supports IEEE 802.3az energy efficient Ethernet

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3az IEEE 802.3x
Connectors	(8) 10/100 RJ-45
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
MAC Address	2K MAC address table
Memory Buffer	96K bytes
Status LEDs	1 power LED (Power: Green) 8 port LEDs Link / Activity (Green)
Backplane	1.6 Gbps
Dimensions	Width: 7.6" [193 mm] Depth: 3.31" [84 mm] Height: 1.02" [26 mm]
Power Consumption	1.72 Watts (max)
Power Input	Internal Power: 100 - 240VAC
Environment	Operating: 0°C to 40°C Humidity: 10% to 90% (non-condensing)
Weight	9.6 lbs. [4.35 kg]
Compliance	Safety: LVD Emissions: FCC Class A, CE Mark, UL Listed, KCC
Warranty	Lifetime

S8TB

Unmanaged Gigabit Ethernet Switch

(8) 10/100/1000Base-T Ports

This (8) 10/100/1000Base-T port switch with Auto-MDI/MDIX is an unmanaged multi-port Switch that can be used to build high-performance switched networks. This switch is a store-and-forward device that offers low latency for high speed networking. The switch is designed for the core of the network backbone computing environment to solve traffic block problems at SME (small, medium enterprise) business.

Ordering Information

S8TB
(8) 10/100/1000Base-T ports

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: S8TB-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- Small Form Factor
- Internal Power Supply
- Auto-Negotiation
- Auto-MDI/MDIX
- Supports full and half-duplex for 10/100Mbps and full-duplex for 1000Mbps
- Wire-speed packet filtering and forwarding rate
- Support Jumbo Frame up to 9K bytes
- Supports IEEE 802.3az energy efficient Ethernet

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3ab IEEE 802.3az
Connectors	(8) 10/100/1000 RJ-45
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
MAC Address	8K MAC address table
Memory Buffer	128K bytes
Status LEDs	(8) port LEDs speed (Green: 1000Mbps, Amber 10/100 Mbps), Link/Activity (flashing)
Backplane	16 Gbps
Dimensions	Width: 3.94" [100 mm] Depth: 6.3" [160 mm] Height: 1.28" [32.5 mm]
Power Consumption	3.5 Watts (max)
Power Input	Internal Power: 100 - 240VAC
Environment	Operating: 0°C to 40°C Humidity: 10% to 90% (non-condensing)
Weight	9.6 lbs. [4.35 kg]
Compliance	Safety: LVD Emissions: FCC Class B, CE Mark, UL Listed, CCC
Warranty	Lifetime

SM4T4DPA

Managed Layer 2 Gigabit Ethernet Switch

(4) 10/100/1000Base-T Ports + (4) 100/1000Base-X SFP Slots

This switch is a high performance Layer 2 managed switch with (4) 10/100/1000Base-T copper ports and (4) dual speed 100/1000Base-X SFP slots.

Ordering Information

SM4T4DPA
(4) 10/100/1000Base-T ports
+ (4) 100/1000Base-X SFP slots

Optional Accessories (sold separately)

SFP Modules

Mounting Brackets

RMSM4-01
19“ Rack Mount Bracket

BRSM8-01
Wall Mount Bracket

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM4T4DPA-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- Supports Jumbo Frame up to 9K bytes
- Authentication – RADIUS 802.1x, TACACS+
- Security - Supports SSH/SSL
- Port based or tagged (802.1Q) VLAN, QinQ double tag VLAN, Guest VLAN
- Bandwidth Allocation Ingress and Egress
- DHCP Snooping including option 82
- IP-MAC binding for security
- ACL based on Ethernet Type / ARP / IPv4 for packets permit or deny, rate limitation and port copy
- LLDP (Link Layer Discovery Protocol)
- SYSLOG for device management
- IEEE 802.3az Energy Efficiency
- Single IP management

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad IEEE 802.1AB
Connectors	(1) RJ-45 Console port (4) 10/100/1000 RJ-45 ports (4) 100/1000 SFP slots
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
MAC Address	8K MAC address table
Backplane	16 Gbps
Dimensions	Width: 8.66” [220 mm] Depth: 6.26” [159 mm] Height: 1.69” [44 mm]
Power Input	Internal power: 100-240VAC
Environment	Operating: 0°C to 40°C Humidity: 5% to 90% (non-condensing)
Weight	3.85 lbs. [1.75 kg]
Compliance	Safety: LVD Emissions: FCC Class A, CE
Warranty	Lifetime

Features (Continued)

- Web Management, SNMP V1/V2c/V3, Telnet, CLI
- Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP).
- Support IGMP Snooping V1/V2/V3, IGMP Proxy and GVRP
- Supports 8 hardware queues with Strict priority and WRR. Per port bandwidth management
- Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- Port Based VLAN, IEEE 802.1Q tag-based, 4096 VLAN entries, MAC-based VLAN, Private VLAN Edge, Priority VLAN override
- Firmware Update, configure backup/restore through Web GUI and TFTP
- Support IPv4/IPv6 dual protocol stack
- Redundant Ring Protection Protocol

SM10T2DPA

Managed Layer 2 Gigabit Ethernet Switch

(8) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP/RJ-45 Combo Ports

This switch is a high performance Layer 2 managed switch with (8) 10/100/1000Base-T copper ports and (2) dual speed 100/1000Base-X SFP/RJ-45 Combo ports.

Key benefits include: secure and high performance connections, flexible copper/fiber dual uplinks, and unified communications with open standard.

Ordering Information

SM10T2DPA
(8) 10/100/1000Base-T ports
+ (2) 100/1000Base-X SFP/RJ-45 combo ports

Optional Accessories (sold separately)

SFP Modules

Mounting Brackets

RMSM8-01
19" Rack Mount Bracket

BRSM8-01
Wall Mount Bracket

Features

- Support Jumbo Frame up to 9K bytes
- Authentication – RADIUS 802.1x, TACACS+
- Security - Support SSH/SSL
- Port based or tagged (802.1Q) VLAN, QinQ double tag VLAN, Guest VLAN
- Bandwidth Allocation Ingress and Egress
- DHCP Snooping including option 82
- IP-MAC binding for security
- ACL based on Ethernet Type / ARP / IPv4 for packets permit or deny, rate limitation and port copy
- LLDP (Link Layer Discovery Protocol)
- SYSLOG for device management
- IEEE 802.3az Energy Efficiency

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad IEEE 802.1AB
Connectors	(1) RJ-45 Console Port (8) 10/100/1000 RJ-45 ports (2) 100/1000 SFP/RJ-45 ports
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
MAC Address	8K MAC address table
Backplane	20 Gbps
Dimensions	Width: 11.02" [280 mm] Depth: 6.53" [166 mm] Height: 1.73" [44 mm]
Power Input	Internal power: 100-240VAC
Environment	Operating: 0°C to 40°C Humidity: 5% to 90% (non-condensing)
Weight	4.2 lbs. [1.90 kg]
Compliance	Safety: LVD Emissions: FCC Class A, CE
Warranty	Lifetime

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM10T2DPA-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features (Continued)

- Web Management, SNMP V1/V2c/V3, Telnet, CLI
- Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP).
- Support IGMP Snooping V1/V2/V3, IGMP Proxy and GVRP
- Supports 8 hardware queues with Strict priority and WRR. Per port bandwidth management
- Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- Port Based VLAN, IEEE 802.1Q tag-based, 4096 VLAN entries, MAC-based VLAN, Private VLAN Edge Priority VLAN override
- Firmware Update, configure backup/restore through Web GUI and TFTP
- Support IPv4/IPv6 dual protocol stack

SM24T6DPA

Managed Layer 2 Gigabit Ethernet Switch

(20) 10/100/1000Base-T Ports + (4) 100/1000Base-X SFP/RJ-45 Combo Ports + (2) 100/1000Base-X SFP Slots

This switch is a high performance Layer 2 managed switch with 52Gbps switching capacity. It provides (20) 10/100/1000 copper ports, (4) 100/1000Base-X SFP/RJ-45 Combo Ports, and (2) 100/1000Base-X dual speed SFP slots.

Ordering Information

SM24T6DPA
(20) 10/100/1000Base-T ports
+ (4) 100/1000Base-X SFP/RJ-45 Combo ports
+ (2) 100/1000Base-X SFP slots
(19" Rack Mount Brackets Included)

Optional Accessories (sold separately)

SFP Modules

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM24T6DPA-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- Support IPv4/IPv6 dual protocol stack
- Support Jumbo Frame up to 9K bytes
- Authentication – RADIUS 802.1x, TACACS+
- Security - Support SSH/SSL
- Port based or tagged (802.1Q) VLAN, MAC based VLAN, Management VLAN and Private VLAN Edge
- DHCP Relay including option 82
- L2/L3/L4 ACLs Support MAC ACL, IP standard/extended ACL
- LLDP (Link Layer Discovery Protocol)
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security
- DHCP Server
- Device Management System (DMS): Graphic Monitoring, Grouping, Traffic Monitoring

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ab IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad
Connectors	(1) RJ Console Port (20) 10/100/1000 RJ-45 ports (4) 100/1000 SFP/RJ-45 Combo ports (2) 100/1000 SFP slot
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
MAC Address	8K MAC address table
Backplane	52 Gbps
Dimensions	Width: 17.4" [442 mm] Depth: 8.3" [211 mm] Height: 1.73" [44 mm]
Power Input	100 - 240VAC
Environment	Operating: 0°C to 50°C Humidity: 5% to 90% (non-condensing)
Weight	5.3 lbs. [2.4 kg]
Compliance	Safety: IEC 60950-1 EMC: EN55022 Class A, IEC61000-3, EN55025, IEC61000-4, CISPR PUB.22 Class A, FCC Part 15, ICES-003 Class A
Warranty	Lifetime

Software Features

- Management: Web Management, SNMP V1/V2c/V3, Telnet, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk.
- IGMP: Support IGMP Snooping V1/V2/V3, GVRP, IGMP Proxy, and IGMP Querier
- Quality of Service: Supports 8 egress queues per port enable differentiated management of up to 8 traffic types across the stack. Strict priority and WRR
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC-based VLAN, Private VLAN, Guest VLAN, Voice VLANs and Management VLAN
- IPv4 / IPv6 Static Routing
- Firmware Update, configure backup/restore through TFTP and HTTP

SM24DPB

Managed Layer 2 Gigabit Ethernet Switch

(20) 100/1000Base-X SFP Slots + (4) 100/1000Base-X SFP/RJ-45 Combo Ports

This switch is a high performance Layer 2 managed switch with 48Gbps switching capacity. It provides up to (24) dual speed fiber slots. It's an ideal switch for fiber connectivity applications.

Ordering Information

SM24DPB
(20) 100/1000Base-X SFP slots
+ (4) 100/1000Base-X SFP/RJ-45 Combo Ports
19" Rack Mount Ears included

Optional Accessories (sold separately)

SFP Modules

Features

- Supports IPv4/IPv6 dual protocol stack
- Supports Jumbo Frames up to 9K bytes
- Authentication: RADIUS 802.1x, TACACS+
- Security: Supports SSH/SSL
- Port based or tagged (802.1Q) VLAN, MAC based VLAN, Management VLAN and Private VLAN Edge
- DHCP Relay including option 82
- L2/L3/L4 ACLs Supports MAC ACL, IP standard/extended ACL
- LLDP (Link Layer Discovery Protocol)
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security

Device Management System (DMS)

- Graphical Monitoring – Topology View, Floor view, Map view
- Traffic Monitoring
- Troubleshooting – Network diagnostic, protection mechanism, performance and link management

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad
Protocols	CSMA/CD
Technology	Store-and-Forward switching architecture
Connectors	(1) RJ Console Port (20) 100/1000 SFP slots (4) 100/1000 SFP/RJ-45 Combo ports
MAC Addresses	32K MAC address table
Backplane	48Gbps
Dimensions	Width: 17.4" [442 mm] Depth: 8.31" [211 mm] Height: 1.73" [44 mm]
Power Consumption	12 Watts
Power Input	100 - 240 VAC 24 - 54 VDC
Environment	Operating: -20°C to +60°C Humidity: 5% to 90% (non-condensing)
Weight	6.83 lbs. [3.1 kg]
Compliance	Safety: IEC60950; EMI: FCC Class A, CE Mark
Warranty	Lifetime

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM24DPB-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Software Features

- Management: Web Management, SNMP V1/V2c/V3, Telnet, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk
- IGMP: Supports IGMP Snooping V1/V2/V3, GVRP, IGMP Proxy, and IGMP Querier
- Quality of Service: Supports 8 egress queues per port enable differentiated management of up to 8 traffic types across the stack. Strict priority and WRR
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC-based VLAN, Private VLAN, Guest VLAN, Voice VLANs and Management VLAN
- IPv4 / IPv6 Static Routing
- Firmware Update, configure backup/restore through TFTP and HTTP
- AC/DC Dual Power Supply

SM12DP2XA

Managed Gigabit Ethernet Fiber Switch

(12) 100/1000Base-X SFP Slots + (2) 1G/10GBase-X SFP+ Slots + (2) 10/100/1000Base-T RJ-45 Ports

This switch is a next generation fully managed fiber switch with 68Gbps switching capacity. It provides (12) 100/1000 dual speed SFP slots, (2) 1G/10G SFP+ slots and 2 additional Gigabit RJ-45 ports.

Ordering Information

SM12DP2XA
(12) 100/1000Base-X SFP Slots
+ (2) 1G/10GBase-X SFP+ Slots
+ (2) 10/100/1000Base-T RJ-45 Ports
(includes 19" rack mount brackets)

Optional Accessories (sold separately)

SFP Modules

Power Supplies (sold separately)

25130
Input: 88 -264VDC, 120-370VDC
Output: 48VDC, 39.8 Watts, -20°C to +70°C

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM12DP2XA-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- IPv6 Management
- Support Jumbo Frame up to 9K bytes
- Authentication – RADIUS, TACACS+
- IEEE 802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions
- DHCP Relay, DHCP Option 82, DHCP Snooping, DHCP Server
- L2/L3/L4 ACLs Support MAC, VLAN ID or IP, protocol, port, DSCP/IP precedence/TCP.UDP, Ether Type, ICMP, TCP flag
- LLDP (Link Layer Discovery Protocol)
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security
- Port Mirroring
- Firmware Update through TFTP/HTTP and console
- Syslog

Software Features

- Management: Web Management, SNMP V1/V2c/V3, SSH, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk
- Multicast: Support IGMP Snooping V1/V2/V3, IGMP Proxy, IGMP Querier, MVR, and MLD Snooping V1/V2
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad IEEE 802.1AB
Connectors	(12) 100/1000 SFP (2) 1G/10G SFP+ (2) 10/100/1000 RJ-45 Ports
Protocols	CSMA/CD
Technology	Store-and-Forward switching architecture
MAC Address	32K MAC address table
Backplane	68 Gbps
Dimensions	Width: 11.02" [280 mm] Depth: 5.28" [134 mm] Height: 1.73" [44 mm]
Power Input	100-240VAC (on the front) or 24/48VDC
Power Consumption	24 Watts (max)
Environment	Operating: -20°C to +60°C Humidity: 10% to 90% (non-condensing)
Weight	2.2 lbs. [1.0 kg]
Compliance	FCC Class A, CE Safety: UL Listed
Warranty	Lifetime

Software Features Cont.

- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC-based VLAN, Private VLAN, Voice VLANs and Management VLAN
- Quality of Service: Supports 8 hardware queues
  - Scheduling: Strict priority and WRR, Queue assignment based DSCP and class of service
  - Classification: Port based, 802.1p VLAN priority based, IPv4/IPv6 precedence/DSCP based, DiffServ, Classification and re-marking
  - Rate Limiting: Ingress policer, Egress shaping, rate control and per port
- IPv4/IPv6 Static Routing
- Device Management System: Graphic Monitoring, Grouping, Traffic Monitoring

S4224 Series

Managed 10 Gigabit Ethernet Access/Aggregation Switch

(24) 100/1000Base-X SFP Slots + (4) 1000Base/10GBase-X SFP+ Slots

Transition Networks' Carrier Ethernet solution delivers the promise of simplicity deployed. This comprehensive solution includes CE 2.0 compliant demarcation devices, access switches, and the Converge™ element and service management platform.

With the goal of enabling new service generating revenue, Transition Networks' S4224 access switch with (24) 100/1000Base SFP slots and (4) 1000Base/10G uplinks is designed to support a wide range of MEF-based Carrier Ethernet services for Mobile Backhaul, Business Ethernet, Cloud Assurance and Carrier Exchange E-Access Services.

Ordering Information

S4224
(24) 100/1000Base-X SFP slots with
(4) 1000Base/10GBase-X SFP+ slots
Includes 19" Rack Mount ears

Optional Accessories (sold separately)

SFP Modules
SFPs, copper Ethernet cables and fiber patch cables

Power Supplies

CES-PSU-AC
AC power supply for S4140 and S4224
(100-250 VAC)

CES-PSU-DC
DC power supply for S4140 and S4224
-21VDC to -72VDC / +21VDC to +72VDC

Features

- (24) 100/1000Base SFP slots
- (4) 1000/10GBase Dual Speed SFP+ slots; Any port can be network or client
- E-Line (EPL and EVPL)
  E-LAN (EP-LAN and EVP-LAN)
  E-Access (Access EPL and EVPL)
- Blended Ethernet Service Activation testing supporting RFC2544 and "services" testing via EVC bandwidth policies or CoS ingress and egress tags with 1-way delay measurements reported in 1-milliseconds
- Hardware based Precision Time Protocol 1588v2 with clock off-set reporting and monitoring between grandmaster and slave with nanosecond accuracy.
- Multi-CoS 802.1p and IPv4/IPv6 DiffServ/TOS to ensure any level of service between operator and customer networks
- Hardware based Service OAM (IEEE 802.1ag) and Performance Monitoring (ITU Y.1731) ensure accurate service performance delivery with two and one-way delay measurement reporting.

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad IEEE 802.1AB IEEE 802.3ah IEEE 802.1ag IEEE 1588-2008 ITU G.8261 ITU Y.1731 PM
Data Rate	100/1000Mbps and 10G
Max MAC Address	32K
Max Frame Size	10,056bytes
Status LEDs	Power, Port Activity, Port Duplex
Dimensions	Width: 17.38" [441.33 mm] Depth: 10" [254 mm] Height: 2.63" [66.68 mm]
Power Supply	Redundant, hot-swappable AC 100-250 VAC DC 21-72 VDC
Environment	Operating: 0°C to 50°C
Compliance	Safety: UL listed EMI: EN55022 Class A, CE
Warranty	5 Years Hardware

Features Continued

- Bandwidth policies enforced by rate limiting the port, VLAN ID or EVC with configurable CIR, CBS, EIR, EBS, with real-time green/yellow/red/discarded frame monitoring
- ITU G.8031 linear APS and G.8032 (v1 and v2) rings offer sub 50ms failover
- Strong security authentication/ verification including SSH/SSL RSA/ DSA certificate generation, TACACS+, RADIUS, HTTPs, SNMP v1, v2c and v3 , up to 15 different levels of user administrative access rights
- IPv6 and IPv4 dual-stack addressing
- Dual firmware banks/images
- Configuration backup/restore
- Dying / Last gasp
- Industry Standard CLI
- InterVLAN routing

SM8TAT2SA

Smart Managed Gigabit Ethernet PoE+ Switch

(8) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP Slots

This switch is a next generation smart managed switch with 20Gbps switching capacity. It provides (8) 10/100/1000Base-T copper ports with IEEE 802.3at PoE+ capability and (2) additional 100/1000 dual speed SFP slots. The embedded Device Management System (DMS) software provides the benefits of ease of use in IP surveillance, Wireless Access Point and other applications. The DMS capability built into the switch provides time-saving features enabling security integrators or network administrators to establish and document a baseline deployment, automatically discover and remotely configure attached IP-powered devices (PDs).

Ordering Information

SM8TAT2SA
(8) 10/100/1000Base-T Ports
+ (2) 100/1000Base-X SFP Slots
(includes 19" rack mount brackets)

Optional Accessories (sold separately)

SFP Modules

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM8TAT2SA-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- IPv6 Access Management
- Support Jumbo Frame up to 9K bytes
- Authentication – RADIUS, TACACS+
- DHCP Relay, DHCP Snooping, DHCP Server
- L2/L3/L4 ACLs Support MAC ACL, IP standard/extended ACL
- LLDP (Link Layer Discovery Protocol)
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security
- Syslog

PoE Features

- Compliant with IEEE 802.3at PoE+
- Compliant with IEEE 802.3af PoE
- PoE configuration
- Auto Power Reset (APR)

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad IEEE 802.1AB IEEE 802.3af IEEE 802.3at
Connectors	(8) 10/100/1000 RJ-45 (2) 100/1000 SFP
Protocols	CSMA/CD
Technology	Store-and-Forward switching architecture
MAC Address	8K MAC address table
Backplane	20 Gbps
Dimensions	Width: 8.66" [220 mm] Depth: 9.53" [242 mm] Height: 1.73" [44 mm]
Power Input	100-240VAC
Power Consumption	147 Watts (full load with PoE)
Power-over-Ethernet	Max PoE budget 130 Watts 30 Watts for (4) ports simultaneously 15.4 Watts for (8) ports simultaneously
Surge Protection	6KV
Environment	Operating: 0°C to +50°C Humidity: 10% to 90% (non-condensing)
Weight	4.4 lbs. [2.0 kg]
Compliance	FCC Class A, CE Safety: IEC60950, UL Listed
Warranty	Lifetime

Software Features

- Management: Web Management, SNMP V1/V2c/V3, Telnet, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk.
- Multicast: Support IGMP Snooping V1/V2, MVR, MLD Snooping V1/V2
- Quality of Service: Supports 8 hardware queues. Strict priority and WRR, Ingress policer, Egress shaping and per port rate limiting
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC based VLAN, Private VLAN
- Firmware Update through TFTP and HTTP
- Device Management System (DMS)
  - Graphical Monitoring: Topology view, Floor view, Map View
  - Grouping, Batch update
  - Find my switch
  - Traffic Monitoring

SM16TAT2SA

Smart Managed Gigabit Ethernet PoE+ Switch

(16) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP Slots

This switch is a next generation smart managed switch with 36Gbps switching capacity. It provides (16) 10/100/1000Base-T copper ports with IEEE 802.3at PoE+ capability and (2) additional 100/1000 dual speed SFP slots. The embedded Device Management System (DMS) software provides the benefits of ease of use in IP surveillance, Wireless Access Point and other applications. The DMS capability built into the switch provides time-saving features enabling security integrators or network administrators to establish and document a baseline deployment, automatically discover and remotely configure attached IP-powered devices (PDs).

Ordering Information

SM16TAT2SA
(16) 10/100/1000Base-T Ports
+ (2) 100/1000Base-X SFP Slots
(includes 19" rack mount brackets)

Optional Accessories (sold separately)

SFP Modules

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM16TAT2SA-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- IPv6 Access Management
- Support Jumbo Frame up to 9K bytes
- Authentication – RADIUS, TACACS+
- DHCP Relay, DHCP Snooping, DHCP Server
- L2/L3/L4 ACLs Support MAC ACL, IP standard/extended ACL
- LLDP (Link Layer Discovery Protocol)
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security
- Syslog

PoE Features

- Compliant with IEEE 802.3at PoE+
- Compliant with IEEE 802.3af PoE
- PoE configuration
- Auto Power Reset (APR)

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad IEEE 802.1AB IEEE 802.3af IEEE 802.3at
Connectors	(16) 10/100/1000 RJ-45 (2) 100/1000 SFP
Protocols	CSMA/CD
Technology	Store-and-Forward switching architecture
MAC Address	8K MAC address table
Backplane	36 Gbps
Dimensions	Width: 17.4" [442 mm] Depth: 8.3" [211 mm] Height: 1.73" [44 mm]
Power Input	100-240VAC
Power Consumption	296 Watts (full load with PoE)
Power-over-Ethernet	Max PoE budget 250 Watts 30 Watts for (8) ports simultaneously 15.4 Watts for (16) ports simultaneously
Surge Protection	6KV
Environment	Operating: 0°C to +50°C Humidity: 10% to 90% (non-condensing)
Weight	6.6 lbs. [3.0 kg]
Compliance	FCC Class A, CE Safety: IEC60950, UL listed
Warranty	Lifetime

Software Features

- Management: Web Management, SNMP V1/V2c/V3, Telnet, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk.
- Multicast: Support IGMP Snooping V1/V2, MVR, MLD Snooping V1/V2
- Quality of Service: Supports 8 hardware queues. Strict priority and WRR, Ingress policer, Egress shaping and per port rate limiting
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC based VLAN, Private VLAN
- Firmware Update through TFTP and HTTP
- Device Management System (DMS)
  - Graphical Monitoring: Topology view, Floor view, Map View
  - Grouping, Batch update
  - Find my switch
  - Traffic Monitoring

SM24TAT2SA

Smart Managed Gigabit Ethernet PoE+ Switch

(24) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP Slots

This switch is a next generation smart managed switch with 52Gbps switching capacity. It provides (24) 10/100/1000Base-T copper ports with IEEE 802.3at PoE+ capability and (2) additional 100/1000 dual speed SFP slots. The embedded Device Management System (DMS) software provides the benefits of ease of use in IP surveillance, Wireless Access Point and other applications. The DMS capability built into the switch provides time-saving features enabling security integrators or network administrators to establish and document a baseline deployment, automatically discover and remotely configure attached IP-powered devices (PDs).

Ordering Information

SM24TAT2SA
(24) 10/100/1000Base-T Ports
+ (2) 100/1000Base-X SFP Slots
(includes 19" rack mount brackets)

Optional Accessories (sold separately)

SFP Modules

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM24TAT2SA-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- IPv6 Access Management
- Support Jumbo Frame up to 9K bytes
- Authentication – RADIUS, TACACS+
- DHCP Relay, DHCP Snooping, DHCP Server
- L2/L3/L4 ACLs Support MAC ACL, IP standard/extended ACL
- LLDP (Link Layer Discovery Protocol)
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security
- Syslog

PoE Features

- Compliant with IEEE 802.3at PoE+
- Compliant with IEEE 802.3af PoE
- PoE configuration
- Auto Power Reset (APR)

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad IEEE 802.1AB IEEE 802.3af IEEE 802.3at
Connectors	(24) 10/100/1000 RJ-45 (2) 100/1000 SFP
Protocols	CSMA/CD
Technology	Store-and-Forward switching architecture
MAC Address	8K MAC address table
Backplane	52 Gbps
Dimensions	Width: 17.4" [442 mm] Depth: 8.3" [211 mm] Height: 1.73" [44 mm]
Power Input	100-240VAC
Power Consumption	438 Watts (full load with PoE)
Power-over-Ethernet	Max PoE budget 370 Watts 30 Watts for (12) ports simultaneously 15.4 Watts for (24) ports simultaneously
Surge Protection	6KV
Environment	Operating: 0°C to +50°C Humidity: 10% to 90% (non-condensing)
Weight	6.6 lbs. [3.0 kg]
Compliance	FCC Class A, CE Safety: IEC60950, UL listed
Warranty	Lifetime

Software Features

- Management: Web Management, SNMP V1/V2c/V3, Telnet, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk.
- Multicast: Support IGMP Snooping V1/V2, MVR, MLD Snooping V1/V2
- Quality of Service: Supports 8 hardware queues. Strict priority and WRR, Ingress policer, Egress shaping and per port rate limiting
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC based VLAN, Private VLAN
- Firmware Update through TFTP and HTTP
- Device Management System (DMS)
  - Graphical Monitoring: Topology view, Floor view, Map View
  - Grouping, Batch update
  - Find my switch
  - Traffic Monitoring

SM8TAT2DPB

Managed Layer 2 Gigabit Ethernet PoE+ Switch

(8) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP/RJ-45 Combo Ports

This switch is a high performance Layer 2 managed switch with 20Gbps switching capacity. It provides (8) 10/100/1000Base-T copper ports with IEEE 802.3at PoE+ capability and (2) additional 100/1000 dual speed SFP/RJ-45 Combo ports.

Ordering Information

SM8TAT2DPB
(8) 10/100/1000Base-T ports
+ (2) 100/1000Base-X SFP/RJ-45 Combo Ports (includes 19" rack mount brackets)

Optional Accessories (sold separately)

SFP Modules

Features

- Support IPv4/IPv6 dual protocol stack
- Support Jumbo Frame up to 9K bytes
- Authentication – RADIUS, TACACS+
- Security - Support SSH v1/SSH v2/SSL
- Port based or tagged (802.1Q) VLAN, MAC based , Management VLAN and Private VLAN Edge
- DHCP Relay, DHCP Server
- L2/L3/L4 ACLs Support MAC ACL, IP standard/extended ACL
- LLDP (Link Layer Discovery Protocol)
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security

PoE Features

- Compliant with IEEE 802.3at PoE+
- Compliant with IEEE 802.3af PoE
- 802.1AB LLDP-MED Configuration
- PoE configuration
- PoE Scheduling
- Auto Power Reset (APR)
- DHCP per Port

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad IEEE 802.1AB IEEE 802.3af IEEE 802.3at
Connectors	(1) RJ Console Port (8) 10/100/1000 RJ-45 (2) 100/1000 SFP/RJ-45 Combo
Protocols	CSMA/CD
Technology	Store-and-Forward switching architecture
MAC Address	8K MAC address table
Backplane	20 Gbps
Dimensions	Width: 8.66" [220 mm] Depth: 9.53" [242 mm] Height: 1.73" [44 mm]
Power Input	100-240VAC
Power-over-Ethernet	Max PoE budget 130 Watts 30 Watts for (4) ports simultaneously 15.4 Watts for (8) ports simultaneously
Surge Protection	6KV
Environment	Operating: 0°C to +45°C Humidity: 10% to 90% (non-condensing)
Weight	5.1 lbs. [2.3 kg]
Compliance	FCC Class A, CE Safety: IEC60950
Warranty	5 Years

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM8TAT2DPB-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Software Features

- Management: Web Management, SNMP V1/V2c/V3, Telnet, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk.
- IGMP: Support IGMP Snooping V1/V2/V3, GVRP, IGMP Proxy, and IGMP Querier
- Quality of Service: Supports 8 hardware queues. Strict priority and WRR
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC based VLAN, Private VLAN, Voice VLANs and Management VLAN
- Firmware Update, configure backup/restore through TFTP and HTTP
- Device Management System: Graphic Monitoring, Grouping, Traffic Monitoring
- Static Routing

SM24TAT2DPA

Managed Layer 2 Gigabit Ethernet PoE+ Switch

(24) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP/RJ-45 Combo Ports

This switch is a high performance Layer 2 managed switch with 52Gbps switching capacity. It provides (24) 10/100/1000Base-T copper ports with IEEE 802.3at PoE+ capability and (2) additional 100/1000 dual speed SFP/RJ-45 Combo ports.

Ordering Information

SM24TAT2DPA
(24) 10/100/1000Base-T ports
+ (2) 100/1000Base-X SFP/RJ-45 Combo ports
(includes 19" rack mount brackets)

Optional Accessories (sold separately)

SFP Modules

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM24TAT2DPA-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features

- Support IPv4/IPv6 dual protocol stack
- Support Jumbo Frame up to 9K bytes
- Authentication – RADIUS, TACACS+
- Security - Support SSH v1/SSH v2/SSL
- Port based or tagged (802.1Q) VLAN, MAC based , Management VLAN and Private VLAN Edge
- DHCP Relay, DHCP Server
- L2/L3/L4 ACLs Support MAC ACL, IP standard/extended ACL
- LLDP (Link Layer Discovery Protocol)
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security
- Rate Limiting: Ingress Policer, Egress shaping and rate control, per port

PoE Features

- Compliant with IEEE 802.3at PoE+
- Compliant with IEEE 802.3af PoE
- 802.1AB LLDP-MED Configuration
- PoE configuration
- PoE Scheduling
- Auto Power Reset (APR)
- DHCP per Port

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad IEEE 802.1AB IEEE 802.3af IEEE 802.3at
Connectors	(1) RJ Console Port (24) 10/100/1000 RJ-45 ports (2) 100/1000 SFP/RJ-45 Combo ports
Protocols	CSMA/CD
Technology	Store-and-Forward switching architecture
MAC Address	8K MAC address table
Backplane	52 Gbps
Dimensions	Width: 17.4" [442 mm] Depth: 8.31" [211 mm] Height: 1.73" [44 mm]
Power Input	100-240VAC
Power-over-Ethernet	Max PoE budget 370 Watts 30 Watts for (12) ports simultaneously 15.4 Watts for (24) ports simultaneously
Surge Protection	6KV
Environment	Operating: 0°C to +45°C Humidity: 10% to 90% (non-condensing)
Weight	5.9 lbs. [3.3 kg]
Compliance	FCC Class A, CE Safety: IEC60950
Warranty	5 Years

Software Features

- Management: Web Management, SNMP V1/V2c/V3, Telnet, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk.
- IGMP: Support IGMP Snooping V1/V2/V3, GVRP, IGMP Proxy, and IGMP Querier
- Quality of Service: Supports 8 hardware queues. Strict priority and WRR
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC based VLAN, Private VLAN, Voice VLANs and Management VLAN
- Firmware Update, configure backup/restore through TFTP and HTTP
- Device Management System: Graphic Monitoring, Grouping, Traffic Monitoring
- Static Routing

SM24TBT2DPA

Managed Gigabit Ethernet PoE++ Switch

(24) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP/RJ-45 Combo Ports

This switch is a high performance Layer 2 managed switch with 52 Gbps switching capacity. It provides (24) 10/100/1000 copper ports with IEEE 802.3bt PoE++ capability and (2) additional 100/1000 dual speed SFP/RJ-45 Combo ports. The SM24TBT2DPA complies with the latest IEEE 802.3bt PoE++ standard and supplies up to 90 Watts per port. It can provide up to 1640 Watts PoE output with the dual hot-swappable power supplies equipped.

Features

- Hot-swappable dual power supply modules
- Support IPv4/IPv6 dual protocol stack
- Support Jumbo Frame up to 9K bytes
- Authentication – RADIUS, TACACS+
- Security - Support SSH v1/SSH v2/SSL
- Port based or tagged (802.1Q) VLAN, MAC based, Management VLAN and Private VLAN Edge
- DHCP Relay, DHCP Server
- L2/L3/L4 ACLs Support MAC ACL, IP standard/extended ACL
- LLDP (Link Layer Discovery Protocol)
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security

PoE Features

- Compliant with IEEE 802.3bt PoE++
- Compliant with IEEE 802.3at PoE+
- Compliant with IEEE 802.3af PoE
- 802.1AB LLDP-MED Configuration
- PoE Configuration
- PoE Scheduling
- Auto Power Reset
- DHCP per Port
- Soft Boot

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1p IEEE 802.1ad IEEE 802.1AB IEEE 802.3af IEEE 802.3at IEEE 802.3bt
Connectors	(1) RJ Console Port (24) 10/100/1000 RJ-45 ports (2) 100/1000 SFP/RJ-45 Combo ports
Protocols	CSMA/CD
Technology	Store-and-Forward switching architecture
MAC Address	8K MAC address table
Backplane	52 Gbps
Dimensions	Width: 17.4" [442 mm] Depth: 11.8" [300 mm] Height: 1.73" [44 mm]
Power Input	100-240VAC Dual Hot Swappable Power Supplies; Power Redundancy, Failover
Power Consumption	Maximum Power Consumption without PoE 79 Watts with dual AC power modules 52 Watts with single AC power module
Power-over-Ethernet	Max 90 Watts output per port Max PoE Budget 1640 Watts with dual power supply 60 Watts for (24) ports simultaneously 90 Watts for (18) ports simultaneously Max PoE budget 820 Watts with single power supply 30 Watts for (24) ports simultaneously 60 Watts for (13) ports simultaneously 90 Watts for (9) ports simultaneously
Environment	Operating: 0°C to +40°C Humidity: 10% to 90% (non-condensing)
Weight	10.47 lbs. [4.75 kg]
Compliance	FCC Class A, CE Safety: IEC60950-1
Warranty	Lifetime

Ordering Information

SM24TBT2DPA
(24) 10/100/1000Base-T
+ (2) 100/1000Base-X SFP/RJ-45 Combo ports
(includes (1) AC power supply and 19" rack mount brackets)

Optional Accessories (sold separately)

SFP Modules

Power Supplies (sold separately)

PS-AC-920
Secondary AC Power Supply (920 Watts)
Warranty: 5 Years

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM24TBT2DPA-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Software Features

- Management: Web Management, SNMP V1/V2c/V3, Telnet, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk
- IGMP: Support IGMP Snooping V1/V2/V3, GVRP, IGMP Proxy, and IGMP Querier
- Quality of Service: Supports 8 hardware queues. Strict priority and WRR
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC-based VLAN, Private VLAN, Voice VLANs and Management VLAN
- Firmware Update, configure backup/restore through TFTP and HTTP
- Device Management System: Graphic Monitoring, Grouping, Traffic Monitoring

SM24TAT4XA

Managed Gigabit Ethernet PoE+ Switch

(24) 10/100/1000Base-T Ports + (4) 1000/10GBase-X SFP+ Slots

This SM24TAT4XA is a high performance managed switch with 128 Gbps switching capacity. It provides (24) 10/100/1000 copper ports with IEEE 802.3at PoE+ capability, and it has additional (4) 1000/10GBase dual speed SFP+ slots to support up to (4) 10G uplinks.

Ordering Information

SM24TAT4XA
(24) 10/100/1000Base-T ports
+ (4) 1000/10GBase-X SFP+ slots
(includes 19" Rack Mount ears)

Optional Accessories (sold separately)

SFP and SFP+ Modules

Mounting Brackets

BRSM24-01
Wall Mount Bracket

Switches

Features

- Supports Jumbo Frame up to 9K bytes
- Authentication – RADIUS 802.1x, TACACS+
- Security - Supports SSH V1/ V2/SSL
- Rate limiting: Ingress policer, egress shaping and rate control; per VLAN, per port and flow based
- DHCP Relay including option 82
- ACL: based on source and destination MAC / VLAN ID/ IP address / Protocol / port / DSCP / IP Precedence / TCP/UPD source and destination ports / 802.1p / Ethernet type / ICMP packets / IGMP packets / TCP flag
- LLDP (Link Layer Discovery Protocol)
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security

PoE Features

- Compliant with IEEE 802.3at PoE+
- Compliant with IEEE 802.3af PoE
- 802.1AB LLDP-MED Configuration
- Power delay and PoE Scheduling
- Auto Power Reset (APR)

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1w IEEE 802.1s IEEE 802.1Q IEEE 802.1v IEEE 802.1p IEEE 802.1ad IEEE 802.1AB IEEE 802.3af IEEE 802.3at
Connectors	(1) DB-9 Console Port (24) 10/100/1000 RJ-45 ports (4) 1G/10G SFP+ slots
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
MAC Address	32K MAC address table
Memory Buffer	4Mbits
Backplane	128 Gbps
Dimensions	Width: 17.4" [442 mm] Depth: 15.15" [385 mm] Height: 1.73" [44 mm]
Power Consumption	50 Watts (max without PoE)
Power Input	Internal Power: 100 - 240VAC
Power-over-Ethernet	Max PoE budget 370 Watts 30 Watts for (12) ports simultaneously 15.4 Watts for (24) ports simultaneously
Environment	Operating: 0°C to 40°C Humidity: 10% to 90% (non-condensing)
Weight	9.6 lbs. [4.35 kg]
Compliance	Safety: LVD Emissions: FCC Class A, CE Mark
Warranty	Lifetime

Power Cord Included

To order the corresponding country specific power cord, add the extension from the list below to the end of the SKU; Ex: SM24TAT4XA-NA

-NA = Country Code
-NA = North America
-LA = Latin America
-EU = Europe
-UK = United Kingdom
-SA = South Africa
-JP = Japan
-OZ = Australia
-BR = Brazil

Features (Continued)

- Web Management, SNMP V1/V2c/V3, Telnet, CLI
- Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP). Supports up to 14 groups with (8) ports per group.
- Supports IGMP Snooping V1/V2/V3, GVRP, IGMP Proxy, IGMP Querier and MLD snooping V1/V2
- Supports 8 hardware queues, Strict priority and WRR. Queue assignment based on DSCP and 802.1p CoS; IPv4/ IPv6 precedence/ Type of Service / DiffServ / classification and remarking ACLs, trusted QoS
- IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC-based VLAN, Private VLAN Edge, Management VLAN, Voice VLANs
- Firmware Update, configure backup/ restore through HTTP/TFTP/Console
- Supports IPv4/IPv6 dual protocol stack
- Hardware stacking capability with 10G SFP+ cable

Switching Brackets

Wall Mount Accessories & Rack Mount Assembly

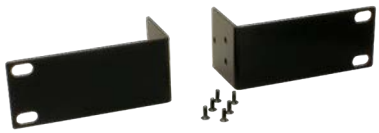
The Transition Networks portfolio of switches have the power and design to operate in multiple environments; as a desktop, workgroup or departmental switch.

In order to meet the demands of various operating environments, these products have been designed to accommodate switch mounting accessories to allow for wall or rack mounting of the devices.

Features

- Flexibility in design and deployment
- Securely fasten to wall or desk
- 19” rack mount options
- Lifetime Warranty

RMSM8-01



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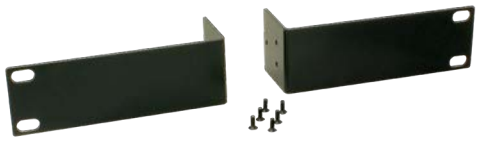
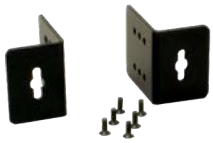
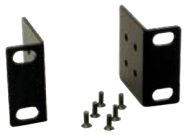


BRSM8-01



BRSM24-01



Ordering Information

RMSM8-01
19" Rack Mount Bracket for SM10T2DPA, SM8TAT2DPA

RMSM4-01
19" Rack Mount Bracket for SM4T4DPA

BRSM8-01
Wall Mount Bracket for SM10T2DPA, SM8TAT2DPA, SM4T4DPA

BRSM24-01
Wall Mount Bracket for SM24TAT4XA, SM24TAT4GPA

WMBH-01
Wall Mount Bracket for SISPM1040-384-LRT-C, SISPM1040-362-LRT

SISTF1010-2x0-LRT

Unmanaged Hardened Fast Ethernet Switch

(5) 10/100Base-TX Ports or (8) 10/100Base-TX Ports

SISTF1010-280-LRT

SISTF1010-250-LRT

The SISTF1010-2x0-LRT switch family contains simple "Plug-and-Play" multi-port switches used at the edge of a hardened network to provide connections for devices in hazardous locations. These switches are Class 1, Div 2 certified, have redundant input power connections, and a fault alarm relay to ensure safe reliable operation in temperatures between -40°C and +75°C.

Transition Networks' hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other hazardous environments.

Ordering Information

SISTF1010-250-LRT
(5) 10/100Base-TX (RJ-45)
[100 m/328 ft.]

SISTF1010-280-LRT
(8) 10/100Base-TX (RJ-45)
[100 m/328 ft.]

Optional Accessories (sold separately)

External AC/DC Power Supply

SPS-UA12DHT
Input: 90 ~ 240 VAC
Output: 12 VDC, 1.3A, 18 Watts

25083
Input: 85-264 VAC, 120-370VDC
Output: 10.8 ~ 13.2 VDC, 2A, 24 Watts

Features

- Auto-Negotiation
- Auto-MDI/MDIX
- Store-and-Forward Switching Architecture with MAC Address Table
- Extended operating temperature (-40°C to 75°C)
- Dry Contact Relay Alarm Output
- Dual, Redundant DC Power Inputs
- DIN Rail Mounting and Wall Mount Brackets Included
- Reverse Polarity Power Input Protection
- Overload Current Protection
- Barrel connector interface cable included for connecting external AC/DC power supply
- Class 1, Div 2 Certified

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3x
Status LEDs	PWR 1 (Power): ON = primary power connected PWR 2 (Power): ON = backup power connected FAULT, per port: LNK/ACT, FDX/COL
Dimensions	Width: 1.2" [30 mm] Depth: 3.7" [95 mm] Height: 5.5" [140 mm]
Power Consumption	2.93 Watts (-250 model) 4.71 Watts (-280 model)
Power Input	12 - 48 VDC; redundant power with reverse polarity protection and removable terminal block
Ingress Protection	IP30
Environment	Operating: -40°C to 75°C Storage: -40° to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1.4 lbs. [0.64 kg]
Compliance	Safety: UL, cUL, CE/EN60950-1 UL Class 1, Div 2 for hazardous environments CISPR22/EN55022, EN60950 Class A, FCC Class A, CE Mark,CE EN61000-4-2, CE EN61000-4-3, CE EN-61000-4-4, CE EN61000- 4-5, CE EN61000-4-6, CE EN61000-4-8, CE EN61000-4-11, CE EN61000-4-12, CE EN61000-6-2, CE EN61000-6-4, IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration), IEC60068-2-3, IEC60068-2-30, IEC60068-2-31
Warranty	Lifetime

SISTG1040-282-LRT

Unmanaged Hardened Gigabit Ethernet Switch

(8) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP Slots

This switch is an unmanaged full Gigabit Ethernet hardened switch that has (8) 10/100/1000Base-T ports with two 100/1000 dual speed SFP slots. The SISTG1040-282-LRT can be used at the edge of a hardened network to provide Gigabit Ethernet connections in hazardous locations. The two fiber uplink ports can also be used in a daisy chain for maximum network reliability. It has redundant input power connections to ensure safe reliable operation in temperatures between -40°C and +75°C. Transition Networks' hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other hazardous environments.

Ordering Information

SISTG1040-282-LRT
(8) 10/100/1000Base-T [100 m/328 ft.] with (2) 100/1000Base-X SFP slots

Optional Accessories (sold separately)

SFP Modules

Industrial Power Supplies:

25135
Input: 85 -264VDC, 120-370VDC
Output: 24VDC, 10Watts, -20°C to +70°C

25130
Input: 88 -264VDC, 120-370VDC
Output: 48VDC, 39.8Watts, -20°C to +70°C

Mounting Brackets

WMBH-01
Wall Mount Bracket

Features

- Support Jumbo Frame up to 9K bytes
- Layer 2 wire-speed switching engine
- Ruggedized metal closure
- IEEE 802.3az Energy Efficient Ethernet
- Fan-less design
- Wide operating temperature range (-40°C to +75°C)
- Dual Power input
- Din Rail and Wall Mount options

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.1p IEEE 802.3az
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
Switching Capacity	20 Gbps
Connectors	(8) 10/100/1000Base-T RJ-45 (2) 100/1000Base-X SFP
MAC Address	4K MAC address table
Status LEDs	System, Power1, Power2, Port Status
Dimensions	Width: 5.3" [135 mm] Depth: 5.4" [130 mm] Height: 1.7" [44 mm]
Reset button	Reset the switch
Power Input	12 - 48 VDC; Redundant input; reverse power protection
Power Consumption	5.8 Watts
Ingress Protection	IP30
Environment	Operating: -40°C to +75°C Humidity: 5% to 95% (non-condensing)
Weight	0.86 lbs. [0.39 kg]
Compliance	UL Class 1 / Div 2; EMI: CE, FCC Part 15; Safety: EN60950
Compliant	EN50121-4, EN50155, NEMA TS-2, IEC61850-3, IEEE1613
Warranty	5 Years

SISTG1040-242-LRT

Unmanaged Hardened Gigabit Ethernet Switch

(4) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP Slots

This switch is an unmanaged full Gigabit Ethernet hardened switch that has (4) 10/100/1000Base-T ports with two 100/1000 dual speed SFP slots. The SISTG1040-242-LRT can be used at the edge of a hardened network to provide Gigabit Ethernet connections in hazardous locations. The two fiber uplink ports can also be used in a daisy chain for maximum network reliability. It has redundant input power connections to ensure safe reliable operation in temperatures between -40°C and +75°C. Transition Networks' hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other hazardous environments.

Ordering Information

SISTG1040-242-LRT
(4) 10/100/1000Base-T [100 m/328 ft.] with (2) 100/1000Base-X SFP slots

Optional Accessories (sold separately)

SFP Modules

Industrial Power Supplies:

25135
Input: 85 -264VDC, 120-370VDC
Output: 24VDC, 10Watts, -20°C to +70°C

25130
Input: 88 -264VDC, 120-370VDC
Output: 48VDC, 39.8Watts, -20°C to +70°C

Mounting Brackets

WMBH-01
Wall Mount Bracket

Features

- Support Jumbo Frame up to 9K bytes
- Layer 2 wire-speed switching engine
- Ruggedized metal closure
- IEEE 802.3az Energy Efficient Ethernet
- Fan-less design
- Wide operating temperature range (-40°C to +75°C)
- Dual Power input
- Din Rail and Wall Mount options

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.1p IEEE 802.3az
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
Switching Capacity	12 Gbps
Connectors	(4) 10/100/1000Base-T RJ-45 (2) 100/1000Base-X SFP
MAC Address	4K MAC address table
Status LEDs	System, Power1, Power2, Port Status
Dimensions	Width: 5.3" [135 mm] Depth: 5.4" [130 mm] Height: 1.7" [44 mm]
Reset button	Reset the switch
Power Input	12 - 48 VDC; Redundant input; reverse power protection
Power Consumption	4.4 Watts
Ingress Protection	IP30
Environment	Operating: -40°C to +75°C Humidity: 5% to 95% (non-condensing)
Weight	0.79 lbs. [0.36 kg]
Compliance	UL Class 1 / Div 2; EMI: CE, FCC Part 15; Safety: EN60950
Compliant	EN50121-4, EN50155, NEMA TS-2, IEC61850-3, IEEE1613
Warranty	5 Years

SISTF101x-241-LRT

Unmanaged Hardened Fast Ethernet Switch

(4) 10/100Base-TX Ports + (1) 100Base-FX Port

SISTF1013-241-LRT

The SISTF101x-241-LRT switch family contains simple "Plug-and-Play" multi-port switches used at the edge of a hardened network to provide connections for devices in hazardous locations. Depending on the model, these switches can provide multimode or single mode fiber connections with SC or ST connectors for extended distance communications up to 20 kilometers. These switches are Class 1, Div 2 certified, have redundant input power connections, and a fault alarm relay to ensure safe reliable operation in temperatures between -40°C and +75°C.

Transition Networks' hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other hazardous environments.

Ordering Information

SISTF1011-241-LRT
(4) 10/100Base-TX (RJ-45) [100 m/328 ft.] + (1) 100Base-FX 1300nm multimode (ST) [2 km/1.2 mi.] Link Budget: 11.0 dB

SISTF1013-241-LRT
(4) 10/100Base-TX (R -45) [100 m/328 ft.] + (1) 100Base-FX 1300nm multimode (SC) [2 km/1.2 mi.] Link Budget: 11.0 dB

SISTF1014-241-LRT
(4) 10/100Base-TX (RJ-45) [100 m/328 ft.] + (1) 100Base-FX 1310nm single mode (SC) [20 km/2.4 mi.] Link Budget: 17.0 dB

Optional Accessories (sold separately)

External AC/DC Power Supply

25135
Input: 85-264 VAC, 120-370VDC
Output: 24VDC, .42A, 10 Watts

25083
Input: 85-264 VAC, 120-370VDC
Output: 10.8 ~ 13.2 VDC, 2A, 24 Watts

Features

- Auto-Negotiation
- Auto-MDI/MDIX
- DIN Rail Mounting and Wall Mount Brackets Included
- Extended operating temperature (-40°C to 75°C)
- Dual Auto-Sensing Redundant DC Power Inputs
- Barrel connector interface cable included for connecting external AC/DC power supply
- Class 1, Div 2 Certified

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3x
Dip Switches	1: Full-Duplex Fiber/Half-Duplex Fiber
Status LEDs	PWR (Power): ON = Unit has power connected PWR 1 (Power): ON = primary power connected PWR 2 (Power): ON = backup power connected Fault: ON = Power failure or port link failure LNK/ACT (fiber): ON = Link; Flashing = data transmitting FDX/COL (fiber): ON = Full-duplex mode; Flashing = collisions occurring RJ-45 (Ports 1 – 4): ON orange = Full-duplex mode; Flashing orange = collisions occurring; ON green = UTP link; Flashing green = data transmitting
Dimensions	Width: 1.2" [30 mm] Depth: 3.7" [95 mm] Height: 5.5" [140 mm]
Power Input	12 to 48 VDC, 18 to 30 VAC, 0.2A-0.7A, redundant inputs with reverse polarity protection; Additional barrel connector
Power Consumption	3.3 Watts
Ingress Protection	IP30
Environment	Operating: -40°C to 75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Safety: UL 60950, UL508, CSA C22.2 no 60950 UL Class 1 Div 2 for hazardous environments CISPR/EN55022, EN60950 Class A, FCC Class A, CE Mark, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, IEC60068-2-32 (Free fall) IEC60068-2-27 (Shock) IEC60068-2-6 (Vibration)
Warranty	Lifetime

SISTP101x-141-LRT

Unmanaged Hardened Fast Ethernet PoE Switch

(4) 10/100Base-TX Ports + (1) 100Base-FX Port

The SISTP101x-141-LRT switch family contains simple “Plug-and-Play” multi-port switches used at the edge of a hardened network to provide connections for PoE devices. Depending on the model, these switches can provide multimode or single mode fiber connections with SC or ST connectors for extended distance communications up to 30 kilometers. These switches provide 15.4 Watts per port on all ports simultaneously, have redundant input power connections, and a fault alarm relay to ensure safe reliable operation in temperatures between -40°C and +75°C.

Transition Networks’ hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other challenging environments.

Ordering Information

SISTP1011-141-LRT
(4) 10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm multimode (ST) [2 km/1.2 mi.] Link Budget: 11.0 dB

SISTP1013-141-LRT
(4) 10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm multimode (SC) [2 km/1.2 mi.] Link Budget: 11.0 dB

SISTP1014-141-LRT
(4) 10/100Base-TX (RJ-45) [100 m/328 ft.] to 100Base-FX 1310nm single mode (SC) [30 km/18.64 mi.] Link Budget: 17.0 dB

Optional Accessories (sold separately)

External AC/DC Power Supply

25080
Input: 88-132 VAC, 176-264VAC, 248-370VDC by switch
Output: 48 ~ 53 VDC, 2.5A, 120 Watts

Features

- Auto-Negotiation
- Auto-MDI/MDIX
- Full Wire Speed Performance with 1 Gbps Backplane
- (4) port integrated PoE injector with full 15.4 Watts per port on data pairs
- IEEE 802.3af Power-over-Ethernet Compliant
- Extended operating temperature (-40°C to 75°C)
- Dry Contact Relay Alarm Output
- Dual, Redundant 48 VDC Power Inputs
- Reverse Polarity Power Input Protection
- Overload Current Protection
- DIN Rail Mounting and Wall Mount Brackets Included
- Store-and-Forward Architecture

Specifications

Standards	IEEE 802.3 IEEE 802.3af IEEE 802.3u IEEE 802.3x
Status LEDs	PWR 1 (Power): ON = primary power connected PWR 2 (Power): ON = backup power connected FAULT: ON = power input failure on PWR1 or PWR2 PWR FWD (ports 1-4): ON = PoE power output LNK/ACT (ports 1-5): ON = Link; FLASHING = data transmitting FDX/COL (ports 1-4): ON = Full-duplex mode; FLASHING = collisions occurring
Dimensions	Width: 1.2” [30 mm] Depth: 3.7” [95 mm] Height: 5.5” [140 mm]
Power Consumption	4.6 Watts (without PoE); 66 Watts (Full load with PoE)
Power Input	48 VDC; redundant inputs (removable terminal block), additional barrel connector
Ingress Protection	IP30
Environment	Operating: -40°C to 75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1.4 lbs. [0.64 kg]
Compliance	Safety: UL, cUL, CE/EN60950-1 Emissions: CISPR22/EN55022, EN60950 Class A, FCC ClassA, CE Mark,CE Immunity: EN61000-4-2, CE EN61000-4-3, CE EN-61000-4-4, CE EN61000-4-5, CE EN61000-4-6, CE EN61000-4-8, CE EN61000-4-11, CE EN61000-6-2, CE EN610006-4, Environmental: IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Warranty	Lifetime

SISTF1040-162D-LRT

Unmanaged Hardened Fast Ethernet Switch

(16) 10/100Base-TX Ports + (2) 10/100/1000Base-X SFP/RJ-45 Combo Ports

The SISTF1040-162D-LRT is a high port density switch suitable for use as an aggregation switch in a challenging environment. The two gigabit speed combo ports provide the ultimate flexibility by allowing copper or fiber SFP uplink ports. The two uplink ports can also be used in a redundant ring for maximum network reliability. The switch has redundant input power connections, and a fault alarm relay to ensure safe reliable operation in temperatures between -40°C and +75°C.

Transition Networks' hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other challenging environments.

Ordering Information

SISTF1040-162D-LRT
(16) 10/100Base-TX (RJ-45)
[100 m/328 ft.] with (2) 10/100/1000Base-T (RJ-45) or 100/1000Base-X SFP Combo ports

Optional Accessories (sold separately)

SFP Modules

External AC/DC Power Supply

SPS-UA12DHT
Input: 90 ~ 240 VAC
Output: 12 VDC, 1.3A, 18 Watts

25083
Input: 85-264 VAC, 120-370VDC
Output: 10.8 ~ 13.2 VDC, 2A, 24 Watts

Features

- Auto-Negotiation
- Auto-MDI/MDIX
- Full Wire Speed Performance with 7 Gbps Backplane
- Combo SFP ports support
  - 100Base-FX
  - 1000Base-X SFPs
- Combo RJ-45 ports support 10/100/1000Base-T
- Extended Operating Temperature (-40°C to 75°C)
- Dry Contact Relay Alarm Output
- Dual, Redundant, Auto-Sensing 12-48 VDC Power Inputs
- Reverse Polarity Power Input Protection
- Overload Current Protection
- DIN Rail Mounting and Wall Mount Brackets Included

Specifications

Standards	IEEE 802.3 IEEE 802.3ab IEEE 802.3u IEEE 802.3z IEEE 802.3x
Status LEDs	PWR 1 (Power): ON = primary power connected PWR 2 (Power): ON = backup power connected FAULT: ON = power input failure on PWR1 or PWR2 LNK/ACT: ON = Link; FLASHING = data transmitting FDX/COL: ON = Full-duplex mode; FLASHING = collisions occurring
Dimensions	Width: 2.8" [72 mm] Depth: 4.1" [105 mm] Height: 6" [152 mm]
Power Consumption	9 Watts
Power Input	12 to 48 VDC; redundant inputs with reverse polarity protection
Ingress Protection	IP30
Environment	Operating: -40°C to 75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	3 lbs. [1.36 kg]
Compliance	Safety: UL, cUL, CE/EN60950-1 CISPR22/EN55022, EN60950 Class A, FCC Class A, CE Mark, CE EN61000-4-2, CE EN61000-4-3, CE EN-61000-4-4, CE EN61000-4-5, CE EN61000-4-6, CE EN61000-4-8, CE EN61000-4-11, CE EN61000-4-12, CE EN61000-6-2, CE EN61000-6-4 IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Warranty	Lifetime

SISTP1040-382-LRT

Unmanaged Hardened Gigabit Ethernet PoE+ Switch

(8) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP Slots

This switch is an unmanaged full Gigabit Ethernet hardened PoE+ switch that complies with IEEE 802.3at and IEEE 802.3af. The switch has (8) 10/100/1000Base-T PoE+ ports with two 100/1000 dual speed SFP slots. It can deliver up to 30 Watts on each PoE+ port simultaneously. The SISTP1040-382-LRT can be used at the edge of a hardened network to provide connections for PoE devices in hazardous locations. The two fiber uplink ports can also be used in a daisy chain for maximum network reliability. It has redundant input power connections to ensure safe reliable operation in temperatures between -40°C and +75°C. Transition Networks' hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other hazardous environments.

Ordering Information

SISTP1040-382-LRT
(8) 10/100/1000Base-T PoE+ [100 m/328 ft.] with (2) 100/1000Base-X SFP slots

Optional Accessories (sold separately)

SFP Modules

Industrial Power Supplies:

25104
Input: 85-264 VAC, 124-370 VDC
Output: 48~55 VDC, 5.0A, 240 Watts

25105
Input: 85-264 VAC, 124-370 VDC
Output: 48~55 VDC, 2.5A, 120 Watts

Mounting Brackets

WMBH-01
Wall Mount Bracket

Features

- Support Jumbo Frame up to 9K bytes
- Layer 2 wire-speed switching engine
- Ruggedized metal closure
- IEEE 802.3az Energy Efficient Ethernet
- Fan-less design
- Wide operating temperature range (-40°C to +75°C)
- Dual Power input
- Din Rail and Wall Mount options

PoE Features

- IEEE 802.3at compliant
- IEEE 802.3af compliant
- PoE Budget: 240 Watts
- 30 Watts output on all 8 ports simultaneously

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE802.3ae IEEE 802.3x IEEE 802.1p IEEE 802.3az IEEE 802.3af IEEE 802.3at
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
Switching Capacity	20 Gbps
Connectors	(8) 10/100/1000Base-T RJ-45 (2) 100/1000Base-X SFP
MAC Address	4K MAC address table
Status LEDs	System, Power1, Power2, Port Status
Dimensions	Width: 5.3" [135 mm] Depth: 5.4" [130 mm] Height: 1.7" [44 mm]
Reset button	Reset the switch
Power Input	48-57 VDC; Redundant input; reverse power protection
Ingress Protection	IP30
Environment	Operating: -40°C to +75°C Humidity: 5% to 95% (non-condensing)
Weight	1.01 lbs. [0.46 kg]
Compliance	UL Class 1 / Div 2; EMI: CE, FCC Part 15; Safety: EN60950
Compliant	EN50121-4, EN50155, NEMA TS-2, IEC61850-3, IEEE1613
Warranty	5 Years

SISTP1040-342-LRT

Unmanaged Hardened Gigabit Ethernet PoE+ Switch

(4) 10/100/1000Base-T Ports + (2) 100/1000Base-X SFP Slots

This switch is an unmanaged full Gigabit Ethernet hardened PoE+ switch that complies with IEEE 802.3at and IEEE 802.3af. The switch has (4) 10/100/1000Base-T PoE+ ports with two 100/1000 dual speed SFP slots. It can deliver up to 30 Watts on each PoE+ port simultaneously. The SISTP1040-342-LRT can be used at the edge of a hardened network to provide connections for PoE devices in hazardous locations. The two fiber uplink ports can also be used in a daisy chain for maximum network reliability. It has redundant input power connections to ensure safe reliable operation in temperatures between -40°C and +75°C. Transition Networks' hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other hazardous environments.

Ordering Information

SISTP1040-342-LRT
(4) 10/100/1000Base-T PoE+ [100 m/328 ft.] with (2) 100/1000Base-X SFP slots

Optional Accessories (sold separately)

SFP Modules

Industrial Power Supplies:

25105
Input: 85-264 VAC, 124-370 VDC
Output: 48~55 VDC, 2.5A, 120 Watts

25080
Input: 88-132 VAC, 176-264VAC, 248-370VDC by switch
Output: 48 ~ 53 VDC, 2.5A, 120 Watts

Mounting Brackets

WMBH-01
Wall Mount Bracket

Features

- Support Jumbo Frame up to 9K bytes
- Layer 2 wire-speed switching engine
- Ruggedized metal closure
- IEEE 802.3az Energy Efficient Ethernet
- Fan-less design
- Wide operating temperature range (-40°C to +75°C)
- Dual Power input
- Din Rail and Wall Mount options

PoE Features

- IEEE 802.3at compliant
- IEEE 802.3af compliant
- PoE Budget: 120 Watts
- 30 Watts output on all 4 ports simultaneously

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.1p IEEE 802.3az IEEE 802.3af IEEE 802.3at
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
Switching Capacity	12 Gbps
Connectors	(4) 10/100/1000Base-T RJ-45 (2) 100/1000Base-X SFP
MAC Address	4K MAC address table
Status LEDs	System, Power1, Power2, Port Status
Dimensions	Width: 5.3" [135 mm] Depth: 5.4" [130 mm] Height: 1.7" [44 mm]
Reset button	Reset the switch
Power Input	48-57 VDC; Redundant input; reverse power protection
Power Consumption	4.4 Watts (without PoE)
Ingress Protection	IP30
Environment	Operating: -40°C to +75°C Humidity: 5% to 95% (non-condensing)
Weight	0.95 lbs. [0.43 kg]
Compliance	UL Class 1 / Div 2; EMI: CE, FCC Part 15; Safety: EN60950
Compliant	EN50121-4, EN50155, NEMA TS-2, IEC61850-3, IEEE1613
Warranty	5 Years

SISGM-CHAS-L2

Modular Rack Mount Hardened Layer 2 Switch

Features

- IEC 62439-2 MRP Media Redundancy Protocol
- IEEE 1588v2 PTP clock Synchronization
- IPv4/IPv6 internet protocols
- 8K MAC Table
- HTTPS/SSH network security
- SMTP client
- IP-based bandwidth management
- Application-based QoS management
- Device Binding security function
- DOS/DDOS auto prevention
- IGMP v2/v3 IGMP snooping
- SNMP v1/v2c/v3
- RMON
- 4096 VLANs Network Management
- VLAN tagging (256 VLANS)
- Voice VLAN
- User Authentication for security
- RADIUS/TACACS+
- GRE Support
- ACL
- Supports 9.6K Bytes Jumbo Frames
- LLDP Protocol
- G.8032 V2
- MRP - Multiple Registration Protocol
- VRRP Virtual Router Redundancy Protocol
- LACP - 14 Groups
- MSTP (RSTP/STP compatible)
- TOS/DiffServ supported
- IGMP v2/v3 Snooping - 128 Groups/VLAN
- IP-based bandwidth management
- DHCP Server/Client/Relay
- DNS client proxy
- Web-based, Telnet, Console (CLI) configuration

Note: Layer 2 switch is NOT upgradeable to Layer 3

IEC61850-3 compliant managed Ethernet switch with complete support of MRP Ethernet Redundancy protocol and MSTP (RSTP/STP compatible), the switch can protect your mission-critical applications from network interruptions with its fast recovery technology. Supporting a wide operating temperature from -40°C to +65°C, the switch is suitable for use in challenging environments. Remote management can be accomplished through the web-based interface and Telnet, with local management available using the console port CLI.

Modular design features: 3 Full size bays that accommodate (8) port 100/1000Base modules, 1 Half size bay that accommodates (2) or (4) port 1000/10Gb SFP modules, and 2 Power supply bays.

Specifications

Standards	IEEE 802.1p COS IEEE 802.1D IEEE 802.1s IEEE 802.1AB IEEE 802.3u IEEE 802.z IEEE 802.3x IEEE 802.3az	IEEE 802.1Q IEEE 802.1w RSTP IEEE 802.1x IEEE 802.3 IEEE 802.3ab IEEE 802.3ae IEEE 802.3ad
Port Configurations	3 Full size (8) Port Bays 1 Half size (2/4) Port Bay 2 Power Supply Bays (1) RJ-45 Console Serial Port	
Network Redundancy	O-Ring, Open-Ring, Multi-Ring, MRP – Media Redundancy Protocol, MSTP (RSTP, STP Compatible)	
Dimensions	Width: 17.32" [440 mm] Depth: 12.8" [325 mm] Height: 1.73" [44 mm] 19" Rack Mountable, 1U Requires 1U open space above and below for cooling	
Power Consumption	46 Watts (max)	
Power Input (Redundant)	VDC 48 (24 ~ 72VDC) Dual Inputs VAC 100~240VAC/100~370VAC Dual Inputs Current Overload Protection	
Fault Output	Fault Relay 1A@24VDC	
Ingress Protection	IP30	
Environment	Operating with Extended Temperature 1G or 10G SFPs: -40°C to +55°C Operating with Extended Temperature 1G SFPs only: -40°C to +65°C Humidity: 5% to 95% (non-condensing)	
Weight	14.52 lbs. [6.58 kg]	
Substation Automation	IEC61850-3, IEEE1613	
Compliance	EMI: FCC Part 15' CISPR (EN 55022) Class A, EN61000-3-2, EN61000-3-3 Environmental: EN55024, EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11	
Warranty	5 Years	

Note: Product is shipped as separate modules allowing assembly and configuration during installation.

Ordering Information

SISGM-CHAS-L2
3 Full size bays - accommodates (8) port 100/1000Base modules
1 Half size bay - accommodates (2) or (4) port 1000/10Gb SFP module
2 Power supply bays

Optional Accessories (sold separately)

Power Supplies

SISGM-PWR-LVC
1 Power module, with cooling fans, supporting 24~72VDC

SISGM-PWR-HVC
1 Power module, with cooling fans, supporting 100 ~ 240VAC or 100 ~ 370VDC

Network Port Modules

SISGM-2P-10G-SFP
(2) Port Dual Speed 1000/10G SFP Module
Installs in Chassis Half Size Bay (1 per Chassis)

SISGM-4P-10G-SFP
(4) Port Dual Speed 1000/10G SFP Module
Installs in Chassis Half Size Bay (1 per Chassis)

SISGM-8P-1G-TX
(8) Port 10/100/1000Base-TX RJ-45 Module
Installs in Chassis Full Size Bay (3 per Chassis)

SISGM-8P-1G-SFP
(8) Port 100/1000Base-X SFP Module
Installs in Chassis Full Size Bay (3 per Chassis)

SISGM-2P-10G-SFP

SISGM-4P-10G-SFP

SISGM-8P-1G-SFP

SISGM-8P-1G-TX

SISGM-CHAS-L3

Modular Rack Mount Hardened Layer 3 Switch

Features

- Hardware routing, RIP V2.0 and static routing
- IEC 62439-2 MRP Media Redundancy Protocol
- IEEE 1588v2 PTP clock Synchronization
- IPv4/IPv6 internet protocols
- 8K MAC Table
- HTTPS/SSH network security
- SMTP client
- IP-based bandwidth management
- Application-based QoS management
- Device Binding security function
- DOS/DDOS auto prevention
- IGMP v2/v3 IGMP snooping
- SNMP v1/v2c/v3
- RMON
- 4096 VLANs Network Management
- VLAN tagging (256 VLANS)
- Voice VLAN
- User Authentication for security
- RADIUS/TACACS+
- GRE Support
- ACL
- Supports 9.6K Bytes Jumbo Frames
- LLDP Protocol
- G.8032 V2
- MRP - Multiple Registration Protocol
- VRRP Virtual Router Redundancy Protocol
- LACP - 14 Groups
- MSTP (RSTP/STP compatible)
- TOS/DiffServ supported
- IGMP v2/v3 Snooping - 128 Groups/VLAN
- IP-based bandwidth management
- DHCP Server/Client/Relay
- DNS client proxy
- Web-based, Telnet, Console (CLI) configuration

Note: Layer 2 switch is NOT upgradeable to Layer 3

IEC61850-3 compliant managed Ethernet switch with Layer 3 static routing and RIP V2.0. With complete support of MRP Ethernet Redundancy protocol and MSTP (RSTP/STP compatible), the switch can protect your mission-critical applications from network interruptions with its fast recovery technology. Supporting a wide operating temperature from -40°C to +65°C, the switch is suitable for use in challenging environments. Remote management can be accomplished through the web-based interface and Telnet, with local management available using the console port CLI.

Modular design features: 3 Full size bays that accommodate (8) port 100/1000Base modules, 1 Half size bay that accommodates (2) or (4) port 1000/10Gb SFP modules, and 2 Power supply bays.

Specifications

Standards	IEEE 802.1p COS IEEE 802.1D IEEE 802.1s IEEE 802.1AB IEEE 802.3u IEEE 802.z IEEE 802.3x IEEE 802.3az	IEEE 802.1Q IEEE 802.1w RSTP IEEE 802.1x IEEE 802.3 IEEE 802.3ab IEEE 802.3ae IEEE 802.3ad
Port Configurations	3 Full size (8) Port Bays 1 Half size (2/4) Port Bay 2 Power Supply Bays (1) RJ-45 Console Serial Port	
Network Redundancy	O-Ring, Open-Ring, Multi-Ring, MRP – Media Redundancy Protocol, MSTP (RSTP, STP Compatible)	
Dimensions	Width: 17.32" [440 mm] Depth: 12.8" [325 mm] Height: 1.73" [44 mm] 19" Rack Mountable, 1U Requires 1U open space above and below for cooling	
Power Consumption	46 Watts (max)	
Power Input (Redundant)	VDC 48 (24~72VDC) Dual Inputs VAC 100~240VAC/100~370VAC Dual Inputs Current Overload Protection	
Fault Output	Fault Relay 1A@24VDC	
Ingress Protection	IP30	
Environment	Operating with Extended Temperature 1G or 10G SFPs: -40°C to +55°C Operating with Extended Temperature 1G SFPs only: -40°C to +65°C Humidity: 5% to 95% (non-condensing)	
Weight	14.52 lbs. [6.58 kg]	
Substation Automation	IEC61850-3, IEEE1613	
Compliance	EMI: FCC Part 15' CISPR (EN 55022) Class A, EN61000-3-2, EN61000-3-3 Environmental: EN55024, EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge), EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11	
Warranty	5 Years	

Note: Product is shipped as separate modules allowing assembly and configuration during installation.

Ordering Information

SISGM-CHAS-L3
3 Full size bays - accommodates (8) port 100/1000Base modules
1 Half size bay - accommodates (2) or (4) port 1000/10Gb SFP module
2 Power supply bays

Optional Accessories (sold separately)

Power Supplies

SISGM-PWR-LVC
1 Power module, with cooling fans, supporting 24~72VDC

SISGM-PWR-HVC
1 Power module, with cooling fans, supporting 100 ~ 240VAC or 100 ~ 370VDC

Network Port Modules

SISGM-2P-10G-SFP
(2) Port Dual Speed 1000/10G SFP Module
Installs in Chassis Half Size Bay (1 per Chassis)

SISGM-4P-10G-SFP
(4) Port Dual Speed 1000/10G SFP Module
Installs in Chassis Half Size Bay (1 per Chassis)

SISGM-8P-1G-TX
(8) Port 10/100/1000Base-TX RJ-45 Module
Installs in Chassis Full Size Bay (3 per Chassis)

SISGM-8P-1G-SFP
(8) Port 100/1000Base-X SFP Module
Installs in Chassis Full Size Bay (3 per Chassis)

SISGM-2P-10G-SFP

SISGM-4P-10G-SFP

SISGM-8P-1G-SFP

SISGM-8P-1G-TX

SISTM1040-173D-LRT

Managed Hardened Fast Ethernet Switch

(7) 10/100Base-TX Ports + (3) 100/1000Base-X SFP/RJ-45 Combo Ports

The SISTM1040-173D-LRT is a hardened managed switch in a rugged enclosure used at the edge of a hardened network to provide Fast Ethernet connections. This switch has (7) 10/100Base-TX ports and (3) combo Gigabit RJ-45/SFP ports. The SFP slots will accept 100MB or Gigabit SFP modules to provide multimode or single mode fiber communications.

The SISTM1040-173D-LRT has redundant input power connections, and a fault alarm relay to ensure safe reliable operation in temperatures between -40°C and +70°C.

Ordering Information

SISTM1040-173D-LRT
(7) 10/100Base-TX Ports
+ (3) 100/1000Base-X SFP/RJ-45 Combo Ports

Optional Accessories (sold separately)

SFP Modules

Optional Accessories (sold separately)
Industrial Power Supplies

25083
10.8~13.2 VDC, 24 Watts

25130
48 VDC, 39.4 Watts

Features

- Auto-Negotiation
- Auto-MDI/MDIX
- IP30 Metal Enclosure
- DIN Rail Mounting and Wall Mount Brackets Included
- Dry Contact Relay Alarm Output
- Dual Auto-Sensing Redundant DC Power Inputs
- VLAN: Part based, 802.1Q, maximum 4096 VLAN groups, Q-in-Q
- DHCP server
- Management through Web GUI/CLI/SNMP
- Port Security
- Port trunking
- SSH/SSL
- Radius/TACACS+ authentication
- 802.1x port based access control
- 802.1p Quality of Service; TOS/Diffserv
- STP/RSTP/MSTP
- PTP Client
- IGMP v2/v3
- SNMP v1/v2/v3
- LLDP
- RMON
- Event Monitoring
- Reverse Polarity Protection

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3x IEEE 802.3z IEEE 802.3ab IEEE 802.3ad IEEE 802.1D IEEE 802.1p IEEE 802.1Q IEEE 802.1w IEEE 802.1s IEEE 802.1x IEEE 802.1AB
Status LEDs	PWR (Power): ON = Unit has power connected PWR 1 (Power): ON = primary power connected PWR 2 (Power): ON = backup power connected Fault: ON = Power failure or port link failure LNK/ACT (All Ports): ON = Link Flashing = data transmitting Ring Master, O-ring Operation (Participant)
Network Redundancy	Redundant Ring, Multi-Ring, STP, RSTP, MSTP
Dimensions	Width: 2.93" [74.3 mm] Depth: 4.3" [109.2 mm] Height: 6.05" [153.6 mm]
Power Consumption	12 Watts
Power Input	12 to 48 VDC, Overload Current Protection
Fault Output	Relay output contacts, 1A@24VDC load capacity
Ingress Protection	IP30
Environment	Operating: -40°C to +70°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2.29 lbs. [1.05 kg]
Compliance	Safety: EN 60950-1, UL-60950-1, CISPR/EN55022 Class A, FCC Part 15 Class A, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Warranty	Lifetime

SISTM1040-262D-LRT-B

Managed Hardened Fast Ethernet Switch

(16) 10/100Base-TX Ports + (2) 10/100/1000Base-X SFP/RJ-45 Combo Ports

The SISTM1040-262D-LRT-B switch is a (16) port managed hardened switch with (2) copper ports or (2) dual speed SFP slots supporting Fast Ethernet to Gigabit Ethernet speeds. The (2) SFP slots provide the ultimate flexibility by allowing SFP fiber connections at different speeds and at a variety of communication distances. The ports can also be used in a redundant ring for maximum network reliability

Transition Networks' managed Industrial Switches are hardened devices designed to reliably operate in harsh environments such as those found on factory floors, outdoor enclosures or other hazardous environments.

Features

- Auto-Negotiation
- Auto-MDI/MDIX
- Combo SFP ports support 100/1000Base-X SFPs
- Extended Operating Temperature (-40°C to 70°C)
- Dry Contact Relay Alarm Output
- Dual, Redundant, Auto-Sensing 12-48 VDC Power Inputs
- Overload Current Protection
- DIN Rail Mounting and Wall Mount Brackets Included
- PTP- Precision Timing Protocol
- RMON

Specifications

Standards	IEEE 802.3 IEEE 802.3ab IEEE 802.3u IEEE 802.1x IEEE 802.3ad IEEE 802.1d IEEE 802.1p IEEE 802.1Q IEEE 802.3z IEEE 802.3x IEEE 802.1W IEEE 802.1S IEEE 802.1AB
Status LEDs	PWR 1 (Power): ON = primary power connected PWR 2 (Power): ON = backup power connected FAULT: ON = power input failure on PWR1 or PWR2 LNK/ACT: ON = Link; FLASHING = data transmitting FDX/COL: ON = Full-duplex mode; FLASHING = collisions occurring RM: Ring Master
Dimensions	Width: 3.8" [96.4 mm] Depth: 4.27" [108.5 mm] Height: 6.06" [154 mm]
Power Consumption	12 Watts
Power Input	12 to 48 VDC; redundant inputs with over current protection
Ingress Protection	IP30
Environment	Operating: -40°C to +70°C Storage: -40°C to +85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	3.85 lbs. [1.75 kg]
Compliance	Safety: UL EN60950-1, Class 1/Div 2, Groups A, B, C, D, ATEX, FCC Class A, CE Mark, CE EN61000-4-2, CE EN61000-4-3, CE EN-61000-4-4, CE EN61000-4-5, CE EN61000-4-6, CE EN61000-4-8, CE EN61000-6-11, Environmental: IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)
Warranty	Lifetime

Ordering Information

SISTM1040-262D-LRT-B
(16) 10/100Base-TX (RJ-45) [100 m/328 ft.] with (2) 10/100/1000Base-T (RJ-45) or (2) 100/1000Base-X SFP Combo slots

Optional Accessories (sold separately)

SFP Modules

External AC/DC Power Supply

25083
Input: 85-264 VAC, 120-370VDC
Output: 10.8 ~ 13.2 VDC, 2A, 24 Watts
-20° to +60°C operating temperature

SPS-UA12DHT
Input: 90 ~ 264 VAC
Output: 12 VDC, 1.3A, 18 Watts
0°C to +70°C operating temperature

Management Features

- Port Based VLAN (4096)
- IEEE 802.1Q Tag VLAN
- GVRP
- Port Trunk with LACP QoS (Quality of Service)
- IEEE 802.1p Class of Service, Per port provides priority queues
- Port Based, Tag Based and Type of Service Priority
- SSL V2, V3, TLS V1.0, SSH-V2
- Port Security: MAC address entries/filter
  - IP Security: IP address security management to prevent unauthorized intruder
  - Login Security: IEEE 802.1X/RADIUS Authentication IGMP Query mode for Multi-Media Application
  - IGMP Multicast groups 1024
  - Support 0-ring and multi-ring, STP, RSTP, MSTP
  - Provide redundant backup feature and recovery time below 20ms.
- SNMP v1 v2c, v3/Web/Telnet/CLI
- DHCP Client/DHCP Server
- TFTP Firmware Upgrade
- TFTP Configuration Backup/Restore
- IPv4/IPv6 dual-stack

SISGM1040-184D-LRT

Managed Hardened Gigabit Ethernet Switch

(8) 10/100/1000Base-TX Ports + (4) 100/1000Base-X SFP Slots

The SISGM1040-184D-LRT is a managed Gigabit switch suitable for connecting remote devices in hazardous environments. The (4) dual speed SFP slots provide the ultimate flexibility by allowing SFP fiber connections at Fast Ethernet or Gigabit Ethernet speeds at a variety of communication distances. The ports can also be used in a redundant ring for maximum network reliability. This switch has redundant input power connections and a fault alarm relay to ensure safe reliable operation in temperatures between -40°C and +75° C.

Ordering Information

SISGM1040-184D-LRT
(8) 10/100/1000Base-T ports
+ (4) 100/1000 SFP slots
(Including DIN rail and wall mount brackets)

Optional Accessories (sold separately)

SFP Modules

External AC/DC Power Supply

25083
Input: 85-264 VAC, 120-370VDC
Output: 10.8 ~ 13.2 VDC, 2A, 24 Watts

SPS-UA12DHT
Input: 90 ~ 264 VAC
Output: 12 VDC, 1.3A, 18 Watts

Features

- Wire speed / non-blocking switching
- IP30 metal enclosure
- Reset Button
- Ethernet isolation: 1500 VRMS / 1 minute
- SFP slots support 100/1000 Dual Mode
- Dry Contact Relay Alarm Output
- Wide-range Redundant Power Design
- Redundant ring V2; single & multiple rings supported, link loss recovery < 20ms
- IEEE 802.1w RSTP, IEEE802.1s MSTP, IEEE802.1D STP
- IEEE802.3x flow control and back-pressure
- IEEE 802.1ab Link Layer Discovery Protocol (LLDP)
- SSL/SSH
- DIN Rail Mounting and Wall Mount Brackets

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3ab IEEE 802.3z IEEE 802.3x IEEE 802.3ad IEEE 802.1d IEEE 802.1p IEEE 802.1Q IEEE 802.1x IEEE 802.1w
MAC Addresses	8K
Jumbo Frames	9K Bytes
Ports	(8) 10/100/1000Base-T ports (4) 100/1000Base-X SFP slots (1) RS-232 console port
Status LEDs	P1 (Power) P2 (Power) Alarm (Alarm Event) per port Link/Act, per port speed
Dimensions	Width: 2.36" [60 mm] Depth: 4.29" [109 mm] Height: 6.06" [154 mm]
Power Consumption	10.5 Watts (max)
Power Input	12 - 58 VDC redundant power with reverse polarity protection
Environment	Operating: -40°C to 75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2.34 lbs. [1.06 kg]
MTBF	> 25 years
Vibration, Shock, & Freefall	IEC68-2-6, -27, -32
Compliance	Safety: UL60950-1, CE/FCC, EN50121-4, CSA C22, EN61010-1, CE FCC Part 15, CISPR 22(EN55022) Class A, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6
Warranty	5 Years

Features (Continued)

- Port Trunk with LACP
- IEEE 802.1p Class of Service,Per port provides 8 priority queues, port-based shaping, scheduling schemes: SPQ, WRR, SPQ + WRR
- VLAN groups up to 1024, port based, tag based, Q in Q
- Port Mirror
- Port Security: IP and MAC-based, IEEE 802.1x
- Access Control
- Login Security IEEE 802.1X/RADIUS/ TACACS+
- IGMP v1/v2/v3; IGMP snooping and querying
- Syslog
- NTP/SNTP
- SNMP v1 v2c, v3/Web/Telnet/CLI
- DHCP Client/DHCP Server Relay, Snooping, Option 82
- Web-based Firmware Upgrade
- Web-based Configuration Backup/ Restore
- IPv4/IPv6 dual-stack

INDURA™

Managed Hardened Gigabit Ethernet Switch

IND-3280 IND-3284

INDURA™ is IEC 61850-3 certified, and offers advanced industrial Ethernet management, redundancy and security features coupled with rugged hardware performance for hardened or outdoor environment applications requiring high reliability and availability. Its Gigabit and 2.5 Gigabit SFP slots allow maximum flexibility in a wide range of fiber supported network architectures. INDURA™ supports IEEE 1588v2 Precision Time Protocol for real-time automation applications. IEEE 802.3ah / IEEE 802.1ag / ITU -T Y.1731 compliance makes INDURA™ an excellent choice for networks that need fault detection and fault isolation.

Transition Networks' INDURA™ series of hardened, managed switches provide fully-hardened solutions designed to operate reliably in harsh environments.

Applications include: Power Generation, Transmission & Distribution, Electrical Substation, Smart Grid, Oil & Gas, Petrochemical, Mining, Water/Wastewater Treatment Plants, Shipyards / Airports, Outdoor IP Video Surveillance, Intelligent Transportation Systems, Process and Factory Automation requiring Precision Time Protocol, High Availability Fiber-based Network Ring Architectures, and Cellular Backhaul.

Features

- Innovative passive cooling design to maintain operating temperature of SFPs
- Certified IEC 61850-3
- Extended operating temperature (-40°C to 75°C)
- Redundancy: ITU-T G.8032v2 (Ethernet Ring Protection Switching) with Recovery < 50 ms, STP/RSTP/MSTP
- Synchronization: IEEE 1588v2 PTP
- System Alarms: Fault Output Relay, SYSLOG, SNMP Traps
- Security: IEEE 802.1x User Authentication, RADIUS and TACACS+, SNMPv3
- IPv4 and IPv6 support
- Link Aggregation LACP
- OAM Support: Link OAM IEEE 802.3ah, Service OAM IEEE 802.1ag, ITU-T Y.1731
- Jumbo Frame Support (9.6K)
- Quality of Service (802.1p) for real-time traffic prioritization
- VLAN (802.1Q) with double tagging
- IGMP v2/v3
- Management via Web, CLI, Telnet, SSH, SSL, SNMPv1, v2c & v3
- IEC 62439 Media Redundancy Protocol (MRP), Parallel Redundancy Protocol (PRP) (In Development)
- DIN Rail Mount Options

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ab IEEE 802.3x IEEE 802.3ad IEEE 802.1D IEEE 802.1p IEEE 802.1Q IEEE 802.1w IEEE 802.1s IEEE 802.1x IEEE 802.1AB IEEE 802.3ah IEEE 802.3ag/Y.1731 IEEE 1588-2008 (v2)
Status LEDs	Power, Fault Relay Alarm. Port Activity, Duplex
Dimensions	Width: 5.05" [128.27 mm] Depth: 5.64" [143.256 mm] Height: 6.8" [178.72 mm]
Power Consumption	14 Watts (max)
Power Input	18-57 VDC; dual input power (-L model) 125-300 VDC, 100-250 VAC; single input power (-H model)
Environment	Operating: -40°C to 75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	6.75 lbs. [3.68 kg]
Compliance	Safety: UL 60950 IEC 61850-3, EN 60079-15:2005
Warranty	Lifetime

Ordering Information:

IND-3280-L
(4) 10/100/1000 Mbps RJ-45 ports
(2) 100/1000 Mbps SFP slots
(2) 100/1000/2500 Mbps SFP slots
L = 18-57 VDC dual input power

IND-3284-L
(7) or (8) 10/100/1000 Mbps RJ-45 ports
(1) or (2) 100/1000 Mbps SFP slots
(2) 100/1000/2500 Mbps SFP slots
L = 18-57 VDC dual input power

IND-3280-H
(4) 10/100/1000 Mbps RJ-45 ports
(2) 100/1000 Mbps SFP slots
(2) 100/1000/2500 Mbps SFP slots
H = 125-300 VDC, 100-250 VAC
single input power

IND-3284-H
(7) or (8) 10/100/1000 Mbps RJ-45 ports
(1) or (2) 100/1000 Mbps SFP slots
(2) 100/1000/2500 Mbps SFP slots
H = 125-300 VDC, 100-250 VAC
single input power

Optional Accessories (sold separately)

SFP Modules

IND-328x-x Mouse Guard Side Draft Vent Hood

External AC/DC Power Supply

25130
Input: 85-264 VAC, 120-370VDC
Output: 48 VDC, .83A, 39.8 Watts

25131
Input: 88 ~ 264 VAC, 124~370VDC
Output: 48-55 VDC, 1.6A, 76.8 Watts

SISPM1040-3166-L

Managed Hardened Gigabit Ethernet PoE+ Rack Mountable Switch

(16) 10/100/1000Base-T PoE+ Ports + (4) 100/1000Base-X SFP Slots + (2) 1G/10GBase-X SFP+ Slots

This switch is a next generation rack mount hardened switch with 80Gbps switching capacity. It provides (16) 10/100/1000 PoE+ ports, (4) 100/1000 dual speeds SFP ports and has (2) additional 1G/10G SFP+ slots.

Features

- IPv4/IPv6 dual protocols
- Supports Jumbo Frame up to 9K bytes
- Authentication - RADIUS, TACACS+
- DHCP Relay, DHCP Snooping, DHCP Server
- L2/L3/L4 ACLs Support MAC, VLAN ID, or IP address, protocol, per port
- LLDP (Link Layer Discovery Protocol)
- ITU-T G.8031 Ethernet Linear Protection
- ITU-T G.8032 Ethernet Ring Protection Switching
- Rapid Ring for fast recovery
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security
- Power Mirroring
- Syslog

PoE Features

- Compliant with IEEE 802.3at PoE+
- Compliant with IEEE 802.3af PoE
- 802.1AB LLDP-MED Configuration
- PoE Configuration
- PoE Scheduling
- Power Delay
- Auto Power Reset
- DHCP per Port

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.3D IEEE 802.3w IEEE 802.3s IEEE 802.3Q IEEE 802.3p IEEE 802.3ad IEEE 802.3AB IEEE 802.3af IEEE 802.3at
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
Connectors	(16) 100/1000 Mbps RJ-45 ports (4) 100/1000 Mbps SFP slots (2) 1G/10G Mbps SFP+ slots (1) Console RJ-45 port
MAC Address	32K MAC address table
Backplane	80 Gbps
Dimensions	Width: 17.4" [442 mm] Depth: 11.81" [300 mm] Height: 1.73" [44 mm]
Power Input	52 - 57VDC Terminal Block or 100- 250VAC Maximum Power Consumption (without PoE): 36 Watts
Power-over-Ethernet	Max PoE Budget 250 Watts (PoE power not available with use of AC power supply) 15 Watts for (16) ports simultaneously 30 Watts for (8) ports simultaneously
Environment	Operating: -40°C to +75°C (1G SFPs) Operating: -40°C to +60°C (10G SFPs)
Weight	10.58 lbs. [4.8 kg]
Compliance	FCC Class A; CE; NEMA TS-2 Safety: LVD
Compliant	IEC61850-3, IEEE 1613, UL, Class 1 Div 2
Warranty	5 Years

Ordering Information

SISPM1040-3166-L
(16) 10/100/1000Base-T PoE+ and
(4) 100/1000Base-X SFP slots and
(2) 1G/10GBase-X SFP+ slots
52V - 57 VDC or 100V - 250VAC

Optional Accessories (sold separately)

Hardened SFP and SFP+ Modules

Industrial Power Supplies (sold separately)

25104
Input: 85-264 VAC, 124-370 VDC
Output: 48 ~ 55 VDC, 5A, 240 Watts

25160
Input 90-264 VAC, 127-370 VDC
Output: 48 ~ 55 VDC, 10A, 480 Watts

Software Features

- Management: Web Management, SNMP V1/V2c/V3, SSH, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk
- Multicast: Support IGMP Snooping V1/V2/V3, MVR, MLD Snooping V1/V2
- Quality of Service: Supports 8 hardware queues. Strict priority and WRR, Ingress policer, Egress shaping and per port rate control
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, Q-in-Q, MAC-based VLAN, Management VLAN, Voice VLAN, Private VLAN
- Firmware Update through TFTP and HTTP/HTTPs
- E-Line, E-LAN, E-TREE, E-ACCESS, IEEE 802.3ah, IEEE 802.1ag, ITU-T Y.1731, Y.1564
- Support IEEE 1588 v2 PTP (TC)

Device Management System (DMS)

- Graphical Monitoring - Topology View, Floor View, Map View
- Find my Switch
- Traffic Monitoring
- Troubleshooting - Network Diagnostic, protection mechanism, performance and link management

SISPM1040-3248-L

Managed Hardened Gigabit Ethernet PoE+ Rack Mountable Switch

(24) 10/100/1000Base-T PoE+ Ports + (4) 100/1000Base-X SFP Slots + (4) 1G/10GBase-X SFP+ Slots

This switch is a next generation rack mount hardened switch with 136Gbps switching capacity. It provides (24) 10/100/1000 PoE+ ports, (4) 100/1000 dual speeds SFP ports, It has additional (4) 1G/10G SFP+ slots.

Features

- IPv4/IPv6 dual protocols
- Supports Jumbo Frame up to 9K bytes
- Authentication - RADIUS, TACACS+
- DHCP Relay, DHCP Snooping, DHCP Server
- L2/L3/L4 ACLs Support MAC, VLAN ID, or IP address, protocol, per port
- LLDP (Link Layer Discovery Protocol)
- ITU-T G.8031 Ethernet Linear Protection
- ITU-T G.8032 Ethernet Ring Protection Switching
- Rapid Ring for fast recovery
- IEEE 802.3az Energy Efficiency
- IP Source Guard, Port Security
- Power Mirroring
- Syslog
- Routing protocols: Static, Open Shortest Path First version 2 (OSPF v2)

PoE Features

- Compliant with IEEE 802.3at PoE+
- Compliant with IEEE 802.3af PoE
- 802.1AB LLDP-MED Configuration
- PoE Configuration
- PoE Scheduling
- Power Delay
- Auto Power Reset
- DHCP per Port

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.3D IEEE 802.3w IEEE 802.3s IEEE 802.3Q IEEE 802.3p IEEE 802.3ad IEEE 802.3AB IEEE 802.3af IEEE 802.3at
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
Connectors	(24) 100/1000 Mbps RJ-45 ports (4) 100/1000 Mbps SFP slots (4) 1G/10G Mbps SFP+ slots (1) Console RJ-45 port
MAC Address	32K MAC address table
Backplane	136 Gbps
Dimensions	Width: 17.4" [442 mm] Depth: 11.81" [300 mm] Height: 1.73" [44 mm]
Power Input	52 - 57VDC Terminal Block or 100- 250VAC, Maximum Power Consumption (without PoE): 36 Watts
Power-over-Ethernet	Max PoE Budget 370 Watts (PoE power not available with use of AC power supply) 15 Watts for (24) ports simultaneously 30 Watts for (12) ports simultaneously
Environment	Operating: -40°C to +75°C (1G SFPs) Operating: -40°C to +60°C (10G SFPs)
Weight	11.02 lbs. [5 kg]
Compliance	FCC Class A; CE; NEMA TS-2 Safety: LVD
Compliant	IEC61850-3, IEEE 1613, UL, Class 1 Div 2
Warranty	5 Years

Ordering Information

SISPM1040-3248-L
(24) 10/100/1000Base-T PoE+ and
(4) 100/1000Base-X SFP slots and
(4) 1G/10GBase-X SFP+ slots
52V - 57 VDC or 100V - 250VAC

Optional Accessories (sold separately)

Hardened SFP and SFP+ Modules

Industrial Power Supplies (sold separately)

25104
Input: 85-264 VAC, 124-370 VDC
Output: 48 ~ 55 VDC, 5A, 240 Watts

25160
Input 90-264 VAC, 127-370 VDC
Output: 48 ~ 55 VDC, 10A, 480 Watts

Software Features

- Management: Web Management, SNMP V1/V2c/V3, SSH, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk
- Multicast: Support IGMP Snooping V1/V2/V3, MVR, MLD Snooping V1/V2
- Quality of Service: Supports 8 hardware queues. Strict priority and WRR, Ingress policer, Egress shaping and per port rate control
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, Q-in-Q, MAC-based VLAN, Management VLAN, Voice VLAN, Private VLAN
- Firmware Update through TFTP and HTTP/HTTPs
- E-Line, E-LAN, E-TREE, E-ACCESS, IEEE 802.3ah, IEEE 802.1ag, ITU-T Y.1731, Y.1564
- Support IEEE 1588 v2 PTP (TC)

Device Management System (DMS)

- Graphical Monitoring - Topology View, Floor View, Map View
- Find my Switch
- Traffic Monitoring
- Troubleshooting - Network Diagnostic, protection mechanism, performance and link management

SISPM1040-384-LRT-C

Managed Hardened Gigabit Ethernet PoE+ Switch

(8) 10/100/1000Base-T Ports + (4) 100/1000Base-X SFP Slots

The SISPM1040-384-LRT-C is a full managed PoE+ switch suitable for connecting and powering devices in hardened environments. The switch can supply up to 30 Watts per port on all eight ports simultaneously. The switch also includes the embedded Device Management System (DMS) software that provides the advanced tools necessary for total management of all IP addressable devices. The unique DMS provides security integrators with lower overall cost, less downtime and easier management of the entire PoE+ network.

Transition Networks' hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other challenging environments.

Ordering Information

SISPM1040-384-LRT-C
(8) 10/100/1000Base-T PoE+ [100 m/328 ft.] with (4) 100/1000Base-X SFP slots

Optional Accessories (sold separately)

SFP Modules

Industrial Power Supplies:

25104
Input: 88-264 VAC, 124-370 VDC
Output: 48~55 VDC, 5.0A, 240 Watts

25105
Input: 88-264 VAC, 124-370 VDC
Output: 48~55 VDC, 2.5A, 120 Watts

Mounting Brackets

WMBH-01
Wall Mount Bracket

Features

- Store-and-Forward Architecture with 24 Gbps Switching Bandwidth
- Supports Jumbo frames up to 9.6K Bytes
- Ring Protections
  - Industry standard G.8032 Ethernet Ring Protection Switching (ERPS)
  - Support G.8031 Ethernet Linear Protection Switching (EPS)
  - Rapid Ring with recovery time less than 20ms
- Radius, TACACS+, User Authentication
- Supports LLDP Protocol
- HTTPS/SSH v1/v2 Network Security
- Temperature Detection and Alarm
- Support HW Watchdog to resume operation from CPU hang up
- IEEE 1588 v2 PTP
- Port Mirroring
- Power-over-Ethernet
  - Port Configuration
  - Auto Power Reset (APR)
  - DHCP per Port
  - PoE Scheduling
  - Complies to IEEE 802.3at, IEEE802.3af
  - 240 Watts PoE budget
  - 30 Watts output on all 8 ports
- IEEE 802.3ad LACP, up to 6 groups and up to 4 ports per group
- Up to 4K VLAN groups, Port based, 802.1Q tag, Q-in-Q, MAC based VLAN, Management VLAN, Private VLAN Edge, Voice VLAN, GVRP

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ab IEEE 802.3x IEEE 802.3ad IEEE 802.1p IEEE 802.1Q IEEE 802.1w IEEE 802.1s IEEE 802.1x IEEE 802.1AB IEEE 802.3ad IEEE 802.3af IEEE 802.3at IEEE 802.3ah IEEE 802.1ag IEEE 1588 v2 ITU-T Y.1731 ITU-T G.8031 ITU-T G.8032
MAC Address	8K
Backplane	24Gbps
Serial Console	RJ-45
Status LEDs	System, Power1, Ring Master, Coupling, Power2, Alarm, Port Status
Dimensions	Width: 2.4" [62 mm] Depth: 5.3" [135 mm] Height: 5.4" [130 mm]
DIP Switch (2-pin)	Rapid Ring setting
Reset button	Reset the switch, Restore Factory default
Digital output (relay)	24VDC/1A
Digital input	Level 0 (Low): 0V to 6V Level 1 (High): 10V to 24V
Power Input	48 - 57VDC; redundant inputs
Power Consumption Without PoE	11.1 Watts
Ingress Protection	IP30
Environment	Operating: -40°C to +75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2.2 lbs. [1 kg]
Compliance	EMI: CE, FCC Part 15, EN61000-4-2, EN61000-4-3, EN-61000-4-4, EN61000- 4-5, EN61000-4-6, EN61000-4-8, IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration), NEMA TS-2 Safety: IEC60950-1, UL Class 1/Div 2
Compliant	EN50155, EN50121-4, DNV, IEC61850-3, IEEE1613
Warranty	5 Years

Features (Continued)

- ACL - up to 256 entries, Drop or Rate limiting based on: Source and Destinations MAC, VLAN ID and IP address, protocol, port, DSCP/ IP precedence, TCP/UDP source and destination ports, 802.1p priority, Ethernet type, ICMP packets and TCP flag
- Loop Protection
- Quality of Service
  - Supports 8 hardware queues
  - Scheduling: strict priority and WRR, Queue assignment based on DSCP and class of service
  - Classification: Port based, 802.1p VLAN priority based, IPV4/IPV6 precedence / DSCP based, DiffServ, Classification and re-marking ACLs
  - Rate limiting: Ingress policer, Engress shaping and rate control, per port
- IPv4/IPv6 dual stacks and static routing
- Port Security, IP Source Guard
- System Alarms via SYSLOG / SNMP Trap
- DHCP Client/Server, DHCP relay, Option 82
- Port based network access control (802.1x)
- Web / SNMP v1,v2c,v3 / Telnet / CLI management
- Device Management System (DMS)
  - Graphical Monitoring - Topology View, Floor view, Map view
  - Find my Switch
  - Traffic Monitoring
  - Trouble shooting - Network diagnostic, protection mechanism, performance and Link Management

SISPM1040-362-LRT

Managed Hardened Gigabit Ethernet PoE+ Switch

(4) 10/100/1000Base-T PoE+ Ports + (2) 10/100/1000Base-T RJ-45 + (2) 100/1000Base-X SFP Slots

The SISPM1040-362-LRT is a full managed PoE+ switch suitable for connecting and powering devices in hardened environments. The switch can supply up to 30 Watts per port on all four PoE ports simultaneously. The switch also includes the embedded Device Management System (DMS) software that provides the advanced tools necessary for total management of all IP addressable devices. The unique DMS provides security integrators with lower overall cost, less downtime and easier management of the entire PoE+ network.

Transition Networks' hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other challenging environments.

Features

- Store-and-Forward Architecture with 16 Gbps Switching Bandwidth
- Supports Jumbo frames up to 9.6K Bytes
- Ring Protections
  - Industry standard G.8032 Ethernet Ring Protection Switching (ERPS)
  - Support G.8031 Ethernet Linear Protection Switching (EPS)
  - Rapid Ring with recovery time less than 20ms
- Radius, TACACS+, User Authentication
- Supports LLDP Protocol
- HTTPS/SSH v1/v2 Network Security
- Temperature Detection and Alarm
- Support HW Watchdog to resume operation from CPU hang up
- IEEE 1588 v2 PTP
- Port Mirroring
- Power-over-Ethernet
  - Port Configuration
  - Auto Power Reset (APR)
  - DHCP per Port
  - PoE Scheduling
  - Complies to IEEE 802.3at, IEEE802.3af
  - 120 Watts PoE budget
  - 30 Watts output on all 4 PoE+ ports
- IEEE 802.3ad LACP, up to 6 groups and up to 4 ports per group
- Up to 4K VLAN groups, Port based, 802.1Q tag, Q-in-Q, MAC based VLAN, Management VLAN, Private VLAN Edge, Voice VLAN, GVRP

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ab IEEE 802.3x IEEE 802.3ad IEEE 802.1p IEEE 802.1Q IEEE 802.1w IEEE 802.1s IEEE 802.1x IEEE 802.1AB IEEE 802.3ad IEEE 802.3af IEEE 802.3at IEEE 802.3ah IEEE 802.1ag IEEE 1588 v2 ITU-T Y.1731 ITU-T G.8031 ITU-T G.8032
MAC Address	8K
Backplane	16Gbps
Serial Console	RJ-45
Status LEDs	System, Power1, Ring Master, Coupling, Power2, Alarm, Port Status
Dimensions	Width: 2.4" [62 mm] Depth: 5.3" [135 mm] Height: 5.4" [130 mm]
DIP Switch (2-pin)	Rapid Ring setting
Reset button	Reset the switch, Restore Factory default
Digital output (relay)	24VDC/1A
Digital input	Level 0 (Low): 0V to 6V Level 1 (High): 10V to 24V
Power Input	48 - 57VDC; redundant inputs with reverse polarity protection and overload current protection
Power Consumption Without PoE	8.2 Watts
Ingress Protection	IP30
Environment	Operating: -40°C to +75°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.9 kg]
Compliance	EMI: CE, FCC Part 15, EN61000-4-2, EN61000-4-3, EN-61000-4-4, EN61000- 4-5, EN61000-4-6, EN61000-4-8, IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration), NEMA TS-2 Safety: IEC60950-1, UL Class 1/Div 2
Compliant	EN50155, EN50121-4, DNV, IEC61850-3, IEEE1613
Warranty	5 Years

Ordering Information

SISPM1040-362-LRT
(4) 10/100/1000Base-T PoE+
with (2) 10/100/1000Base-T RJ-45
+ (2) 100/1000Base-X SFP slots

Optional Accessories (sold separately)

SFP Modules

Industrial Power Supplies:

25104
Input: 85-264 VAC, 124-370 VDC
Output: 48~55 VDC, 5.0A, 240 Watts

25105
Input: 85-264 VAC, 124-370 VDC
Output: 48~55 VDC, 2.5A, 120 Watts

Mounting Brackets

WMBH-01
Wall Mount Bracket

Features (Continued)

- ACL - up to 256 entries, Drop or Rate limiting based on: Source and Destinations MAC, VLAN ID and IP address, protocol, port, DSCP/ IP precedence, TCP/UDP source and destination ports, 802.1p priority, Ethernet type, ICMP packets and TCP flag
- Loop Protection
- Quality of Service
  - Supports 8 hardware queues
  - Scheduling: strict priority and WRR, Queue assignment based on DSCP and class of service
  - Classification: Port based, 802.1p VLAN priority based, IPV4/IPV6 precedence / DSCP based, DiffServ, Classification and re-marking ACLs
  - Rate limiting: Ingress policer, Engress shaping and rate control, per port
- IPv4/IPv6 dual stacks and static routing
- Port Security, IP Source Guard
- System Alarms via SYSLOG / SNMP Trap
- DHCP Client/Server, DHCP relay, Option 82
- Port based network access control (802.1x)
- Web / SNMP v1,v2c,v3 / Telnet / CLI management
- Device Management System (DMS)
  - Graphical Monitoring - Topology View, Floor view, Map view
  - Find my Switch
  - Traffic Monitoring
  - Trouble shooting - Network diagnostic, protection mechanism, performance and Link Management

SISPM1040-582-LRT

Managed Hardened Gigabit Ethernet PoE++ Switch

(8) 10/100/1000Base-T PoE++ Ports + (2) 100/1000Base-X SFP Slots

The SISPM1040-582-LRT is a full managed PoE++ switch suitable for connecting and powering devices in hardened environment. It has (8) 10/100/1000 PoE++ ports with (2) 100/1000 dual speed SFP slots. The switch can supply up to 90 Watts per port on four ports or 60 Watts per port on eight ports simultaneously. The switch also includes the embedded Device Management System (DMS) software that provides the advanced tools necessary for total management of all IP addressable devices. The unique DMS provides security integrators with lower overall cost, less downtime and easier management of the entire PoE+ network.

Transition Networks' hardened switches are certified to operate reliably in harsh environments such as those found on factory floors, outdoor enclosures or other challenging environments.

Ordering Information

SISPM1040-582-LRT
(8) 10/100/1000Base-T PoE++ and
(2) 100/1000Base-X SFP slots
52V - 57 VDC

Optional Accessories (sold separately)

Hardened SFP Modules

Industrial Power Supplies (sold separately)

25160
Input 90-264 VAC, 127-370 VDC
Output: 48 ~ 55 VDC, 10A, 480 Watts

25104
Input: 85-264 VAC, 124-370 VDC
Output: 48 ~ 55 VDC, 5A, 240 Watts

Mounting Brackets (sold separately)

WMBH-01
Wall Mount Bracket

Features

- IPv4/IPv6 dual protocols
- Supports Jumbo Frame up to 9K bytes
- Authentication - RADIUS, TACACS+
- DHCP Relay, DHCP Snooping, DHCP Server
- L2/L3/L4 ACLs Support MAC, VLAN ID, or IP address, protocol, per port
- LLDP (Link Layer Discovery Protocol)
- ITU-T G.8031 Ethernet Linear Protection
- ITU-T G.8032 Ethernet Ring Protection Switching
- Rapid Ring for fast recovery
- IEEE 802.3az Energy Efficiency
- IP Source Gaurd, Port Security
- Power Mirroring
- Syslog

PoE Features

- Compliant with IEEE 802.3bt PoE++
- Compliant with IEEE 802.3at PoE+
- Compliant with IEEE 802.3af PoE
- 480 Watts PoE Budget
- Up to 90 Watts on 4 ports simultaneously
- 60 Watts output on all 8 ports simultaneously
- 802.1AB LLDP-MED Configuration
- PoE Configuration
- PoE Scheduling
- Power Delay
- Auto Power Reset
- DHCP per Port

Specifications

Standards	IEEE 802.3 IEEE 802.3u IEEE 802.3z IEEE 802.3ae IEEE 802.3x IEEE 802.3ad IEEE 802.3D IEEE 802.3w IEEE 802.3s IEEE 802.3Q IEEE 802.3p IEEE 802.3ad IEEE 802.3AB IEEE 802.3af IEEE 802.3at IEEE 802.3bt IEEE 802.3ah IEEE 802.1ag IEEE 1588 v2 ITU-T Y.1731 ITU-T G.8031 ITU-T G.8032
Protocols	CSMA/CD
Technology	Store-and-forward switching architecture
Connectors	(8) 100/1000 Mbps RJ-45 ports (2) 100/1000 Mbps SFP slots (1) Console RJ-45 port
MAC Address	8K MAC address table
Backplane	20 Gbps
DIP Switch	Rapid Ring Setting (2-Pin)
Reset Button	Reset the switch, restore factory default
Digital Output (relay)	24VDC/1A
Digital Input	Level 0 (Low): 0V to 6V Level 1 (High): 10V to 24V
Dimensions	Width: 2.44" [62 mm] Depth: 5.12" [130 mm] Height: 5.31" [135 mm]
Power Input	52 - 57VDC dual inputs Terminal Block
Power-over-Ethernet	Max PoE Budget 480 Watts 60 Watts for (8) ports simultaneously Up to 90 Watts on (4) ports simultaneously
Environment	Operating: -40°C to +75°C (DC input)
Compliance	FCC Class A; CE; NEMA TS-2 Safety: EN62368-1
Compliant	IEC61850-3, IEEE 1613, UL, Class 1 Div 2
Warranty	5 Years

Software Features

- Management: Web Management, SNMP V1/V2c/V3, SSH, CLI
- Port Trunk: Supports IEEE 802.3ad port trunk with link aggregation control protocol (LACP) and static trunk
- Multicast: Support IGMP Snooping V1/V2/V3, MVR, MLD Snooping V1/V2
- Quality of Service: Supports 8 hardware queues. Strict priority and WRR, Ingress policer, Egress shaping and per port rate control
- Spanning Tree: Supports IEEE 802.1s MSTP, IEEE 802.1w RSTP and IEEE 802.1d STP Compliant
- VLAN: Port Based VLAN, IEEE 802.1Q tag-based, up to 4k VLAN entries, QinQ, MAC-based VLAN, Management VLAN, Voice VLANs, and Private VLAN
- Firmware Update through TFTP and HTTP/HTTPs
- IEEE 802.3ah, IEEE 802.3ag, ITU-T Y.1731
- Support IEEE 1588 v2 PTP

Device Management System (DMS)

- Graphical Monitoring - Topology View, Floor View, Map View
- Find my Switch
- Traffic Monitoring
- Troubleshooting - Network Diagnostic, protection mechanism, performance and link management

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25130

Industrial DIN Rail Mounted Power Supply

25130

Features

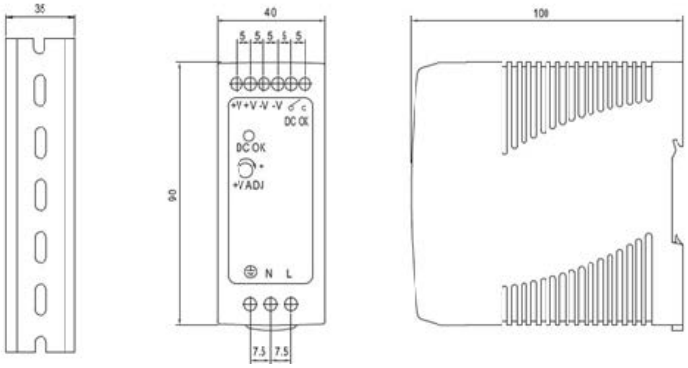
- Variable AC input range
- Protected against: Overload and Over Voltage
- Convection air cooling
- DIN rail mountable
- UL 508 approved
- Full load burn in test
- RoHS Compliant
- MTBF 301.7Khrs

Specifications

Output	Output Voltage: 48VDC Current Rating: 0.83A Power Rating: 39.8 Watts Ripple & Noise Max: 200mVp-p Voltage Range: 48~56VDC Voltage Tolerance: ±1.0% Line Regulation: ±1.0% Load Regulation: ±1.0% Setup, Rise Time: 500ms, 30ms Hold Up Time: 20ms/115VAC
Input	Voltage Range Switch Selectable: 88~264VAC, 120~370VDC Frequency Range: 47~63Hz Efficiency: 88% AC Current (Typical): 1.1A@115VAC, 0.7A@230VAC Inrush Current (Cold): 30A@115VAC, 60A@230VAC Leakage Current: <1mA@240VAC
Protection	Overload: 105~150% Overvoltage: 57.6~64.8V
Dimensions	Width: 1.57" [40 mm] Depth: 3.94" [100 mm] Height: 3.54" [90 mm]
Environment	Operating: -20°C to +70°C Storage: -40°C to +85°C Humidity: 20% to 90% (non-condensing)
Weight	0.66 lbs. [0.3 kg]
Compliance	Safety: UL508, TUV EN60950-1, NEC Class 2, LPS Compliant, UL60950-1, EN55011, EN55022, CISPR22, EN61204-3 Class B, EN61000-3-2, EN61000-3-3, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN55024, EN61000-6-2, EN50082-2, EN61204-3 A, IEC60068-2-6 (Vibration)
Warranty	Lifetime

Ordering Information

25130
Industrial DIN rail mounted power supply
48VDC, 39.8Watts



25131

Industrial DIN Rail Mounted Power Supply

25131

Features

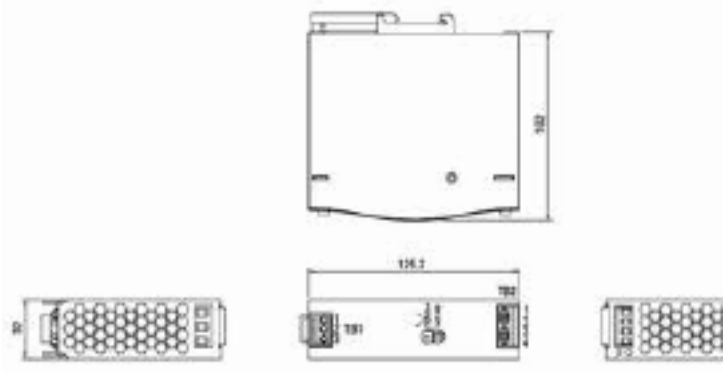
- Auto-Negotiation
- Variable AC input range
- Protected against:
  - Overload
  - Over Voltage
  - Over Temperature
- Convection air cooling
- DIN Rail mountable
- UL 508 approved
- Full load burn in test
- RoHS compliant
- MTBF 481.9Khrs

Specifications

Output	Output Voltage: 48VDC Current Rating: 1.6A Power Rating: 76.8 Watts Ripple & Noise Max: 120mVp-p Voltage Range: 48~55VDC Voltage Tolerance: ±1.0% Line Regulation: ±0.5% Load Regulation: ±1.0% Setup, Rise Time: 3000ms, 60ms Hold Up Time: 20ms/115VAC
Input	Voltage Range Switch Selectable: 88~264VAC, 124~370VDC Frequency Range: 47~63Hz Efficiency: 90% AC Current (Typical): 1.4A@115VAC, .85A@230VAC Inrush Current (Cold): 30A@115VAC, 50A@230VAC Leakage Current: <1mA@240VAC
Protection	Overload: 110~150% Overvoltage: 56~65.8V
Dimensions	Width: 1.26" [32 mm] Depth: 4.02" [102 mm] Height: 4.93" [125.2 mm]
Environment	Operating: -30°C to +70°C Storage: -40°C to +85°C Humidity: 20% to 95% (non-condensing)
Weight	1.12 lbs. [0.51 kg]
Compliance	Safety: UL508, TUV EN60950-1, IEC60068-2-6 (Vibration) EN55022, CISPR22, EN61204-3 Class B, EN61000-3-2, EN61000-3-3, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN55024, EN61000-6-2, EN50082-2, EN61204-3 A, IEC60068-2-6 (Vibration)
Warranty	Lifetime

Ordering Information

25131
Industrial DIN rail mounted power supply
48VDC, 76.8Watts



25135

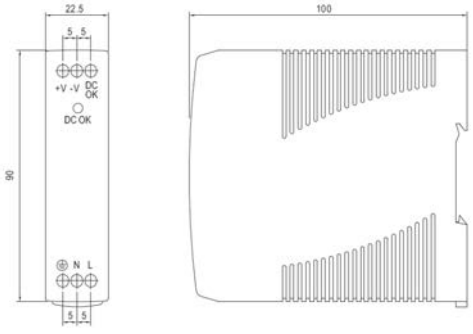
Industrial DIN Rail Mounted Power Supply

Features

- Universal AC input range
- Protected against:
  - Overload
  - Over Voltage
- Convection air cooling
- DIN Rail mountable
- UL 508 approved
- Full load burn in test
- RoHS compliant
- MTBF 584Khrs
- Lifetime warranty

Specifications

Output	Voltage: 24VDC Current Rating: .42A Power Rating: 10 Watts Ripple & Noise Max: 150mVp-p Voltage Tolerance: ±2.0% Line Regulation: ±1.0% Load Regulation: ±2.0% Setup, Rise Time: 1000ms, 30ms Hold Up Time: 25ms/115VAC
Input	Voltage Range: 85~264VAC, 120~370VDC Frequency Range: 47~63Hz Efficiency: 84% AC Current (Typical): .33A@115VAC .21A@230VAC Inrush Current (Cold): 35A@115VAC 70A@230VAC Leakage Current: <1mA@240VAC
Protection	Overload: 105% Rated Output Overvoltage: 27.6~32.4V
Dimensions	Width: 0.89" [22.5 mm] Depth: 3.94" [100 mm] Height: 3.54" [90 mm]
Environment	Operating: -20°C to 70°C Storage: -40°C to 85°C Humidity: 20% to 90% (non-condensing)
Weight	0.37 lbs. [0.17 kg]
Compliance	Safety: UL508, TUV EN60950-1, NEC Class 2/LPS EMC Emissions: EN55011, EN55022, CISPR22, EN61204-3 Class B, EN61000-3-2, EN61000-3-3 EMC Immunity: EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN55024, EN61000-6-1, EN61204-3 A IEC60068-2-6 (Vibration)
Warranty	Lifetime



Ordering Information

25135
24VDC, 10 Watts – DIN Rail Mount

Switches

25104

Industrial DIN Rail Mounted Power Supply

Features

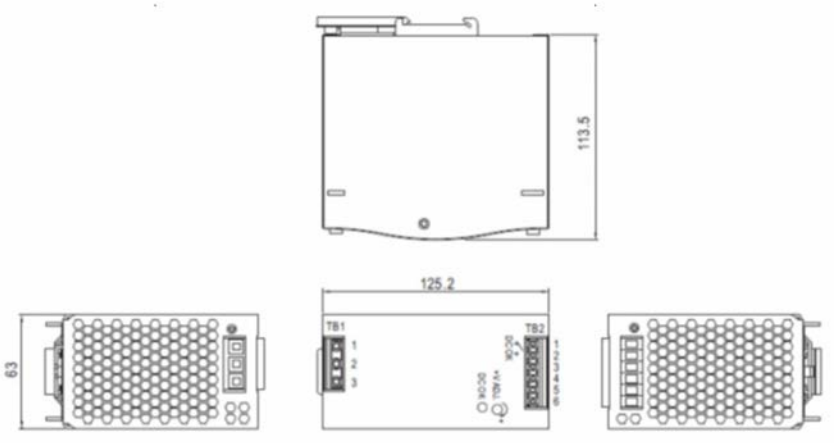
- 94% High Efficiency
- 150% Peak Load
- Protected against:
  - Short Circuit
  - Overload
  - Over Voltage
  - Overheating
- Convection air cooling
- DIN rail mountable
- UL 508 approved
- Full load burn in test
- RoHS compliant
- MTBF 169.3 Khrs

Specifications

Output	Output Voltage	48VDC
	Current Rating	5A
	Power Rating	240 Watts
	Ripple & Noise Max	120mVp-p
	Voltage Range	48~55VDC
	Voltage Tolerance	±1.0%
	Line Regulation	±0.5%
	Load Regulation	±1.0%
	Setup, Rise Time	300ms, 60ms
	Hold Up Time	20ms
Input	Voltage Range	Switch Selectable 88~264VAC 124~370VDC
	Frequency Range	47~63Hz
	Efficiency	94%
	AC Current (Typical)	2.6A@115VAC 1.3A@230VAC
	Inrush Current (Cold)	33A@115VAC 65A@230VAC
Protection	Overload	105~160%
	Overvoltage	56~65V
Dimensions		Width: 2.48" [63 mm] Depth: 4.47" [113.5 mm] Height: 4.93" [125.2 mm]
Environment		Operating: -25°C to +70°C Storage: -40°C to +85°C Humidity: 20% to 90% (non-condensing)
Weight		2.27 lbs. [1.03 kg]
Compliance		Safety: UL508, TUV EN60950-1; IEC60068-2-6 (Vibration); EMC Emission: EN55022, CISPR22 Class B, EN61000-3-2, IEN61000-3-3; EMC Immunity: EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN55024, EN61000-6-2, EN50082-2, EN61204-3, SEMI F47, GL Approved
Warranty		Lifetime

Ordering Information

25104
Industrial DIN rail mounted power supply



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25160

Hardened DIN Rail Mounted Power Supply

Features

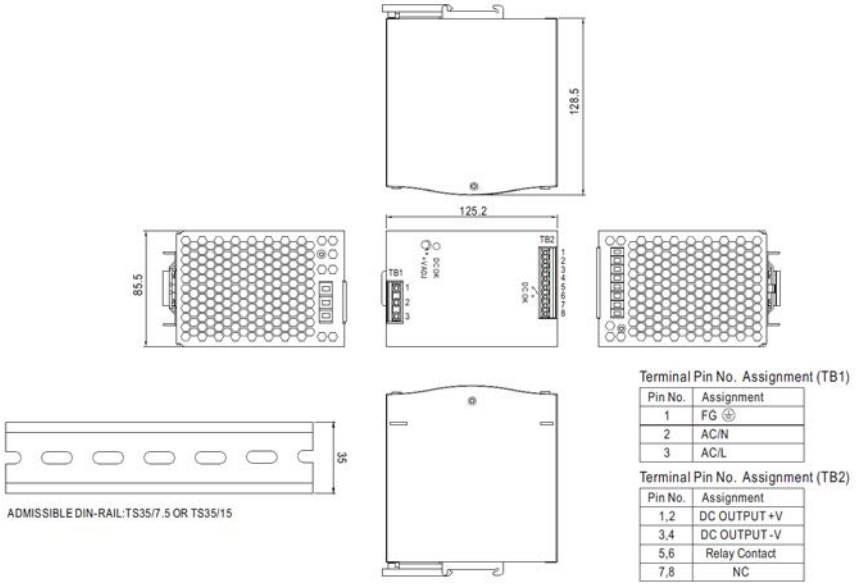
- 94% High Efficiency
- 150% Peak Load
- Protected against:
  - Short Circuit
  - Overload
  - Over Voltage
  - Overheating
- Convection air cooling
- DIN rail mountable
- UL 508 approved
- Full load burn in test
- RoHS compliant
- MTBF 112.9 Khrs

Specifications

Output	Output Voltage	48VDC
	Current Rating	5A
	Power Rating	480 Watts
	Ripple & Noise Max	120mVp-p
	Voltage Range	48~55VDC
	Voltage Tolerance	±1.0%
	Line Regulation	±0.5%
	Load Regulation	±1.0%
	Setup, Rise Time	300ms, 60ms
	Hold Up Time	20ms
Input	Voltage Range	Switch Selectable 90~264VAC 127~370VDC
	Frequency Range	47~63Hz
	Efficiency	94%
	AC Current (Typical)	5A@115VAC 2.5A@230VAC
	Inrush Current (Cold)	40A@115VAC 80A@230VAC
Protection	Overload	110~160%
	Overvoltage	57.6~64.8V
Dimensions		Width: 3.37" [85.5 mm] Depth: 5.06" [128.5 mm] Height: 5.99" [152.2 mm]
Environment		Operating: -25°C to +70°C Storage: -40°C to +85°C Humidity: 20% to 90% (non-condensing)
Weight		3.53 lbs. [1.6 kg]
Compliance		Safety: UL508, TUV EN60950-1; IEC60068-2-6 (Vibration) EMC Emission: EN55011, EN5032(CISPR32), EN61204-3 Class B, EN61000-3-2, EN61000-3-3; EMC Immunity: EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11, EN55024, EN61000-6-2, EN50082-2, EN61204-3, SEMI F47, GL Approved
Warranty		5 Year

Ordering Information

25160
Hardened DIN rail mounted power supply
Input 90-264 VAC, 127-370 VDC
Output: 48 ~ 55 VDC, 10A, 480 Watts



Terminal Pin No. Assignment (TB1)

Pin No.	Assignment
1	FG ⏚
2	AC/N
3	AC/L

Terminal Pin No. Assignment (TB2)

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	Relay Contact
7,8	NC

Switches

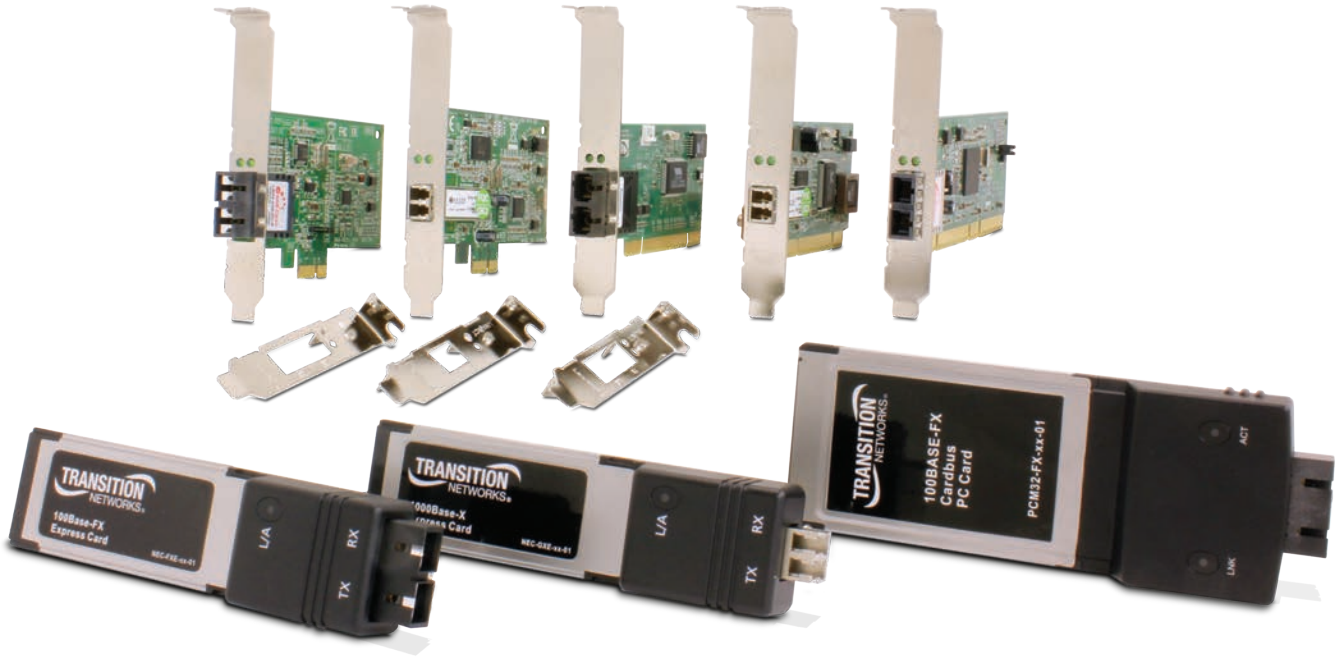
Network Interface Cards

High Performance Fiber Optic Network Interface Cards

Transition Networks offers a vast portfolio of high-quality and cost-effective fiber based Network Interface Cards (NICs) that are designed to meet today's requirements for secure, high-speed network connectivity to workstations and servers.

With the ever increasing level of attention being paid to the security of the data in today's networks, all organizations can benefit from a fiber infrastructure. Long ago, government and military agencies developed a strong interest in fiber because of its ability to provide greater transmission distances, support increased bandwidth, and reduce the risks of security breaches of classified data in their networks. Fiber is able to protect the data traveling through a network due to its properties. It is virtually impossible to tap into fiber cabling and go undetected by network managers.

Fiber NICs from Transition Networks allow for a simple integration path wherever fiber is available at the workstation. The NICs include software drivers for today's most popular operating systems and support Fast Ethernet, Gigabit Ethernet, and 10 Gigabit Ethernet environments. Users can choose from a variety of interface bus technologies. PCI Express (PCIe) offers the ability to maximize bandwidth and bus efficiency while lowering power consumption on desktops. PCI based NICs are also available. For laptop users, NICs supporting PCMCIA and ExpressCard bus technology are also available for secure fiber connectivity for the mobile user.



N-FX-xx-03 Series

PCI Fast Ethernet Fiber Network Interface Cards

100Base-FX

The PCI Fast Ethernet NIC provides a 100Base-FX fiber port and delivers low cost, fiber optic connectivity to the desktop in fiber rich LAN environments. With both standard and low profile form factors, driver support for common operating systems and PCI 2.2 plug-and-play capabilities, installation is a breeze in virtually any PC in your network.

Ordering Information

N-FX-ST-03
100Base-FX 1300nm multimode (ST)
[2 km/1.2 mi.] Link Budget: 12.0 dB

N-FX-SC-03
100Base-FX 1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 12.0 dB

N-FX-LC-03
100Base-FX 1300nm multimode (LC)
[2 km/1.2 mi.] Link Budget: 12.0 dB

N-FX-MT-03
100Base-FX 1300nm multimode (MT-RJ)
[2 km/1.2 mi.] Link Budget: 14.5 dB

Features

- PCI 32-bit bus master
- Supports 802.1P/Q VLAN tags
- IP multicast filter
- PCI 2.1 and 2.2 compliant
- Wake-on-LAN (WoL) power management
- Supported via the PCI Bus or through the supplied WoL cable
- Standard bracket attached, low-profile bracket included
- PXE Remote boot support
- Supports ACPI

Specifications

Standards	IEEE 802.3u IEEE 802.1P IEEE 802.1Q
Bus Slot	PCI 2.1, 2.2
Status LEDs	LINK/ACT (Link/Activity): ON = communication link; FLASHING = activity on link FDX (Full-duplex): ON = Full-duplex link OFF= Half-duplex link
Software Support	Windows 95, 98 ME, 2000, 2003, 8, 8.1, 10, NT 4.0, VISTA, 7 NDIS 2,3,4,5 NetWare Server 3.12, 4.x, 5.x, 6.x NetWare DOS Client ODI MAC OS Linux 2.2.x - 2.4.x Kernel Linux 2.6.x Kernal FreeBSD - 4.13 SCO Unixware 7.1, OpenUnix 8 SCO Open Server 5.0.x Sun Solaris
Boot Server Support	PXE RPL
Dimensions	Width: 2.2" [56 mm] Depth: 4.8" [122 mm] Height: 0.9" [23 mm]
Power Consumption	1.9 Watts
Environment	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	FCC Class B Part 15, CE Mark
Warranty	Lifetime

N-FXE-xx-02 Series

PCIe Fast Ethernet Fiber Network Interface Cards

100Base-FX

N-FXE-xx-02 Series is a Fiber Fast Ethernet to PCI-Express (PCIe) bus adapter that fully complies with all IEEE 802.3u and 100Base-FX standards. It provides up to 200Mbps full-duplex bandwidth capacity to support high-end systems. In addition, with advanced functions like VLAN filtering packet processing, the adapter provides added performance, flexible configuration and secure networking to users in a standards-based environment.

The PCI-Express (PCIe) design gives you the maximum possible bandwidth and bus efficiency, along with low power consumption.

For users equipped with PCI-Express systems, N-FXE-xx-02 Series provides the ability to easily build or connect to Fast Ethernet fiber networks.

Ordering Information

N-FXE-ST-02
100Base-FX 1300nm multimode (ST)
[2 km/1.2 mi.] Link Budget: 12.0 dB

N-FXE-SC-02
100Base-FX 1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 12.0 dB

N-FXE-LC-02
100Base-FX 1300nm multimode (LC)
[2 km/1.2 mi.] Link Budget: 13.0 dB

N-FXE-MT-02
100Base-FX 1300nm multimode (MT-RJ)
[2 km/1.2 mi.] Link Budget: 12.0 dB

Features

- PCI-Express x1 Interface
- IEEE 802.3x Full-Duplex Flow Control
- Supports Multicast Frame Filtering
- Supports Asymmetric/Symmetric Flow control
- Supports 802.1Q VLAN tagging
- IPv6 Capable
- Wake-on-LAN (WoL) power management
- Microsoft certified drivers
- PXE remote boot support
- RoHS Compliance
- Available with SC, LC, and MT-RJ multimode fiber connectors
- Standard bracket attached, low-profile bracket included
- Compliant with PCIe Rev 1.1 interface
- Supports Jumbo Frame
- Supports ASF 2.0
- ACPI Supported

Specifications

Standards	IEEE 802.3u IEEE 802.3x IEEE 802.1Q
Bus Slot	PCIe 1.1
Status LEDs	LINK/ACT (Link/Activity): ON = communication link; FLASHING = activity on link FDX (Full-duplex): ON = Full-duplex link
Software Support	Windows 2003, 10, NT 4.0, Windows 2008 Server, Vista, Novell NetWare 5.x, 6.x, Linux
Boot Server Support	PXE Boot ROM
Dimensions	Depth: 4.25" [108 mm] Height: 2.70" [68.5 mm]
Power Consumption	1.2 Watts (max), +3.3 VDC @ 0.7A
Environment	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	EMI Standard, FCC Class B, CE Mark
Warranty	Lifetime

NEC-FXE-xx-02 Series

ExpressCard PCIe Fast Ethernet Fiber Network Interface Cards

100Base-FX

NEC-FXE-xx-02 Series Fast Ethernet ExpressCard provides a 100Base-FX fiber port for delivering fiber optic connectivity to laptop computers in high security, fiber rich, LAN environments. This small sized fiber card is specifically designed to plug into laptop computers equipped with an ExpressCard compliant slot. Common operating system drivers are provided, easing installation and configuration. Preboot Execution Environment (PXE) and Bootstrap Protocol (BOOTP) are also supported.

Ordering Information

NEC-FXE-ST-02
100Base-FX 1300nm multimode (ST)
[2 km/1.2 mi.] Link Budget: 12.0 dB

NEC-FXE-SC-02
100Base-FX 1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 12.0 dB

Features

- Complies with ExpressCard/34 standard
- Complies with the IEEE 802.3u 100Base-FX standards
- Full-duplex design
- IPv6 Capable
- Options for ST, SC, or LC fiber connectors
- Driver support for wide variety of operating systems
- Integrated support for PXE remote boot

Specifications

Standards	IEEE 802.3u IEEE 802.3x ExpressCard Compliant
Card Slot	ExpressCard/34 26-pin connector
Data Transfer Rate	100 Mbps
Status LEDs	L/A - On = communication link Flashing = Activity on link
Software Support	Windows 98, NT, 2000, Vista, 10, 2003 Server, 7, 2008 Server, 8, NetWare, Linux
Dimensions	Depth: 5.04" [128 mm] Width: 1.34" [34 mm]
Power consumption	3 Watts
Environment	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	FCC Part 15 Class B, CE Mark
Warranty	Lifetime

PCM32-FX-xx-01 Series

PCMCIA Fast Ethernet Fiber Network Interface Cards

100Base-FX

Fast Ethernet PCMCIA cards provide a 100Base-FX fiber port to deliver fiber optic connectivity to the laptop in high-security, fiber rich LAN environments. Offered in a high-performance 32-bit CardBus version for laptop PCs, the PCM32-FX-xx-01 Series helps save money by eliminating the need for a docking station and a fixed, fiber NIC.

Ordering Information

PCM32-FX-SC-01
100Base-FX 1300nm multimode (SC)
[2 km/1.2 mi.] Link Budget: 12.0 dB

PCM32-FX-ST-01
100Base-FX 1300nm multimode (ST)
[2 km/1.2 mi.] Link Budget: 12.0 dB

Features

- Complies with PCMCIA standard
- Complies with the IEEE 802.3u 100Base-FX standards
- Fiber connectivity to a legacy laptop supporting the PCMCIA standard
- Single LED to provide link and activity status
- Multimode SC, LC, or ST fiber connectors
- Meets Class I Laser safety requirements
- Driver support for wide variety of operating systems

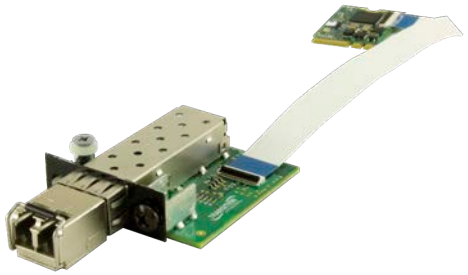
Specifications

Standards	IEEE 802.3 PCMCIA Type II CardBus PCMCIA Release 2.x JEIDA 4.x
Card Slot	PC Card 68-pin connector to PC
Status LEDs	LINK/ACT: ON = communication link; Flashing = activity on link FDX/COL: ON = full-duplex link; Flashing = collisions occurring
Software Support	Windows 95, 98, ME, 2000, 10, NT 3.51, NT 4.0 Windows for Workgroup 3.1/3.11, 7, 8, Linux, NetWare 3.x, 4.0, NetWare DOS Client ODI
Dimensions	Width: 2.1" [54 mm] Depth: 4.7" [120 mm] Height: 0.6" [16 mm]
Power Consumption	0.7A @ +5V (max)
Environment	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	FCC Class A Part 15, CE Mark
Warranty	Lifetime

NM2-FXS-2230-SFP-01

M.2 Fast Ethernet Fiber Network Interface Card for Dell OptiPlex™ 7040/7050 & Wyse 7000 Series

100Base-FX



Transition Networks M.2 Fast Ethernet Fiber Network Interface Card (NIC) provides a fiber optic interface for the Dell OptiPlex™ 7040 and 7050 Micro PC & Wyse 7000 Series Thin Clients. The NM2-FXS-2230-SFP-01 consists of a M.2 NIC that installs into the OptiPlex Micro PC's M.2 "E key" interface, a fiber optic adapter that installs into the OptiPlex Micro PC's Option port, and a 20-pin Flat Flex Cable (FFC) that connects the NIC to the fiber adapter. The fiber optic adapter is an open SFP with a 100Base-FX to SGMII SFP Module (included).

Ordering Information

NM2-FXS-2230-SFP-01
M.2 NIC, 100Base-FX to SGMII SFP media converter (included)

Features

- PCI Express M.2 compliant
- A + E keyed M.2 interface
- Full duplex
- IPv6 Capable
- Supports UEFI
- Supports PXE boot
- Jumbo frame support 9014 bytes
- 100Base-FX to SGMII SFP interface

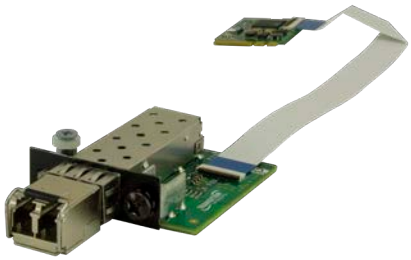
Specifications

Standards	IEEE 802.3-2012
Bus Slot	M.2 - '2230-D4-A-E'
Data Rate	100 Mbps (full duplex only)
Max Frame Size	9014 bytes
Status LEDs	LINK/ACT ON = Link Flashing = Activity
Dimensions (M.2 NIC)	2230-D4-A-E Width: 0.87" [22 mm] Depth: 1.18" [30 mm] Height: 0.12" [3.08 mm]
Dimensions (Fiber Interface)	Width: 1.65" [42 mm] Depth: 2.05" [52 mm] Height: 0.51" [13 mm]
Dimensions (FFC Cable)	Length: 2.99" [76 mm]
Software Support	Windows 10, 8, 8.1, and 7 (32/64 bit); Linux
Power Consumption	120mA @ 3.3V (0.4 Watts typical not including SFP module)
Power Consumption (SFP)	330mA @ 3.3V (1 Watt typical)
Power Source	M.2 interface connector: 3.3V (Refer to table 41 of M.2 Specification)
Environment	Operating: 0°C to +45°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	0.1 lbs. [0.05 kg]
Compliance	CE Mark; Emissions: EN55032, FCC Part 15 Class A; Immunity: EN55024
Warranty	Lifetime

NM2-FXS-2230-SFP-201

M.2 Fast Ethernet Fiber Network Interface Card for Dell OptiPlex™ 7060/5060/3060

100Base-FX



Transition Networks M.2 Fast Ethernet Fiber Network Interface Card (NIC) provides a fiber optic interface for the Dell OptiPlex™ 7060, 5060, and 3060 Micro PCs. The NM2-FXS-2230-SFP-201 consists of a M.2 NIC that installs into the OptiPlex Micro PC's M.2 "E key" interface, a fiber optic adapter that installs into the OptiPlex Micro PC's Option port, and a 20-pin Flat Flex Cable (FFC) that connects the NIC to the fiber adapter. The fiber optic adapter is an open SFP with a 100Base-FX to SGMII SFP Module (included).

Ordering Information

NM2-FXS-2230-SFP-201
M.2 NIC, 100Base-FX to SGMII SFP media converter (included)

Features

- PCI Express M.2 compliant
- A + E keyed M.2 interface
- Full duplex
- IPv6 Capable
- Supports UEFI
- Supports PXE boot
- Jumbo frame support 9014 bytes
- 100Base-FX to SGMII SFP interface

Specifications

Standards	IEEE 802.3-2012
Bus Slot	M.2 - '2230-D4-A-E'
Data Rate	100 Mbps (full duplex only)
Max Frame Size	9014 bytes
Status LEDs	LINK/ACT ON = Link Flashing = Activity
Dimensions (M.2 NIC)	2230-D4-A-E Width: 0.87" [22 mm] Depth: 1.18" [30 mm] Height: 0.12" [3.08 mm]
Dimensions (Fiber Interface)	Width: 1.65" [42 mm] Depth: 2.05" [52 mm] Height: 0.51" [13 mm]
Dimensions (FFC Cable)	Length: 2.99" [76 mm]
Software Support	Windows 10, 8, 8.1, and 7 (32/64 bit); Linux
Power Consumption	120mA @ 3.3V (0.4 Watts typical without SFP module)
Power Consumption (SFP)	330mA @ 3.3V (1 Watt typical)
Power Source	M.2 interface connector: 3.3V (Refer to table 41 of M.2 Specification)
Environment	Operating: 0°C to +45°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	0.1 lbs. [0.05 kg]
Compliance	CE Mark; Emissions: EN55032, FCC Part 15 Class A; Immunity: EN55024
Warranty	Lifetime

TN-USB-FX-01 Series

Scorpion-USB™ 2.0 to Fast Ethernet Fiber Adapter

100Base-FX

Use the Scorpion-USB™ Fast Ethernet fiber adapter to create an EMI-secure data connection between a USB port on a PC, laptop or tablet and a 100Mbps fiber Ethernet port on a switch. This unique USB to fiber adapter is ideal for use in applications where wireless transmission is not the preferred technology due to security concerns or where copper lacks the bandwidth, distance or security for sharing data-intensive files. The Scorpion-USB™ Fast Ethernet Fiber Adapter allows a computing device which does not have a fiber port to connect to a fiber-based Ethernet network through a USB 2.0 interface.

Designed specifically for laptop, notebook, and tablet PCs running today's most popular operating systems and deployed in fiber-rich networking environments, the Scorpion-USB™ Fast Ethernet fiber adapter allows a secure connection to a fiber based Fast Ethernet network through a USB 2.0 port. Just plug the adapter into the USB port, install the driver, and the connection is ready.

Ordering Information

TN-USB-FX-01(SC)
USB 2.0 to Ethernet 100Base-FX multimode (SC) [2 km/ 1.2 mi.] Link Budget: 11.0 dB

TN-USB-FX-01(LC)
USB 2.0 to Ethernet 100Base-FX multimode (LC) [2 km/ 1.2 mi.] Link Budget: 11.0 dB

TN-USB-FX-01(SFP)
USB 2.0 to Ethernet 100Base-FX Open SFP Slot

Optional Accessories (sold separately)

SFP Modules
Supports Fast Ethernet SFP Modules

Features

- Fast Ethernet fiber connection through a USB interface is more secure than copper or wireless transmission
- Bus powered device, no external power supply needed
- Advanced power saving mode to preserve PC battery life
- Multimode SC, LC, or industry standard SFP fiber port (SFP sold separately)
- LEDs to indicate USB Speed / Activity and fiber Link / Activity
- Plastic ABS enclosure with a 6" pigtail to USB type-A connector
- WHQL-certified drivers for Windows 7, 8, 8.1, and 10, as well as numerous other operating systems

Specifications

Standards	IEEE 802.3-2008 USB 2.0
Data Rates	USB 2.0 (Type-A connector): 480MBps (3840Mbps) Fiber: 12.5MBps (100Mbps)
Fiber Port	100Base-FX SC, LC, or SFP
Max Frame Size	1518 bytes (untagged)
Status LEDs	USB: Link / Activity Yellow: ON – High Speed, OFF – Low Speed, Flashing: Activity Fiber: Link / Activity Green: ON – Link, Flashing: Activity
Dimensions	SC & LC Versions Width: 2.2" [56 mm] Depth: 9.2" [233 mm] Height: 0.8" [20 mm] SFP Versions Width: 1.2" [30 mm] Depth: 10" [254 mm] Height: 1.0" [25 mm]
Software Support	Windows 7, 8, 8.1, and 10 and many others
Power Source	USB Bus
Power Consumption	1.12 Watts (SC: Typical) 0.9 Watts (LC: Typical)
Environment	Operating: 0°C to 50°C Storage: -20°C to +80°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft. (with derating)
Weight	1 lb. [0.45 kg]
Compliance	EN55022 Class B, EN55024, FCC Class B, CE Mark
Warranty	Lifetime

N-GXE-xx-02 Series

PCIe Gigabit Ethernet Fiber Network Interface Cards

1000Base-SX

N-GXE-SC-02

The N-GXE-xx-02 Series is a Fiber Gigabit Ethernet to PCIe bus adapter that fully complies with all IEEE 802.3z and 1000Base-SX standards. It provides up to 2000 Mbps full-duplex bandwidth capacity to support high-end servers. In addition, with advanced functions like VLAN filtering packet processing, link aggregation, smart load balancing, failover, and Wake-on-LAN, the adapter provides enhanced performance, flexible configuration and secure networking for users in a standard-based environment. An LED indicator on the bracket displays link status, activity and speed.

Ordering Information

N-GXE-SC-02
1000Base-SX 850nm multimode (SC)
[62.5/125 µm fiber: 220 m/722 ft.]
[50/125 µm fiber: 550 m/1804 ft.]
Link Budget: 8.0 dB

N-GXE-LC-02
1000Base-SX 850nm multimode (LC)
[62.5/125 µm fiber: 220 m/722 ft.]
[50/125 µm fiber: 550 m/1804 ft.]
Link Budget: 8.0 dB

N-GXE-ST-02
1000Base-SX 850nm multimode (ST)
[62.5/125 µm fiber: 220 m/722 ft.]
[50/125 µm fiber: 550 m/1804 ft.]
Link Budget: 8.0 dB

N-GXE-SFP-02 *COMING SOON*
100/1000Base-X open SFP fiber port
(SFP sold separately)

Optional Accessories (sold separately)

SFP Modules

Features

- Supports PCIe x1 bus
- High bandwidth 1000 Mbps network speed (100/1000 Mbps with Auto-Negotiation for SFP version)
- Supports full-duplex mode
- Supports IEEE 802.3x and IEEE 802.3z Full-Duplex Flow Control
- Compliant with PCIe Rev 2.1 Interface
- IEEE 802.1Q VLAN Support
- Link Aggregation Control Protocol (LACP)
- Link Aggregation Smart Switch
- Smart Load Balancing (SLB) and Failover
- Full Wake-on-LAN Support
- Advanced Power Management (APM) Support
- Advanced Configuration and Power Interface (ACPI) Specification v2.0c
- Magic Packet Wake-up enable
- Jumbo frames support up to 9014 bytes
- IPv4 and IPv6
- IPv4 checksum offloading TCP/UDP
- IPv6 support for IP/TCP and IP/UDP receive checksum offload
- Transmit Segmentation Offloading (TSO)
- Interrupt Handling
- Interrupt Throttling Control
- Legacy and Message Signaling Interrupt/ Extension (MSI/MSI-X)
- Intelligent Interrupt Generation

Specifications

Standards	IEEE 802.3, 2006 Edition IEEE 802.3z IEEE 802.3x IEEE 802.1Q IEEE 802.3ad
Bus Slot	PCIe v2.1 x1
Status LEDs	Fixed Optic Versions: L/A On = Communication link Off = Link Fail Flash = Link OK and Activity Green = Full duplex, Yellow = Half duplex SFP Version: L/A On = Communication link Off = Link Fail Flash = Link OK and Activity Green = 1 Gbps; Yellow = 100 Mbps
Software Support	Windows 7, 8, 8.1,10 Pro, Linux, Windows Server 2008, 2008 R2, FreeBSD, 2012
Boot Server Support	PXE and UEFI Boot
Dimensions	Depth: 4.097" [104.064 mm] Height: 2.175" [55.245 mm]
Power Requirement	Fixed Optic Version: 0.87 Watts (approximately), 264 mA @ 3.3 VDC SFP Version: 1.66 Watts (approximately), 503mA @ 3.3 VDC
Environment	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	0.55 lbs. [0.25 kg]
Compliance	EN55022 Class B, EN55024, CE Mark, ROHS
Warranty	Lifetime

Features Continued

- Low Latency Interrupts
- PXE and UEFI Boot
- RoHS Compliance
- Standard bracket attached, low-profile bracket included
- Supports identification of NIC when multiple cards are installed

N-GXE-POE-xx-01 Series

PCIe Gigabit Ethernet Fiber Network Interface Card with PoE+

1000Base-X and 10/100/1000Base-T PoE+

The N-GXE-POE-xx-01 Series Network Interface Card (NIC) provides connectivity to a secure fiber network while also delivering power to a PoE powered device (PD), such as a VoIP phone with a copper UTP interface. It fully complies with all IEEE 802.3z and 1000Base-X standards, providing up to 2000 Mbps full-duplex bandwidth capacity.

Developed to support high-end users, this (2) port NIC has (1) 1000Base-X fiber network interface port (SFP version is 100/1000Base-X) and (1) switched 10/100/1000Base-T port supporting IEEE 802.3at PoE+ power. It is designed to allow a PC to power a VoIP phone, or any other traditional copper powered device, over a secure fiber network. Additionally, the NIC also has the ability to provide traffic switching functions between the copper and fiber ports, even when the PC is in a sleep mode.

Combining the functions of PC connectivity and VoIP phone connectivity into one device saves installation time, expense, and the space of having two devices at the desktop. When the VoIP traffic is filtered and prioritized by third-party devices like an Ethernet switch and the IP phone, this PoE NIC will pass all tagged traffic ensuring users experience a high level of quality of service. VLANs and Prioritization can also be configured at the NIC via Transition Networks' PoE NIC utility software.

Features

- High bandwidth 1000Mbps
- Supports Full-duplex Mode
- Supports IEEE 802.3x Full-Duplex Flow Control
- Supports PCIe x1 bus
- Compliant with PCIe Rev 2.1 Interface
- Supports Jumbo Frames
- Supports High Level VLAN Filtering Function
- IPv6 Capable
- Supports IP headers and TCP/UDP checksum offload
- Wake-on-LAN (WoL) power management
- PXE 2.1 Boot ROM Supported
- ACPI 2.0 Link Status LED for each port
- Driver Support
  - Windows 7
  - Windows 8, 8.1
  - Windows 10
  - Windows Server 2008
  - Windows Server 2012
  - Windows Vista
- Available with a fixed LC port or SC or an open SFP port

Specifications

Standards	IEEE 802.3-2000 IEEE 802.3z IEEE 802.3x IEEE 802.1Q IEEE 802.1p IEEE 802.3ab IEEE 802.3af IEEE 802.3at
MAC Address	8k MAC address table
Max Packet Size	Jumbo Frames, 10k bytes
Jumper Switches	Legacy PoE Energy Efficient Ethernet (EEE) enable/disable
Status LEDs	L/A Fiber Link/Activity PoE Power-over-Ethernet RJ-45 Upper Lf TP Link/Activity/Speed RJ-45 Upper Rt TP Duplex
Dimensions	Width: 4.8" [121.9 mm] Depth: 6.5" [165.1 mm] Height: 0.9" [22.86 mm]
Power Consumption	1.6 Watts (typical without PoE) 43.6 Watts (typical with PoE)
Voltage input	PCIe 3.3V 12V Peripheral connection for PoE
Power-over-Ethernet	Mode A Power
Environment	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	2 lbs. [0.90 kg]
Compliance	Emission: EN55022 Class B, CE, UL Listed Immunity: EN55024
Warranty	Lifetime

Ordering Information

N-GXE-POE-LC-01
1000Base-SX 850nm multimode LC
[50/125 um fiber: 550 m/1804 ft.]
[62.5/125 um fiber: 220 m/722 ft.]
Link Budget: 8.0 dB
Plus 10/100/1000Base-T PoE+ port
(includes optional low-profile bracket)

N-GXE-POE-SFP-01
Gigabit Ethernet PCIe NIC with a 100/1000Base-X Open SFP fiber port, plus a 10/100/1000Base-T PoE+ port
(includes optional low-profile bracket)

N-GXE-POE-SC-01(L)
1000Base-SX 850nm multimode SC
[50/125 um fiber: 550 m/1804 ft.]
[62.5/125 um fiber: 220 m/722 ft.]
Link budget: 8.0dB
Plus 10/100/1000Base-T PoE+
(includes low-profile bracket only)

N-GXE-POE-SC-01(S)
1000Base-SX 850nm multimode SC
[50/125 um fiber: 550 m/1804 ft.]
[62.5/125 um fiber: 220 m/722 ft.]
Link budget: 8.0dB
Plus 10/100/1000Base-T PoE+
(includes standard bracket only)

Optional Accessories (sold separately)

SFP Modules

27246
Cable assembly, 4 pin Molex to ATX Power Cable Adapter

28582
4 pin Molex to SATA 15 pin Female Power Adapter

28583
6" SATA Power Y Splitter Cable Adapter-M/F

N-PoE-CBLKIT
3 piece cable kit for 12V power input connectivity options
(Includes 27246, 28582, 28583)

N-POE-EPC
Ethernet packet controller software utility used for VLAN configuration within the NIC. Free download from transition.com

NEC-GXE-LC-01

ExpressCard PCIe Gigabit Ethernet Fiber Network Interface Card

1000Base-SX

Gigabit Ethernet Fiber ExpressCards provide a 1000Base-SX fiber port for delivering fiber optic connectivity to laptop computers in high security, fiber rich LAN environments. This small sized fiber card is specifically designed to plug into laptop computers equipped with an ExpressCard compliant slot. The card includes a single LED located on top of its plastic cover indicating link and activity status. Common operating system drivers are provided, easing installation and configuration. Preboot Execution Environment (PXE) and Bootstrap Protocol (BOOTP) are also supported.

Ordering Information

NEC-GXE-LC-01
1000Base-SX ExpressCard
850nm multimode (LC)
[62.5/125 µm fiber: 220 m/722 ft.]
Link Budget: 7.5 dB
[50/125 µm fiber: 550 m/1804 ft.]
Link Budget: 7.5 dB

Features

- Complies with ExpressCard/34 standard
- IEEE 802.3az Gigabit Ethernet
- Full-duplex design
- LC fiber connectors
- Driver support for common operating systems, such as Windows 7, 10, Vista, 2008
- Integrated support for PXE remote boot
- Supports Jumbo Frames up to 9K bytes

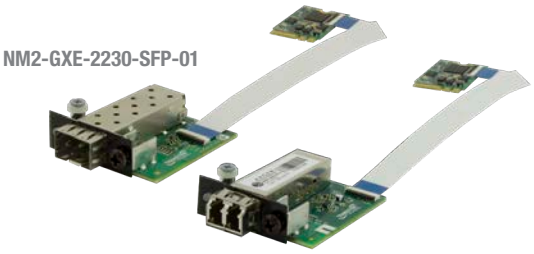
Specifications

Standards	IEEE 802.1Q IEEE 802.1P IEEE 802.3u IEEE 802.3x ExpressCard Compliant
Card Slot	ExpressCard/34 26-pin connector
Data Transfer Rate	1000 Mbps, 1,488,000 pps
Status LEDs	L/A - ON = communication link Flashing = Activity on link
Software Support	Windows 7, 10, Vista, 2008 Server
Dimensions	Width: 1.34" [34 mm] Depth: 5.04" [128 mm] Height: 0.19" [5 mm]
Power Consumption	3.3 Watts
Environment	Operating: 0°C to 50°C Storage: -15°C to 65°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	FCC Part 15 Class B, CE Mark
Warranty	Lifetime

NM2-GXE-2230-xx-01 Series

M.2 Gigabit Ethernet Fiber Network Interface Card for Dell OptiPlex™ 7040/7050 & Wyse 7000

1000Base-SX/X



NM2-GXE-2230-SFP-01

NM2-GXE-2230-LC-01

Transition Networks M.2 Gigabit Ethernet Fiber Network Interface Card (NIC) provides a fiber optic interface for the Dell OptiPlex™ 7040 and 7050 Micro PCs and the Wyse 7000 Series thin clients. The NM2-GXE-2230-xx-01 Series consists of a M.2 NIC that installs into the OptiPlex Micro PC's M.2 "E key" interface, a fiber optic adapter that installs into the OptiPlex Micro PC's Option port, and a 20-pin Flat Flex Cable (FFC) that connects the NIC to the fiber adapter. The fiber optic adapter is available with either a 1000Base-SX LC optic or open SFP (SFP module sold separately).

Ordering Information

NM2-GXE-2230-LC-01
1000Base-SX 850nm multimode (LC)
[62.5/125 µm fiber: 220 m/722 ft.]
[50/125 µm fiber: 550 m/1804 ft.]
Link Budget: 8.0 dB

NM2-GXE-2230-SFP-01
1000Base-X Open SFP Slot

Optional Accessories (sold separately)

SFP Modules

Features

- PCI Express M.2 compliant
- A + E keyed M.2 interface
- Full duplex
- IPv6 Capable
- Supports UEFI
- Supports PXE boot
- Jumbo frame support 9014 bytes
- 1000Base-SX multimode LC fiber connector or open SFP interface

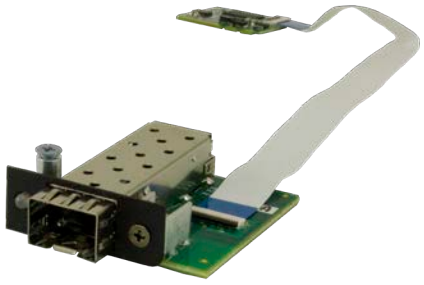
Specifications

Standards	IEEE 802.3-2012
Bus Slot	M.2 - '2230-D4-A-E'
Data Rate	1000 Mbps (full duplex only)
Max Frame Size	9014 bytes
Status LEDs	LINK/ACT ON = Link Flashing = Activity
Dimensions (M.2 NIC)	2230-D4-A-E Width: 0.87" [22 mm] Depth: 1.18" [30 mm] Height: 0.12" [3.08 mm]
Dimensions (Fiber Interface)	Width: 1.65" [42 mm] Depth: 2.05" [52 mm] Height: 0.51" [13 mm]
Dimensions (FFC Cable)	Length: 2.99" [76 mm]
Software Support	Windows 10, 8, 8.1, and 7 (32/64 bit); Linux
Power Consumption (LC)	250mA @ 3.3V (0.8 Watts typical)
Power Consumption (SFP)	120mA @ 3.3V (0.4 Watts typical without SFP module)
Power Source	M.2 interface connector: 3.3V (Refer to table 41 of M.2 Specification)
Environment	Operating: 0°C to +45°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	0.1 lbs. [0.05 kg]
Compliance	CE Mark; Emissions: EN55032, FCC Part 15 Class A; Immunity: EN55024
Warranty	Lifetime

NM2-GXE-2230-xx-201 Series

M.2 Gigabit Ethernet Fiber Network Interface Card for Dell OptiPlex™ 7060/5060/3060

1000Base-X



NM2-GXE-2230-SFP-201

Transition Networks M.2 Gigabit Ethernet Fiber Network Interface Card (NIC) provides a fiber optic interface for the Dell OptiPlex™ 7060, 5060, and 3060 Micro PCs. The NM2-GXE-2230-xx-201 Series consists of a M.2 NIC that installs into the OptiPlex Micro PC's M.2 "E key" interface, a fiber optic adapter that installs into the OptiPlex Micro PC's Option port, and a 20-pin Flat Flex Cable (FFC) that connects the NIC to the fiber adapter. The fiber optic adapter is available with either a 1000Base-SX LC connector or an open SFP (SFP module sold separately).

Ordering Information

NM2-GXE-2230-LC-201
1000Base-SX 850nm multimode (LC)
[62.5/125 µm fiber: 220 m/722 ft.]
[50/125 µm fiber: 550 m/1804 ft.]
Link Budget: 8.0 dB

NM2-GXE-2230-SFP-201
1000Base-X Open SFP Slot

Optional Accessories (sold separately)

SFP Modules

Features

- PCI Express M.2 compliant
- A + E keyed M.2 interface
- Full duplex
- IPv6 Capable
- Supports UEFI
- Supports PXE boot
- Jumbo frame support 9014 bytes
- 1000Base-X open SFP interface

Specifications

Standards	IEEE 802.3-2012
Bus Slot	M.2 - '2230-D4-A-E'
Data Rate	1000 Mbps (full duplex only)
Max Frame Size	9014 bytes
Status LEDs	LINK/ACT ON = Link Flashing = Activity
Dimensions (M.2 NIC)	2230-D4-A-E Width: 0.87" [22 mm] Depth: 1.18" [30 mm] Height: 0.12" [3.08 mm]
Dimensions (Fiber Interface)	Width: 1.65" [42 mm] Depth: 2.05" [52 mm] Height: 0.51" [13 mm]
Dimensions (FFC Cable)	Length: 2.99" [76 mm]
Software Support	Windows 10, 8, 8.1, and 7 (32/64 bit); Linux
Power Consumption (LC)	250mA @ 3.3V (0.8 Watts typical)
Power Consumption (SFP)	120mA @ 3.3V (0.4 Watts typical without SFP module)
Power Source	M.2 interface connector: 3.3V (Refer to table 41 of M.2 Specification)
Environment	Operating: 0°C to +45°C Storage: -40°C to 85°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	0.1 lbs. [0.05 kg]
Compliance	CE Mark; Emissions: EN55032, FCC Part 15 Class A; Immunity: EN55024
Warranty	Lifetime

TN-USB3-SX-01 Series

Scorpion-USB™ 3.0 to Gigabit Ethernet Fiber Adapter

1000Base-SX

Use the Scorpion-USB™ 3.0 Gigabit Ethernet Fiber Adapter to create an EMI-secure data connection between a USB port on a PC, laptop or tablet and a 1000Mbps Ethernet fiber port on a switch. This unique USB to fiber adapter is ideal for use in applications where wireless transmission is not the preferred technology due to security concerns or where copper lacks the bandwidth, distance or security for sharing data-intensive files. The Scorpion-USB Gigabit Ethernet Fiber Adapter allows a computing device which does not have a fiber port to connect to a fiber-based Ethernet network through its USB interface quickly, reliably and securely.

Designed specifically for laptop, notebook, and tablet PCs running today's most popular operating systems and deployed in fiber-rich networking environments, the Scorpion-USB Gigabit Ethernet Fiber Adapter allows a secure connection to a fiber based Gigabit Ethernet network through a USB 3.0 port. Just plug the adapter into the USB port, install the driver, and the connection is ready.

Ordering Information

TN-USB3-SX-01(SC)
USB 3.0 to Ethernet 1000Base-SX multimode (SC) [62.5/125 µm: 220 m/722 ft.] [50/125 µm: 550 m/1804 ft.] Link Budget: 7.5 dB

TN-USB3-SX-01(LC)
USB 3.0 to Ethernet 1000Base-SX multimode (LC) [62.5/125 µm: 220 m/722 ft.] [50/125 µm: 550 m/1804 ft.] Link Budget: 7.0 dB

TN-USB3-SFP-01
USB 3.0 to Ethernet 100/1000Base-X Open SFP Slot

Optional Accessories (sold separately)

SFP Modules
Supports Fast or Gigabit Ethernet SFP Modules
Data rate is limited to specific SFP chosen

Features

- Gigabit Ethernet fiber connection through USB 3.0 interface accommodates high bandwidth services faster, further and more securely than copper or wireless transmission
- Bus powered device, no external power supply needed
- Multimode SC, LC, or industry standard SFP fiber port
- SFP version supports dual speed 100/1000Mbps SFP Modules
- LEDs to indicate USB Speed / Activity and fiber Link / Activity
- Supports IEEE 802.1Q VLAN tagging
- Plastic ABS enclosure with a 9" pigtail to USB type-A connector
- WHQL-certified drivers for Windows 7, 8, 8.1, 10; Linux and MacIntosh 10.6 to 10.11 drivers also available

Specifications

Standards	IEEE 802.3-2008 USB 3.0
Data Rates	USB 3.0 (Type-A connector): 625MBps (5000Mbps) Fiber: 125MBps (1000Mbps)
Fiber Port	1000Base-SX SC or LC 100/1000Base-X SFP
Max Frame Size	1518 bytes (untagged)
Status LEDs	USB: Speed / Activity Green: ON – USB 3.0 Yellow: ON – USB 2.0 Green & Yellow: OFF – USB Down Fiber: Speed / Activity Green – Link @ 1000Mbps, Yellow – Link @ 100Mbps, Flashing – Activity
Dimensions	Width: 2.09" [56 mm] Depth: 12.25" [233 mm] Height: 1" [20 mm]
Software Support	Windows 7, 8, 8.1, 10, Linux, and Macintosh 10.6 to 10.11
Power Source	USB Bus
Power Consumption	2.1 Watts (LC: Typical) 2.18 Watts (SC: Typical) 3.15 Watts max (SFP: MSA compliant supporting up to a 1 Watt module)
Environment	Operating: 0°C to 50°C Storage: -20°C to +80°C Humidity: 5% to 95% (non-condensing) Altitude: 0 – 10,000 ft. (with derating)
Weight	0.35 lbs. [0.16 kg]
Compliance	EN55032 Class A, EN55024, FCC Part 15, Subpart B, Class A, CE Mark
Warranty	Lifetime

N-TGE-SFP-01

10 Gigabit Ethernet Fiber Network Interface Card

10GBase-SR/LR SFP+

The N-TGE-SFP-01 is a 2-port PCIe bus fiber NIC that supports a 1Gbps/10Gbps link. The open SFP slots can be used with 1000Base-X SFPs or 10GBase-SR/LR SFP+ modules. The NIC fully complies with IEEE 802.3ae and IEEE 802.3z standards. It provides up to 20 Gbps full-duplex bandwidth capacity to support high-end servers. It is suitable for data center, SMB and Cloud computing applications. Two LED indicators (LINK and ACT) on the bracket will help to oversee the board link and activity status.

Ordering Information

N-TGE-SFP-01
PCIe bus fiber NIC with 2 open 1000Base-X/10GBase-SR/LR SFP+ slots

Optional Accessories (sold separately)

SFP or SFP+ Modules

Features

- High bandwidth 10Gbps network speed
- Supports IEEE 802.3x Full-Duplex flow control
- IPv6 Capable
- Compliant with PCIe 2.0x4 interface
- Supports Jumbo Frame up to 10K bytes
- Supported transmission distance based on the SFP/SFP+ modules and fiber type used
- Supports IEEE 802.3ad Link Aggregation (LACP)
- Supports on-board screening of VLAN tagged Ethernet frames
- RoHS compliance
- Supports gPXE
- Standard bracket attached, low-profile bracket included

Specifications

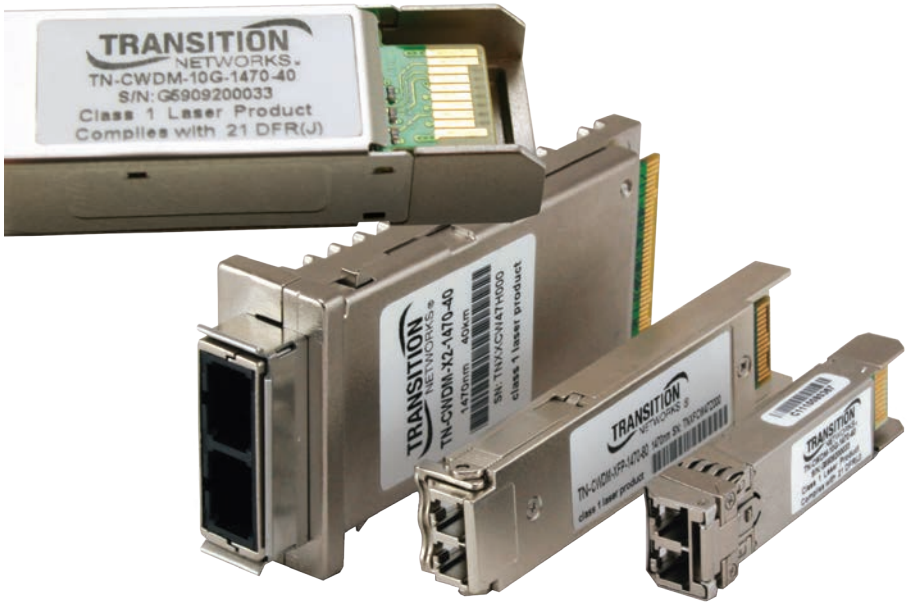
Standards	IEEE 802.3ae IEEE 802.3z IEEE 802.3x IEEE 802.3 ad IEEE 802.1Q IEEE 802.1P
Bus Slot	PCIe 2.0 x8
Cable	Fiber (multimode): 50/125,62.5/125µm Fiber (single mode): 9/125µm
Data Rate	10 Gbps: 14,880,000 pps 1 Gbps: 1,190,476 pps
Status LEDs	LINK/ACT (Link/Activity): ON = Communication link; Flashing=activity on link
Software Support	Windows 2003, 2003 R2, 2008 Windows 7 RHEL v5.0 XenServer 5.6.0 VMware ESXi 4.0
Dimensions	Width: 2.2" [56 mm] Depth: 6.5" [165 mm] Height: 0.9" [23 mm]
Power Consumption	7.5 Watts (max)
Environment	Operating: 0°C to 40°C Humidity: 5% to 90% (non-condensing) Altitude: 0 – 10,000 ft.
Weight	1 lb. [0.45 kg]
Compliance	FCC Part 15 Class B, CE Mark
Warranty	Lifetime

Optical Devices

Small Form Factor Pluggables offer Agile and Flexible Solutions to Existing Networks

Transition Networks SFPs and XFPs are small form factor, hot-pluggable transceivers which allow for a single piece of network equipment to be connected to a multitude of interfaces, protocols, and transmission media via the SFP/XFP port. Our Small Form Pluggables offer a cost effective and flexible means to accommodate for network modifications and growth, while still using existing network devices.

All of Transition Networks' SFPs and XFPs are compliant with the Multi-Sourcing Agreement (MSA) ensuring interoperability with all other MSA compliant networking devices. Additionally, some are also Cisco, HP and Juniper compatible and support a variety of data speeds and distance requirements.



TN-JX-GE-100FX Series

Juniper Compatible SFP Module

100Base-FX Multimode (LC)

TN-JX-GE-100FX

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Ordering Information

Duplex

TN-JX-GE-100FX
100Base-FX 1310nm (LC) multimode [2 km/1.24 mi.] Link Budget: 8.0 dB

Note: Provides 100Base-FX interface when plugged into a Gigabit SFP slot in Juniper switches

Features

- Small Form-Factor Pluggable (SFP) MSA Compliant
- Compliant with IEEE 802.3 100Base-FX
- Single +3.3V Power Supply
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard EC 60825 Compliant

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.2" [56 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

TN-SFP-OC3M Series & TN-SFP-GE-100FX

MSA Compliant 100Base/OC3 SFP Modules

100Base-FX/OC-3 Multimode (LC) with DMI

TN-SFP-OC3M

Applications include: Fast Ethernet / OC3 Switches and Routers, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C Operating: -40°C to 85°C (TN-SFP-OC3MT)
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-SFP-OC3M
100Base-FX/OC-3 1310nm multimode (LC) with DMI [2 km/1.2 mi.] Link Budget: 11.0 dB

TN-SFP-OC3M(850)
100Base-FX/OC-3 850nm multimode (LC) with DMI [500 m/0.31 mi.] Link Budget: 8.0 dB

TN-SFP-GE-100FX
*100Base-FX 1310nm multimode (LC) with DMI [2 km/1.2 mi.] Link Budget: 10.0 dB

Extended Operating Temperature
-40°C to +85°C

TN-SFP-OC3MT
100Base-FX/OC-3 1300nm multimode (LC) with DMI [2 km/1.2 mi.] Link Budget: 11.0 dB

*Provides 100Base-FX interface when plugged into a Gigabit SGMII SFP slot

TN-GLC-FE-100xX Series

Cisco Compatible 100Base SFP Modules

100Base-FX (LC)

TN-GLC-FE-100FX

Applications include: Fast Ethernet Switches & Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Duplex LC Optical Transceiver
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)
- Compliant with IEEE 802.3 100Base-FX
- Compliant with IEEE 802.3ah 100Base-FX
- Compliant with Intermediate-Reach SONET OC-3/SDH STM-1 (S-1.1)
- Can be used on Optical Line Converter xFMFF4040-100

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	1.0 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C TN-GLC-xxx-RGD Operating: -40°C to 85°C Storage: -40°C to 100°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Ordering Information

Duplex

TN-GLC-FE-100FX
100Base-FX 1300nm multimode (LC)
[2 km/1.2 mi.] Link Budget: 8.5 dB

TN-GLC-FE-100LX
100Base-FX 1310nm single mode (LC)
[10 km/6.2 mi.] Link Budget: 19.0 dB

***TN-GLC-GE-100FX**
100Base-FX 1300nm multimode (LC)
[2 km/1.2 mi.] Link Budget: 8.5 dB

Extended Operating Temperature
-40°C to +85°C

TN-GLC-FE-100FX-RGD
100Base-FX 1300nm multimode (LC)
with DMI [2 km/1.2 mi.] Link Budget: 8.5 dB

TN-GLC-FE-100LX-RGD
100Base-FX 1310nm single mode (LC)
with DMI [10 km/6.2 mi.] Link Budget: 19.0 dB

TN-GLC-FE-100EX-RGD
100Base-FX 1310nm single mode (LC)
with DMI [40 km/24.9 mi.]
Link Budget: 25.0 dB

*Provides 100Base-FX interface when plugged into a Gigabit SFP slot on Cisco Catalyst 2970, 3560 & 3750 series switches.

Note: The Transition Networks TN-GLC-FE-100xX series small form factor pluggable (SFP) transceiver modules are designed to install in any SFP port allowing for 100Base-FX interfaces to the network through the SFP connector. The TN-GLC-FE-100xX transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as Fast Ethernet or OC3 at speeds up to 155 Mbps.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP-based routers and switches, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

TN-SFP-OC3Sx Series

MSA Compliant 100Base/OC3 SFP Modules

100Base-FX/OC-3 Single Mode (LC) with DMI

TN-SFP-OC3S

Applications include: Fast Ethernet / OC3 Switches and Routers, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: -10°C to 85°C Operating: -40°C to 85°C (TN-SFP-OC3ST)
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-SFP-OC3S
100Base-FX/OC-3 1310nm single mode (LC) with DMI [20 km/12.4 mi.] Link Budget: 17.0 dB

TN-SFP-OC3S3
100Base-FX/OC-3 1310nm single mode (LC) with DMI [30 km/18.6 mi.] Link Budget: 20.0 dB

TN-SFP-OC3S8
100Base-FX/OC-3 1550nm single mode (LC) with DMI [80 km/49.7 mi.] Link Budget: 29.0 dB

TN-SFP-OC3S12
100Base-FX/OC-3 1550nm single mode (LC) with DMI [120 km/74.6 mi.] Link Budget: 34.0 dB

TN-SFP-OC3S20
100Base-FX/OC-3 1550nm single mode (LC) with DMI [200km/124.3 mi.] Link Budget: 46.0 dB

Extended Operating Temperature -40°C to +85°C

TN-SFP-OC3ST
100Base-FX/OC-3 1310nm single mode (LC) with DMI [20 km/12.4 mi.] Link Budget: 17.0 dB

TN-SFP-OC3S8-Cxx Series

MSA Compatible CWDM SFP Modules

100Base-FX/OC-3 Single Mode (LC) With DMI

Applications include: 10G Ethernet Switches and Routers, Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Coarse Wavelength Division Multiplexing (CWDM) ITU Grid Compliant Wavelengths
- Hot-Pluggable SFP Footprint Duplex LC Optical Transceiver
- Digital Diagnostic Function (DMI)
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)
- Compliant with 100Base-FX
- Compliant with Intermediate-Reach SONET OC-3/SDH STM-1 (S-1.1)

Specifications

Standards	IEEE 802.3 2003 ANSI X3.297-1997 (see additional standards by part number to the left)
Output Wavelength	-5.5nm < λ_c < +7.5nm
Typical Data Rate	155Mbps
Maximum Data Rate	200Mbps
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-SFP-OC3S8-Cxx
SFP 100Base-FX/OC-3 single mode (LC) with DMI [80 km/49.7 mi.] Link Budget: 29.0 dB

xx = center wavelength (l_c)

27 = 1270nm	45 = 1450nm
29 = 1290nm	47 = 1470nm
31 = 1310nm	49 = 1490nm
33 = 1330nm	51 = 1510nm
35 = 1350nm	53 = 1530nm
37 = 1370nm	55 = 1550nm
39 = 1390nm	57 = 1570nm
41 = 1410nm	59 = 1590nm
43 = 1430nm	61 = 1610nm

TN-CWDM-100LX-1xx0 Series

Cisco Compatible CWDM SFP Modules

100Base-LX/SONET OC-3/SDH STM-1 Single Mode (LC) With DMI

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Coarse Wavelength Division Multiplexing (CWDM) ITU Grid Compliant Wavelengths
- Hot-Pluggable SFP Optical Transceiver With Duplex LC Connector
- Digital Diagnostic Function (DMI)
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)
- Single +3.3V Power Supply
- RoHS Compliant
- Compliant with IEEE 802.3z 1000Base-LX/ZX
- Compliant with Fiber Channel 1x SM-LC-L FC-PI
- Compliant with IEEE 802.3 100Base-FX

Specifications

Standards	IEEE 802.3 IEEE 802.3z
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-CWDM-100LX-1xx0 small form factor pluggables (SFPs) are Cisco Compliant* and are designed for bi-directional serial-optical data communications such as Gigabit Ethernet, or Fiber Channel 1x. Each SFP operates at a nominal CWDM wavelength. There are 18 wavelengths available in 20nm steps from 1270nm to 1610nm.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

Ordering Information

Duplex

TN-CWDM-100LX-1xx0
100Base-LX/SONET OC-3/SDH STM-1 single mode (LC) with DMI [80 km/49.7 mi.] Link Budget: 29.0 dB

xx = center wavelength (λ_c)

27 = 1270nm	45 = 1450nm
29 = 1290nm	47 = 1470nm
31 = 1310nm	49 = 1490nm
33 = 1330nm	51 = 1510nm
35 = 1350nm	53 = 1530nm
37 = 1370nm	55 = 1550nm
39 = 1390nm	57 = 1570nm
41 = 1410nm	59 = 1590nm
43 = 1430nm	61 = 1610nm

TN-SFP-OC12 Series

MSA Compliant 100Base/OC3/OC12 SFP Modules

OC-12/STM-4 SFP (LC) With DMI

TN-SFP-OC12M

Applications include: Fast Ethernet / OC3 Switches and Routers, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-SFP-OC12M
OC-12/STM-4 SFP 1300nm multimode (LC) with DMI [1 km/0.6 mi.] Link Budget: 7.0 dB

TN-SFP-OC12S
OC-12/STM-4 SFP 1310nm single mode (LC) with DMI [20 km/12.4 mi.] Link Budget: 14.0 dB

TN-SFP-OC12S4
OC-12/STM-4 SFP 1310nm single mode (LC) with DMI [40 km/24.9 mi.] Link Budget: 28.0 dB

TN-SFP-OC12S8
OC-12/STM-4 SFP 1310nm single mode (LC) with DMI [80 km/49.7 mi.] Link Budget: 29.0 dB

TN-SFP-SX Series

MSA Compliant 1000Base Fiber Channel SFP Modules

1000Base-SX Multimode (LC)

TN-SFP-SX

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: -10°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-SFP-SX
1000Base-SX 850nm multimode (LC)
[62.5/125 µm: 220 m/722 ft.]
Link Budget: 8.0 dB
[50/125 µm: 550 m/1804 ft.]
Link Budget: 8.0 dB

TN-SFP-SX-PK
Pack of (20) TN-SFP-SX Modules

TN-SFP-SXD
1000Base-SX 850nm multimode (LC)
with DMI
[62.5/125 µm: 220 m/722 ft.]
Link Budget: 8.0 dB
[50/125 µm: 550 m/1804 ft.]
Link Budget: 8.0 dB

TN-GLC-SX-MM Series

Cisco Compatible Gigabit SFP Modules

1000Base-SX Multimode (LC)

Features

- Extended operating temperature -40°C to +85°C (TN-GLC-xxx-RGD Modules Only)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C Operating: -40°C to 85°C (TN-GLC-SX-MM-xx-RGD) Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-GLC-SX-MM series small form factor pluggable (SFP) transceiver modules are designed to install in any SFP port allowing for 1000Base-SX interfaces to the network through the SFP connector. The TN-GLC-SX-MM transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as Gigabit Ethernet or fiber channel at speeds up to 1.25 Gbps.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP-based routers and switches, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

Ordering Information

Duplex

TN-GLC-SX-MM
1000Base-SX 850nm multimode (LC)
[62.5/125 µm: 220 m/722 ft.]
[50/125 µm: 550 m/1804 ft.]
Link Budget: 8.5 dB

TN-GLC-SX-MM-PK
Pack of (20) TN-GLC-SX-MM

TN-GLC-SX-MMD
1000Base-SX 850nm multimode (LC) with DMI
[6.25/125 µm: 220m/722ft.]
[50/125µm: 550m/1804 ft.]
Link Budget: 8.5 dB

TN-GLC-SX-MM-2K
1000Base-SX 1300nm Ext. multimode (LC)
[2 km/1.2 mi.] Link Budget: 10.0 dB

Extended Operating Temperature
-40°C to +85°C

TN-GLC-SX-MM-RGD
1000Base-SX 850nm multimode (LC) with DMI
[62.5/125 µm: 220 m/722 ft.]
Link Budget: 8.5 dB
[50/125 µm: 550 m/1804 ft.]
Link Budget: 8.5 dB

TN-GLC-SX-MM-2K-RGD
1000Base-SX 1300nm Ext. multimode (LC)
with DMI [2 km/1.2 mi.]
Link Budget: 10.0 dB

TN-EX-SFP-1GE Series

Juniper Compatible SFP Module

1000Base-X (LC)

TN-EX-SFP-1GE-LX

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Small Form-Factor Pluggable (SFP) MSA Compliant
- Compliant with IEEE 802.3z 1000Base-SX/LX
- Compliant with IEEE 802.3 100Base-FX
- Single +3.3V Power Supply
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard EC 60825 Compliant

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.2" [56 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-EX-SFP-1GE-SX
1000Base-SX 850nm (LC) multimode
[62.5/125 um: 220 m/722 ft.]
[50/125 um: 550 m/1804 ft.]
Link Budget: 9.0 dB

TN-EX-SFP-1GE-LX
1000Base-LX 1310nm (LC) single mode
[10 km/6.2 mi.] Link Budget: 9.0 dB

TN-EX-SFP-1GE-LX40K
1000Base-LX 1310nm (LC) single mode with DMI [40 km/24.9 mi.] Link Budget: 20.0 dB

TN-EX-SFP-1GE-LH
1000Base-LX 1550nm(LC) single mode with DMI [80 km/49.7 mi.] Link Budget: 27.0 dB

TN-EX-SFP-1GE-LH12
1000Base-LX 1550nm (LC) single mode with DMI [120 km/74.6 mi.] Link Budget: 32.0 dB

TN-EX-SFP-1GE-LH16
1000Base-LX 1550nm (LC) single mode with DMI [160 km/99.4 mi.] Link Budget: 37 dB

TN-J48xxC Series

HP Compatible SFP Modules

1000Base-X (LC)

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Optical Transceiver with Duplex LC Connector
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)
- Compliant with IEEE 802.3z 1000Base-SX (TN-J4858C/ TN-J4860C Module Only)
- Compliant with IEEE 802.3 1000Base-LX (TN-J4859C Module Only)

Specifications

Standards	IEEE 802.3z
Dimensions	Width: 0.52" [13 mm] Depth: 2.2" [56 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per HP literature, the HP switches with SFP slots do not accept modules other than HP's own SFPs. The HP switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-HP interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-J4858C
1000Base-SX 850nm (LC) multimode
[62.5/125 µm fiber: 220 m/722 ft.]
[50/125 µm fiber: 550 m/1804 ft.]
Link Budget: 9.0 dB

TN-J4859C
1000Base-LX 1310nm (LC) single mode
[20 km/12.4 mi.] Link Budget: 16.0 dB

TN-J4860C
1000Base-LX/ZX 1550nm (LC) single mode
[80 km/49.7 mi.] Link Budget: 24.0 dB

TN-SFP-GE-x Series

Cisco Compatible Gigabit SFP Modules

1000Base-X (LC) With DMI

TN-SFP-GE-L

Features

- Extended operating temperature -40°C to +85°C

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-SFP-GE-x series small form factor pluggable (SFP) transceiver modules are designed to install in any SFP port allowing for 1000Base-SX or 1000Base-LX interfaces to the network through the SFP connector. The TN-SFP-GE-x transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as Gigabit Ethernet or fiber channel at speeds up to 1.25 Gbps.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP-based routers and switches, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

Ordering Information

Duplex

TN-SFP-GE-S
1000Base-SX 850nm multimode (LC) with DMI
[62.5/125 µm: 220 m/722 ft.]
Link Budget: 8.5 dB
[50/125 µm: 550 m/1804 ft.]
Link Budget: 8.5 dB

TN-SFP-GE-L
1000Base-LX 1310nm single mode (LC)
with DMI [10 km/6.2 mi.] Link Budget: 10.5 dB

TN-SFP-GE-Z
1000Base-LX 1550nm single mode (LC)
with DMI [80 km/49.7 mi.]
Link Budget: 24.0 dB

TN-SFP-ESXx Series

MSA Compliant 1000Base Fiber Channel SFP Modules

1000Base-SX Multimode (LC) With DMI

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Ordering Information

Duplex

TN-SFP-ESX5
1000Base-SX 1300nm Ext. multimode (LC) [50/125 µm fiber only: up to 2 km/1.2 mi.] with DMI Link Budget: 8.0 dB

TN-SFP-ESX6
1000Base-SX 1300nm Ext. multimode (LC) [62.5/125 µm fiber only: up to 2 km/1.2 mi.] with DMI Link Budget: 8.0 dB

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: -10°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

TN-GLC-LH-SM Series

Cisco Compatible Gigabit SFP Modules

1000Base-LX Single Mode (LC)

TN-GLC-LH-SM

Features

- Extended operating temperature -40°C to +85°C (TN-GLC-xxx-RGD Module Only)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C TN-GLC-xxx-RGD Operating: -40°C to 85°C Storage: -40°C to 100°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-GLC-LH-SM series small form factor pluggable (SFP) transceiver modules are designed to install in any SFP port allowing for 1000Base-LX interfaces to the network through the SFP connector. The TN-GLC-LH-SM transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as Gigabit Ethernet or fiber channel at speeds up to 1.25 Gbps.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP-based routers and switches, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

Ordering Information

Duplex

TN-GLC-LH-SM
1000Base-LX 1310nm single mode (LC) [10 km/6.2 mi.] Link Budget: 10.5 dB

TN-GLC-LH-SM-PK
Pack of (20) TN-GLC-LH-SM

TN-GLC-LH-SMD
1000Base-LX 1310nm single mode (LC) with DMI [10km/6.2 mi.] Link Budget: 10.5 dB

TN-GLC-LH-SMD-PK
Pack of (20) TN-GLC-LH-SMD

TN-GLC-LHX-SM
1000Base-LX 1310nm single mode (LC) [40 km/24.9 mi.] Link Budget: 22.0 dB

Extended Operating Temperature -40°C to +85°C

TN-GLC-LX-SM-RGD
1000Base-LX 1310nm single mode (LC) with DMI [10 km/6.2 mi.] Link Budget: 10.5 dB

TN-GLC-LHX-SM-RGD
1000Base-LX 1310nm single mode (LC) with DMI [40km/24/9 mi.] Link Budget: 22.0 dB

TN-SFP-LX Series

MSA Compliant 1000Base Fiber Channel SFP Modules

1000Base-LX Single Mode (LC)

TN-SFP-LX1

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C Operating: -10°C to 85°C (TN-SFP-LX1) Operating: -40°C to 85°C (TN-SFP-LX1T)
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-SFP-LX1
1000Base-LX 1310nm single mode (LC) with DMI [10 km/6.2 mi.] Link Budget: 11.5 dB

TN-SFP-ELX1
1000Base-LX 1310nm single mode (LC) [10 km/6.2 mi.] Link Budget: 11.5 dB

TN-SFP-ELX1-PK
Pack of (20) TN-SFP-ELX1

TN-SFP-LX3
1000Base-LX 1310nm single mode (LC) with DMI [30 km/18.6 mi.] Link Budget: 19.0 dB

TN-SFP-LX5
1000Base-LX 1550nm single mode (LC) with DMI [50 km/31.1 mi.] Link Budget: 19.0 dB

TN-SFP-LX8
1000Base-LX 1550nm single mode (LC) with DMI [80 km/49.7 mi.] Link Budget: 24.0 dB

TN-SFP-LX16
1000Base-LX 1550nm single mode (LC) with DMI [160 km/99.4 mi.] Link Budget: 37.0 dB

TN-SFP-LX20
1000Base-LX 1550 nm (LC) single mode with DMI [200 km/124.3 mi.] Link Budget: 41.0 dB

Extended Operating Temperature
-40°C to +85°C

TN-SFP-LX1T
1000Base-LX 1310nm single mode (LC) with DMI [10 km/6.2 mi.] Link Budget: 11.5 dB

TN-SFP-LX3T
1000Base-LX 1310nm single mode (LC) with DMI [30 km/18.6 mi.] Link Budget: 19.0 dB

TN-CWDM-SFP-1xx0-40 Series

Cisco Compatible CWDM SFP Modules

1000Base-LX/ZX Fiber Channel Single Mode (LC) With DMI

TN-CWDM-SFP-1430-40

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Coarse Wavelength Division Multiplexing (CWDM) ITU Grid Compliant Wavelengths
- Hot-Pluggable SFP Optical Transceiver With Duplex LC Connector
- Digital Diagnostic Function (DMI)
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)
- Single +3.3V Power Supply
- RoHS Compliant
- Compliant with IEEE 802.3z 1000Base-LX/ZX
- Compliant with Fiber Channel 1x SM-LC-L FC-PI

Specifications

Standards	IEEE 802.3 IEEE 802.3z
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-CWDM-SFP-1xx0-40 small form factor pluggables (SFPs) are Cisco Compliant* and are designed for bi-directional serial-optical data communications such as Gigabit Ethernet, or Fiber Channel 1x. Each SFP operates at a nominal CWDM wavelength. There are 18 wavelengths available in 20nm steps from 1270nm to 1610nm.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, TN-CWDM-SFP-1xx0-40 modules are also Compliant with all Cisco SFP-based equipment, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

Ordering Information

Duplex

TN-CWDM-SFP-1xx0-40
1000Base-LX/ZX Fiber Channel single mode (LC) with DMI [40 km/24.9 mi.] Link Budget: 19.0 dB

xx = center wavelength (l_c)

27 = 1270nm	45 = 1450nm
29 = 1290nm	47 = 1470nm
31 = 1310nm	49 = 1490nm
33 = 1330nm	51 = 1510nm
35 = 1350nm	53 = 1530nm
37 = 1370nm	55 = 1550nm
39 = 1390nm	57 = 1570nm
41 = 1410nm	59 = 1590nm
43 = 1430nm	61 = 1610nm

TN-SFP-LX8-Cxxx Series

MSA Compatible CWDM SFP Modules

1000Base-LX/Fiber Channel 1x Single Mode (LC) With DMI

TN-SFP-LX8-C57T TN-SFP-LX8-C47 TN-SFP-LX8-C49

Applications include: 10G Ethernet Switches and Routers, Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Coarse Wavelength Division Multiplexing (CWDM) ITU Grid Compliant Wavelengths
- Hot-Pluggable SFP Footprint Duplex LC Optical Transceiver
- Digital Diagnostic Function (DMI)
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)
- Compliant with IEEE 802.3z Gigabit Ethernet
- Compliant with Fiber Channel 1X SM-LC-L FC-PI

Specifications

Standards	IEEE 802.3 2003 ANSI X3.297-1997 (see additional standards by part number to the left)
Output Wavelength	-5.5nm < λ_c < +7.5nm
Typical Data Rate	1250Mbps
Minimum Data Rate	100Mbps
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C Operating: -40°C to +85°C (TN-SFP-LX8-CxxT)
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-SFP-LX8-Cxx
1000Base-LX/Fiber Channel 1x
single mode (LC) with DMI
[80 km/49.7 mi.] Link Budget: 24.0 dB

Extended Operating Temperature
(-40°C to +85°C)

****TN-SFP-LX8-CxxT**
1000Base-LX/Fiber Channel 1x
single mode (LC) with DMI
[80 km/49.7 mi.] Link Budget: 24.0 dB

****Note: TN-SFP-LX8-CxxT:**
xx= 47, 49, 51, 53, 55, 57, 59, 61

xx = center wavelength (l_c)

27 = 1270nm	45 = 1450nm
29 = 1290nm	47 = 1470nm
31 = 1310nm	49 = 1490nm
33 = 1330nm	51 = 1510nm
35 = 1350nm	53 = 1530nm
37 = 1370nm	55 = 1550nm
39 = 1390nm	57 = 1570nm
41 = 1410nm	59 = 1590nm
43 = 1430nm	61 = 1610nm

TN-CWDM-SFP-1xx0 Series

Cisco Compatible CWDM SFP Modules

1000Base-LX/ZX Fiber Chanel Single Mode (LC) With DMI

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Ordering Information

Duplex

TN-CWDM-SFP-1xx0
1000Base-LX/ZX Fiber Channel single mode (LC) with DMI [80 km/49.7 mi.] Link Budget: 24.0 dB

xx = center wavelength (l_c)

27 = 1270nm	45 = 1450nm
29 = 1290nm	47 = 1470nm
31 = 1310nm	49 = 1490nm
33 = 1330nm	51 = 1510nm
35 = 1350nm	53 = 1530nm
37 = 1370nm	55 = 1550nm
39 = 1390nm	57 = 1570nm
41 = 1410nm	59 = 1590nm
43 = 1430nm	61 = 1610nm

Features

- Coarse Wavelength Division Multiplexing (CWDM) ITU Grid Compliant Wavelengths
- Hot-Pluggable SFP Optical Transceiver With Duplex LC Connector
- Digital Diagnostic Function (DMI)
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)
- Single +3.3V Power Supply
- RoHS Compliant
- Compliant with IEEE 802.3z 1000Base-LX/ZX
- Compliant with Fiber Channel 1x SM-LC-L FC-PI

Specifications

Standards	IEEE 802.3 IEEE 802.3z
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-CWDM-SFP-1xx0 small form factor pluggables (SFPs) are Cisco Compliant* and are designed for bi-directional serial-optical data communications such as Gigabit Ethernet, or Fiber Channel 1x. Each SFP operates at a nominal CWDM wavelength. There are 18 wavelengths available in 20nm steps from 1270nm to 1610nm.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, TN-CWDM-SFP-1xx0 modules are also Compliant with all Cisco SFP-based equipment, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

TN-GLC-ZX-SM Series

Cisco Compatible Gigabit SFP Modules

1000Base-LX Single Mode (LC) With DMI

Features

- Extended operating temperature -40°C to +85°C (TN-GLC-ZX-SM-RGD Module Only)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C TN-GLC-ZX-SM-RGD Operating: -40°C to 85°C Storage: -40°C to 100°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-GLC-ZX-SM series small form factor pluggable (SFP) transceiver modules are designed to install in any SFP port allowing for 1000Base-LX interfaces to the network through the SFP connector. The TN-GLC-ZX-SM transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as Gigabit Ethernet or fiber channel at speeds up to 1.25 Gbps.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP-based routers and switches, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

Ordering Information

Duplex

TN-GLC-ZX-SM
1000Base-LX 1550nm single mode (LC) with DMI [80 km/49.7 mi.] Link Budget: 24.0 dB

TN-GLC-ZX-SM-12
1000Base-LX 1550nm single mode (LC) with DMI [120 km/74.6 mi.] Link Budget: 31.0 dB

TN-GLC-ZX-SM-15
1000Base-LX 1550nm single mode (LC) with DMI [150 km/93.2 mi.] Link Budget: 37.0 dB

Extended Operating Temperature -40°C to +85°C

TN-GLC-ZX-SM-RGD
1000Base-LX 1550nm single mode (LC) with DMI [80 km/49.7 mi.] Link Budget: 24.0 dB

TN-CWDM-SFP-1xx0-16 Series

Cisco Compatible CWDM SFP Modules

1000Base-LX/ZX Fiber Channel Single Mode (LC) With DMI

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Ordering Information

Duplex

TN-CWDM-SFP-1xx0-16
1000Base-LX/ZX Fiber Channel single mode (LC) with DMI [160 km/99.4 mi.] Link Budget: 36.0 dB

xx = center wavelength (l_c)

47 = 1470nm
49 = 1490nm
51 = 1510nm
53 = 1530nm
55 = 1550nm
57 = 1570nm
59 = 1590nm
61 = 1610nm

Features

- Coarse Wavelength Division Multiplexing (CWDM) ITU Grid Compliant Wavelengths
- Hot-Pluggable SFP Optical Transceiver With Duplex LC Connector
- Digital Diagnostic Function (DMI)
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)
- Single +3.3V Power Supply
- RoHS Compliant
- Compliant with IEEE 802.3z 1000Base-LX/ZX
- Compliant with Fiber Channel 1x SM-LC-L FC-PI

Specifications

Standards	IEEE 802.3 IEEE 802.3z
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-CWDM-SFP-1xx0-16 small form factor pluggables (SFPs) are Cisco Compliant* and are designed for bi-directional serial-optical data communications such as Gigabit Ethernet, or Fiber Channel 1x. Each SFP operates at a nominal CWDM wavelength. There are 18 wavelengths available in 20nm steps from 1270nm to 1610nm.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, TN-CWDM-SFP-1xx0-16 modules are also Compliant with all Cisco SFP-based equipment, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

TN-SFP-LX16-Cxx Series

MSA Compatible CWDM SFP Modules

1000Base-LX/Fiber Channel 1x Single Mode (LC) With DMI

Applications include: 10G Ethernet Switches and Routers, Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Ordering Information

Duplex

TN-SFP-LX16-Cxx
1000Base-LX/Fiber Channel 1x
single mode (LC) with DMI
[160 km/99.4 mi.] Link Budget: 37.0 dB

xx = center wavelength (l_c)

27 = 1270nm	45 = 1450nm
29 = 1290nm	47 = 1470nm
31 = 1310nm	49 = 1490nm
33 = 1330nm	51 = 1510nm
35 = 1350nm	53 = 1530nm
37 = 1370nm	55 = 1550nm
39 = 1390nm	57 = 1570nm
41 = 1410nm	59 = 1590nm
43 = 1430nm	61 = 1610nm

Features

- Coarse Wavelength Division Multiplexing (CWDM) ITU Grid Compliant Wavelengths
- Hot-Pluggable SFP Footprint Duplex LC Optical Transceiver
- Digital Diagnostic Function (DMI)
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)
- Compliant with IEEE 802.3z Gigabit Ethernet
- Compliant with Fiber Channel 1X SM-LC-L FC-PI (Can be used on Optical Line Converter xFMFF4040-100)

Specifications

Standards	IEEE 802.3 2003 ANSI X3.297-1997 (see additional standards by part number to the left)
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

TN-SFP-FC2XM

MSA Compliant 1000Base Fiber Channel SFP Modules

Fiber Channel 2x/1x/OC-48/STM-16/1000Base-X (LC) With DMI

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: -10°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-SFP-FC2XM
OC-48/STM-16/Fiber Channel 1x/2x /1000Base-SX 850nm (LC) multimode with DMI [62.5/125 µm: 150 m/492 ft.] Link Budget: 6.0 dB [50/125 µm: 300 m/984 ft.] Link Budget: 6.0 dB

TN-10GSFP-LRxM Series

MSA Compliant Multi-rate 1G/10GBase SFP+ Modules

10GBase-X/1000Base-X, SFP+ With DMI Single Mode (LC)

TN-10GSFP-LR4M TN-10GSFP-LR8M

Ordering Information

Duplex

TN-10GSFP-LR1M
10Gbase-LR/1000Base-LX, SFP+ with DMI
1310nm single mode (LC) [10km/6.2 mi.]
Link Budget: 9.0 dB

TN-10GSFP-LR4M
10Gbase-LR/1000Base-LX, SFP+ with DMI
1550nm single mode (LC) [40km/24.9 mi.]
Link Budget: 15.0 dB

TN-10GSFP-LR8M
10Gbase-ZR/1000Base-ZX, SFP+ with DMI
1550nm single mode (LC) [80km/49.7 mi.]
Link Budget: 24.0 dB

Features

- SFP+ Optical Transceiver
- 10G Small Form-Factor Pluggable (SFP+) MSA Compliant
- SFF-8472 Digital Diagnostic Function (DMI)
- SFF-8431 and SFF-8432 Compliant
- Maximum link length of 80km
- Single +3.3 V Power Supply
- Up to 10.5 Gbps bidirectional data links
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant
- Compliant with IEEE 802.3ae 10GBase-LR
- Compliant with IEEE 802.3z 1000Base-LX/ZX

Specifications

Standards	IEEE 802.3ae IEEE 802.3z
Data Rates	10.3 Gbps / 1.25 Gbps
Dimensions	Width: 0.52" [13 mm] Depth: 2.2" [56 mm] Height: 0.33" [8 mm]
Power Supply	+3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FAD 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

TN-10GSFP-SRM

MSA Compliant Multi-rate 1G/10GBase SFP+ Modules

10GBase-SR/1000Base-SX, SFP+ With DMI Multimode (LC)

Features

- SFP+ Optical Transceiver
- 10G Small Form-Factor Pluggable (SFP+) MSA Compliant
- SFF-8472 Digital Diagnostic Function (DMI)
- SFF-8431 and SFF-8432 Compliant
- Maximum link length of 80km
- Single +3.3 V Power Supply
- Up to 10.5 Gbps bidirectional data links
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant
- Compliant with IEEE 802.3ae 10GBase-LR
- Compliant with IEEE 802.3z 1000Base-LX/ZX

Specifications

Standards	IEEE 802.3ae IEEE 802.3z
Data Rates	10.3 Gbps / 1.25 Gbps
Dimensions	Width: 0.52" [13 mm] Depth: 2.2" [56 mm] Height: 0.33" [8 mm]
Power Supply	+3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FAD 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Ordering Information

Duplex

TN-10GSFP-SRM
10Gbase-SR/1000Base-SX, SFP+ with DMI
850nm multimode (LC)
[300/82/33m; 985/269/108 ft.]
Link Budget: 4.0 dB

Note: Distance up to 300m on 50/125 OM3 multimode fiber, up to 82m for 50/125 um multimode fiber with model.

Bandwidth 500 MHz-km at 850nm, and up to 33m for 62.5/125 um multimode fiber with model bandwidth 200 MHzkm at 850nm.

TN-10GSFP-LR8M-Cxx Series

CWDM MSA Compliant Multi-rate 1G/10GBase SFP+ Modules

10GBase-ZR/1000Base-ZX, SFP+ With DMI Single Mode (LC)

Features

- SFP+ Optical Transceiver
- 10G Small Form-Factor Pluggable (SFP+) MSA Compliant
- SFF-8472 Digital Diagnostic Function (DMI)
- SFF-8431 and SFF-8432 Compliant
- Maximum link length of 80km
- Single +3.3 V Power Supply
- Up to 10.5 Gbps bidirectional data links
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant
- Compliant with IEEE 802.3z 1000Base-LX/ZX

Specifications

Standards	IEEE 802.3ae IEEE 802.3z
Data Rates	10.3 Gbps / 1.25 Gbps
Dimensions	Width: 0.52" [13 mm] Depth: 2.2" [56 mm] Height: 0.33" [8 mm]
Power Supply	+3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FAD 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Ordering Information

Duplex

TN-10GSFP-LR8M-Cxx
10Gbase-ZR/1000Base-ZX, SFP+ with DMI single mode (LC) [80km/49.7 mi.]
Link Budget: 24.0 dB

xx = center wavelength (lc)
47 = 1470nm
49 = 1490nm
51 = 1510nm
53 = 1530nm
55 = 1550nm
57 = 1570nm
59 = 1590nm
61 = 1610nm

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TN-10GSFP-LRxM-Dxx Series

DWDM MSA Compliant Multi-rate 1G/10GBase SFP+ Modules

10GBase-ER/ZR or 1000Base-LX/ZX, SFP+ With DMI Single Mode (LC)

TN-10GSFP-LR4M-D47

TN-10GSFP-LR8M-D49

Features

- SFP+ Optical Transceiver with duplex LC connector
- 1G/10G Small Form-Factor Pluggable (SFP+) MSA compliant
- Compliant with IEEE 802.3ae 10GBase-LR/ZR
- Compliant with IEEE 802.3z 1000Base-LX/ZX
- SFF-8472 Digital Diagnostic Function (DMI)
- SFF-8431 and SFF-8432 Compliant
- Maximum Link Length of 80KM
- Single +3.3 V Power Supply
- Lower power dissipation < 1.5 Watts
- RoHS Compliant
- 0°C to 70°C Operating Temperature range
- -40°C to 85°C Storage Temperature range
- Class 1 Laser International Safety Standard IEC 60825 Compliant

Specifications

Standards	IEEE 802.3 IEEE 802.3ae IEEE 802.3z
Dimensions	Width: 0.52” [13 mm] Depth: 2.18” [55 mm] Height: 0.33” [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Operating: -40°C to 85°C
Compliance	IEC 60825-1, FDA CDRH 21-CFR 1040.10 Class 1
Warranty	Lifetime

Ordering Information

Duplex

TN-10GSFP-LR8M-Dxx
10GBase-ZR/1000Base-ZX, SFP+ with DMI single mode (LC) [80 km/49.7 mi.]
Link Budget: 22.0 dB

TN-10GSFP-LR4M-Dxx
10GBase-ER/1000Base-LX, SFP+ with DMI single mode (LC) [40 km/24.9 mi.]
Link Budget: 15.0 dB

xx = Channel

xx	Wavelength (nm)	Frequency (THZ)	xx	Wavelength (nm)	Frequency (THZ)
21	1560.61	192.10	41	1544.53	194.10
22	1559.76	192.20	42	1543.73	194.20
23	1558.98	192.30	43	1542.94	194.30
24	1558.17	192.40	44	1542.14	194.40
25	1557.36	192.50	45	1541.35	194.50
26	1556.55	192.60	46	1540.56	194.60
27	1555.75	192.70	47	1539.77	194.70
28	1554.94	192.80	48	1538.98	194.80
29	1554.13	192.90	49	1538.19	194.90
30	1553.33	193.00	50	1537.40	195.00
31	1552.52	193.10	51	1536.61	195.10
32	1551.73	193.20	52	1535.82	195.20
33	1550.92	193.30	53	1535.04	195.30
34	1550.12	196.40	54	1534.25	195.40
35	1549.32	193.50	55	1533.47	195.50
36	1548.51	193.60	56	1532.68	195.60
37	1547.72	193.70	57	1531.90	195.70
38	1546.92	193.80	58	1531.12	195.80
39	1546.12	193.90	59	1530.33	195.90
40	1545.32	194.00	60	1529.55	196.00

TN-10GSFP-xRx Series

MSA Compliant 10GBase SFP+ Modules

10GBase-X, SFP+ With DMI (LC)

TN-10GSFP-LR1

Features

- SFP+ Optical Transceiver
- 10G Small Form-Factor Pluggable (SFP+) MSA Compliant
- SFF-8472 Digital Diagnostic Function (DMI)
- Single +3.3 V Power Supply
- Up to 10.5 Gbps bidirectional data links
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant
- Compliant with IEEE 802.3ae 10GBase-SR/SW (TN-10GSFP-SR Module Only)
- Link Length up to 300 m with OM3 multimode fiber; 82m with OM2 multimode fiber; 33m with OM1 multimode fiber (TN-10GSFP-SR Module Only)
- Compliant with IEEE 802.3ae 10GBase-LR/LW
- Maximum Link Length of 70KM

Specifications

Standards	IEEE 802.3ae
Data Rates	10.3 Gbps
Dimensions	Width: 0.52" [13 mm] Depth: 2.2" [56 mm] Height: 0.33" [8 mm]
Power Supply	+3.3V
Environment	Operating: 0°C to 70°C Operating: -40°C to +85°C (TN-10GSFP-xxT) Storage: -40°C to 85°C
Compliance	IEC-60825, FAD 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Ordering Information

Duplex

***TN-10GSFP-SR**
10GBase-SR/SW, SFP+ with DMI 850nm multimode (LC) [300/82/33 m; 985/269/108 ft.] Link Budget: 2.6 dB

TN-10GSFP-LR1
10GBase-LR/LW, SFP+ with DMI 1310nm single mode (LC) [10 km/6.2 mi.] Link Budget: 6.4 dB

Extended Operating Temperature -40°C to +85°C

***TN-10GSFP-SRT**
10GBase-SR/SW, SFP+ with DMI 850nm multimode (LC) [300/82/33 m; 985/269/108 ft.] Link Budget: 2.6 dB

TN-10GSFP-LR1T
10GBase-LR/LW, SFP+ with DMI 1310nm single mode (LC) [10 km/6.2 mi.] Link Budget: 9.0 dB

**Distance up to 300m on 50/125 OM3 multimode fiber, up to 82 m for 50/125 um multimode fiber with model.*

Bandwidth 500 MHz-km at 850nm, and up to 33m for 62.5/125 um multimode fiber with model bandwidth 200 MHzkm at 850nm.

TN-XFP-xxx Series

MSA Compliant XFP Modules

10GBase-X Fiber Channel, XFP With DMI (LC)

TN-XFP-SR

Applications include: 10G Ethernet Switches and Routers, 10G Fiber Channel Switch Infrastructure, and Metro Edge Switching.

Features

- Hot-Pluggable XFP Footprint LC Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with XFP Multi-Sourcing Agreement (MSA)
- XFP Optical Transceiver with duplex LC connector
- 10G Small Form-Factor Pluggable (XFP) MSA Compliant
- INF-8077i Digital Diagnostic Function (DMI)
- Maximum Link Length of 100 km
- Single +3.3V Power Supply
- Low Power Dissipation < 2 Watts
- RoHS Compliant (all models)
- Compliant with IEEE 802.3ae 10GBase-SR/SW (TN-XFP-SR Module Only)
- Compliant with 10G Fiber Channel 1200-MX-SN-I (TN-XFP-SR Module Only)
- Low power Dissipation < 1.2 Watts (TN-XFP-SR Module Only)
- Compliant with IEEE 802.3ae 10GBase-LR/LW//ER/ZR (TN-XFP-LRx & TN-XFP-ER & TN-XFP-ZR Only)
- Compliant with 10G Fiber Channel 1200-SM-LL-L (TN-XFP-LRx & TN-XFP-ER & TN-XFP-ZR Only)
- Compliant with XFI 10G Serial Electrical Interface (TN-XFP-LRx & TN-XFP-ER & TN-XFP-ZR Only)
- Low power Dissipation < 2 Watts (TN-XFP-LRx & TN-XFP-ER & TN-XFP-ZR Only)

Specifications

Standards	IEEE 802.3ae
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.71" [18 mm] Depth: 3.07" [78 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C (TN-XFP-SR, TN-XFP-ZR) Operating: -5°C to 70°C (TN-XFP-LR1, TN-XFP-ER) Humidity: 10% to 90% (non-condensing)
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with XFP slots do not accept modules other than Cisco's own XFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces. Other major XFP switch manufacturers do not indicate in their literature that such restrictions are imposed.

Transition Networks' XFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' XFP modules to be used on other MSA-compliant XFP platforms without any problems.

Ordering Information

Duplex

TN-XFP-SR
10GBase-SR/SW/10G Fiber Channel, XFP with DMI 850nm multimode (LC)
[62.5/125 uM (OM1): 33 m/108 ft.]
[50/125 uM (OM2): 82 m/269 ft.]
[50/125 uM (OM3): 300 m/985 ft.]
Modal dispersion: 3.9 dB

TN-XFP-LR1
10GBase-LR/LW/10G Fiber Channel, XFP with DMI 1310nm single mode (LC)
[10 km/6.2 mi.] Link Budget: 6.2 dB

TN-XFP-ER
10GBase-LR/ER/10G Fiber Channel, XFP with DMI 1310nm single mode (LC)
[40 km/24.9 mi.] Link Budget: 16.5 dB

TN-XFP-ZR
10GBase-ZR/10G Fiber Channel, XFP with DMI 1550nm single mode (LC)
[80 km/49.7 mi.] Link Budget: 23.0 dB

TN-XFP-LR10
10GBase-LR/10G Fiber Channel, XFP with DMI single mode 1550nm (LC)
[100 km/62.1 mi.] Link Budget: 25.0 dB

TN-XFP-LRM
10GBase-LRM, XFP with DMI 1310nm multimode (LC)
[300m/985 ft.] Link Budget: 4.5 dB

TN-XFP-10Gxxx Series

Cisco Compatible 10GBase XFP Modules

10GBase-X/10G Fiber Channel/OC-192 (LC) With DMI

Applications include: 10G Ethernet Switches and Routers, 10G Fiber Channel Switch Infrastructure, SONET / SDH Application, and Metro Edge Switching.

Features

- Hot-Pluggable XFP Optical Transceiver with LC connector
- 10G Small Form-Factor Pluggable (XFP) MSA Compliant
- Compliant with XFP Multi-Sourcing Agreement (MSA)
- INF-8077i Digital Diagnostic Function (DMI)
- Maximum Link Length of 80KM
- Support both +3.3V and +5V Power Supply
- Low Power Dissipation < 3 Watts
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant
- Compliant with IEEE 802.3ae (TN-XFP-10G-MM-SR Module Only)
- 10GBase-SR/SW (TN-XFP-10G-MM-SR Module Only)
- Compliant with 10G Fiber Channel 1200-MX-SN-I (TN-XFP-10G-MM-SR Module Only)
- Compliant with IEEE 802.3ae (TN-XFP-10G-MM-SR Module Only)
- 10Base-LR/LW/ER/EW/ZR/ZW (TN-XFP-10G-MM-SR Module Only)
- Compliant with 10G Fiber Channel (TN-XFP-10G-MM-SR Module Only)
- 1200-SM-LL-L Compliant with SONET (TN-XFP-10G-MM-SR Module Only)
- OC-192 / SDH STM-64 (TN-XFP-10G-MM-SR Module Only)

Specifications

Standards	IEEE 802.3ae
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	3.3V, 5V
Environment	Operating: -5°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-XFP-10Gxxx 10G small form factor pluggables (XFPs) are Cisco Compliant* and are designed for bi-directional serial-optical data communications such as 10G Ethernet, or 10G Fiber Channel.

*Transition Networks' XFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our XFP modules to be used in all other MSA compliant XFP platforms. In addition, TN-XFP-10Gxxx modules are also Compliant with all Cisco XFP-based equipment, as well as Cisco's IOS software. Transition Networks XFP modules ARE NOT Cisco OEM brand modules.

Ordering Information

Duplex

TN-XFP-10G-MM-SR
10GBase-SR/SW / 10G Fiber Channel / OC-192 850nm multimode (LC) with DMI
[62.5/125 uM (OM1): 33 m/108 ft.]
[50/125 uM (OM2): 82 m/269 ft.]
[50/125 uM (OM3): 300 m/985 ft.]
Link Budget: 4.5 dB

TN-XFP-10GLR-OC192SR
10GBase-LR/LW 10G Fiber Channel
OC-192 1310nm single mode (LC) with DMI
[10 km/6.2 mi.] Link Budget: 9.4 dB

TN-XFP-10GER-OC192IR
10GBase-ER/EW 10G Fiber Channel
OC-192 1550nm single mode (LC) with DMI
[40 km/24.9 mi.] Link Budget: 15.5 dB

TN-XFP-10GZR-OC192LR
10GBase-ZR/ZW / 10G Fiber Channel
OC-192 1550nm single mode (LC) with DMI
[80 km/49.7 mi.] Link Budget: 24.0 dB

TN-JD09xB Series

HP Compatible 10GBase SFP+ Modules

10GBase-X, SFP+ With DMI (LC) for HP X130

Applications include: 10G Ethernet Switches and Routers and Metro Edge Switching.

Features

- SFP+ Optical Transceiver with LC connector
- 10G Small Form-Factor Pluggable (SFP+) MSA Compliant
- Compliant with IEEE 802.3ae 10GBase-SR/LR/LW
- SFF-8472 Digital Diagnostic Function (DMI)
- Single +3.3V Power Supply
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant

Specifications

Standards	IEEE 802.3z IEEE 802.3
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Transition Networks' SFP+ modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP+ modules to be used in all other MSA compliant SFP+ platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP+ based routers and switches, as well as Cisco's IOS software. Transition Networks SFP+ modules ARE NOT Cisco OEM brand module.

Ordering Information

Duplex

***TN-JD092B**
10Gbase-SR, SFP+ with DMI multimode
850nm (LC) [300/82/33 m; 985/269/108 ft.]
Link Budget: 4.0 dB

TN-JD093B
10Gbase-LRM, SFP+ with DMI multimode
1310nm (LC) [220m; 722 ft.]
Link Budget: 1.5 dB

TN-JD094B
10Gbase-LR, SFP+ with DMI single mode
1310nm (LC) [10 km/6.2 mi.]
Link Budget: 9.0 dB

*Note: Distance up to 300m on 50/125 OM3 multimode fiber, up to 82m for 50/125 um multimode fiber with model.

Bandwidth 500 MHz-km at 850nm, and up to 33m for 62.5/125 um multimode fiber with model bandwidth 200 MHzkm at 850nm.

TN-J915xA Series

HP Compatible 10GBase SFP+ Modules

10GBase-X, SFP+ With DMI (LC) for HP X132

TN-J9152A

Applications include: 10G Ethernet Switches and Routers and Metro Edge Switching.

Features

- SFP+ Optical Transceiver with LC connector
- 10G Small Form-Factor Pluggable (SFP+) MSA Compliant
- Compliant with IEEE 802.3ae 10GBase-SR/LR/LW
- SFF-8472 Digital Diagnostic Function (DMI)
- Single +3.3V Power Supply
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant

Specifications

Standards	IEEE 802.3z IEEE 802.3
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Transition Networks' SFP+ modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP+ modules to be used in all other MSA compliant SFP+ platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP+ based routers and switches, as well as Cisco's IOS software. Transition Networks SFP+ modules ARE NOT Cisco OEM brand module.

Ordering Information

Duplex

***TN-J9150A**
10GBase-SR, SFP+ with DMI multimode 850nm (LC) [300/82/33 m; 985/269/108 ft.] Link Budget: 4.0 dB

TN-J9152A
10Gbase-LRM, SFP+ with DMI multimode 1310nm (LC) [220m/722 ft.] Link Budget: 1.5 dB

TN-J9151A
10Gbase-LR, SFP+ with DMI single mode 1310nm (LC) [10 km/6.2 mi.] Link Budget: 9.0 dB

TN-J9153A
10Gbase-ER, SFP+ with DMI single mode 1550nm (LC) [40 km/24.9 mi.] Link Budget: 14.1dB

**Distance up to 300m on 50/125 OM3 multi-mode fiber, up to 82 m for 50/125 um multi-mode fiber with model.*

Bandwidth 500 MHz-km at 850nm, and up to 33 m for 62.5/125 um multi-mode fiber with model bandwidth 200 MHzkm at 850nm.

TN-SFP-10G-xR Series

Cisco Compatible 10GBase SFP+ Modules

10GBase-X, SFP+ With DMI (LC)

TN-SFP-10G-LRM

Applications include: 10G Ethernet Switches and Routers and Metro Edge Switching.

Features

- SFP+ Optical Transceiver with LC connector
- 10G Small Form-Factor Pluggable (SFP+) MSA Compliant
- Compliant with IEEE 802.3ae 10GBase-SR/LR/LW
- SFF-8472 Digital Diagnostic Function (DMI)
- Maximum Link Length of 100KM
- Single +3.3V Power Supply
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant

Specifications

Standards	IEEE 802.3z IEEE 802.3
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-SFP-10G-xR series 10G SFP+ transceiver modules are designed to install in any SFP+ port allowing for 10GBase-X interfaces to the network through the SFP+ connector. The TN-SFP-10G-xR transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as 10G Ethernet at speeds up to 10.3 Gbps.

*Transition Networks' SFP+ modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP+ modules to be used in all other MSA compliant SFP+ platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP+ based routers and switches, as well as Cisco's IOS software. Transition Networks SFP+ modules ARE NOT Cisco OEM brand module

Ordering Information

Duplex

***TN-SFP-10G-SR**
10GBase-SR, SFP+
with DMI 850nm multimode (LC)
[300/82/33 m; 985/269/108 ft.]
Link Budget: 4.0 dB

TN-SFP-10G-LRM
10GBase-LRM, SFP+
with DMI 1310nm multimode (LC)
[220m; 722 ft.] Link Budget: 1.5 dB

TN-SFP-10G-LR
10GBase-LR, SFP+
with DMI 1310nm single mode (LC)
[10 km/6.2 mi.] Link Budget: 9.0 dB

TN-SFP-10G-ER
10GBase-ER, SFP+
with DMI 1550nm single mode (LC)
[40 km/24.9 mi.] Link Budget: 15.8 dB

TN-SFP-10G-ZR
10GBase-ZR, SFP+
with DMI 1550nm single mode (LC)
[80 km/49.7 mi.] Link Budget: 24.0 dB

TN-SFP-10G-ZR-10
10GBase-ZR, SFP+ with DMI
1550nm single mode (LC)
[100 km/62.1 mi.] Link Budget: 26.0 dB

TN-SFP-10G-LR-PK
Pack of (20) TN-SFP-10G-LR

TN-SFP-10G-SR-PK
Pack of (20) TN-SFP-10G-SR

**Distance up to 300m on 50/125 OM3 multi-mode fiber, up to 82 m for 50/125 um multi-mode fiber with model.*

Bandwidth 500 MHz-km at 850nm, and up to 33 m for 62.5/125 um multi-mode fiber with model bandwidth 200 MHzkm at 850nm.

TN-CWDM-10G-1xx0-40 Series

Cisco Compatible CWDM SFP+ Modules

10GBase-LR/LW/10G Fiber Channel, SFP+ With DMI Single Mode (LC)

TN-CWDM-10G-1470-40

Applications include: 10G Ethernet Switches and Routers, xDSL Applications, and Metro Edge Switching.

Ordering Information

Duplex

TN-CWDM-10G-1xx0-40
10GBase-ER/EW/10G Fiber Channel, SFP+ with DMI single mode (LC)
[40 km/24.9 mi.] Link Budget: 14.1 dB

xx = center wavelength (l_c)

27 = 1270nm	49 = 1490nm
29 = 1290nm	51 = 1510nm
31 = 1310nm	53 = 1530nm
33 = 1330nm	55 = 1550nm
35 = 1350nm	57 = 1570nm
37 = 1370nm	59 = 1590nm
47 = 1470nm	61 = 1610nm

Features

- Compliant with IEEE 802.3ae 10GBase-ER/EW
- SFF-8472 Digital Diagnostic Function (DMI)
- Maximum Link Length of 80KM
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant
- SFP+ Optical Transceiver with duplex LC connector
- Single +3.3 V Power Supply

Specifications

Standards	IEEE 802.3ae
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	+5V, 3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-CWDM-40G-1xx0-40 10G modules are Cisco Compliant* and are designed for bi-directional serial-optical data communications such as 10G Ethernet. Each X2/XFP/SFP+ operates at a nominal CWDM wavelength. There are 8 wavelengths available in 20nm steps from 1470nm to 1610nm.

*Transition Networks' X2/XFP/SFP+ modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our X2/XFP/SFP+ modules to be used in all other MSA compliant XFP platforms. In addition, TN-CWDM-10G-1xx0-40 modules are also Compliant with all Cisco X2/XFP/SFP+-based equipment, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

TN-XFP-LR4-Cxx Series

MSA Compatible CWDM XFP Modules

XFP, 10GBase-ER/10G Fiber Channel Single Mode (LC) With DMI

Applications include: 10G Ethernet Switches and Routers, Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Coarse Wavelength Division Multiplexing (CWDM) ITU Grid Compliant Wavelengths
- Hot-Pluggable SFP Footprint Duplex LC Optical Transceiver
- Digital Diagnostic Function (DMI)
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3 2003 ANSI X3.297-1997
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-XFP-LR4-Cxx
XFP 10GBase-ER/10G Fiber Channel single mode (LC) with DMI [40 km/24.9 mi.] Link Budget: 15.0 dB

xx = center wavelength (l_c)

27 = 1270nm	49 = 1490nm
29 = 1290nm	51 = 1510nm
31 = 1310nm	53 = 1530nm
33 = 1330nm	55 = 1550nm
35 = 1350nm	57 = 1570nm
37 = 1370nm	59 = 1590nm
39 = 1390nm	61 = 1610nm
41 = 1410nm	
47 = 1470nm	

TN-XFP-LR7-Cxx Series

MSA Compatible CWDM XFP Modules

XFP, 10GBase-ZR/10G Fiber Channel Single Mode (LC) With DMI

TN-XFP-LR7-C55

Applications include: 10G Ethernet Switches and Routers, Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Coarse Wavelength Division Multiplexing (CWDM) ITU Grid Compliant Wavelengths
- Hot-Pluggable SFP Footprint Duplex LC Optical Transceiver
- Digital Diagnostic Function (DMI)
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3 2003 ANSI X3.297-1997 (see additional standards by part number to the left)
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-XFP-LR7-Cxx

XFP 10GBase-ZR single mode (LC) with DMI [70 km/43.6 mi.] Link Budget: 23.0 dB

xx = center wavelength (l_c)

47 = 1470nm
49 = 1490nm
51 = 1510nm
53 = 1530nm
55 = 1550nm
57 = 1570nm
59 = 1590nm
61 = 1610nm

+1.952.941.7600 | www.transition.com | sales@transition.com

TN-CWDM-10G-1xx0-80 Series

Cisco Compatible CWDM SFP+ Modules

10GBase-LR/LW/10G Fiber Channel, SFP+ With DMI Single Mode (LC)

TN-CWDM-10G-1550-80

Applications include: 10G Ethernet Switches and Routers, xDSL Applications, and Metro Edge Switching.

Features

- Compliant with IEEE 802.3ae 10GBase-ZR/ZW
- SFF-8472 Digital Diagnostic Function (DMI)
- Maximum Link Length of 80KM
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant
- SFP+ Optical Transceiver with duplex LC connector
- Single +3.3 V Power Supply

Specifications

Standards	IEEE 802.3ae
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	+5V, 3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-CWDM-10G-1xx0-80 10G modules are Cisco Compliant* and are designed for bi-directional serial-optical data communications such as 10G Ethernet. Each X2/XFP/SFP+ operates at a nominal CWDM wavelength. There are 8 wavelengths available in 20nm steps from 1470nm to 1610nm.

*Transition Networks' X2/XFP/SFP+ modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our X2/XFP/SFP+ modules to be used in all other MSA compliant XFP platforms. In addition, TN-CWDM-10G-1xx0-80 modules are also Compliant with all Cisco X2/XFP/SFP+-based equipment, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

Ordering Information

Duplex

TN-CWDM-10G-1xx0-80
10GBase-ZR/ZW/10G Fiber Channel, SFP+ with DMI single mode (LC)
[80 km/49.8 mi.] Link Budget: 24.0 dB

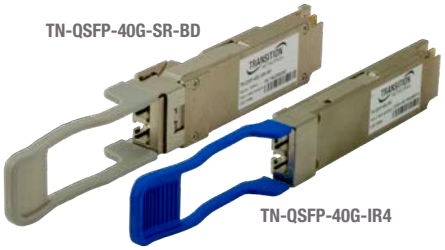
xx = center wavelength (l_c)

47 = 1470nm
49 = 1490nm
51 = 1510nm
53 = 1530nm
55 = 1550nm
57 = 1570nm
59 = 1590nm
61 = 1610nm

TN-QSFP-40G Series

Cisco Compliant 40G QSFP+

QSFP+ 40GBase-X With DMI



The Transition Networks TN-QSFP-40G series 40G QSFP+ optical transceivers are designed to install in any QSFP+ port allowing for 40GBase-X interfaces to the network through the QSFP+ connector. The TN-QSFP-40G transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as 40G Ethernet.

Applications include: 40G Ethernet, 10G Ethernet, and Data Center Aggregation Connection.

Features

- High capacity: up to 44.4 Gbps per module
- Compliant with SFF 8436 QSFP+ MSA
- Single +3.3 V Power Supply
- RoHS Compliant (all models)
- Low Power Dissipation : SR4< 1.5 Watts, LR4 < 3.5 Watts
- **40GBase-SR4: 4 lanes, up to 11.1Gbps per lane, Standard MPO connector**
- **40GBase-LR4: 4 wavelength CWDM Mux/Demux design, up to 11.1Gbps per wavelength, Duplex LC connector**
- **40GBase-Bidi: two transmit/receive channels, 20Gbps each channel, 850 - 900nm wavelength range, Duplex LC connector**
- **40GBase-IR4: 4 wavelength CWDM Mux/Demux design, up to 11.1Gbps per wavelength, Duplex LC connector**
- Digital Diagnostic Monitoring
- Class 1 Laser International Safety Standard IEC 60825 Compliant

Specifications

Standards	IEEE 802.3ba SFF 8436
Dimensions	Width: 0.71" [18 mm] Depth: 2.83" [72 mm] Height: 0.33" [8.5 mm]
Power Input	3.3V
Environment	Operating: 0°C to +70°C Storage: -40°C to +85°C
Compliance	IEC 60825-1, FDA CDRH 21-CFR 1040.10 Class 1
Warranty	Lifetime

*Transition Networks' QSFP+ modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our QSFP+ modules to be used in all other MSA compliant QSFP+ platforms. In addition, Transition Networks QSFP+ modules are also Compliant with all Cisco QSFP+ based routers and switches, as well as Cisco's IOS software. Transition Networks QSFP+ modules ARE NOT Cisco OEM brand modules.

Ordering Information

Duplex

TN-QSFP-40G-SR4
QSFP+ 40GBase-SR4, 850nm multimode (MPO)
[400m/1313ft. on OM4, 300m/985ft. on OM3] with DMI Link Budget: 2.3 dB

TN-QSFP-40G-SR-BD
QSFP+ 40GBase-SR-BD, 850nm/900nm multimode (LC)
[150m/492ft. on OM4, 100m/328ft. on OM3] Link Budget: 3.0 dB

TN-QSFP-40G-IR4
QSFP+ 40GBase-IR4, 1271nm, 1291nm, 1311nm, 1331nm, single mode (LC)
[2km/1.24mi.] with DMI Link Budget: 6.7 dB

TN-QSFP-40G-LR4
QSFP+ 40GBase-LR4, 1271nm, 1291nm, 1311nm, 1331nm, single mode (LC)
[10km/6.2mi.] with DMI Link Budget: 7.0 dB

TN-QSFP-40G-LR4-3
QSFP+ 40GBase-LR4, 1271nm, 1291nm, 1311nm, 1331nm single mode (LC)
[30km/18.7mi.] with DMI Link Budget: 9.0 dB

TN-QSFP-100G Series

Cisco Compliant 100G QSFP28

QSFP28 100GBase-X With DMI

The Transition Networks TN-QSFP-100G Series QSFP28 optical transceivers are hot-swappable pluggables that can be installed in any QSFP28 port for 100 Gigabit Ethernet connections. The new generation of 100G transceiver solutions, which are compliant with the IEEE 802.3bm standard, offer customers a wide selection of high-density, compact footprint and low-power 100G Ethernet connectivity options.

Application includes: data center, high-performance computing network, core network

Features

- Hot-pluggable QSFP28 form factor
- High capacity: up to 103.1 Gbps
- QSFP28 MSA Compliant
- Single 3.3V Power Supply
- Power dissipation < 3.5 Watts
- 100GBase-SR4: 4 x 25 Gbps, 850nm, Multimode, 100 m over OM4, MPO
- 100GBase-LR4: 4 x 25 Gbps, WDM wavelength, Single Mode, 10 km, Duplex LC
- 100GBase-CWDM4 MSA: 4 x 25Gbps, WDM wavelength, Single Mode, 2 km, Duplex LC
- RoHS Compliant (all models)
- Digital Diagnostic Monitoring
- Class 1 Laser International Safety Standard IEC 60825 compliant

Specifications

Standards	IEEE 802.3bm SFF 8436
Dimensions	Width: 0.71" [18 mm] Depth: 2.83" [72 mm] Height: 0.33" [8.5 mm]
Power Input	3.3V
Environment	Operating: 0°C to +70°C Storage: -40°C to +85°C
Compliance	IEC 60825-1, FDA CDRH 21-CFR 1040.10 Class 1
Warranty	Lifetime

*Transition Networks' QSFP28 modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our QSFP28 modules to be used in all other MSA compliant QSFP28 platforms. In addition, Transition Networks QSFP28 modules are also Compliant with all Cisco QSFP28 based routers and switches, as well as Cisco's IOS software. Transition Networks QSFP28 modules ARE NOT Cisco OEM brand modules.

Ordering Information

Duplex

TN-QSFP-100G-SR4
QSFP28 100GBase-SR4, 850nm multimode (MPO) [100 m/328 ft. on OM4] [70 m/229 ft. on OM3] with DMI Link Budget: 2.3 dB

TN-QSFP-100G-LR4
QSFP28 100GBase-LR4, 1295nm, 1300nm,1304nm, 1309nm, single mode (LC) [10 km/6.2 mi.] with DMI Link Budget: 6.3 dB

TN-QSFP-100G-CWDM4
QSFP28 100GBase-LR4, 1295nm, 1300nm,1304nm, 1309nm, single mode (LC) [2 km/1.2 mi.] with DMI Link Budget: 6.3 dB

TN-SFP-OC3MB Series

MSA Compliant 100Base/OC3 SFP Modules

100Base-FX Multimode (SC) with DMI

Applications include: Fast Ethernet / OC3 Switches and Routers, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Simplex

TN-SFP-OC3MB1
100Base-FX 1310nm TX/1550nm RX multimode (SC) with DMI
[2 km/1.2 mi.] Link Budget: 15.0 dB

TN-SFP-OC3MB2
100Base-FX 1550nm TX/1310nm RX multimode (SC) with DMI
[2 km/1.2 mi.] Link Budget: 15.0 dB

TN-GLC-FE-100BX Series

Cisco Compatible 100Base SFP Modules

100Base-BX Single Fiber Single Mode (LC)

TN-GLC-FE-100BX-U

Applications include: Fast Ethernet Switches & Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Duplex LC Optical Transceiver
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)
- Compliant with Intermediate-Reach SONET OC-3/SDH STM-1 (S-1.1)

Specifications

Standards	IEEE 802.3 IEEE 802.3ah
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	1.0 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C TN-GLC-FE-xxx-RGD Operating: -40°C to 85°C Storage: -40°C to 100°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Ordering Information

Simplex

TN-GLC-FE-100BX-U
100Base-BX 1310nm TX/1550nm RX
single fiber single mode (LC)
[10 km/6.2 mi.] Link Budget: 14.0 dB

TN-GLC-FE-100BX-U-20
100Base-BX 1310nm TX/1550nm RX
single fiber single mode (LC)
[20 km/12.4 mi.] Link Budget: 14.0 dB

TN-GLC-FE-100BX-U-40
100Base-BX 1310nm TX/1550nm RX
single fiber single mode (LC)
[40 km/24.9 mi.] Link Budget: 26.0 dB

TN-GLC-FE-100BX-U-80
100Base-BX 1310nm TX/1550nm RX
single fiber single mode (LC)
[80 km/49.7 mi.] Link Budget: 32.0 dB

TN-GLC-FE-100BX-U-12
100Base-BX 1490nm TX/1550nm RX
single fiber single mode (LC) with DMI
[120 km/74.6 mi.] Link Budget: 32.0 dB

TN-GLC-FE-100BX-D
100Base-BX 1550nm TX/1310nm RX
single fiber single mode (LC)
[10 km/6.2 mi.] Link Budget: 14.0 dB

TN-GLC-FE-100BX-D-20
100Base-BX 1550nm TX/1310nm RX
single fiber single mode (LC)
[20 km/12.4 mi.] Link Budget: 14.0 dB

TN-GLC-FE-100BX-D-40
100Base-BX 1550nm TX/1310nm RX
single fiber single mode (LC)
[40 km/24.9 mi.] Link Budget: 26.0 dB

TN-GLC-FE-100BX-D-80
100Base-BX 1550nm TX/1310nm RX
single fiber single mode (LC)
[80 km/49.7 mi.] Link Budget: 32.0 dB

TN-GLC-FE-100BX-D-12
100Base-BX 1550nm TX/1490nm RX
single fiber single mode (LC) with DMI
[120 km/74.6 mi.] Link Budget: 32.0 dB

Extended Operating Temperature
-40°C to +85°C

TN-GLC-FE-100BX-URGD
100Base-BX 1310nm TX/1550nm RX
single fiber single mode (LC) with DMI
[20 km/12.4 mi.] Link Budget: 14.0 dB

TN-GLC-FE-U-40-RGD
100Base-BX 1310nm TX/1550nm RX
single fiber single mode (LC) with DMI
[40 km/24.9 mi.] Link Budget: 26.0 dB

TN-GLC-FE-100BX-DRGD
100Base-BX 1550nm TX/1310nm RX
single fiber single mode (LC) with DMI
[20 km/12.4 mi.] Link Budget: 14.0 dB

TN-GLC-FE-D-40-RGD
100Base-BX 1550nm TX/1310nm RX
single fiber single mode (LC) with DMI
[40 km/24.9 mi.] Link Budget: 26.0 dB

Note: The Transition Networks TN-GLC-FE-100BX series small form factor pluggable (SFP) transceiver modules are designed to install in any SFP port allowing for 100Base-BX interfaces to the network through the SFP connector. The TN-GLC-FE-100BX transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as Fast Ethernet or OC3 at speeds up to 155 Mbps.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP-based routers and switches, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

TN-SFP-OC3SB Series

MSA Compliant 100Base/OC3 SFP Modules

100Base-FX/OC-3 Single Mode (LC) with DMI

Applications include: Fast Ethernet / OC3 Switches and Routers, xDSL Applications, and Metro Edge Switching.

Ordering Information

Simplex

TN-SFP-OC3SB21
100Base-FX 1310nm TX/1550nm RX
single mode (LC) with DMI
[20 km/12.4 mi.] Link Budget: 19.0 dB

TN-SFP-OC3SB22
100Base-FX 1550nm TX/1310nm RX
single mode (LC)
[20 km/12.4 mi.] Link Budget: 19.0 dB

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

TN-SFP-LXMB1x Series

MSA Compliant 100Base/1000Base SFP Modules

100Base-BX/1000Base-BX Singe Mode (LC) with DMI

Applications include: Fast Ethernet or Gigabit Ethernet Switches and Routers, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Ordering Information

Simplex

TN-SFP-LXMB11
100Base-BX/1000Base-BX 1310nm
TX/1550nm RX single mode (LC)
with DMI [10 km/6.2 mi.] Link Budget: 11.0 dB

TN-SFP-LXMB12
100Base-BX/1000Base-BX 1550nm
TX/1310nm RX single mode (LC)
with DMI [10 km/6.2 mi.] Link Budget: 11.0 dB

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

TN-SFP-BC55-x Series

OTDR SFP with Integrated Network Monitoring Capability

1000Base-LX/100Base-FX Single Fiber Single Mode

The TN-SFP-BC55-x Series is an intelligent device in Small Form Factor (SFP) with integrated OTDR (Optical Time-Domain Reflectometer) functionality. As a part of Transition Networks Smart SFP family, it offers a simple way of assessing or monitoring the status of the physical fiber infrastructure. The deployment of this capability could be in a single-ended manner, or both ends as required.

Transition Networks switches, NIDs and media converters* have started to offer this functionality of monitoring and reporting the fiber fault by simply plugging in the TN-SFP-BC55-x optical transceivers. Whenever a disconnect or breakage occurs in the fiber connected to one of the Transition Networks devices equipped with TN-SFP-BC55-x, the device can automatically alert the loss of signal or distance to the fault to the IT administrator.

Applications include: Gigabit Ethernet Switches & Routers, Fast Ethernet Switches and Routers, Business Class Service, and Center Office Cross-Connect.

Major Benefits include: small footprint with integrated network monitoring, single wavelength operation in legacy and UPC connector networks, physical layer fault detection, distributed remote fiber monitoring, and no additional special equipment is necessary.

Ordering Information

Simplex

TN-SFP-BC55-I
SFP w/OTDR 1000Base-LX/100Base-FX 1550nm single fiber single mode (LC) [40km/24.9mi.,] Link Budget: 20.0dB

TN-SFP-BC55
SFP w/ Reflection Immune Operation, 1000Base-LX/100Base-FX, 1550nm single fiber single mode (SC) [40km/24.9mi.,] Link Budget: 20.0dB

Note: Other wavelengths, Duplex, and other distance options are available upon request.

*Note: Supported by S4224 and S3290 Series currently

Features

- 1.25Gbps/125Mbps bi-directional data link
- Compliant with IEEE 802.3z 1000Base-LX & IEEE 802.3 100Base-FX
- Single +3.3V Power Supply
- RoHS Compliant (all models)
- MSA Compliant
- Integrated OTDR (Optical Time-Domain Reflectometer) function
- Integrated Reflection Immune Operation – Any Network Type
- SFF-8472 Digital Diagnostic Function (DMI)
- 55 dB Dynamic Range for the OTDR
- Dead Zone of 30 meters or less
- Resolution of 10 meters or Better
- Accuracy of 50 meters or Better
- Class 1 Laser International Safety Standard IEC 60825 Compliant

Specifications

Standards	IEEE 802.3 IEEE 802.3z
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: -20°C to +70°C Storage: -40°C to +85°C
Compliance	IEC 60825-1, FDA CDRH 21-CFR 1040.10 Class 1
Warranty	1 Year

TN-SFP-SXB Series

MSA Compliant 1000Base Fiber Channel SFP Modules

1000Base-SX Multimode (LC) With DMI

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Simplex

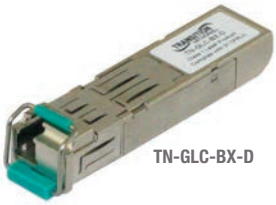
TN-SFP-SXB1
1000Base-SX 1310nm TX/1550nm RX multimode (LC) with DMI
[500 m/1640 ft.] Link Budget: 7.0 dB

TN-SFP-SXB2
1000Base-SX 1550nm TX/1310nm RX multimode (LC) with DMI
[500 m/1640 ft.] Link Budget: 7.0 dB

TN-GLC-BX Series

Cisco Compatible Gigabit SFP Modules

1000Base-BX Single Fiber Single Mode (LC) With DMI


TN-GLC-BX-D

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-GLC-BX series small form factor pluggable (SFP) transceiver modules are designed to install in any SFP port allowing for 1000Base-BX interfaces to the network through the SFP connector. The TN-GLC-BX transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as Gigabit Ethernet or fiber channel at speeds up to 1.25 Gbps.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP-based routers and switches, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

Ordering Information

Simplex

TN-GLC-BX-U
1000Base-BX 1310nm TX/1490nm RX single fiber single mode (LC) with DMI [10 km/6.2 mi.] Link Budget: 12.0 dB

TN-GLC-BX-D
1000Base-BX 1490nm TX/1310nm RX single fiber single mode (LC) with DMI [10 km/6.2 mi.] Link Budget: 12.0 dB

TN-GLC-BX-U-20
1000Base-BX 1310nm TX/1490nm RX single fiber single mode (LC) with DMI [20 km/12.4 mi.] Link Budget: 10.5 dB

TN-GLC-BX-D-20
1000Base-BX 1490nm TX/1310nm RX single fiber single mode (LC) with DMI [20 km/12.4 mi.] Link Budget: 11.0 dB

TN-GLC-BX-U-40
1000Base-BX 1310nm TX/1490nm RX single fiber single mode (LC) with DMI [40 km/24.9 mi.]Link Budget: 20.0 dB

TN-GLC-BX-D-40
1000Base-BX 1490nm TX/1310nm RX single fiber single mode (LC) with DMI [40 km/24.9 mi.] Link Budget: 20.0 dB

TN-GLC-BX-U-80
1000Base-BX 1490nm TX/1550nm RX single fiber single mode (LC) with DMI **[80 km/49.7 mi.] Link Budget: 26.0 dB**

TN-GLC-BX-D-80
1000Base-BX 1550nm TX/1490nm RX single fiber single mode (LC) with DMI [80 km/49.7 mi.] Link Budget: 26.0 dB

TN-GLC-BX-U-120
1000Base-BX 1490nm TX/1550nm RX single fiber single mode (LC) with DMI [120 km/74.6 mi.] Link Budget: 31.0 dB

TN-GLC-BX-D-120
1000Base-BX 1550nm TX/1490nm RX single fiber single mode (LC) with DMI [120 km/74.6 mi.] Link Budget: 31.0 dB

TN-SFP-LXB Series

MSA Compliant 1000Base Fiber Channel SFP Modules

1000Base-LX Single Mode (LC) With DMI

TN-SFP-LXB11

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C Operating: -40°C to 85°C (TN-SFP-LXBxxT)
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Simplex

TN-SFP-LXB11
1000Base-LX 1310nm TX/1550nm RX
single mode (LC) with DMI
[10 km/6.2 mi.] Link Budget: 11.0 dB

TN-SFP-LXB12
1000Base-LX 1550nm TX/1310nm RX
single mode (LC) with DMI
[10 km/6.2 mi.] Link Budget: 11.0 dB

TN-SFP-LXB21
1000Base-LX 1310nm TX/1550nm RX
single mode (LC) with DMI
[20 km/12.4 mi.] Link Budget: 14.0 dB

TN-SFP-LXB22
1000Base-LX 1550nm TX/1310nm RX
single mode (LC) with DMI
[20 km/12.4 mi.] Link Budget: 14.0 dB

TN-SFP-LXB41
1000Base-LX 1310nm TX/1550nm RX
single mode (LC) with DMI
[40 km/24.9 mi.] Link Budget: 20.0 dB

TN-SFP-LXB42
1000Base-LX 1550nm TX/1310nm RX
single mode (LC) with DMI
[40 km/24.9 mi.] Link Budget: 20.0 dB

TN-SFP-LXB61
1000Base-LX 1310nm TX/1550nm RX
single mode (LC) with DMI
[60 km/37.3 mi.] Link Budget: 23.0 dB

TN-SFP-LXB62
1000Base-LX 1550nm TX/1310nm RX
single mode (LC) with DMI
[60 km/37.3 mi.] Link Budget: 23.0 dB

TN-SFP-LXB81
1000Base-LX 1510nm TX/1590nm RX
single mode (LC) with DMI
[80 km/49.7 mi.] Link Budget: 24.0 dB

TN-SFP-LXB82
1000Base-LX 1590nm TX/1510nm RX
single mode (LC) with DMI
[80 km/49.7 mi.] Link Budget: 24.0 dB

TN-SFP-LXB161
1000Base-LX 1510nm TX/1590nm RX
single mode (LC) with DMI
[160 km/99.4 mi.] Link Budget: 37.0 dB

TN-SFP-LXB162
1000Base-LX 1590nm TX/1510nm RX
single mode (LC) with DMI
[160 km/99.4 mi.] Link Budget: 37.0 dB

Extended Operating Temperature
-40°C to +85°C

TN-SFP-LXB11T
1000Base-LX 1310nm TX/1550nm RX
single mode (LC) with DMI
[10 km/6.2 mi.] Link Budget: 11.0 dB

TN-SFP-LXB12T
1000Base-LX 1550nm TX/1310nm RX
single mode (LC) with DMI
[10 km/6.2 mi.] Link Budget: 11.0 dB

TN-XFP-10G-x Series

Cisco Compatible 10GBase XFP Modules

10GBase-X/10G Fiber Channel Single Fiber Single Mode (LC) With DMI

Applications include: 10G Ethernet Switches and Routers, 10G Fiber Channel Switch Infrastructure, SONET / SDH Application, and Metro Edge Switching.

Features

- Hot-Pluggable XFP Optical Transceiver with LC connector
- 10G Small Form-Factor Pluggable (XFP) MSA Compliant
- Compliant with XFP Multi-Sourcing Agreement (MSA)
- INF-8077i Digital Diagnostic Function (DMI)
- Maximum Link Length of 80KM
- Support both +3.3V and +5V Power Supply
- Low Power Dissipation < 3 Watts
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant

Specifications

Standards	IEEE 802.3ae
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	3.3V, 5V
Environment	Operating: -5°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-XFP-10G-x 10G small form factor pluggables (XFPs) are Cisco Compliant* and are designed for bi-directional serial-optical data communications such as 10G Ethernet, or 10G Fiber Channel.

*Transition Networks' XFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our XFP modules to be used in all other MSA compliant XFP platforms. In addition, TN-XFP-10G-x modules are also Compliant with all Cisco XFP-based equipment, as well as Cisco's IOS software. Transition Networks XFP modules ARE NOT Cisco OEM brand modules.

Ordering Information

Simplex

TN-XFP-10G-U
10GBase-LR/LW / 10G Fiber Channel
1270nm TX/1330nm RX single fiber
single mode (LC) **with DMI**
[10 km/6.2 mi.] Link Budget: 9.0 dB

TN-XFP-10G-D
10GBase-LR/LW / 10G Fiber Channel
1330nm TX/1270nm RX single fiber
single mode (LC) **with DMI**
[10 km/6.2 mi.] Link Budget: 9.0 dB

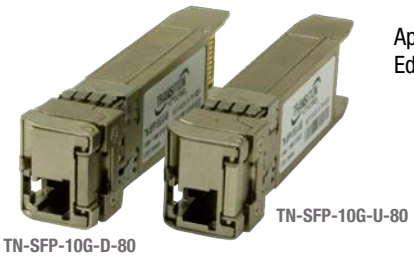
TN-XFP-10G-U-40
10GBase-BX / 10G Fiber Channel
1270nm TX/1330nm RX single fiber
single mode (LC) **with DMI**
[40 km/24.9 mi.] Link Budget: 15.0 dB

TN-XFP-10G-D-40
10GBase-BX / 10G Fiber Channel
1330nm TX/1270nm RX single fiber
single mode (LC) **with DMI**
[40 km/24.9 mi.] Link Budget: 15.0 dB

TN-SFP-10G-x-xx Series

Cisco Compatible 10GBase SFP+ Modules

10GBase-X, SFP+ With DMI (LC)



TN-SFP-10G-D-80 TN-SFP-10G-U-80

Applications include: 10G Ethernet Switches and Routers and Metro Edge Switching.

Features

- SFP+ Optical Transceiver with LC connector
- 10G Small Form-Factor Pluggable (SFP+) MSA Compliant
- Compliant with IEEE 802.3ae 10GBase-SR/LR/LW
- SFF-8472 Digital Diagnostic Function (DMI)
- Maximum Link Length of 100KM
- Single +3.3V Power Supply
- RoHS Compliant (all models)
- Class 1 Laser International Safety Standard IEC 60825 Compliant

Specifications

Standards	IEEE 802.3z IEEE 802.3
Output Wavelength	-5.5nm < λ_c < +7.5nm
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-SFP-10G-x-xx series 10G SFP+ transceiver modules are designed to install in any SFP+ port allowing for 10GBase-X interfaces to the network through the SFP+ connector. The TN-SFP-10G-x-xx transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as 10G Ethernet at speeds up to 10.3 Gbps.

*Transition Networks' SFP+ modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP+ modules to be used in all other MSA compliant SFP+ platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP+ based routers and switches, as well as Cisco's IOS software. Transition Networks SFP+ modules ARE NOT Cisco OEM brand module

Ordering Information

Simplex

TN-SFP-10G-U-10
10GBase-BX, SFP+ with DMI
1270nm TX/1330nm RX single mode (LC)
[10 km/6.2 mi.] Link Budget: 5.9 dB

TN-SFP-10G-D-10
10GBase-BX, SFP+ with DMI
1330nm TX/1270nm RX single mode (LC)
[10 km/6.2 mi.] Link Budget: 5.9 dB

TN-SFP-10G-U-20
10GBase-BX, SFP+ with DMI
1270nm TX/1330nm RX single mode (LC)
[20 km/12.4 mi.] Link Budget: 12.1 dB

TN-SFP-10G-D-20
10GBase-BX, SFP+ with DMI
1330nm TX/1270nm RX single mode (LC)
[20 km/12.4 mi.] Link Budget: 12.1 dB

TN-SFP-10G-U-40
10GBase-BX, SFP+ with DMI
1270nm TX/1330nm RX single mode (LC)
[40 km/24.9 mi.] Link Budget: 16.0 dB

TN-SFP-10G-D-40
10GBase-BX, SFP+ with DMI
1330nm TX/1270nm RX single mode (LC)
[40 km/24.9 mi.] Link Budget: 16.0 dB

TN-SFP-10G-U-60
10GBase-BX, SFP+ with DMI
1270nm TX/1330nm RX single mode (LC)
[60 km/37.3 mi.] Link Budget: 20.0 dB

TN-SFP-10G-D-60
10GBase-BX, SFP+ with DMI
1330nm TX/1270nm RX single mode (LC)
[60 km/27.3 mi.] Link Budget: 20.0 dB

TN-SFP-10G-U-80
10GBase-BX, SFP+ with DMI
1490nm TX/1550nm RX single mode (LC)
[80 km/49.7 mi.] Link Budget: 23.0 dB

TN-SFP-10G-D-80
10GBase-BX, SFP+ with DMI
1550nm TX/1490nm RX single mode (LC)
[80 km/49.7 mi.] Link Budget: 23.0 dB

TN-SFP-TX

MSA Compatible Fast Ethernet SFP Module

100Base-TX (RJ-45)

Applications include: Fast Ethernet / OC3 Switches and Routers, xDSL Applications, and Metro Edge Switching.

Ordering Information

TN-SFP-TX
100Base-TX (RJ-45) [100 m/328 ft.]

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

TN-GLC-T Series

Cisco Compatible Gigabit SFP Modules

1000Base-T (RJ-45)

TN-GLC-T-MG

Ordering Information

TN-GLC-T
1000Base-T (RJ-45) [100 m/328 ft.]

TN-GLC-T-PK
Pack of (20) TN-GLC-T Modules

TN-GLC-T-MG
10/100/1000Base-T (RJ-45) [100 m/328 ft.]

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.95" [24 mm] Depth: 2.8" [71 mm] Height: 0.54" [14 mm]
Power Consumption	1.0 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C Storage: -40°C to 85°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-GLC-T series small form factor pluggable (SFP) transceiver modules are designed to install in any SFP port allowing for 1000Base-T interfaces to the network through the SFP connector. The TN-GLC-T transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as Gigabit Ethernet or fiber channel at speeds up to 1.25 Gbps.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP-based routers and switches, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

TN-SFP-GE-T

Hardened Cisco Compatible Gigabit SFP Module

1000Base-T (RJ-45)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.95" [24 mm] Depth: 2.8" [71 mm] Height: 0.54" [14 mm]
Power Consumption	1.0 Watts
Power Input	3.3V
Environment	Operating: -10°C to 80°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: The Transition Networks TN-SFP-GE-T series small form factor pluggable (SFP) transceiver modules are designed to install in any SFP port allowing for 1000Base-T interfaces to the network through the SFP connector. The TN-SFP-GE-T transceivers are Cisco Compliant* and are designed for bi-directional serial-optical data communication such as Gigabit Ethernet or fiber channel at speeds up to 1.25 Gbps.

*Transition Networks' SFP modules fully comply with the Multi-Sourcing Agreement (MSA). This compliance allows our SFP modules to be used in all other MSA compliant SFP platforms. In addition, Transition Networks SFP modules are also Compliant with all Cisco SFP-based routers and switches, as well as Cisco's IOS software. Transition Networks SFP modules ARE NOT Cisco OEM brand modules.

Ordering Information

TN-SFP-GE-T
1000Base-T (RJ-45) [100 m/328 ft.]

TN-SFP-T-MG

MSA Compliant 10/100/1000Base Copper SFP Module

10/100/1000Base-T (RJ-45)

Applications include: Gigabit Ethernet Switches and Routers, Fiber Channel Switch Infrastructure, xDSL Applications, and Metro Edge Switching.

Features

- Hot-Pluggable SFP Footprint Optical Transceiver
- Digital Diagnostic Function
- Class 1 Laser International Safety Standard IEC-60825 Compliant
- Compliant with SFP Multi-Sourcing Agreement (MSA)

Specifications

Standards	IEEE 802.3
Dimensions	Width: 0.52" [13 mm] Depth: 2.18" [55 mm] Height: 0.33" [8 mm]
Power Consumption	0.66 Watts
Power Input	3.3V
Environment	Operating: 0°C to 70°C
Compliance	IEC-60825, FDA 21, CFR 1040.10 and 1040.11
Warranty	Lifetime

Note: Per Cisco Systems' literature, the Cisco switches with SFP slots do not accept modules other than Cisco's own SFPs. The Cisco switch identifies the manufacturer ID along with the part number and blocks operations to this port for non-Cisco interfaces.

Transition Networks' SFP units fully comply with Multi-Sourcing Agreement (MSA). This compliance allows Transition Networks' SFP modules to be used on other MSA-compliant SFP platforms without any problems.

Ordering Information

Duplex

TN-SFP-T-MG
10/100/1000Base-T (RJ-45)
[100 m/328 ft.]

TN-EOT-xx Series

Ethernet Over 2-Wire / Coax Gigabit Ethernet SFP Extender

MSA Compliant 1000Base-X, RJ-45

TN-EOT-CO TN-EOT-RT

The TN-EOT-xx Series is an Ethernet Extender in a standard SFP form factor, it provides the ability to leverage the existing 2-Wire or Coax cable infrastructure to extend the Ethernet service. It can extend the Ethernet service on 2-wire with distances up to 400 meters at 200Mbps bi-directional data rate or extend Ethernet on Coax cabling with distances up to 500 meters at 300Mbps bi-directional data rate.

The TN-EOT-xx Series complies with MSA standards and can quickly enable any switch or media converter with a Gigabit SFP slot to connect beyond typical Ethernet distances (100 meters).

Ordering Information

TN-EOT-CO
SFP, Ethernet Extender, Server, 1000Base-X, RJ-45, (includes RJ to BNC and RJ to Terminal Block adapters)

TN-EOT-RT
SFP, Ethernet Extender, CPE, 1000Base-X, RJ-45, (includes RJ to BNC and RJ to Terminal Block adapters)

*Note: Product must be purchased in pairs.

Features

- MSA Compliant Gigabit SFP
- Plug and Play
- Based on VDSL2 technology
- Support maximum PHY rate up to 300Mbps per line
- Industrial rate operating temperature -40°C to +75°C
- 2KV ESD Class

Specifications

Standards	IEEE 802.3z ITU-T VDSL2
Connectors	(1) RJ-45
Status LEDs	LED1: ORANGE: On: Server; Off: CPE LED2: GREEN: Link Status
Dimensions	Width: 0.52" [13 mm] Depth: 3.1" [79 mm] Height: 0.67" [17 mm]
Power Input	3.3V, 700mA
Environment	Operating: -40°C to +75°C Humidity: 10% to 90% (non-condensing)
Weight	0.07 lbs. [.03 kg]
ESD	2KV
Compliance	Safety: CE/FCC
Warranty	1 Year

DAC-10G-SFP-0xM Series

Direct Attached Copper Cable Assemblies for 10G Networks

The SFP+ copper cable assemblies were developed specifically as a cost-effective and low power alternative to optical cables and optical SFP+ modules for short reach links in high-speed interconnect applications.

Applications include: InfiniBand SDR, DDR, and QDR, Ethernet 1G and 10G, Fiber Channel 8G and 10G, FCoE 10G, Networking, Storage, and hubs, switches, routers, servers, and NICs.

Ordering Information

DAC-10G-SFP-01M
10Gig Direct Attached SFP+ copper cable, 30 AWG, 1 meter

DAC-10G-SFP-03M
10Gig Direct Attached SFP+ copper cable, 30 AWG, 3 meter

DAC-10G-SFP-05M
10Gig Direct Attached SFP+ copper cable, 28 AWG, 5 meter

DAC-10G-SFP-07M
10Gig Direct Attached SFP+ copper cable, 24 AWG, 7 meter

Features

- Supports data transfer rates from 1Gbps up to 10+ Gbps
- Ideal for high speed interconnects in enterprise networking, storage area networks, and at service provider customer hand-off points
- Combines twin-axial shielded cable configurations with robust die cast housings for enhanced support of high frequency data rates
- Impedances matched to ensure interoperability and minimize EMI leakage through their fully-shielded design
- Standard SFP+ latch interoperable with all compliant interfaces

Specifications

Standards	Electrical: SFF-8431, SFF-8083 Mechanical: SFF-8432 EEPROM: SFF-8472 IEEE: 10GBase-CR
Electrical	Min. Dielectric Withstand Voltage: 300VDC Insulation Resistance: 1000Mohms Current Rating: 0.5 Amp Min/Signal Contact
Flammability Rating	UL 94 V-0
Green Features	RoHS, Lead Free
Shield	Braid/Foil
Plug	Backshell Material: Nickel-Plated Zinc Diecast Contact material: PCB with Gold-Plated Pads Plastic Material: LCP Latch: Positive Latching w/ Lanyard Pull
Cable	Conductor: Solid Wire Gauge: 30 AWG to 24 AWG Impedance: 100+/- 5 ohms Construction: Twin axial Cable ODCable 30 AWG = 4.45mm (0.175 in) 28 AWG = 4.7mm (0.185 in) 24 AWG = 5.7mm (0.255 in) Jacket Type: PVC Bend Radius: 5x Cable OD
Compatibility	MSA Compliant: Cables are compliant with Multi-Sourcing Agreement compliant SFP ports Cisco Compliant: Starting with Cisco NX-OS Software release 4.1(3)N2.1, these cables are Compliant with the Nexus 2000 and 5000 series switches
Environment	Operating: -10°C to 70°C
Weight	1 lb. [0.45 kg]
Warranty	Lifetime

CWDM-A2A8xxLCR Series

Add/Drop Mux Coarse Wavelength Division Multiplexing (CWDM)

1 Channel With E/W Lines

CWDM Add/Drop

Transition Networks CWDM products uses a passive technology that allows for any protocol to be transported over the fiber link, as long as it is at a specific wavelength. Transition Networks' CWDM Mux/Demux and Add/Drop Mux can provide a simple and affordable method to maximize existing fiber capacity with little or no increased cost.

Features

- Increase bandwidth on existing fiber infrastructure
- Alleviate fiber exhaustion
- Transmit multiple protocols over an existing duplex fiber link by combining the fiber outputs of multiple media converters
- Provide scalable bandwidth of up to 10 Gbps per channel over existing fiber links
- Plug-and-Play, no configuration of CWDM components
- Use existing standard optical ports on switches and routers

  - Utilize Optical Line Converter as transponder

Specifications

Operating Wavelength	1303.5nm ~ 1616.5nm
Center Wavelength (λ_c)	1470nm ~ 1610nm
Add/Drop Ch. Max Insertion Loss*	1.1 dB *Note: All Insertion Loss values include one connector pair
CWDM Channel Spacing	20nm
CWDM Channel Passband	-5.5nm < λ_c < +7.5nm
Passband Ripple	0.5 dB (max)
Adjacent Channel Isolation	30 dB (min)
Non-adjacent Channel Isolation	40 dB (min)
Directivity	50 dB (min)
Return Loss	45 dB (min)
Polarization Dependent Loss (PDL)	0.2 dB (max)
Optical Operating Power	300 mW (max)
Fiber Type	Corning SMF-28
Dimensions	Module Rack Width: 8.3" [212 mm] Depth: 7.6" [192 mm] Height: 1.7" [43 mm] Mount Bracket Width: 18.9" [481 mm] Depth: 1.6" [40 mm] Height: 1.7" [44 mm]
Environment	Operating: 0°C to +70°C Storage: -40°C to +85°C
Warranty	Lifetime

Ordering Information

Add/Drop Mux

CWDM-A2A831LCR
1 Channel 1310 port with E/W lines

CWDM-A2A833LCR
1 Channel 1330 port with E/W lines

CWDM-A2A835LCR
1 Channel 1350 port with E/W lines

CWDM-A2A837LCR
1 Channel 1370 port with E/W lines

CWDM-A2A839LCR
1 Channel 1390 port with E/W lines

CWDM-A2A841LCR
1 Channel 1410 port with E/W lines

CWDM-A2A843LCR
1 Channel 1430 port with E/W lines

CWDM-A2A845LCR
1 Channel 1450 port with E/W lines

CWDM-A2A847LCR
1 Channel 1470 port with E/W lines

CWDM-A2A849LCR
1 Channel 1490 port with E/W lines

CWDM-A2A851LCR
1 Channel 1510 port with E/W lines

CWDM-A2A853LCR
1 Channel 1530 port with E/W lines

CWDM-A2A855LCR
1 Channel 1550 port with E/W lines

CWDM-A2A857LCR
1 Channel 1570 port with E/W lines

CWDM-A2A859LCR
1 Channel 1590 port with E/W lines

CWDM-A2A861LCR
1 Channel 1610 port with E/W lines

Optional Accessories (sold separately)

CWDM-MB19R1
19" Rack Mount Bracket, 1RU High, holds 2 CWDM Modules

*Note: 1310nm Channel is wideband (+/-50nm)

Other channel configurations may be available upon request.

CWDM-M551LCR

Coarse Wavelength Division Multiplexing (CWDM)

4 Channel + OSC Duplex LC

Transition Networks CWDM products uses a passive technology that allows for any protocol to be transported over the fiber link, as long as it is at a specific wavelength. Transition Networks' CWDM Mux/Demux and Add/Drop Mux can provide a simple and affordable method to maximize existing fiber capacity with little or no increased cost.

Ordering Information

Mux/Demux

CWDM-M551LCR
4 Ch. + OSC, 1510/1530/1550/1570 + 1310nm, Duplex LC

Optional Accessories (sold separately)

CWDM-MB19R1
19" Rack Mount Bracket, 1RU High, holds 2 CWDM Modules

*Note: 1310nm Channel is wideband (+/-50nm)

Other channel configurations may be available upon request.

Features

- Increase bandwidth on existing fiber infrastructure
- Alleviate fiber exhaustion
- Transmit multiple protocols over an existing duplex fiber link by combining the fiber outputs of multiple media converters
- Provide scalable bandwidth of up to 10 Gbps per channel over existing fiber links
- Plug-and-Play, no configuration of CWDM components
- Use existing standard optical ports on switches and routers
  - Utilize Optical Line Converter as transponder

Specifications

CWDM Operating Wavelength	1500nm ~ 1620nm
CWDM Center Wavelength (λ_c)	1510nm ~ 1610nm
1310nm Ch. Operating Wavelength	1260nm ~ 1360nm
1310nm Ch. Center Wavelength (λ_c)	1310nm
CWDM Max. Insertion Loss*	2.0 dB/channel
1310nm Ch. Max Insertion Loss*	1.0 dB/channel *Note: All Insertion Loss values include one connector pair
1310nm Ch. Port Isolation	30 dB (min) (at CWDM bands)
CWDM Channel Spacing	20nm
CWDM Channel Passband	$-5.5nm < \lambda_c < +7.5nm$
Passband Ripple	0.5 dB (max)
Adjacent Channel Isolation	30 dB (min)
Non-adjacent Channel Isolation	40 dB (min)
Directivity	50 dB (min)
Return Loss	45 dB (min)
Polarization Dependent Loss (PDL)	0.2 dB (max)
Optical Operating Power	300 mW (max)
Fiber Type	Corning SMF-28
Dimensions	Module Rack Width: 8.3" [212 mm] Depth: 7.6" [192 mm] Height: 1.7" [43 mm] Mount Bracket Width: 18.9" [481 mm] Depth: 1.6" [40 mm] Height: 1.7" [44 mm]
Environment	Operating: 0°C to +70°C Storage: -40°C to +85°C
Warranty	Lifetime

CWDM-M947LCR

Coarse Wavelength Division Multiplexing (CWDM)

8 Channel + OSC Duplex LC

Transition Networks CWDM products uses a passive technology that allows for any protocol to be transported over the fiber link, as long as it is at a specific wavelength. Transition Networks' CWDM Mux/Demux and Add/Drop Mux can provide a simple and affordable method to maximize existing fiber capacity with little or no increased cost.

Ordering Information

Mux/Demux

CWDM-M947LCR
8 Ch. + OSC, 1470-1610 + 1310nm, Duplex LC

Optional Accessories (sold separately)

CWDM-MB19R1
19" Rack Mount Bracket, 1RU High, holds 2 CWDM Modules

*Note: 1310nm Channel is wideband (+/-50nm)

Other channel configurations may be available upon request.

Features

- Increase bandwidth on existing fiber infrastructure
- Alleviate fiber exhaustion
- Transmit multiple protocols over an existing duplex fiber link by combining the fiber outputs of multiple media converters
- Provide scalable bandwidth of up to 10 Gbps per channel over existing fiber links
- Plug-and-Play, no configuration of CWDM components
- Use existing standard optical ports on switches and routers
  - Utilize Optical Line Converter as transponder

Specifications

CWDM Operating Wavelength	1460nm ~ 1620nm
CWDM Center Wavelength (λ_c)	1470nm ~ 1610nm
1310nm Ch. Operating Wavelength	1260nm ~ 1360nm
1310nm Ch. Center Wavelength (λ_c)	1310nm
CWDM Max. Insertion Loss*	3.3 dB/channel
1310nm Ch. Max Insertion Loss*	1.0 dB/channel *Note: All Insertion Loss values include one connector pair
1310nm Ch. Port Isolation	30 dB (min) (at CWDM bands)
CWDM Channel Spacing	20nm
CWDM Channel Passband	$-5.5nm < \lambda_c < +7.5nm$
Passband Ripple	0.5 dB (max)
Adjacent Channel Isolation	30 dB (min)
Non-adjacent Channel Isolation	40 dB (min)
Directivity	50 dB (min)
Return Loss	45 dB (min)
Polarization Dependent Loss (PDL)	0.2 dB (max)
Optical Operating Power	300 mW (max)
Fiber Type	Corning SMF-28
Dimensions	Module Rack Width: 8.3" [212 mm] Depth: 7.6" [192 mm] Height: 1.7" [43 mm] Mount Bracket Width: 18.9" [481 mm] Depth: 1.6" [40 mm] Height: 1.7" [44 mm]
Environment	Operating: 0°C to +70°C Storage: -40°C to +85°C
Warranty	Lifetime

CWDM-M1631LCR Series

Coarse Wavelength Division Multiplexing (CWDM)

16 Channel + OSC Duplex LC

CWDM-M1631LCR

Transition Networks CWDM products uses a passive technology that allows for any protocol to be transported over the fiber link, as long as it is at a specific wavelength. Transition Networks' CWDM Mux/Demux and Add/Drop Mux can provide a simple and affordable method to maximize existing fiber capacity with little or no increased cost.

Ordering Information

Mux/Demux

CWDM-M1631LCR
16 Ch. ,1310-1610nm, Duplex LC

CWDM-M1631LCR-H
Hardened 16 Ch. , 1310-1610nm, Duplex LC

Optional Accessories (sold separately)

CWDM-MB19R1
19" Rack Mount Bracket, 1RU High, holds 2 CWDM Modules

*Note: 1310nm Channel is wideband (+/-50nm)

Other channel configurations may be available upon request.

Features

- Increase bandwidth on existing fiber infrastructure
- Alleviate fiber exhaustion
- Transmit multiple protocols over an existing duplex fiber link by combining the fiber outputs of multiple media converters
- Provide scalable bandwidth of up to 10 Gbps per channel over existing fiber links
- Plug-and-Play, no configuration of CWDM components
- Use existing standard optical ports on switches and routers

  - Utilize Optical Line Converter as transponder

Specifications

Operating Wavelength	1300nm ~ 1620nm
Center Wavelength (λ_c)	1310nm ~ 1610nm
Max Insertion Loss*	3.7 dB/channel *Note: All Insertion Loss values include one connector pair
CWDM Channel Spacing	20nm
CWDM Channel Passband	-5.5nm < λ_c < +7.5nm
Passband Ripple	0.5 dB (max)
Adjacent Channel Isolation	30 dB (min)
Non-adjacent Channel Isolation	40 dB (min)
Directivity	50 dB (min)
Return Loss	45 dB (min)
Polarization Dependent Loss (PDL)	0.2 dB (max)
Optical Operating Power	300 mW (max)
Fiber Type	Corning SMF-28
Dimensions	Module Rack Width: 8.3" [212 mm] Depth: 7.6" [192 mm] Height: 1.7" [43 mm] Mount Bracket Width: 18.9" [481 mm] Depth: 1.6" [40 mm] Height: 1.7" [44 mm]
Environment	Operating: 0°C to +70°C Operating: -40°C to +85°C (CWDM-M1631LCR-H) Storage: -40°C to +85°C
Warranty	Lifetime

Contact Us

sales@transition.com | techsupport@transition.com

+1.952.941.7600

transition.com/contact