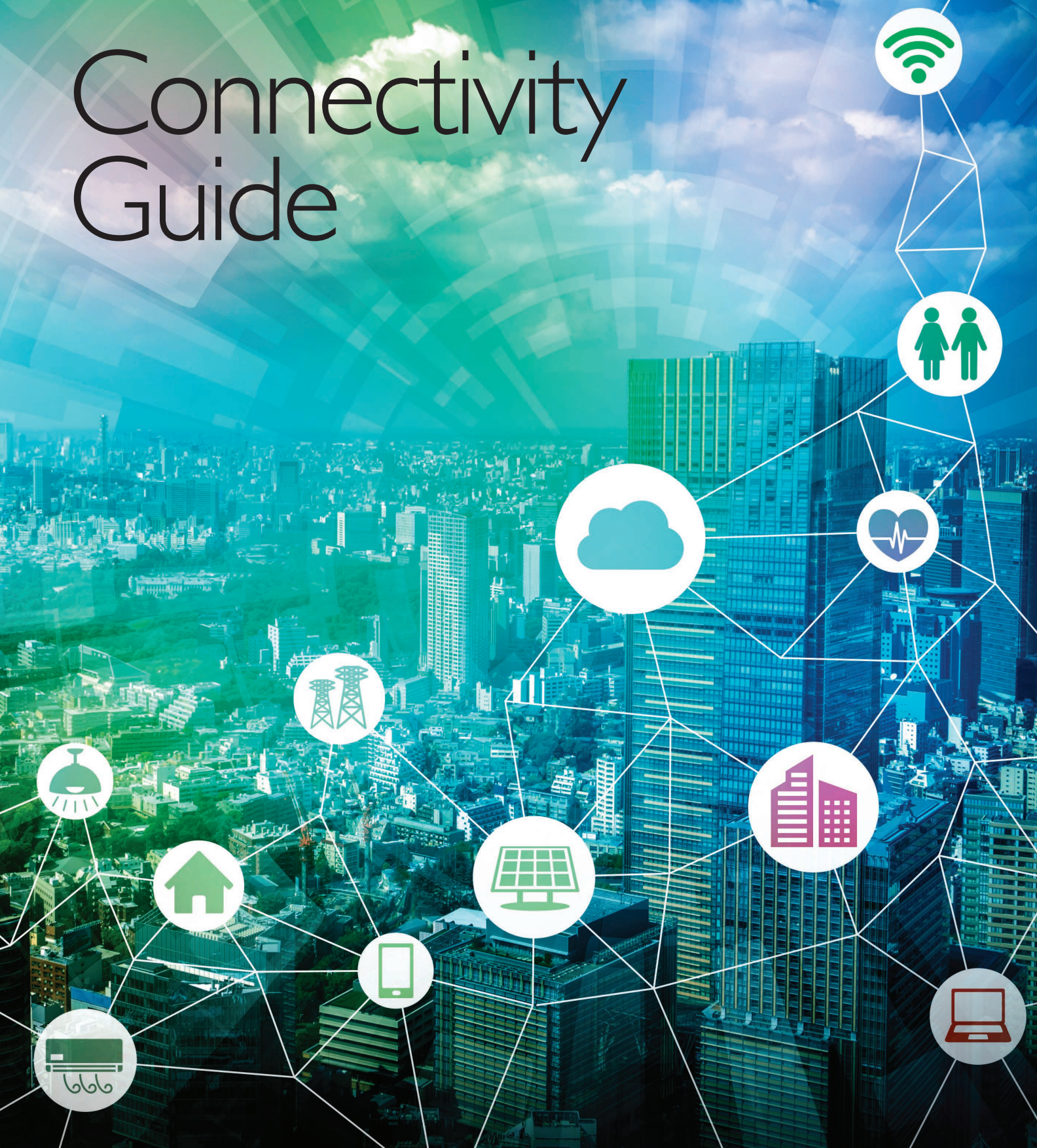# Allied Telesis

Connectivity
Guide

Media Converters

Allied Telesis media converters extend network distances by adding fiber and VDSL (via coax and telephone-grade twisted pair) only where it is needed. This enables customers to keep pace with changing technology and to integrate high-bandwidth devices into the network without changing the entire network infrastructure. From standalone units to chassis-based blades, Allied Telesis media converters are highly configurable to meet every need.

Allied Telesis media converters enable the connection of disparate cabling types in networks where many cabling types exist. Network segments may also operate at different speeds, and media converters can be used to convert between speeds. Typically, media converters are used to connect copper and fiber-optic cabling that coexist in a network. Converters exist in a variety of standalone, multi-port, and modular forms. These different physical forms address the need for different applications and conversion densities.

MMC
The Allied Telesis MMC Series of Fast Ethernet mini media converters leverages its smaller size to not only help the environment with a small carbon footprint, but also to save space in its working environment. Despite its compact size, the MMC Series delivers all the power and functionality of standard size media converters.

PoE
Allied Telesis PC PoE Series switches are the ideal solution for powering remote devices such as IP phones, video cameras, wireless access points, etc., which are more than 100 m from a Power over Ethernet switch.

Desktop Powered
The Allied Telesis DMC1000 Series of Gigabit mini media converters are among the smallest media converters in the market today. At just 1.25 in wide x 3.6 in deep x 0.85 in high, these media converters can easily fit into the palm of your hand. In addition to being compact — with a small carbon footprint — the DMC1000 Series can also be powered with the included micro USB to USB cable, and plugged directly into a laptop or PC. This saves installation time and cabling as there are no further power requirements necessary.

FEATURES		MC13	MC101XL	MC102XL	MC103XL	MC103LH	MC104XL	MC115XL	MC116XL
ETHERNET AND FAST ETHERNET STANDALONE MEDIA CONVERTERS									
PORTS	Port 1	10T	100TX	100TX	100TX	100TX	100FX MMF (SC)	10T or 100TX	10T or 100TX
	Port 2	10FL (ST)	100FX (ST)	100FX (SC)	100FX (SC)	100FX (SC)	100FX (SC)	10FL (ST) or 100SX (ST)	10FL (SC) or 100SX (SC)
	Type	MMF	MMF	MMF	SMF	SMF	SMF	MMF	MMF
IEEE STANDARD		10FL	100FX	100FX	100FX	100FX	100FX	100SX	100SX
Tx WAVELENGTH		850 nm	1310 nm	1310 nm	1310 nm	1310 nm	1310 nm	850 nm	850 nm
Rx WAVELENGTH		850 nm	1310 nm	1310 nm	1310 nm	1310 nm	1310 nm	850 nm	850 nm
MAX DISTANCE		2 km	2 km	2 km	15 km	40 km	15 km	2 km	2 km
FUNCTIONALITY	Rate and speed								
	MissingLink support		■	■	■	■	■	■	■
	Smart MissingLink support								
	Max frame size	9KB	9KB	9KB	9KB	9KB	9KB	9KB	9KB
	Diagnostic LEDs	6	7	7	7	7	7	8	8
POWER SUPPLY	PSU type	External	External	External	External	External	External	External	External
	Multi-region	■				■	■	■	■
	Compatible with MCR12 12-slot chassis	■	■	■	■	■	■	■	■
	Compatible with MCR1 1-slot chassis	■	■	■	■	■	■	■	■

Standalone

FAST ETHERNET AND GIGABIT ETHERNET STANDALONE MINI MEDIA CONVERTERS

FEATURES		MMC200/LC	MMC200/SC	MMC200/ST	MMC2000/LC	MMC2000/SC	MMC2000/SP	MMC2000/ST
PORTS	Port 1	10/100TX	10/100TX	10/100TX	10/100/1000T	10/100/1000T	10/100/1000T	10/100/1000T
	Port 2	100FX (LC)	100FX (SC)	100FX (ST)	1000SX (LC)	1000SX (SC)	100/1000 (SFP)	1000SX (ST)
	Type	MMF	MMF	MMF	MMF	MMF	SMF / MMF	MMF
IEEE STANDARD		100FX	100FX	100FX	1000SX	1000SX	100FX / 1000X	1000SX
Tx WAVELENGTH		1310 nm	1310 nm	1310 nm	850 nm	850 nm	Depends on SFP	850 nm
Rx WAVELENGTH		1310 nm	1310 nm	1310 nm	850 nm	850 nm	Depends on SFP	850 nm
MAX DISTANCE		2 km	2 km	2 km	550 m	550 m	Depends on SFP	550 m
FUNCTIONALITY	Rate and speed	■	■	■	■	■	■	■
	Smart MissingLink support	■	■	■	■	■	■	■
	Max frame size	10KB	10KB	10KB	10KB	10KB	10KB	10KB
	Diagnostic LEDs	4	4	4	4	4	4	4
	Smark Link restoration	■	■	■	■	■	■	■
POWER SUPPLY	PSU type	External	External	External	External	External	External	External
	Multi-region	■	■	■	■	■	■	■
	Compatible with a rackmount chassis	MMCR18	MMCR18	MMCR18	MMCR18	MMCR18	MMCR18	MMCR18

GIGABIT ETHERNET STANDALONE MEDIA CONVERTERS

FEATURES		GS2002/SP	MMC6005	MMC6006	MC1004	MC1008/SP
PORTS	Port 1	10/100/1000T	10/100/1000T	10/100/1000T	1000T	1000T
	Port 2	SFP 100/1000X	RJ-11 VDSL/2	BNC VDSL/2	1000SX (SC)	SFP
	Fiber type	LC*			MMF	LC*
IEEE STANDARD		1000SX and LX			1000SX	1000SX and LX
Tx WAVELENGTH		Depends on SFP			850 nm	Depends on SFP
Rx WAVELENGTH		Depends on SFP			850 nm	Depends on SFP
MAX LINK DISTANCE		Depends on SFP	3 km	2 km	550 m	Depends on SFP
FUNCTIONALITY	Rate and speed	■	■	■		
	MissingLink support	■			■	■
	Smart MissingLink support	■	■	■	■	■
	Max frame size	1536 bytes			9KB	9KB
	Diagnostic LEDs	11	4	4	8	8
	Smark Link restoration		■	■		
POWER SUPPLY	PSU type	External	External	External	External	External
	Multi-region	■	■	■	■	■
	Compatible with a rackmount chassis	■	■	■		■
	Compatible with MCR1 1-slot chassis	■			■	■

* Dependant on SFP

ETHERNET AND FAST ETHERNET STANDALONE MEDIA CONVERTERS

FS201	FS202	FS232	FS232/1	F232/2	FS238A/1	FS238B/1
10/100TX	10/100TX	10/100TX	10/100TX	10/100TX	10/100TX	10/100TX
100FX (ST)	100FX (SC)	100FX (SC)	100FX (SC)	100FX (SC)	100FX (SC)	100FX (SC)
MMF	MMF	MMF	SMF	SMF	BiDi - SMF	BiDi - SMF
100FX	100FX	100FX	100FX	100FX	100FX	100FX
1310 nm	1310 nm	1310 nm	1310 nm	1310 nm	1310 nm	1550 nm
1310 nm	1310 nm	1310 nm	1310 nm	1310 nm	1550 nm	1310 nm
2 km	2 km	2 km	15 km	40 km	15 km	15 km
■	■	■	■	■	■	■
■	■	■	■	■	■	■
1532 bytes	1532 bytes	1532 bytes	1532 bytes	1532 bytes	1532 bytes	1532 bytes
7	7	9	9	9	9	9
External	External	External	External	External	External	External
■	■	■	■	■	■	■
MCR12	MCR12	MCR12	MCR12	MCR12	MCR12	MCR12
■	■	■	■	■	■	■

Desktop Powered

FAST ETHERNET AND GIGABIT DESKTOP USB POWERED						
FEATURES		**DMC100/LC**	**DMC100/SC**	**DMC100/ST**	**DMC1000/LC**	**DMC1000/SC**	**DMC1000/ST**
PORTS	Port 1	100TX	100TX	100TX	1000T	1000T	1000T
	Port 2	100FX (LC)	100FX (SC)	100FX (ST)	1000SX (LC)	1000SX (SC)	1000SX (ST)
	Type	MMF	MMF	MMF	MMF	MMF	MMF
IEEE STANDARD		100FX	100FX	100FX	1000SX	1000SX	1000SX
Tx WAVELENGTH		1310 nm	1310 nm	1310 nm	850 nm	850 nm	850 nm
Rx WAVELENGTH		1310 nm	1310 nm	1310 nm	850 nm	850 nm	850 nm
MAX DISTANCE		2 km	2 km	2 km	550 m	550 m	550 m
FUNCTIONALITY	Smart MissingLink support	■	■	■	■	■	■
	Max frame size	16KB	16KB	16KB	16KB	16KB	16KB
	Diagnostic LEDs	4	4	4	4	4	4
	Smark Link restoration	■	■	■	■	■	■
POWER SUPPLY	PSU type	External	External	External	External	External	External

MissingLink

The Allied Telesis MissingLink™ feature enables media converters to pass the link status of their connections and thereby trigger corrective action when a problem on a link is detected.

For example, if the twisted-pair cable to the 10/100TX port on an Allied Telesis media converter were to fail, the unit would respond by dropping the link on the 100FX fiber-optic port.

Most managed devices, such as switches and routers, can be configured to take a specific recovery action in the event of the loss of connection on a port. In some cases, the unit can be configured to seek a redundant path to a disconnected end-node or send out a trap to a network management station, and so alert the network administrator of the problem.

Smart MissingLink

The Allied Telesis Smart MissingLink™ feature has identical operation to MissingLink, with an added link failure alert system. If any of the media converter ports fail, the link LED will begin to flash. This aids with diagnostics, allowing network administrators to more quickly locate and rectify the fault.

Smart Link Restoration

Smart Link restoration allows the devices, in the cases of power failure, link loss or other interrupted service, to automatically restore the link without the need to restart/reset them.

Redundancy

In many cases, Allied Telesis media converters are critical components in a network, carrying data between sites over long distances. It is imperative that all efforts are taken to ensure reliability of the network, and thus a network design with redundancy is mandatory. The components most likely to fail are the power supplies. The majority of Allied Telesis media converters can be deployed with hot-swappable, hot-removable power supplies to ensure maximum uptime.

Universal Power Supply

For customers already using Allied Telesis media converters, replacement power adapters are available.

▶ **MCPWR**
Universal, high-efficiency external power adapter

SUPERSPEED USB 3.1/USB-C TO FIBER MEDIA CONVERTERS				
FEATURES		**UMC200/SC**	**UMC200/ST**	**UMC2000/LC**	**UMC2000/SC**
PORTS	Port 1	USB 3.1/USB-C	USB 3.1/USB-C	USB 3.1/USB-C	USB 3.1/USB-C
	Port 2	100FX (SC)	100FX (ST)	1000SX (LC)	1000SX (SC)
	Type	MMF	MMF	MMF	MMF
IEEE STANDARD		100FX	100FX	1000SX	1000SX
Tx WAVELENGTH		1310 nm	1310 nm	850 nm	850 nm
Rx WAVELENGTH		1310 nm	1310 nm	850 nm	850 nm
MAX DISTANCE		2 km	2 km	550 m	550 m
FUNCTIONALITY	Smart MissingLink support	■	■	■	■
	Max frame size	16KB	16KB	16KB	16KB
	Diagnostic LEDs	4	4	4	4
	Smark Link restoration	■	■	■	■
	Wake-on-LAN	■	■	■	■
POWER SUPPLY		USB 3.0/C	USB 3.0/C	USB 3.0/C	USB 3.0/C

PoE & Industrial

PoE

Allied Telesis PC PoE Series switches are the ideal solution for powering remote devices such as IP phones, video cameras, wireless access points, etc., which are more than 100 m from a Power over Ethernet switch.

		GIGABIT ETHERNET STANDALONE MEDIA CONVERTERS				FAST ETHERNET STANDALONE	
FEATURES		**PC2000/LC**	**PC2000/SC**	**PC2000/SP**	**PC2002POE**	**PC232/POE**	**PC200/SC**
PORTS	Port 1	10/100/1000T	10/100/1000T	10/100/1000T	10/100/1000T	10/100TX	10/100TX
	Port 2	1000SX (LC)	1000SX (SC)	SFP 100/1000X	SFP 100/1000X	100FX	100FX
	Fiber type	LC	SC	LC*	LC*	SC	SC
IEEE STANDARD		1000SX	1000SX	100FX and 1000X	100FX and 1000X	100FX	100FX
Tx WAVELENGTH		850 nm	850 nm	Depends on SFP	Depends on SFP	1310 nm	1310 nm
Rx WAVELENGTH		850 nm	850 nm	Depends on SFP	Depends on SFP	1310 nm	1310 nm
MAX FIBER DISTANCE		550 m	550 m	Depends on SFP	Depends on SFP	2 km	2 km
FUNCTIONALITY	Rate and speed	■	■	■	■	■	■
	MissingLink support				■	■	■
	Smart MissingLink support	■	■	■	■	■	■
	Max frame size	10 KB	10 KB	10 KB	1536 bytes	1916 bytes	10KB
	Diagnostic LEDs	6	6	6	15	13	6
	Smark Link restoration	■	■	■			
POWER OVER ETHERNET	PoE-enabled ports	1	1	1	1	1	1
	Max no. of full power ports	1	1	1	1	1	1
	Mode	Mode A	Mode A	Mode A	Mode A	A	A
	PoE power	IEEE 802.3at (30W)	IEEE 802.3at (30W)	IEEE 802.3at (30W)	IEEE 802.3af (15W)	IEEE 802.3af (15W)	IEEE 802.3at (30W)
POWER SUPPLY	PSU type	Internal	Internal	Internal	Internal	Internal	Internal
	Multi-region	■	■	■			■

* Dependant on SFP

Industrial

Allied Telesis industrial Ethernet media converters offer an operating range from -40° to 75°C. The temperature-hardened IMC Series features Plug-and-Play and auto-negotiation.

		INDUSTRIAL MEDIA CONVERTERS			
FEATURES		**IMC1000TP/SFP**	**IMC1000T/SFP**	**IMC100T/SCMM**	**IMC100T/SCSM**
PORTS	Port 1	10/100/1000T	10/100/1000T	10/100TX	10/100TX
	Port 2	1000X SFP	100/1000X SFP	100FX (SC)	100FX (SC)
	Fiber type	Depends on SFP	Depends on SFP	MMF	SMF
IEEE STANDARD		100FX and 1000X	1000X	100FX	100FX
Tx WAVELENGTH		Depends on SFP	Depends on SFP	1310 nm	1310 nm
Rx WAVELENGTH		Depends on SFP	Depends on SFP	1310 nm	1310 nm
MAX FIBER DISTANCE		Depends on SFP	Depends on SFP	2 km	30 km
FUNCTIONALITY	Rate and speed	■	■	■	■
	Max frame size	9K	9K	9K	9K
	Diagnostic LEDs	4	6	7	7
POWER OVER ETHERNET	IEEE 802.3at Class 4	■			
	PoE+ enabled ports	1			
	Max no. of full power ports	1			
	Mode	Mode A			
	PoE power	30W			
POWER SUPPLY	PSU type	External	External	External	External

Mounting Hardware

The majority of unmanaged Allied Telesis MC, GS, and FS Series media converters can be mounted in a number of ways.

Desktop

All Allied Telesis media converters have the option to be fitted with rubber feet. These allow the product to be positioned on the desktop.

Wall

A standalone media converter or switch can be easily mounted on a wall or under a table using this wallmount fixture.

▶ **WLMT**
Wallmount fixture (supplied in packages of 10)

DIN Rail

This universal bracket allows a wide range of Allied Telesis media converters and media/rate converters to be mounted onto an industry-standard 35 mm DIN rail.

▶ **DINRAIL1-010**
Mounting kit (supplied in packages of 10)

Rack

Larger multi-channel and modular media converters ship with 19" rackmount kits. Smaller media converters may also be rackmounted in a number of ways:

▶ **MCR1** chassis
This small chassis can be rackmounted, and allows a single standalone media converter or 2-port switch to be powered by an internal power supply. It is available with either AC or -48vDC power supply.

▶ **MCR12** chassis
This chassis allows mounting of up to 12 standalone media converters or switches. The chassis supports optional redundant power supplies and can be AC or DC powered.

▶ **TRAY1** and **TRAY4**
These simple trays allow one to four standalone media converters to be mounted into a rack.

MMC Rack

▶ **MMCR18** NEW
This chassis allows mounting of up to 18 standalone MMC Series media converters. The chassis supports optional redundant power supplies and can be AC or DC powered. Standard, 19-inch, rack.

Allied Telesis™

Network Adapters

From 100Mbps to 10 Gigabit, Allied Telesis seamlessly connects desktops, laptops, servers, and thin clients with a continually expanding portfolio of high-quality, reliable, and cost-effective network adapters.

With the addition of the 2911 Series multi-port Gigabit and 10 Gigabit server network adapters, Allied Telesis has optimized adapters for virtualization. Using multi-port cards in virtualized environments is critical to applications in order to provide redundancy and data connectivity for these workloads. The priority queuing offered by Allied Telesis server network adapters can help set up networks based on specific needs. The comprehensive diagnostics and configuration software suite (Broadcom Advanced Control Suite) provides system administrators and engineers with a powerful tool to analyze interface cards and review specific data.

As the worldwide leader in fiber adapter cards Allied Telesis continues to offer the highest-quality cards at competitive prices. All Allied Telesis server adapters are Citrix, VMware, and Microsoft Hyper-V qualified.

Laptop Adapters

FEATURES		FAST ETHERNET FIBER	GIGABIT FIBER
		2814FX	2874SX
BUS TYPE		ExpressCard/34 (54 compatible)	ExpressCard/34 (54 compatible)
PORTS AND	100FX	SC	
MEDIA SUPPORT	1000X		SC
QoS	IEEE 802.1p priority queues	■	■
PERFORMANCE	TCP/IP checksum CPU offload	■	■
MANAGEMENT	Managed boot agent (PXE remote boot ROM)	2.1	2.1
	VLAN support	■	■
	Advanced power management (ACPI)	■	■
DRIVER SUPPORT	Windows 10 (32/64-bit)	■	■
	Windows 7	■	■
	Windows 7 (64-bit)	■	■
	Windows Vista	■	■
	Windows Vista (64-bit)	■	■
	Windows XP	■	■
	Windows 8	■	■
	Windows 8 (64-bit)	■	■
	Linux 2.6	■	■
IPv6 SUPPORT		■	■
DIAGNOSTICS	LEDs	■	■
IDEAL ENVIRONMENT		Laptop computers with fiber connectivity	Laptop computers with fiber connectivity
CUSTOMER'S NEEDS		100Mbps fiber connectivity / laptop connectivity	1000Mbps fiber connectivity / laptop connectivity

Preboot Execution Environment (PXE) Support

PXE allows network administrators to perform preboot procedures on a system, such as installing an operating system, running a virus checker, or downloading a predefined system configuration. PXE support included in Allied Telesis adapter cards allows a workstation or computer to boot from a remote server connected to the network prior to booting from the local hard drive.

		GIGABIT COPPER		COPPER AND FIBER				
FEATURES		**2912T**	**2911T/2**	**2701FTXa**	**2716POE/FX**	**2911GP/SX**	**2911GP/LX**	**2911GP/SFP**
BUS TYPE		PCIe (x1)	PCIe (x1)	PCI (32-bit)	PCIe (x1)	PCIe (x1)	PCIe (x1)	PCIe (x1)
PORTS AND MEDIA SUPPORT	100TX			■				
	10/100/1000T PoE				IEEE 802.3af (15W)	IEEE 802.3at (30W)	IEEE 802.3at (30W)	IEEE 802.3at (30W)
	10/100/1000T	■	■ (2 ports)					
	100FX			SC, ST	SC, ST			
	1000X					SC, LC	SC, LC	1000Mbps SFP
FIBER TYPE				MMF	MMF	MMF	SMF	Depends on SFP
MAX FIBER DISTANCE				2 km	2 km	220 m / 500 m	10 km	Depends on SFP
QoS	IEEE 802.1p priority queues	■	■		■	■	■	■
PERFORMANCE	TCP/IP checksum CPU offload	■	■		■	■	■	■
	Jumbo frames		■		■	■	■	■
	Link aggregation support		■		■	■	■	■
	Link aggregation failover		■		■	■	■	■
MANAGEMENT	Wake-on-LAN	■	Copper port	■	■	Copper port	Copper port	Copper port
	Managed boot agent (PXE remote boot ROM)	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	DASH (TruManage)	■						
	VLAN support	■	■	■	■	■	■	■
	Advanced power management (ACPI)	■	■	■	■	■	■	■
	SNMP	■	■		■	■	■	■
SECURITY	IPSec offload	■						
DRIVER SUPPORT	Windows 10 (32 and 64-bit)		■		■	■	■	■
	Windows 7 (32 and 64-bit)	■	■	■	■	■	■	■
	Windows 2008	■	■		■	■	■	■
	Windows Vista (32 and 64-bit)	■	■	■	■	■	■	■
	Windows XP (64-bit)		■	■	■	■	■	■
	Windows 8	■	■	■	■	■	■	■
	Windows 8 (64-bit)	■	■	■	■	■	■	■
	Windows Server 2008 R2	■	■		■	■	■	■
	Windows Server 2012	■	■		■	■	■	■
	Windows Server 2016	■	■		■	■	■	■
	NDIS2	■	■	■	■	■	■	■
	Linux 2.6	■	■	■	■	■	■	■
IPv6 SUPPORT		■	■	■	■	■	■	■
DIAGNOSTICS	LEDs	■	■	■	■	■	■	■
	Virtual cable tester	■	■					
PHYSICAL	Low profile bracket and full height provided	■	■	■	■	■	■	■
IDEAL ENVIRONMENT		Desktop computers in ultra secure areas	Desktop computers in secure areas, virtualization servers	Desktop computers in secure areas	Desktop computers with fiber interfaces that want to power a PoE phone (or other device) from the secondary port	Desktop computers with fiber interfaces that want to power a PoE phone (or other device) from the secondary port	Desktop computers with fiber interfaces that want to power a PoE phone (or other device) from the secondary port	Desktop computers with fiber interfaces that want to power a PoE phone (or other device) from the secondary port
CUSTOMER'S NEEDS		Data encryption	High performance / load balancing / virtualization	100Mbps fiber connectivity / choice of fiber or copper interfaces	PoE / VoIP connectivity	PoE+	PoE+	PoE+ / choice of SFP

Jumbo Frames Support

Normal Ethernet packets are limited to a maximum size of 1548 bytes. Received packets larger than this are normally rejected by the interface card as errors. Jumbo frames support is beneficial for sending large packets, especially when the data contained in these packets either has a time-critical element, or is so large that the time taken to send multiple smaller packets is too great. Jumbo frame packets are normally up to 9000 bytes long.

Long-Distance Fiber

With the introduction of single-mode fiber adapters, Allied Telesis has extended the size of a fiber network from up to two kilometers over multi-mode fiber; to up to 20 km for Fast Ethernet, and 10 km for Gigabit Ethernet.

Advanced Power Management (ACPI)

ACPI is part of the environmental control initiative for computers. Allied Telesis adapter cards support ACPI, which places the system in a low power state when it is not receiving or transmitting data.

FEATURES		GIGABIT COPPER AND FIBER		GIGABIT FIBER				
		2911STX	2911LTX	2916SX	2916LX10	2914SX/LC	2914SX/SC	2914SP
BUS TYPE		PCIe (x1)	PCIe (x1)	PCI (32-bit)	PCI (32-bit)	PCIe (x1)	PCIe (x1)	PCIe (x1)
PORTS AND MEDIA SUPPORT	10/100/1000T	■	■					
	100FX							SFP
	1000X	SC, LC	SC, LC	SC, LC	LC	LC	SC	SFP
FIBER TYPE		MMF	SMF	MMF	SMF	MMF	MMF	10/100 SFP
MAX FIBER DISTANCE		220 m / 500 m	10 km	220 m / 500 m	10 km	220 m / 500 m	220 m / 500 m	Depends on SFP
QoS	IEEE 802.1p priority queues	■	■	■	■	■	■	■
PERFORMANCE	TCP/IP checksum CPU offload	■	■	■	■	■	■	■
	Jumbo frames	■	■	■	■	■	■	■
	Link aggregation support	■	■	■	■	■	■	■
	Link aggregation failover	■	■	■	■	■	■	■
	Teaming	■	■	■	■	■	■	■
MANAGEMENT	Wake-on-LAN	Copper port	Copper port			■	■	■
	Managed boot agent (PXE remote boot ROM)	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	DASH (TruManage)							
	VLAN support	■	■	■	■	■	■	■
	Advanced power management (ACPI)	■	■	■	■	■	■	■
	SNMP	■	■	■	■	■	■	■
SECURITY	IPSec offload							
DRIVER SUPPORT	Windows 10 (32 and 64-bit)	■	■			■	■	■
	Windows 7 (32 and 64-bit)	■	■	■	■	■	■	■
	Windows 2008 (32 and 64-bit)	■	■	■	■	■	■	■
	Windows Vista (32 and 64-bit)	■	■	■	■	■	■	■
	Windows XP (32 and 64-bit)	■	■	■	■	■	■	■
	Windows 8	■	■	■	■	■	■	■
	Windows 8 (64-bit)	■	■	■	■	■	■	■
	Windows Server 2008 R2	■	■	■	■			
	Windows Server 2012	■	■	■	■			
	Windows Server 2016	■	■					
	NDIS2	■	■		■	■		■
	Linux 2.6	■	■	■	■	■	■	■
IPv6 SUPPORT		■	■	■	■	■	■	■
DIAGNOSTICS	LEDs	■	■	■	■	■	■	■
PHYSICAL	Low profile bracket and full height provided	■	■	■	■	■	■	■
IDEAL ENVIRONMENT		Desktop computers in secure areas	Desktop computers in secure areas	Desktop computers in secure areas	Desktop computers in secure areas	Service requiring Gigabit connectivity	Service requiring Gigabit connectivity	Service requiring Gigabit connectivity
CUSTOMER'S NEEDS		1000Mbps fiber connectivity / choice of fiber or copper interfaces	1000Mbps fiber connectivity / choice of fiber or copper interfaces	Performance	Performance / long-distance networking	High performance / load balancing / virtualization	High performance / load balancing / virtualization	High performance / load balancing / long-distance networking / virtualization

Wake-on-LAN (WoL)

WoL is a feature of adapter cards that allows a computer fitted with a card to be remotely powered-on. The computer receives a special data packet via the network port that will cause the computer to boot. This, coupled with PXE support, allows network administrators to gain complete access to all computers on their networks.

	GIGABIT FIBER						FAST ETHERNET FIBER			
	2911SX	**2911LX**	**2911SFP**	**2911SX/2LC**	**2911LX/2LC**	**2911SFP/2**	**2701FXa**	**2711FX**	**2711LX**	**2712FX**
	PCIe (x1)	PCIe (x1)	PCIe (x1)	PCIe (x1)	PCIe (x1)	PCIe (x1)	PCI (32-bit)	PCIe (x1)	PCIe (x1)	PCIe (x1)
							SC, ST	MT, SC, ST, LC	SC, LC	SC
	SC, LC	SC, LC	1000Mbps SFP	LC (2 ports)	LC (2 ports)	1000Mbps SFP (2 ports)				
	MMF	SMF	Depends on SFP	MMF	SMF	Depends on SFP	MMF	MMF	SMF	MMF
	220 m / 500 m	10 km	Depends on SFP	220 m / 500 m	10 km	Depends on SFP	2 km	2 km	10 km	2 km
	■	■	■	■	■	■		■	■	■
	■	■	■	■	■	■		■	■	■
	■	■	■	■	■	■				
	■	■	■	■	■	■				
	■	■	■	■	■	■				
							■	■	■	■
	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	■	■	■	■	■	■	■	■	■	■
	■	■	■	■	■	■	■	■	■	■
	■	■	■	■	■	■	■	■	■	■
										■
	■	■	■	■	■	■		■		■
	■	■	■	■	■	■		■		■
	■	■	■	■	■	■	■	■		■
	■	■	■	■	■	■	■	■		■
	■	■	■	■	■	■		■		■
	■	■	■	■	■	■		■		■
	■	■	■	■	■	■		■		■
	■	■	■	■	■	■	■	■		■
	■	■	■	■	■	■	■	■	■	■
	■	■	■	■	■	■	■	■	■	■
	Service requiring Gigabit connectivity	Service requiring Gigabit connectivity	Service requiring Gigabit connectivity	Desktop computers in secure areas, virtualization servers	Desktop computers in secure areas, virtualization servers	Desktop computers in secure areas, virtualization servers	Desktop computers in secure areas	Desktop computers in secure areas	Desktop computers in secure areas	Desktop computers in secure areas
	High performance / load balancing / virtualization	High performance / load balancing / long-distance networking / virtualization	High performance / load balancing / long-distance networking	High performance / load balancing, virtualization	High performance / load balancing / virtualization	High performance / load balancing / virtualization	100Mbps fiber connectivity / modern PCIe computer	100Mbps fiber connectivity / choice of fiber or copper interfaces	100Mbps fiber connectivity / long-distance networking	Highly secure environment

Server Adapters

Network Virtualization

Allied Telesis server adapter cards are specifically designed for use in a virtualized environment. The cards interact directly with the virtualization hypervisor software, offloading many of the interface tasks from the main CPU, thus increasing the overall performance of the virtual machine.

The ANC10S Series 10 Gigabit adapter card improves performance with next-generation technology — VMware, Data Center Bridging, Direct Path, NetQueue — that includes features such as loopback (inter-VM communication), priority-weighted bandwidth management, and doubling the number of data queues per port from four to eight. Also supported are multicast and broadcast data on a virtualized server.

Superior Functionality

The ANC10S Series includes dedicated hardware and processors to process frames at the highest levels for both transmit and receive paths in the operating system — advantageous for virtualization applications.

The ANC10S Series enables convergence of all networked communications possible in a server, such as data (LAN), storage networks (iSCSI), and clustering.

		SFP+ 10 GIGABIT
FEATURES		**ANC10S/2**
BUS TYPE		PCIe (×8)
PORTS AND MEDIA SUPPORT	SFP+	■ (2 ports)
	Fiber type	MMF, SMF
	Max fiber distance	Depends on SFP+
QoS	IEEE 802.1p priority queues	■
PERFORMANCE	TCP/IP checksum CPU offload	■
	Jumbo frames	■
	Link aggregation support	■
	Link aggregation failover	■
	TOE	■
	iSCSI	■
MANAGEMENT	Managed boot agent (PXE remote boot ROM)	2.1
	VLAN support	■
	Advanced power management (ACPI)	■
	SNMP	■
DRIVER SUPPORT	Windows 2008 (32 and 64-bit)	■
	Windows Server 2008 R2	■
	Windows Server 2012	■
	Windows Server 2016	■
	Linux 2.6	■
IPv6 SUPPORT		■
DIAGNOSTICS	LEDs	■
PHYSICAL	Low profile bracket and full height provided	■
IDEAL ENVIRONMENT		Virtualization servers
CUSTOMER'S NEEDS		High performance with low CPU utilization

Transceiver Modules

Allied Telesis optics provide fiber and copper connectivity for the full range of Allied Telesis product lines. Pluggable transceivers allow one product the flexibility to expand by media type (copper or fiber), speed (Fast Ethernet and 1, 10, or 40 Gigabit), and/or distance (220 m to 80 km).

Allied Telesis offers SFP, CSFP, XFP, SFP+, and QSFP+ pluggable transceivers, which comply with industry networking regulations. This compliance allows Allied Telesis pluggable optics to be used on any industry-standard networking equipment.

Pluggable Transceivers

SFP Series (SP)

The SP Series delivers flexible, full-duplex Ethernet connectivity. These hot-swappable fiber interfaces simply plug into an SFP slot on Allied Telesis products that are SFP compatible. Configurations can be optimized to meet a variety of distance and service requirements.

CSFP Series

The CSFP Series offers two channel Bi-Directional SFP designed expressly for high-speed communication applications. This hot-pluggable transceiver simply plugs into a CSFP slot on an Allied Telesis product for convenient transmission capacity upgrade.

QSFP Series (QSFP+)

The QSFP Series offers the latest industry-standard 40 Gigabit Ethernet connectivity in a flexible, small form factor. It is ideal for Datacom/Telecom switch and router connections, as well as data aggregation, backplane, proprietary protocol, and high-density applications. This hot-swappable transceiver simply plugs into a QSFP slot on any compatible Allied Telesis product.

GIGABIT FIBER TRANSCEIVERS					
FEATURES	**SPSX**	**SPSX/I**	**SPEX**	**SPLX10**	**SPLX10/I**
FORM FACTOR	SFP	SFP	SFP	SFP	SFP
FIBER TYPE	MMF	MMF	MMF	SMF	SMF
NUMBER OF FIBERS	2 (Rx, Tx)	2 (Rx, Tx)	2 (Rx, Tx)	2 (Rx, Tx)	2 (Rx, Tx)
SPEED	1000Mbps	1000Mbps	1000Mbps	1000Mbps	1000Mbps
DIGITAL DIAGNOSTICS MONITORING (DDM)		■			■
Rx WAVELENGTH	850 nm	850 nm	1310 nm	1310 nm	1310 nm
Tx WAVELENGTH	850 nm	850 nm	1310 nm	1310 nm	1310 nm
MAX DISTANCE	220 / 550 m	220 / 550 m	2 km	10 km	10 km
CONNECTOR TYPE	LC	LC	LC	LC	LC
TEMPERATURE	0°C to 70°C	-40°C to 85°C	0°C to 70°C	0°C to 70°C	-40°C to 85°C

FAST ETHERNET FIBER TRANSCEIVERS				
FEATURES	**SPFX/2**	**SPFXBD-LC-13**	**SPFXBD-LC-15**	**SPFX/15**
FORM FACTOR	SFP	SFP	SFP	SFP
FIBER TYPE	MMF	SMF	SMF	SMF
NUMBER OF FIBERS	2 (Rx, Tx)	1 (BiDi)	1 (BiDi)	2 (Rx, Tx)
SPEED	100Mbps	100Mbps	100Mbps	100Mbps
Rx WAVELENGTH	1310 nm	1550 nm	1310 nm	1310 nm
Tx WAVELENGTH	1310 nm	1310 nm	1550 nm	1310 nm
MAX DISTANCE	2 km	15 km	15 km	15 km
CONNECTOR TYPE	LC	LC - BiDi	LC - BiDi	LC
TEMPERATURE	0°C to 70°C	0°C to 70°C	0°C to 70°C	0°C to 70°C

QSFP+ Cables

▶ **QSFP1CU**
  QSFP+ 1 m cable

▶ **QSFP3CU**
  QSFP+ 3 m cable

Breakout Cables

▶ **QSFP-4SFP10G-3CU**
  QSFP+ port to 4 × 10G ports, 3 m

▶ **QSFP-4SFP10G-5CU**
  QSFP+ port to 4 × 10G ports, 5 m

Optical Cables

▶ **MTP12-1**
  MTP cable for QSFP+ Series, 1 m

▶ **MTP12-5**
  MTP cable for QSFP+ Series, 5 m

40 GIGABIT FIBER (QSFP+)		
FEATURES	**QSFPSR4**	**QSFPLR4**
FORM FACTOR	QSFP+	QSFP+
FIBER TYPE	MMF	SMF
COPPER TYPE		
NUMBER OF FIBERS	2 (Rx, Tx)	2 (Rx, Tx)
SPEED	40G	40G
DIGITAL DIAGNOSTICS MONITORING (DDM)	■	■
Rx WAVELENGTH	850 nm	4 CWDM lanes*
Tx WAVELENGTH	850 nm	4 CWDM lanes*
MAX DISTANCE	Up to 150 m	Up to 10 km
CONNECTOR TYPE	MPO	LC
TEMPERATURE	0°C to 70°C	0°C to 70°C

* Central wavelengths of the 4 CWDM channels - 1271, 1291, 1311 and 1331 nm

SP10 Series (SFP+)

The SP10 Series offers customers a wide variety of 10 Gigabit Ethernet connectivity options for data center, enterprise, and service provider transport applications. These hot-swappable devices plug into an Ethernet SFP+ port and have the smallest 10G form factor in the industry. Configurations can be optimized to meet a variety of distance and service requirements.

	GIGABIT FIBER TRANSCEIVERS			COMPACT GIGABIT FIBER (CSFP)	
SPBD10-13	SPBD10-14	SPLX40	SPZX80	SPBD20DUAL-14	SPBD40DUAL-14
SFP	SFP	SFP	SFP	CSFP	CSFP
SMF	SMF	SMF	SMF	SMF	SMF
1 (BiDi)	1 (BiDi)	2 (Rx, Tx)	2 (Rx, Tx)	2 (BiDi)	2 (BiDi)
1000Mbps	1000Mbps	1000Mbps	1000Mbps	1000Mbps	1000Mbps
		■	■	■	■
1490 nm	1310 nm	1310 nm	1550 nm	1310 nm	1310 nm
1310 nm	1490 nm	1310 nm	1550 nm	1490 nm	1490 nm
10 km	10 km	40 km	80 km	20 km	40 km
LC - BiDi	LC - BiDi	LC	LC	2 × LC	2 × LC
0°C to 70°C	0°C to 70°C	0°C to 70°C	0°C to 70°C	-40°C to 85°C	-40°C to 85°C

NEW

COPPER RJ-45 TRANSCEIVERS		
FEATURES	SPTX	SP10T
FORM FACTOR	SFP	SFP+
SPEED	10/100/1000T	100M / 1G / 10G BaseT
MAX DISTANCE	100 m	30 m
CONNECTOR TYPE	RJ-45	RJ-45
TEMPERATURE	0°C to 70°C	-5°C to 85°C

EXTENDED TEMPERATURE

Allied Telesis supports a wide range of industrial temperature optical accessories for use in all its extended and industrial temperature products. All optical accessories support operating temperatures of -40°C to 85°C.

▶ **SPSX/I**
1000SX SFP for multi-mode fiber

▶ **SPLX10/I**
1000LX SFP for single-mode fiber (10 km)

▶ **SP10SR/I**
10G SFP+ for multi-mode fiber (300 m)

▶ **SP10LR/I**
10G SFP+ for single-mode fiber (10 km)

▶ **SP10ER40/I**
10G SFP+ for single-mode fiber (40 km)

▶ **SP10ZR80/I**
10G SFP+ for single-mode fiber (80 km)

▶ **SPBD20-13/I**
1 Gigabit SFP, for single-mode fiber (20 km)

▶ **SPBD20-14/I**
1 Gigabit SFP, for single-mode fiber (20 km)

▶ **SPBD40-13/I**
1 Gigabit SFP, for single-mode fiber (40 km)

▶ **SPBD40-14/I**
1 Gigabit SFP, for single-mode fiber (40 km)

EXTENDED TEMP — **EXTENDED TEMP** — **EXTENDED TEMP** — **EXTENDED TEMP**
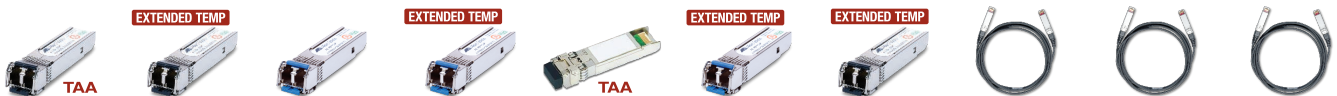
| 10 GIGABIT FIBER TRANSCEIVERS (SFP+)									
SP10SR	SP10SR/I	SP10LR	SP10LR/I	SP10LRM	SP10ER40/I	SP10ZR80/I	SP10TW1	SP10TW3	SP10TW7
SFP+	SFP+	SFP+	SFP+	SFP+	SFP+	SFP+	SFP+	SFP+	SFP+
MMF	MMF	SMF	SMF	MMF	SMF	SMF			
							Twinax	Twinax	Twinax
2 (Rx, Tx)	2 (Rx, Tx)	2 (Rx, Tx)	2 (Rx, Tx)	2 (Rx, Tx)	2 (Rx, Tx)	2 (Rx, Tx)			
10G	10G	10G	10G	10G	10G	10G	10G	10G	10G
■	■	■	■	■	■	■			
850 nm	850 nm	1310 nm	1310 nm	1310 nm	1550 nm	1550 nm			
850 nm	850 nm	1310 nm	1310 nm	1310 nm	1550 nm	1550 nm			
300 m	300 m	10 km	10 km	Up to 220 m	40 km	80 km	1 m	3 m	7 m
LC	LC	LC	LC	LC	LC	LC			
0°C to 70°C	-40°C to 85°C	0°C to 70°C	-40°C to 85°C	0°C to 70°C	-40°C to 85°C	-40°C to 85°C	0°C to 70°C	0°C to 70°C	0°C to 70°C

Network Service Provider Transceivers

EXTENDED TEMP
NEW

EXTENDED TEMP
NEW

EXTENDED TEMP
NEW

EXTENDED TEMP
NEW

FEATURES	GIGABIT OPTICS (NSP)			
	SPBD20-13/I	SPBD20-14/I	SPBD40-13/I	SPBD40-14/I
FORM FACTOR	SFP	SFP	SFP	SFP
FIBER TYPE	SMF	SMF	SMF	SMF
NUMBER OF FIBERS	1 (BiDi)	1 (BiDi)	1 (BiDi)	1 (BiDi)
SPEED	1000Mbps	1000Mbps	1000Mbps	1000Mbps
DDM	■	■	■	■
Rx WAVELENGTH	1550 nm	1310 nm	1490 nm	1310 nm
Tx WAVELENGTH	1310 nm	1490 nm	1310 nm	1490 nm
MAX DISTANCE	20 km	20 km	40 km	40 km
CONNECTOR TYPE	SC	SC	LC	LC
TEMPERATURE	-40°C to 95°C	-40°C to 95°C	-40°C to 85°C	-40°C to 85°C

iMG Transceivers

▶ **TN-P015-A**
SC, Gigabit/100M, 20 km SFP, Tx 1310, Rx 1480 - 1560, use with iMG1400 Series

▶ **SPBD20EPON-13/I**
20 km, bi-directional, 1 Gigabit GEPON SFP for iMG2426F
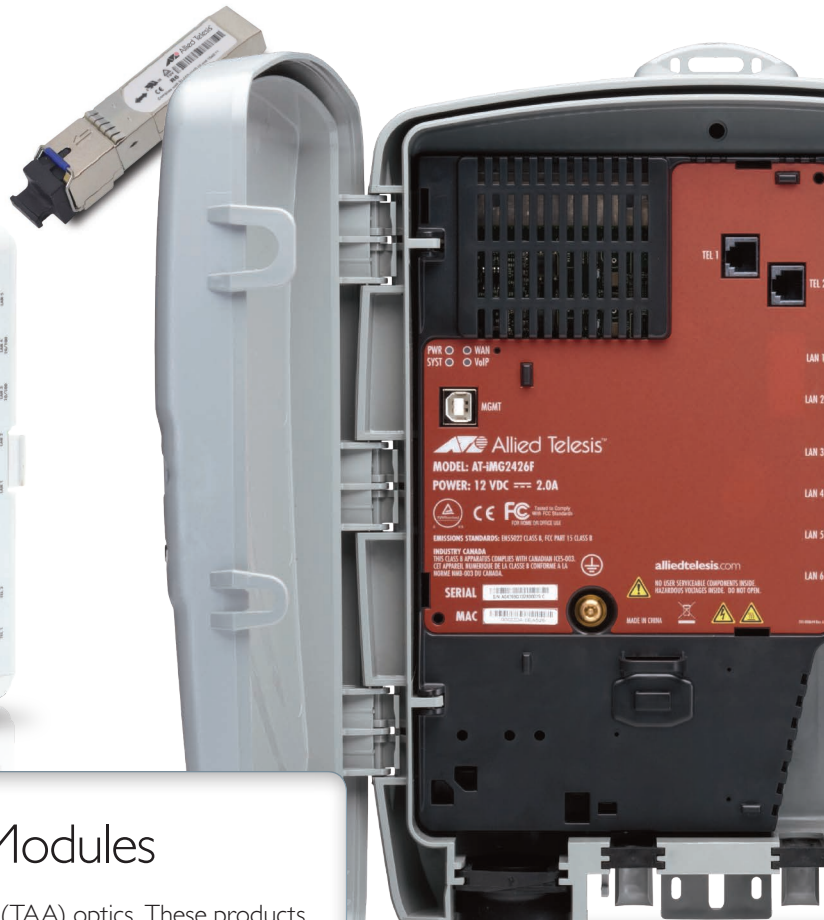
TAA Compliant Transceiver Modules

Allied Telesis provides many options for Trade Act Compliant (TAA) optics. These products are manufactured in TAA compliant countries and continue our commitment to providing a wide range of offerings for any network requirement.

Transceivers that can be ordered in TAA compliant versions are noted with **TAA**.

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