



Fiber Cabling Services

FABRICATION & DISTRIBUTION CUIVRE | OPTIQUE | VDI | RESEAU



Transceivers



DACs & AOCs



Active Solutions



Passive Solutions

UNLOCK YOUR CONNECTIVITY

The ProLabs Advantage

Global Leaders in Compatible Connectivity



Quality

Every product application tested



Choice

100+ compatible OEMs
Every form factor



Compatibility

A solution for any application



Competitive Pricing

Win every deal

Our Products



Transceiver



ACs & AOCs



Fibre Cables



and more!

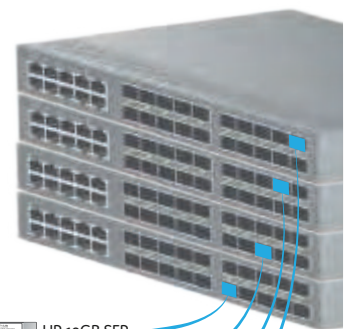
Custom Multi-coding



Multiple OEMs programmed on one single EEPROM



Cisco 40GB QSFP+ Example



- HP 10GB SFP
 - Juniper 10GB SFP
 - Dell 10GB SFP
 - Arista 10GB SFP
- Examples

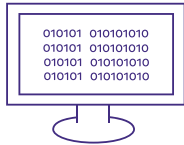
Custom units: If customers have an environment built up with different manufacturers it can reduce their inventory holding.

Quality

Testing is what sets us apart. Our proprietary Data Traveller System™ creates a living manifest of our production process.

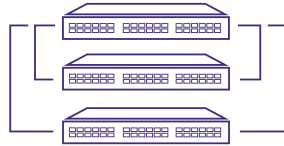


We test EVERYTHING before shipping



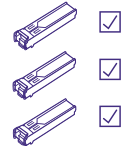
OEM Spec Testing

Every unit is custom code compatibility checked



Environment Testing

Each part is tested, guaranteeing performance



Quality Control

All orders are double checked and verified before leaving our building

Warranty



Does not void any OEM warranty

The Benefits



Quality



Compatibility



Lifetime Warranty



Testing



In-house coding



Virtual stock holding



Complete
Compatibility.

We are leading global providers of network solutions, tailored to your connectivity needs.

The combination of our knowledge and optical networking technology enables ProLabs to be your single source for optical transport and connectivity solutions from 100MB to 400G and beyond. We are committed to providing innovative solutions that increase network efficiencies enhanced by our world class service, quality and value.

We provide the connectivity expertise that is compatible with and enhances your switching and transport equipment.

A Higher Standard for Technology & Service

Industry-Leading in Every Way

ProLabs has expanded its capabilities and reach to become the most innovative and influential independent player in the global, mid-tier network products market.

Switching the Data Centre Mindset

It's time to break OEM dominance of the industry. ProLabs is a smarter choice and our customers are confident choosing us as a partner.

Innovating in R&D and Thought Leadership

With a substantial investment in emerging technology, ProLabs offers the best technology now and for the future.

Global Reach, Unparalleled Service

Through our extensive supplier network, we provide everything our customers need, when they need it.

Making Upgrades Affordable

By reallocating resources from overpriced OEM products to ProLabs compatibles, companies can deploy resources more strategically to support critical upgrades.

The ProLabs Promise



Availability

With our global presence, regional operations and warehousing, we can offer same or next day delivery on most of our product range.



Interoperability

Our products are designed to bridge multiple platforms, which gives you minimum stock, maximum flexibility and ease-of-use.



Support

You can rely on our industry experts, in region customer service and trusted advisers to give you a swift and personal service.



Quality

Our stringent product testing processes, together with coding verification under operating conditions, gives you compatibility assurance and peace of mind.



Warranty

You can expect quality products and thorough testing, backed by a lifetime warranty on transceivers.



Value

On balance, our range of innovative compatibility solutions enable you to maximise your connectivity with minimal initial investment.



Transceivers

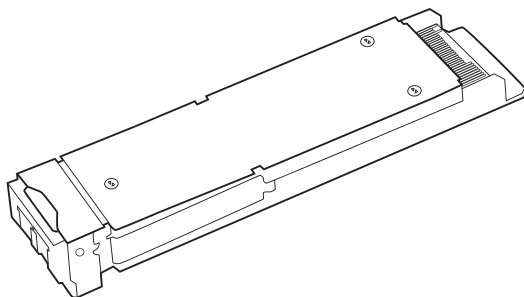
SFP, SFP+, XFP, SFP28, QSFP+, QSFP28 & QSFP-DD

ProLabs offers an extensive range of optical and copper transceivers to fit your requirements. All transceivers are standards-based and comply with the MSA (Multi-Source Agreement). Transceivers range from 100M to 400Gb and cover optical and copper transceivers such as SFP, SFP28, QSFP28, and QSFP-DD.

ProLabs transceivers are manufactured utilising the highest quality components available. Our commitment to quality means we produce a consistent, standardised product, purpose-built for compatibility with today's top Original Equipment Manufacturer (OEM) specifications.

ProLabs certifies that its transceivers are compatible with:

3Com	Infinera
Adtran	Intel
Adva	Juniper
Alcatel Lucent	Linksys
Allied Telesis	Maipu
Arista	Marconi
Asante	Mellanox
Aruba Networks	Milan
Avaya	Moxa
Blackbox	NetApp
Blade Network	Netgear
BTI	Netscout
Calix	Nokia
Ciena	Nortel
Cisco	Packetfront
Cisco Meraki	Palo Alto
Dell	Planet
Dlink	QLogic
EMC	Radware
Emulex	Raisecom
Enterasys	Redback
Ericsson	Riverstone
Extreme Networks	Ruijie
F5 Networks	SMC
Force 10	Tejas
Fortinet	Telco Systems
Foundry	TP-Link
Gigamon	Transmode
H3C	TrendNET
Hewlett-Packard	Vixel
Hirschmann	ZTE
Huawei	ZyXEL
IBM	



Selecting Your Transceiver

Our MSA Standard pluggable optical transceivers are designed to target various network challenges. Each transceiver meets the requirements for reach and data rate for any given application.



XFP

Transceivers with the capability of data rates up to 10Gb/s with a range of a few metres to 80km. DWDM and CWDM wavelengths/channel options, including tuneable DWDM options.



SFP

Small form factor pluggable transceivers, resulting in increased density, capable of data rates up to 6Gb/s, available in 850nm, 1310nm, and 1550nm, bi-directional option (1310nm/1490 or 1310nm/1550nm), and DWDM and CWDM wavelengths/channel options. Distances range up to 160km.



QSFP+

Quad small form factor pluggable transceivers, capable of data rates up to 40km. Range of passive DAC cables and AOC cables available.



SFP28

25G Ethernet has become the building block of the today's networks. SFP28 transceivers offer 25G within the common footprint and density of SFP and SFP+ transceivers.



SFP+

Transceivers with capability of data rates from 8Gb/s to 10Gb/s, with range of a few metres up to 80km. DWDM and CWDM wavelengths/channel options. Full range of DAC/Twinax cables available.



QSFP-DD

QSFP-DD transceivers, DAC, and AOC cables bring network connectivity to the next level, offering support for data rates up to 400Gb/s.



QSFP28

QSFP28 transceivers have quickly become the building block of today's networks through combination of low power consumption and increased density over past generations of 100G transceivers.

We offer highly versatile solutions, to deliver exceptional connectivity.

Additional Information

ProLabs provides four common distance ranges within each transceiver model:

SX/SR/SR4 Short haul with a range up to 300m.

LX/LR/LR4 Long haul with a range up to 10km. We are also able to provide long haul with enhanced lasers capable of 40km.

EX/ER/ER4 Extended reach with range up to 40km, available in data rates up to 100Gb/s

ZX/ZR/EZX/ZR4 Extended reach with range up to 120km with GBIC/SFP and 80km with 100Gb/s transceivers.

In addition to the basic form factors, ranges and data rates of pluggable optical transceivers, there are certain applications to be identified in order to select the most appropriate optical transceiver, such as: Ethernet, SONET, DWDM, CWDM, fibre channel, data rate, wavelength, fixed or variable rate and bidirectional or unidirectional.

Custom Solutions

ProLabs can provide technologies that are often not offered by the OEM platform. Custom solutions include:

2km SFP/GBIC over Multimode.

40km SFP over 1310nm Singlemode.

Bi-directional SFP, 1490nm/1310nm, 60km.

Bi-directional SFP, 1490nm/1310nm, 80km.

High Density CWDM.

ProLabs can give you more tools in your network design toolbox.

Challenging OEM Dominance

The rapid growth of open source is radically changing market dynamics. With open source, businesses are free to choose any software or product and are no longer "locked in" to OEM products. ProLabs transceivers are the high-quality, dependable, cost-effective alternative.

Myth: Only optical transceivers provided by the OEM will work with existing equipment.

Fact: All ProLabs products are designed to comply with industry standard MSA (Multi-Source Agreements). Certain vendors require an element of serialization to make the product compatible; when ordering a compatible part to the desired OEM equipment, ProLabs can offer a truly "plug and play" solution, ensuring complete compatibility. ProLabs' industry-leading lifetime warranty will not invalidate any vendor warranty on the host device.

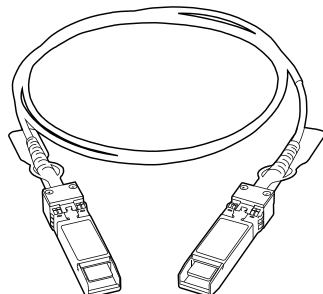


ProLabs SFP+ Direct Attach Copper Cable (DAC) & Active Optical Cable (AOC)



DAC - Direct Attach Cables - 10G, 25G, 40G, 100G, 200G & 400G

Direct Attach Cables run a direct connector-to-connector electrical connection through a thick copper wire, in order to avoid EM interference. DAC cables typically connect network elements within one to five meters in a network rack or cabinet. DACs are available in both "active" and "passive" variants. Passive DAC cables offer the benefits of low power consumption, while Active DACs provide a lower profile cable solution for cramped wiring environments.



Passive copper direct attached cables (DAC) are a low cost alternative for short reach applications. The passive design has no signal amplification in the cable assembly. Electronic dispersion compensation (EDC) is typically used on host board designs when passive copper cable assemblies are utilised. They are ideal for short distances up to 10 meters and offer a cost effective solution for connecting compatible OEM equipment within a rack.

Direct Attach, Active Copper and Active Optical Cables (sometimes called DAC, ACC and AOC respectively) are an indispensable part of any network.

Terminated with transceiver-style connectors, they are designed to be used in the same ports as a typical SFP+, SFP28, QSFP+, QSFP28 and QSFP-DD transceivers, with no need for adaptors or converters.

ProLabs DAC and AOC cables offer compatibility with a huge range of vendors, enabling the connectivity you need within the top of rack and end of row environments.



AOC - Active Optical Cables - 10G, 25G, 40G, 100G, 200G & 400G

Active Optical Cables offer a cost-effective solution consisting of fixed fibre optic transceivers on a fibre cable for short reach connections between 10m and 100m. AOCs are a 'plug and play' assembly, reducing the complexity of a standard fibre optic install. In addition, AOCs single 3.0mm cable diameter reduces the cable pile up in data centre cable trays over a standard duplex fibre cable deployment.

DAC and AOC offer many of the benefits of optical transceivers but with significant cost and power savings in short reach applications. The "plug and play" functionality of DAC and AOC reduce the complexity and time to turn up new connections.

We're continually striving to develop solutions for connectivity challenges.

Applications

- Short Reach
- Top of Rack
- End of Row

Cable Management

Cable management is an important step in delivering a more reliable network. Strengthened cable strands, easier management of repatching and reduced costs through improved airflow in your cabinet, makes for good cable management. ProLabs offers a range of patch panels, cable ties, management bars, sleeving and copex. These solutions apply to CAT5E, CAT6, Fibre, Telco, and power cabling.

Product Features

- Low Power Consumption
- Low latency
- Plug and Play

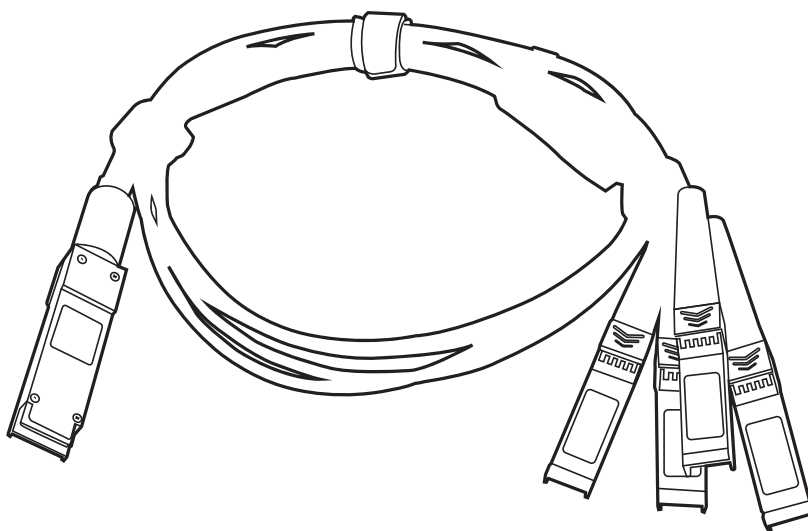
The ProLabs Difference

Compatible with multiple switch models

Multi-code options - compatibility for multiple OEMs

Bespoke cable options available.

Strong inventory position - most orders ship same day or next day.



Reduce space,
to maximise
your connectivity.

Media Converters

When connecting copper to fibre or single mode fibre to multimode fibre networks, ProLabs offers complete solutions seamlessly integrate these disparate networks.

ProLabs offer a low cost solution with quality products, and support all year around. Media converters come with a 5 year replacement warranty for faulty products which fail under normal working conditions. We offer a great technical support element and can usually replicate a problem in our technology lab, to help with the user's problem.

Mini Media Converters – Can reduce space due to their compact size. If used in a cabinet, 12 MiMC's can be used in a 1U rack space. The MiMC converters come with SFP or fixed connectors. DIP switch on the back lets the user change between 100base and 1G, as well as LFP functions.

Managed Media Converters – Managed media converters are great additions to our product range. They can be installed in a 2U 16 slot chassis, and with this set up, can provide the user with information such as Port status and Ethernet statistics on both TP and Fibre interface. This is achieved through SNMP and Event traps. QoS can be applied to differentiate traffic flows.

OAM / Loop Back Test are available for fault /maintenance diagnostics. They are powered the same way as the standard converters, and a maximum of 16 slot cards can be inserted into a 2U chassis. The managed converters come with SFP connections.

PoE Media Converters - Power over Ethernet has become a main component for much lower power equipment, such as VoIP phones, CCTV cameras and wireless access points. We currently offer 1G with POE 15.4w, POE+ 25.5w and POE+ Industrial temp products. The PoE converters are offered with SFP connections.

Industrial Media Converters - Our industrial media converters are a great solution for harsh environments. The converters are rated to IP40, and with a working temperature between -40~+85°C are perfect for hot or cold countries. We can provide industrial converters in both our standard form factor for basic conversion and also on some of our PoE range. These are mounted on DIN rails when installed. The industrial range of converters comes with SFP connections.

Standard Media Converters - ProLabs unmanaged media converters with plug and play ability, and easy installation in a cabinet or remotely installed, are a great solution when media conversion, copper to fibre or single mode fibre to multimode fibre, is required.

The range covers both Multimode 850nm up to 550m, and Single mode 1310nm up to a range of 40km. The converters are equipped with functions such as Auto MDI/MDI-X, and support low-time lag transmission.

Our media converters are powered by an AC to DC 5-12v input with a power rating less than 3w. A maximum of 4 standard converters can be installed into a 2U rack.



ProLabs Multiplexers Passive WDM Networking

Applications

Multiplexing offers the customer a high density, scalable fibre solution. Rather than investing in more fibre, it allows an increase in the fibre bandwidth by carrying multiple signals down an individual fibre connection. Additionally, a single unit permits a combination of ethernet and fibre channel traffic, ranging from 100Mb to 10Gb, to be sent in unison with no latency. Installing a ProLabs xWDM solution typically shows a return on investment in as little as 3 months.

CWDM - Coarse Wave Division Multiplexing

CWDM passive solutions carry up to 16 different wavelengths (colours of light) down a lone fibre connection. The primary 8 channels operate in the 1500nm range and the secondary 8 channels operate in the 1300nm range. CWDM channel spacing is 20nm. Specific, industry standard colour coding is used resulting in a simplified set up.

DWDM - Dense Wave Division Multiplexing

DWDM passive solutions carry up to 88 different wavelengths down an individual fibre connection. The channel spacing is typically 100GHz (0.8nm) and reside in the 1530 to 1560nm band. The upshot is that a DWDM unit can carry more signals over a greater distance.

Pay as you Populate

As your network grows your ProLabs multiplexers are scalable allowing you to expand on a pay as you populate basis via module, chassis and transceiver options.

ProLabs can offer the full range of wavelength specific optical transceivers to populate both CWDM and DWDM multiplexer solutions, as well as fibre patch cables, custom and multicore solutions.

Chassis Options

In comparison to other industry options ProLabs offer market leading high density xWDM solutions, ideal for Data centre and Telco usage.



1U 4 slot offers up to 32 CWDM/
DWDM channels



4U 24 slot offers up to 192 CWDM/
DWDM channels

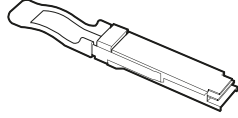


Top-Quality Products with Lifetime warranties

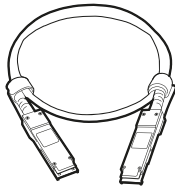
Everything you need, when you need it.

ProLabs offers an extensive range of high-quality products including optical and copper transceivers, media converters and solid state drives. With an unrelenting commitment to quality, service and support, ProLabs is the only mid-tier provider offering customisation, lifetime product warranties and fast, flexible shipping options

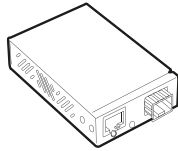
Transceivers



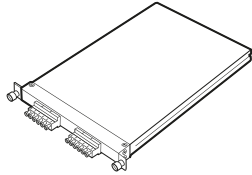
DAC & AOC Cables



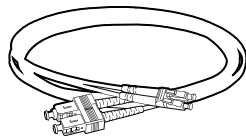
Media Converters



Multiplexers



Fibre Patch Cables





Product Overview

If you
connect
people,
you create
the future.



Standard Transceiver Products

ProLabs offers an extensive range of optical and copper transceivers to fit your requirements. All transceivers are standards based and comply with the MSA (Multi-Source Agreement). Transceivers range from 100BASE-FX to 100Gb and cover optical and copper transceivers such as GBIC, SFP, XenaPak, X2, XFP, SFP+, QSFP+ and CFP.

	Product Type	Form Factor	Data Rate	Media Type (Fiber Type, Copper etc)	Reach
SFP 100M	SFP-FE-T	SFP	125M	Copper	100m
	SFP-GE-100FX	SFP	125M	Multimode	2km
	SFP-FE-100FX	SFP	125M	Multimode	2km
	SFP-FE-100LX	SFP	125M	Singlemode	15km
	SFP-FE-100EX	SFP	125M	Singlemode	40km
	SFP-FE-100ZX	SFP	125M	Singlemode	80km
1G STM/OC	SFP-OC3-MM	SFP	155M	Multimode	2km
	SFP-OC3-SR	SFP	155M	Singlemode	2km
	SFP-OC3-IR1	SFP	155M	Singlemode	15km
	SFP-OC3-LR1	SFP	155M	Singlemode	40km
	SFP-OC3-LR2	SFP	155M	Singlemode	80km
	SFP-OC12-MM	SFP	622M	Multimode	2km
	SFP-OC12-SR	SFP	622M	Singlemode	2km
	SFP-OC12-IR1	SFP	622M	Singlemode	15km
	SFP-OC12-LR1	SFP	622M	Singlemode	40Km
	SFP-OC12-LR2	SFP	622M	Singlemode	80Km
	SFP-OC48-SR	SFP	2.5G	Singlemode	2km
	SFP-OC48-IR1	SFP	2.5G	Singlemode	15km
	SFP-OC48-LR1	SFP	2.5G	Singlemode	40km
	SFP-OC48-LR2	SFP	2.5G	Singlemode	80km
GBIC 1G	GBIC-1G-T	GBIC	1.25G	Copper	100m
	GBIC-1G-SX	GBIC	1.25G	Multimode	550m
	GBIC-1G-LX	GBIC	1.25G	Singlemode	10km
	GBIC-1G-EX	GBIC	1.25G	Singlemode	40km
	GBIC-1G-XD	GBIC	1.25G	Singlemode	50km
	GBIC-1G-ZX	GBIC	1.25G	Singlemode	80km
	GBIC-1G-EZX	GBIC	1.25G	Singlemode	120km
SFP 1G	SFP-1G-T	SFP	1.25G	Copper	100m
	SFP-1G-SX	SFP	1.25G	Multimode	550m
	SFP-1G-SX+	SFP	1.25G	Multimode	2km
	SFP-1G-LX	SFP	1.25G	Singlemode	10km
	SFP-1G-EX	SFP	1.25G	Singlemode	40km
	SFP-1G-XD	SFP	1.25G	Singlemode	50km
	SFP-1G-ZX	SFP	1.25G	Singlemode	80km
	SFP-1G-EZX	SFP	1.25G	Singlemode	120km
	SFP-1G-EZX-160KM	SFP	1.25G	Singlemode	160km
	CBXx-1Gxx40	SFP	1.25G	Singlemode	40km
	CBXx-1Gxx80	SFP	1.25G	Singlemode	80km



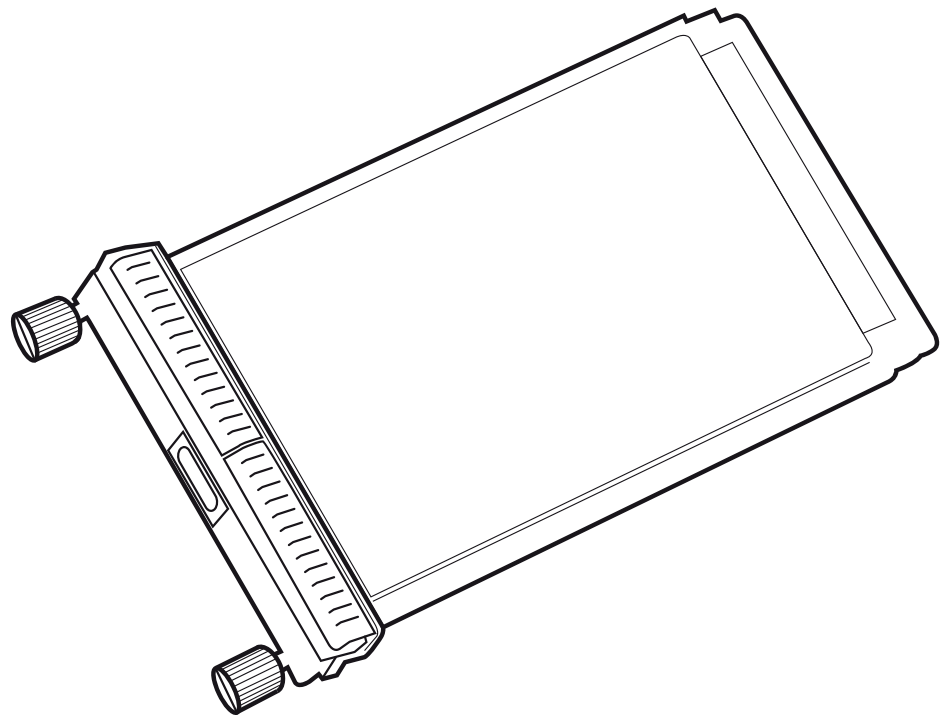
Standard Transceiver Products Continued...

	Product Type	Form Factor	Data Rate	Media Type (Fiber Type, Copper etc)	Reach
SFP + 10G	SFP-10G-T	SFP+	10G	Copper	30m
	SFP-10G-LRM	SFP+	10G	Multimode	220m
	SFP-10G-SR	SFP+	10G	Multimode	300m
	SFP-10G-LR-Lite	SFP+	10G	Multimode	2km
	SFP-10G-LR	SFP+	10G	Singlemode	10km
	SFP-10G-ER	SFP+	10G	Singlemode	40km
	SFP-10G-ZR	SFP+	10G	Singlemode	80km
XFP 10G	XFP-10G-SR	XFP	10G	Multimode	300m
	XFP-10G-LR	XFP	10G	Singlemode	10km
	XFP-10G-ER	XFP	10G	Singlemode	40km
	XFP-10G-ZR	XFP	10G	Singlemode	80km
X2 10G	X2-10G-SR	X2	10G	Multimode	300m
	X2-10G-LRM	X2	10G	Multimode	2km
	X2-10G-LR	X2	10G	Singlemode	10km
	X2-10G-ER	X2	10G	Singlemode	40Km
	X2-10G-ZR	X2	10G	Singlemode	80Km
	X2-10G-CX4	X2	10G	CX4	15m
XENPAK	XENPAK-10G-SR	Xenpak	10G	Multimode	300m
	XENPAK-10G-LR	Xenpak	10G	Singlemode	10km
	XENPAK-10G-ER	Xenpak	10G	Singlemode	40km
	XENPAK-10G-ZR	Xenpak	10G	Singlemode	80km
SFP+ 16G FC	SFP-16GFC-SW	SFP+	16G	Multimode	300m
	SFP-16GFC-LW	SFP+	16G	Singlemode	10km
SFP+ 8G FC	SFP-8G-SR	SFP+	8.5G	Multimode	300m
	SFP-8G-LR	SFP+	8.5G	Singlemode	10km
	SFP-8G-LR30	SFP+	8.5G	Singlemode	25km
	SFP-8G-ER	SFP+	8.5G	Singlemode	40km
	SFP-8G-ZR	SFP+	8.5G	Singlemode	80km
SFP+ 4G FC	SFP-4G-SW	SFP+	4.25G	Multimode	300m
	SFP-4G-LW	SFP+	4.25G	Singlemode	10km
	SFP-4G-ER	SFP+	4.25G	Singlemode	40km
	SFP-4G-ZR	SFP+	4.25G	Singlemode	80km
QSFP+	QSFP-40G-SR4	QSFP+	40G	Multimode	100m
	QSFP-40G-CSR4	QSFP+	40G	Multimode	300m
	QSFP-40G-IR4	QSFP+	40G	Singlemode	2km
	QSFP-40G-LR4	QSFP+	40G	Singlemode	10km
	QSFP-40G-ER4L	QSFP+	40G	Singlemode	30km
	QSFP-40G-PSM-LR4	QSFP+	40G	Singlemode	10km
	QSFP-40G-LX4	QSFP+	40G	MMF/SMF	150m/2km

Standard Transceiver Products Continued...



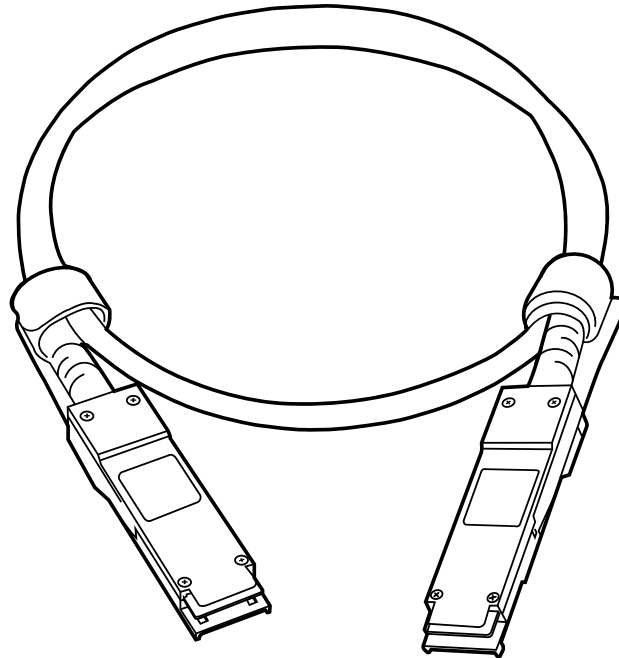
	Product Type	Form Factor	Data Rate	Media Type (Fiber Type, Copper etc)	Reach
QSFP28	QSFP28-100G-SR4	QSFP28	100G	Multimode	100m
	QSFP28-100G-PSM4	QSFP28	100G	Singlemode	2km
	QSFP28-100G-CWDM4	QSFP28	100G	Singlemode	2km
	QSFP28-100G-CWDM4-LITE-C	QSFP28	100G	Singlemode	500m
	QSFP28-100G-LR4	QSFP28	100G	Singlemode	10km
	QSFP28-100G-LR4-DML	QSFP28	100G	Singlemode	10km
	QSFP28-100G-ER4L	QSFP28	100G	Singlemode	30km
CFP	CFP-100G-SR10-C	CFP	100G	Multimode	100m
	CFP-100G-LR4-C	CFP	100G	Singlemode	10km
CFP2	CFP2-100G-LR4-C	CFP2	100G	Singlemode	10km
CFP4	CFP4-100G-LR4-C	CFP4	100G	Singlemode	10km



An introduction and Comparison of Direct Attach Cables, Active Copper Cables and Active Optical Cables



Cables are often used for data centre short reach interconnects. They are terminated with transceiver-style plugs to be used in the same ports where optical transceiver are used. Protocol independent, they can support Ethernet, Infiniband or Fibre channel.



Product Family	Product Type	Form Factor	Data Rate
DAC	SFP-H10GB-CUxM	SFP+	10G
DAC	SFP-H10GB-ACUxM	SFP+	10G
DAC	QSFP-H40G-CUxM	QSFP	40G
DAC	QSFP-H40G-ACUxM	QSFP	40G
DAC	QSFP28-4XSFP28-DAC-xM	QSFP / SFP	40G / 4x10G
DAC	QSFP28-100G-DAC-xM	QSFP28	100G
DAC	QSFP28-4XSFP28-DAC-xM	QSFP28/SFP28	100G / 4x25G
AOC	SFP-10G-AOCxM	SFP+	10G
AOC	QSFP-H40G-AOCxM	QSFP	40G
AOC	QSFP-4SFP10G-AOCxM	QSFP+ / SFP	40G / 4x10G
AOC	QSFP28-100G-AOC-xM	QSFP28	100G
AOC	QSFP28-4XSFP28-AOC-xM	QSFP28/SFP28	100G / 4x25G

Bi-Directional Transceiver Products



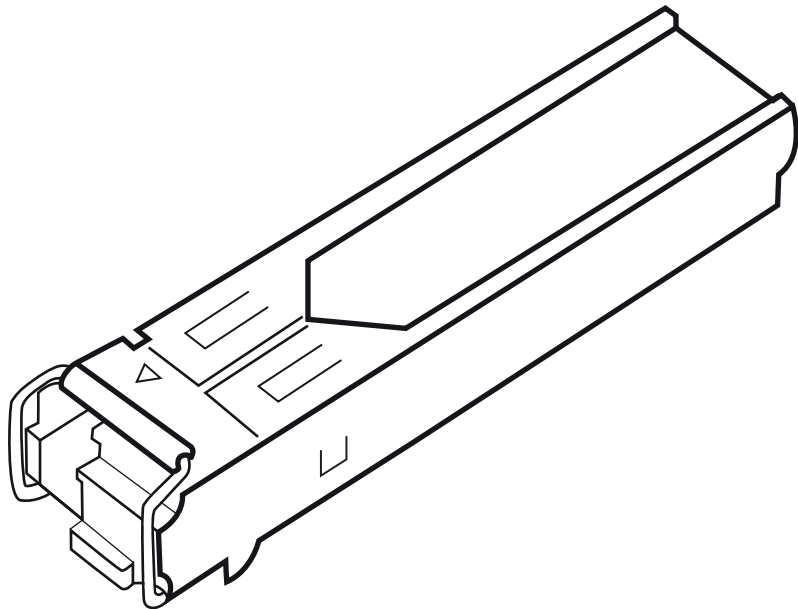
The primary difference between bi-directional transceivers and traditional duplex optic transceivers is that bidirectional use two different wavelengths of light to combine and separate data transmitted over a single fibre. Bi-directional transceivers must be deployed in matched pairs, tuned to match the expected wavelength of the transmitter and receiver that they will be transmitting data from or to.

	Product Type	Form Factor	Data Rate	Wavelength	Reach
CSFP	CSFP-20KM-OPT1	SFP	1.25G	Singlemode	20km
	CSFP-20KM-OPT2	SFP	1.25G	Singlemode	20km
FTTH/PON	GPON-OLT-B+	SFP	2.5G/1.25G	Singlemode	40km
	GPON-OLT-C+	SFP	2.5G/1.25G	Singlemode	40km
	XGPON-SFP/XLT-OLT	SFP+/XFP	10G/2.5G	Singlemode	20km
	XGSPON-XFP-OLT	XFP	10G	Singlemode	20km
	10GEPON-OLT-DR-PR30	XFP	10G/10G/1.25G	Singlemode	20km
	10GEPON-SFP/XFP-PR40	SFP+/XFP	10G/10G/1.25G	Singlemode	20km
	GPON-ONUS	SFP	1.25G/2.5G	Singlemode	20km
	EPON-ONUS	SFP	1.25G	Singlemode	20km
	EPON-ONU	SFP	1.25G	Singlemode	20m
	10GEPON-SFP-ONU-PR30	SFP+	1.25G/10G/10G	Singlemode	20km
SFP+10G	SFP-10G-BX-U-20KM	SFP+	10G	Singlemode	20km
	SFP-10G-BX-D-20KM	SFP+	10G	Singlemode	20km
	SFP-10G-BX-U-40KM	SFP+	10G	Singlemode	40km
	SFP-10G-BX-D-40KM	SFP+	10G	Singlemode	40km
	SFP-10G-BX-U-60KM	SFP+	10G	Singlemode	60km
	SFP-10G-BX-D-60KM	SFP+	10G	Singlemode	60km
	SFP-10G-BX-U-80KM	SFP+	10G	Singlemode	80km
	SFP-10G-BX-D-80KM	SFP+	10G	Singlemode	80km
XFP	XFP-10G-BX-U-20KM	XFP	10G	Singlemode	20km
	XFP-10G-BX-D-20KM	XFP	10G	Singlemode	20km
	XFP-10G-BX-D-40KM	XFP	10G	Singlemode	40km
	XFP-10G-BX-U-40KM	XFP	10G	Singlemode	40km
	XFP-10G-BX-U-60KM	XFP	10G	Singlemode	60km
	XFP-10G-BX-D-60KM	XFP	10G	Singlemode	60km
	XFP-10G-BX-U-80KM	XFP	10G	Singlemode	80km
	XFP-10G-BX-D-80KM	XFP	10G	Singlemode	80km
SFP 1G	SFP-1G-BX-U-20KM	SFP	1.25G	Singlemode	20km
	SFP-1G-BX-D-20KM	SFP	1.25G	Singlemode	20km
	SFP-1G-BX-U-40KM	SFP	1.25G	Singlemode	40km
	SFP-1G-BX-D-40KM	SFP	1.25G	Singlemode	40km
	SFP-1G-BX-U-60KM	SFP	1.25G	Singlemode	60km
	SFP-1G-BX-D-60KM	SFP	1.25G	Singlemode	60km
	SFP-1G-BX-U-80KM	SFP	1.25G	Singlemode	80km
	SFP-1G-BX-D-80KM	SFP	1.25G	Singlemode	80km
	SFP-1G-BX-U-110KM	SFP	1.25G	Singlemode	110km
	SFP-1G-BX-D-110KM	SFP	1.25G	Singlemode	110km

Bi-Directional Transceiver Products continued...



	Product Type	Form Factor	Data Rate	Wavelength	Reach
SFP 1G	SFP-1G-BX-U35-20KM	SFP	1.25G	Singlemode	20km
	SFP-1G-BX-D53-20KM	SFP	1.25G	Singlemode	20km
	SFP-1G-BX-U35-40KM	SFP	1.25G	Singlemode	40km
	SFP-1G-BX-D53-40KM	SFP	1.25G	Singlemode	40km
	SFP-1G-BX-U35-60KM	SFP	1.25G	Singlemode	60km
	SFP-1G-BX-D53-60KM	SFP	1.25G	Singlemode	60km
	SFP-1G-BX-D-20KM-I-SC	SFP	1.25G	Singlemode	20km
SFP STM/OC	SFP-OC3-BXU-20KM	SFP	155m	Singlemode	20km
	SFP-OC3-BXD-20KM	SFP	155m	Singlemode	20km
	SFP-OC3-BXU-40KM	SFP	155m	Singlemode	40km
	SFP-OC3-BXD-40KM	SFP	155m	Singlemode	40km
SFP 100M	SFP-FE-100BX-U	SFP	125m	Singlemode	20km
	SFP-FE-100BX-D	SFP	125m	Singlemode	20km
	SFP-FE-100BX40-U	SFP	125m	Singlemode	40km
	SFP-FE-100BX40-D	SFP	125m	Singlemode	40km



WDM Transceiver Products



Multiplexing offers the customer a high density, scalable fibre solution. Rather than investing in more fibre, it allows an increase in the fibre bandwidth by carrying multiple signals down an individual fibre connection.

	Product Type	Form Factor	Media Type	Reach
GBIC 1G	GBIC-1G-ZX-CWDM-XXXX	GBIC	Singlemode	80km
	GBIC-1G-EZX-CWDM-XXXX	GBIC	Singlemode	120km
SFP 1G	SFP-1G-ZX-CWDM-XXXX	SFP	Singlemode	80km
	SFP-1G-EZX-CWDM-XXXX	SFP	Singlemode	120km
	SFP-1G-EZX-CWDM-160KM-XXXX	SFP	Singlemode	160km
	CBXx-1Gxx40	SFP	Singlemode	40km
	CBXx-1Gxx80	SFP	Singlemode	80km
SFP STM/ OC	SFP-OC3-LR2-CWDM-XXXX	SFP	Singlemode	80km
	SFP-OC12-LR2-CWDM-XXXX	SFP	Singlemode	80km
	SFP-OC48-LR1-CWDM-XXXX	SFP	Singlemode	40km
	SFP-OC48-LR2-CWDM-XXXX	SFP	Singlemode	80km
	SFP-OC48-LR2-DWDM.XX.XX	SFP	Singlemode	80km
SFP Fibre Channel	CWDM-4GFC-ER-XXXX	SFP	Singlemode	40km
	DWDM-4GFC-ER-XX.XX	SFP	Singlemode	40km
	CWDM-4GFC-ZR-XXXX	SFP	Singlemode	80km
	DWDM-4GFC-ZR-XX.XX	SFP	Singlemode	80km
	CWDM-SFP8G-LR-XXXX	SFP+	Singlemode	10km
	CWDM-SFP8G-ER-XXXX	SFP+	Singlemode	40km
	DWDM-SFP8G-ER-XX.XX	SFP+	Singlemode	40km
	CWDM-SFP8G-ZR-XXXX	SFP+	Singlemode	80km
	DWDM-SFP8G-ZR-XXXX	SFP+	Singlemode	80km
SFP+ 10G	CWDM-SFP10G-LR-XXXX	SFP+	Singlemode	10km
	CWDM-SFP10G-ER-XXXX	SFP+	Singlemode	40km
	DWDM-SFP10G-ER-XX.XX	SFP+	Singlemode	40km
	CWDM-SFP10G-ZR-XXXX	SFP+	Singlemode	80km
	CBXx-10Gxx40 40KM	SFP+	Singlemode	40km
X2	CWDM-X2-ER-XXXX	X2	Singlemode	40km
	DWDM-X2-ER-XX.XX	X2	Singlemode	40km
	CWDM-X2-ZR-XXXX	X2	Singlemode	80km
	DWDM-X2-ZR-XX.XX	X2	Singlemode	80km
Xenpak	CWDM-XENPAK-ER-XXXX	XENPAK	Singlemode	40km
	DWDM-XENPAK-ER-XX.XX	XENPAK	Singlemode	40km
	CWDM-XENPAK-ZR-XXXX	XENPAK	Singlemode	80km
	DWDM-XENPAK-ZR-XX.XX	XENPAK	Singlemode	80km
XFP	CWDM-XFP-ER-XXXX	XFP	Singlemode	40km
	DWDM-XFP-ER-XX.XX	XFP	Singlemode	40km
	CWDM-XFP-ZR-XXXX	XFP	Singlemode	80km
	DWDM-XFP-ZR-XX.XX	XFP	Singlemode	80km



WDM Part Number Nomenclature

Wavelength division multiplexers (WDM) are electronic devices that combine light signals with different wavelengths, coming from different fibres, onto a single fibre. They are a cost-effective method to expand the capacity of existing fibre optic cables. WDMs use current electronics and fibres, sharing fibres by transmitting different channels at different wavelengths (colours) of light.

CWDM: Coarse Wavelength Division Multiplexing, the channels are spaced by 20nm (2500GHz), uses wavelengths from 1270nm to 1610nm, maximum 18 channels.

DWDM: Dense Wavelength Division Multiplexing, the channels are separated by 0.8nm (100GHz grid) or 0.4nm (50GHz grid), more than 100 channels can be allocated in the "C-band" (1530nm-1565nm) and "L-band".

CWDM Products

Example part code: ONS-SE-GE-XXXX-C, 1000BASE-CWDM SFP, 1470-1610nm, 80km.

The XXXX represents the CWDM wavelength from the table below:
(As defined by ITU G.694.2).

Channel	Chosen Wavelength	Part Code Value (XXXX)				HD CWDM		10G
			10K Reach	40K Reach	80K Reach	10K Reach	10K Reach	10K Reach
27	1271	1270	X	X		X		X
29	1291	1290	X	X		X		X
31	1311	1310	X	X		X		X
33	1331	1330	X	X		X		X
35	1351	1350	X			X		X
37	1371	1370	X			X		
39	1391	1390	X			X		
41	1411	1410	X			X		X
43	1431	1430	X			X		
45	1451	1450	X			X		
47	1471	1470	X	X	X		X	
49	1491	1490	X	X	X		X	
51	1511	1510	X	X	X		X	
53	1531	1530	X	X	X		X	
55	1551	1550	X	X	X		X	
57	1571	1570	X	X	X		X	
59	1591	1590	X	X	X		X	
61	1611	1610	X	X	X		X	



DWDM Products



DWDM 100GHZ DWDM Channels.

Channel No.	Frequency (GHz)	Wavelength (nm)	ProLabs 'ref number'	Band name	Wavelength	Descriptions
1	190,100	1577.03	77.03	O-band	1260-1360nm	Original band, PON upstream
2	190,200	1576.2	76.2	E-band	1360-1460nm	water peak band
3	190,300	1575.37	75.37	S-band	1460-1530nm	PON downstream
4	190,400	1574.54	74.54	C-band	1530-1565nm	lowest attenuation, original DWDM band, compatible with fibre amplifiers, CATV
5	190,500	1573.71	73.71	L-band	1565-1625nm	low attenuation, expanded DWDM band
6	190,600	1572.89	72.89	U-band	1625-1675nm	Ultra-long wavelength
7	190,700	1572.06	72.06			
8	190,800	1571.24	71.24			
9	190,900	1570.42	70.42			
10	191,000	1569.59	69.59			
11	191,100	1568.11	68.11			
12	191,200	1567.95	67.95			
13	191,300	1567.13	67.13			
14	191,400	1566.31	66.31			
15	191,500	1565.5	65.5			
16	191,600	1564.68	64.68			
17	191,700	1563.86	63.86			
18	191,800	1563.05	63.05			
19	191,900	1562.23	62.23			
20	192,000	1561.42	61.42			
21	192,100	1560.61	60.61			
22	192,200	1559.79	59.79			
23	192,300	1558.98	58.98			
24	192,400	1558.17	58.17			
25	192,500	1557.36	57.36			
26	192,600	1556.56	56.56			
27	192,700	1555.75	55.75			
28	192,800	1554.94	54.94			
29	192,900	1554.13	54.13			
30	193,000	1553.33	53.33			
31	193,100	1552.52	52.52			
32	193,200	1551.72	51.72			
33	193,300	1550.92	50.92			
34	193,400	1550.12	50.12			
35	193,500	1549.32	49.32			
36	193,600	1548.52	48.52			
37	193,700	1547.72	47.72			

DWDM Products continued...



Channel No.	Frequency (GHz)	Wavelength (nm)	ProLabs 'ref number'	Band name	Wavelength	Descriptions
39	193,900	1546.12	46.12			
40	194,000	1545.32	45.32			
41	194,100	1544.53	44.53			
42	194,200	1543.73	43.73			
43	194,300	1542.94	42.94			
44	194,400	1542.14	42.14			
45	194,500	1541.35	41.35			
46	194,600	1540.56	40.56			
47	194,700	1539.77	39.77			
48	194,800	1538.98	38.98			
49	194,900	1538.19	38.19			
50	195,000	1537.4	37.4			
51	195,100	1536.61	36.61			
52	195,200	1535.82	35.82			
53	195,300	1535.04	35.04			
54	195,400	1534.25	34.25			
55	195,500	1533.47	33.47			
56	195,600	1532.68	32.68			
57	195,700	1531.9	31.9			
58	195,800	1531.12	31.12			
59	195,900	1530.33	30.33			
60	196,000	1529.55	29.55			
61	196,100	1528.77	28.77			
62	196,200	1527.99	27.99			
63	196,300	1527.22	27.22			
64	196,400	1526.44	26.44			
65	196,500	1525.66	26.44			
66	196,600	1524.89	24.89			
67	196,700	1524.11	24.11			
68	196,800	1523.34	23.34			
69	196,900	1522.56	22.56			
70	197,000	1521.79	21.79			
71	197,100	1521.02	21.02			
72	197,200	1520.25	20.25			





Vendor Coding Options

We compatibility test our transceivers with all switches and carry out regular testing according to the latest IOS/software releases. Our product is designed and tested to conform to the MSA standard (Multi-Source Agreement) in accordance with physical dimensions, voltages, and lasers power (db budget). It is backed with a limited lifetime warranty offering reassurance to anyone that uses these products.

- ADTRAN
- ADVA
- ALCATEL LUCENT
- ALLIED TELESIS
- ARISTA NETWORKS
- ARUBA
- ASANTE
- AVAYA/NORTEL
- BLACKBOX
- BROCADE_FOUNDRY
- BTI
- CALIX
- CHECKPOINT
- CIENA
- CIENA NORTEL
- CISCO
- CISCO BUSINESS
- CISCO ONS
- DELL
- DELL FORCE 10
- D-LINK
- EMC
- EMULEX
- ENTERASYS
- EXTREME NETWORKS
- F5 NETWORKS
- FORTINET
- GIGAMON
- H3C
- HIRSCHMANN
- HP
- HP 3COM
- HUAWEI
- IBM / BLADE NETWORKS
- INFINERA
- INTEL
- JUNIPER
- LINKSYS
- MAIPU
- MARCONI
- MELLANOX
- MERAKI
- MOXA
- MRV
- NETAPP
- NETGEAR
- NOKIA
- NETSCOUT
- PACKETFRONT
- PLANET
- PALO ALTO
- QLOGIC
- RIVERBED
- RAISECOM
- REDBACK
- RADWARE
- RIVERSTONE
- ROCKWELL AUTOMATION
- RUGGEDCOM
- RUIJIE
- SMC
- TEJAS
- TELCO
- TP-LINK
- TRANSMODE
- TRENDNET
- ZTE
- ZYXEL

PROLABS TESTBED

Last updated: April 12, 2021

3Com

3870-24
Baseline Switch 2928

ADTRAN

1287737G1 (TA-324E)
NetVanta 1534P
NetVanta 1638 1700471F1
NetVanta 8044M
OPTi-6100
- 012TME
- 03TME3
- ETHM8EWF
- OMM312V
- OMM48VE
TA5000
- 1187025G1 (SM 2-10G)
- 1187031F1 (SM5 2-10G)
- 1187040F1 (SM40 4-10G)
- 1187501G1 (GPON 2.5G OLT)
- 1187503F1 (GPON OLT 8X)
- 1187550G2 (GE 4-PORT)
- 1187562F1 (ACTIVE E-24)

ADVA

FSP 150CC-GE114Pro
FSP 150CC-XG210
FSP 150CC-GE201S
FSP 150CCF-815
FSP 3000
- 2TCA-PCN
- 5TCE-PCTN-10GU+10G
- OSCM-PN
- WCC-PCTN-10G-LN#DC
FSP 3000R7 - 10TCE-PCN-16GU+100G

Alcatel-Lucent

1850 TSS-3
3FE68788AA

Alcatel-Lucent continued...

3HE09881AA
7210 SAS-D ETR
7210 SAS-M
7210 SAS-S
7250 SAS
7360 ISAM FX4 FANT-F
7360 ISAM FX4 FGLT-A (3FE66721AB)
7360 ISAM FX4 FGLT-B (3FE68954AB)
7360 ISAM FX4 NGLT-A (3FE64279AA)
7705 SAR-H
7750 SR-7 - M1-10GB-XFP
7750 SR-7 - M10-1GB-SFP-B
7750 SR-7 - ME40-1GB-CSFP
7750 SR-7 - P6-10G-SFP
OS6850-U24X
OS6850E-P48X

Allied Telesis

AT-8000GS/48

Amer Networks

SS310GR24F

Arista Networks

DCS-7050Q-16
DCS-7050S-52
DCS-7050S-64
DCS-7060CX-32S
DCS-7060DX4-32
DCS-7060SX2-48YC6
DCS-7124S
DCS-7150S-24
DCS-7160-32CQ
DCS-7280SE-64
DCS-7508 7500E-36Q-LC
DCS-7508 7500E-48S-LC
DCS-7508 7500R-36CQ-LC
SS310GR24F
DCS-7280SRM-40CX2

Arris

NC4000S3 (OA4344SG) - DT4250N-50-00

Aruba Networks

3810M (JL075A)
3810M - JL078A
3810M - JL083A
S2500-24T-4X10G

Avaya

4826GTS
4826GTS-PWR+
VSP-7024XLS
VSP-7254XSQ

Broadcom

BCM57711

Brocade

200E
5100
6505
6510
BR-G620-24-F
BR-MLXE-ENT-4-MR2
CNA 1020
FastIron FCX624S-POE
FastIron SuperX
ICX 6610-24F
ICX7250-48
ICX7750-48XGF
MLX-8 BR-MLX-100GX2-X
MLX-8 MLX-2x100G-CFP2-X2
MLX-8 NI-MLX-10GX2
MLX-8 NI-MLX-10GX8-M
NetIron 2024C
TurboIron 24X
VDX 6710

Brocade continued...

VDX 6740
VDX 6940

BTI

SA-805

Calix

E7-2 - 100-01773 (GPON-4))
E7-2 - 100-01949 (GE-24)
E7-2 - 10GE-4
GPON-8r2

Ciena

3930
3960
LE-310
OME 6500
- NTK513FA (OC-N/STM-N)
- NTK525CA (4x 10G MUX)
- NTK529 HA(200G MUX)
- NTK529AC (100G OCI)
- NTK529BAE5 (10x 10G MUX)
- NTK530NA (OTN MOTR)
- NTK531VA (L2 MOTR)
- NTK532DA (OTN Flex MOTR)
- NTK552BA (MLA C-Band)
- NTK552JT (ESAM)
5170
5171

Cisco

7604 7600-ES+2TG3CXL
7604 SPA-2X1GE
7604 WS-SUP720-3BXL
892F-K9
AIR-CT5520-K9
ASA 5510
ASR-920-4SZ-A
ASR9000v

Cisco continued...

ASR9006
- A9K-8T-L
- A9K-MPA-1X40GE
- A9K-MPA-20X1GE
- A9K-MPA-2X10GE
- A9K-MPA-8X10GE
- A9K-RSP440-TR
- A9K-2X100GE-TR
C3500XL
C3850-NM-2-10G
CGR-2010/K9
CPT-50-44GE-48A
CRS 4-10GBE-WL-XFP
CRS 4-10GE
DS-C9020-20K9
DS-C9120-K9
DS-C9148-K9
DS-C9148S-K9
DS-C9148T-K9
DS-C9250I-K9
IE-2000-8TC-L
IE-3010-16S-8PC
IR829-2LTE-EA-BK9
ISR1841
ISR2801
ISR2811
ISR2851
ISR2921
ISR3845
ISR3925
ISR4321
ISR4331
ISR4451-X/K9
M2 ONS 15454 - PTF256 10GX4
M2 ONS 15454 - PTM 10GX4
M6 ONS 15454 - 100G-LC-C
M6 ONS 15454 - 10X10G-LC
M6 ONS 15454 - CFP-LC
ME-3600X-24CX-M
ME-3600X-24FS-M
N2K-C2248PQ
N2K-C2248TP-E-1GE
N3K-C3232C
N3K-C3548P-10G
N5K-C5010P-BF
N5K-C5548P
N5K-C5548P - N55-M4Q
N7K-C7004
- N7K-F248XP-25E

Cisco continued...

- N7K-M202CF-22L
- N7K-M206FQ-23L
N9K-C92160YC-X
N9K-C9236C
N9K-C9316D-GX
N9K-C93180YC-EX
N9K-C93240YC-FX2
N9K-C9396TX - N9K-M12PQ
N9K-C9396TX - N9K-M4PC-CFP2
NCS 5001
NCS-5501-SE
NCS2006 - 400G-XP
ONS 15310-MA CE-MR-6
ONS 15310-MA CTX2500
ONS 15454 - 10DME-C
ONS 15454 - 10E MR TXP L
ONS 15454 - 10G-XR
ONS 15454 - 2.5G MR TXP-P
ONS 15454 - GE-XP
ONS 15454 - GE-XPE
ONS 15454 - ML-MR10
ONS 15454 - ML1000
ONS 15454 - ML100X-8
ONS 15454 - MRC-12
ONS 15454 - OTU2-XP
WS-C2960G-24TC-L
WS-C2960S-24PS-L
WS-C2960S-F24TS-L
WS-C3560E-24PD-E
WS-C3650-48TD
WS-C3750X-24P-S
WS-C3850-12XS
WS-C4500X-16
WS-C4503-E - WS-CSFP-E
WS-C4503-E - WS-X45-SUP7-E
WS-C4503-E - WS-X4712-SFP+E
WS-C4948-10GE
WS-C4948E
WS-C6509 - VS-S720-10G
WS-C6509 - WS-X6704-10GE
WS-C9300-24T C9300-NM-2Q
WS-C9300-24T C9300-NM-2Y
WS-C9500-40X
WS-C9500-40X - C9500-NM-2Q
WS-CE500-24LC
NCS 540 N540-24Z8Q2C-SYS

Cisco Meraki

MS220-48LP

Cisco Meraki continued...

MS220-8P
MS225-24
MS425-16

Cyan
Z33 - PME-216i
Z33 - PME-412
Z33 - PSW-100G
Z33 - SFT-10G16

Dell

1524P
MX9116N
N1524
N4032F
PowerConnect 2824
PowerConnect 6248
S4048-ON
S4810
S4820T
S5048F-ON
Z9100-ON

Edge-corE

AS5712-54X

Emulex

LPe32000 32G PCI Card

Enterasys

A2H124-24
C5G124-48P2

Exablaze

ExaNIC x4

Extreme Networks

BIG-IP
Summit 200-24
Summit 400-48t
Summit X250e-48t
Summit X440-G2-24P-10GE4
Summit X450a-48t
Summit X480-24x
Summit X650-24X
Summit X670-G2-48x

Extreme Networks continued...

VSP 7400-32C

Force10

S50-01-GE-48T-V
S60-44T-AC
SA-01-GE-48T

Fujitsu

Flashwave 5150 MO
FlashWave 7120
- FC9686M410 (DTPR)
- FC9686SCP3-02 (SCP)
FlashWave 9500
- FC9565CMD1 (IFP5-CMD1)
- FC9565TBA1-06(IFP5-TBA1)
- FC9565TDA1-03(IFP5-TDA1)
- FC9565TPE1-04(IFP5-TPE1)
- FC9565US30-07 (US-300)
XG0224
XG0224 SJ10GSFPA

Gigamon

GIGAVUE-TA1

H3C

S5500
S5820X-28S

Hirschmann

MACH102-24TP-F

HP

2520-8 POE
2810-48G
2824
5400R z12
5406zl - J8705A
5406ZL - J8707A
5406zl - J9536A
560SFP+
5900AF-48G-4XG-2QSFP
5900AF-48XG-4QSFP+
6600-24G-4XG
817753-B21
817753-B21 (640SFP28)
854194-B21

HP continued...

A3100
A5120-24G EI
A5800-48G (JC105A)
JH390A
JH402A
StorageWorks SAN switch 4/8
StorageWorks SAN switch 8/8

HP Compaq

Server 2012 R2

HP StorageWorks

SAN switch 2/16

HPE

817753-B21 (640SFP28)
BladeSystem c3000 1/10Gb-F VC-
Enet
BladeSystem c3000 VC FLEX-10
Enet
BladeSystem c7000 10GBe Pass-
Thru
BladeSystem c7000 VC FlexFabric
20/40 F8

Huawei

S5720-52X-SI
S5720-28X-LI-AC
CE6851-48s6Q-HI
OSN 8800
CloudEngine 12800s
Quidway S7703
S6720-54C-EI-48S-AC
Quidway S5300 S5328C-HI-24S

IBM

RackSwitch G8000
RackSwitch G8264
RackSwitch G8264CS

Infinera

DTN Switched WDM System
XTM System

Intel

J10548-021
X520-DA2
X520-QDA1
X710-DA2
XL710-QDA1

Intel continued...

XL710-QDA2
XXV710-DA2

JDSU

WaveReady 3100
WaveReady WRT-781

Juniper Networks

ACX1000
ACX2100
EX-4200
EX3200
EX4200-48P
EX4300-24P
EX4300-24T
EX4550-32F
EX4600 - QFX-EM-4Q
EX4600-40F
MPC5E - 100G10G
MPC7E-MRATE-12xQSFP-XGE-
XLGE-CGE
MX480 - MIC-3D-20GE-SFP
MX480 - MIC-3D-2XGE-XFP
MX480 - MIC-3D-4CHOC3-
2CHOC12
MX480 - MIC-3D-4OC3OC12-1OC48
MX480 - MIC3-3D-1X100GE-CFP
MX480 - MIC3-3D-2X40GE-QSFP
MX480 - MPC-3D-16XGE-SFP
QFX10002-36Q
QFX3500-48S4Q
QFX5100-96S-8Q
QFX5110-48S-4C
QFX5200-32C-32Q
SRX210

Link Care

CL-MCSFP-16M

Linksys

SF302-08P
SGE2000

Mellanox

MCX313A-BCCT-S1
MCX4121A-ACAT
MCX4121A-ACAT-S2
MCX415A-BCAT-S2
MCX415A-CCAT-S1

Mellanox continued...

MCX415A-CCAT-S3
MCX416A-GCAT-S3
MCX555A-ECAT
MHQH29-XTC
MSN2410-BB2F
MSX1710-BS2F2
MCX512A-ACAT

Netgear

ProSafe M7100-24X

Nortel

2526T
4526GTX-PWR
470-24T
BayStack 450-24T

NoviFlow

NS-1132

QLogic

QL45212HLCU
QLE3242-SR
QLE8142-IBMX
SANbox 3810

Quanta

LB9
T3048-LY7

Rad

ETX-203AX
ETX-2i-10G

SolarFlare

SFN6122F
SFN8042
SFN8522
SFN8542
X2522-25G
X2541-100G

Transition Networks

SISTG1040-211-LRT

Transmode

TM-3000 GbE9-MXP10G

Zhone

MXK-194-10GE
ONT ZNID-GPON-4226





Network Cabling

2020



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Multiple OEM Hydra Copper Twinax Cables.....	Page 12

Network Cabling

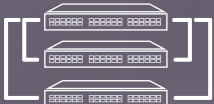
ProLabs offers a wide variety of network cabling and connectivity solutions. We offer fiber and copper patch cables, direct attach cables and dual OEM networking cables. Our in-house lab also has the capability to create one-of-a-kind custom cables to connect multiple OEMs with a single cabling structure. All cables are compatibility tested as well as tested in-environment to ensure performance. ProLabs network cabling comes with a lifetime guarantee.



Quality



Lifetime Warranty

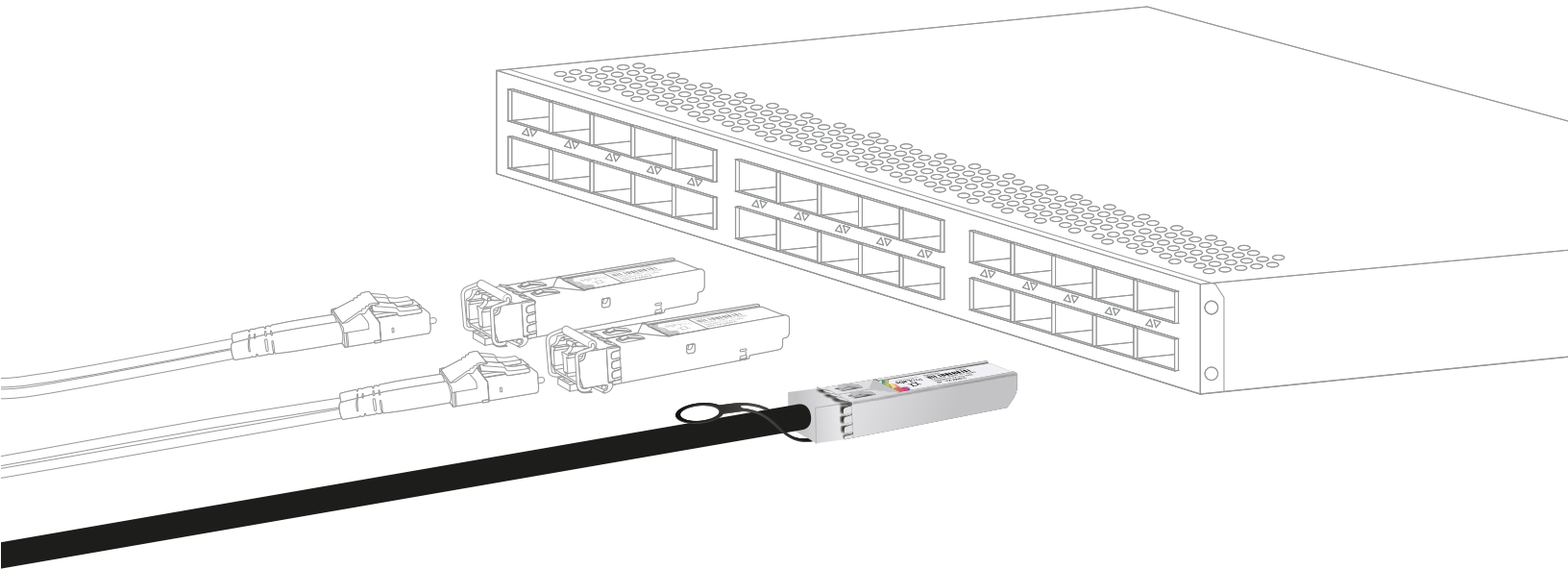


Testing

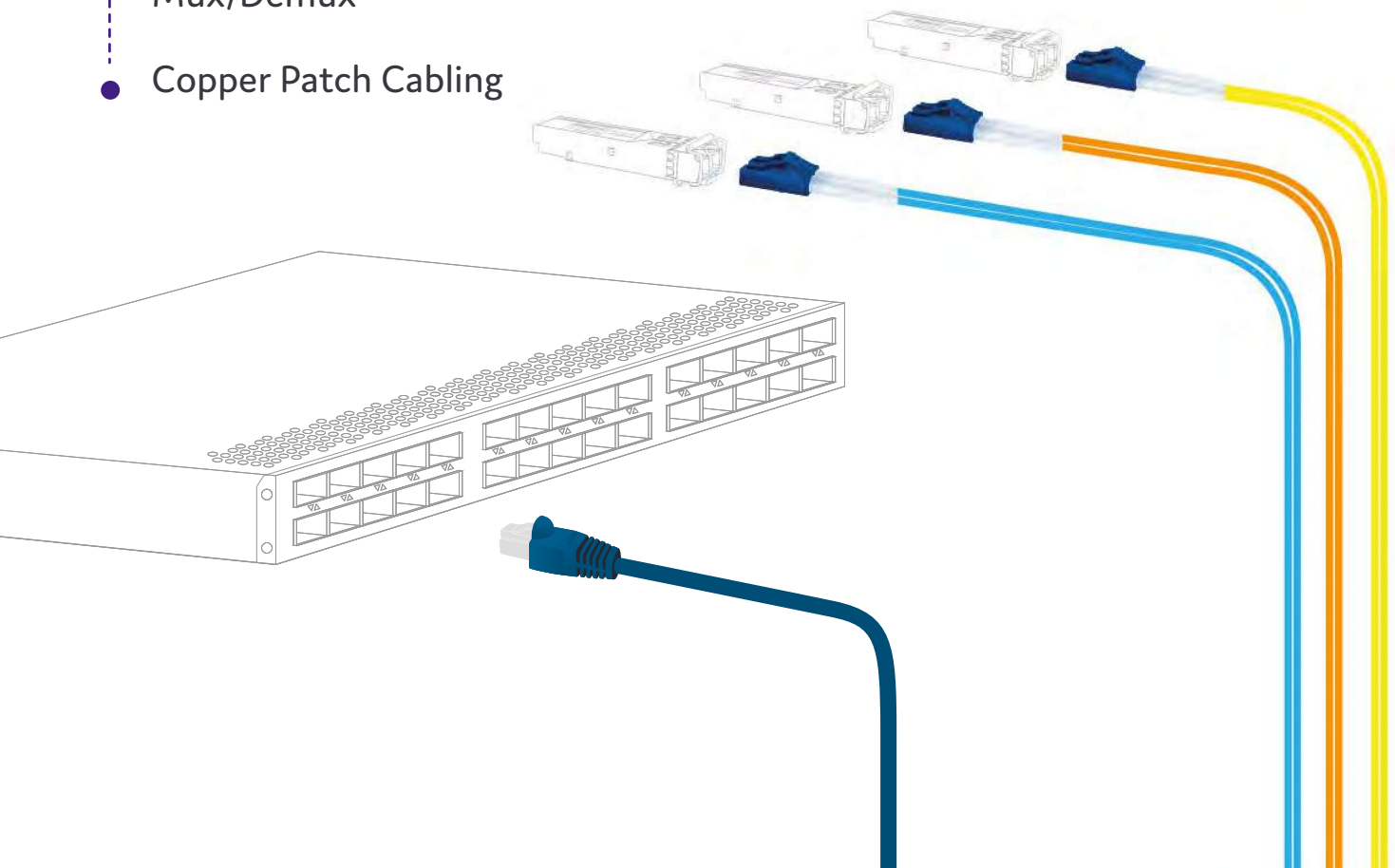


Compatibility





- Direct Attach Cabling
- Optical Transceivers
- Fiber Patch Cabling
- Mux/Demux
- Copper Patch Cabling



Fiber Optic Patch Cables



Our fiber optic patch cables are available in multiple lengths and various connector combinations. Single-mode variations are typically used for switch to patch panel connections in longer reach applications. Multi-mode variations are typically used for switch to switch connections in shorter reach applications.

Standard:

OM1, OM2,
OM3, OM4,
OS1 and OM5

Connectors:

LC/LC, LC/FC, LC/MTRJ,
LC/SC, LC/ST, SC/SC,
SC/ST, SC/MTRJ,
ST/MTRJ

Applications:

Ethernet, Fiber Channel
and Optical Carrier
Networking

Copper Patch Cables



Our copper media patch cables (RJ45) are available in multiple lengths and color variations for organizing connection groups. All copper patch cables are typically used for common connections, short or long reach.

Medium:

Cat5e, Cat6,
Cat6a

Variations:

RJ45

Applications:

Ethernet, Fiber
Channel and
Optical Carrier
Networking

Direct Attach Fiber Optic Cables



Our direct attach fiber optic cables (aka Active Optical Cables) are available in multiple transceiver combinations and lengths. Single-mode variations are typically used for switch to patch panel connections in longer reach applications. Multi-mode variations are typically used for switch to switch connections in shorter reach applications.

Medium:

Multi-mode
Fiber

Variations:

SFP+, QSFP+,
QSFP28, QSFP+
Hydra

Applications:

Ethernet, Fiber Channel
and Optical Carrier
Networking

Direct Attach Copper Twinax Cables



Our direct attach copper twinax cables are available in multiple lengths and various connector combinations. These cables operate over passive or active copper. They are typically used for switch to switch connections in shorter reach applications. Many of our cables meet MSA standards and are TAA compliant.

Standard:

Copper

Variations:

CX4, SFP+, QSFP+,
QSFP28, QSFP+
Hydra

Applications:

Ethernet, Fiber
Channel and
Optical Carrier
Networking

Dual OEM Fiber Optic Direct Attach Cables



Our dual OEM direct attach optical cables enable connectivity between two different manufacturers' switches. Active or passive cables are available and uniquely coded to meet OEM compatibility and functionality. Available in multiple lengths, speeds and OEM combinations.

Standard:

Multi-mode fiber

Variations:

SFP+, QSFP+

Applications:

Ethernet, Fiber Channel and Optical Carrier Networking

Dual OEM Copper Direct Attach Cables



Our dual OEM direct attach twinax cables enable connectivity between two different manufacturers' switches. These cables operate over passive or active copper. They are uniquely coded to meet OEM compatibility and functionality. Available in multiple lengths, speeds and OEM combinations.

Standard:

Copper Twinax

Variations:

SFP, SFP+, QSFP+

Applications:

Ethernet, Fiber Channel and Optical Carrier Networking

Multiple OEM Hydra Fiber Optic Cables



ProLabs' unique dual OEM hydra (Breakout) fiber optic cables provide diverse connectivity for data centers that deploy different manufacturers' switches and routers. These optical cables enable connectivity between two to four different switches or routers. Cables are available in different lengths, speeds and OEM options.

Standard:

Multi-mode
fiber

Variations:

QSFP/4SFP+

Applications:

Ethernet, Fiber Channel
and Optical Carrier
Networking

Multiple OEM Hydra Copper Twinax Cables



ProLabs' unique dual OEM hydra (Breakout) twinax cables provide diverse connectivity for data centers that deploy different manufacturers' switches and routers. These cables operate over passive or active copper. In addition, these cables can connect between two to four different manufacturers' switches or routers. Cables are available in different lengths, speeds and OEM options.

Standard:

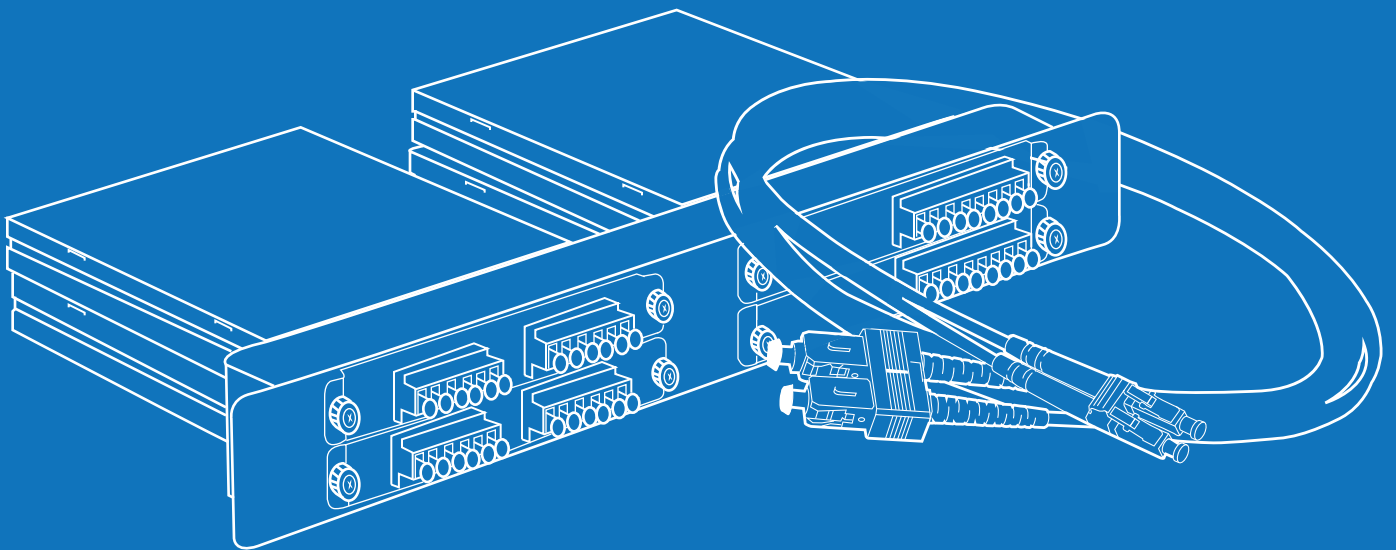
Copper

Variations:

QSFP/4SFP+, QSFP
/2SFP+

Applications:

Ethernet, Fiber Channel
and Optical Carrier
Networking



Cable Management Catalog

V1 11/01/2019



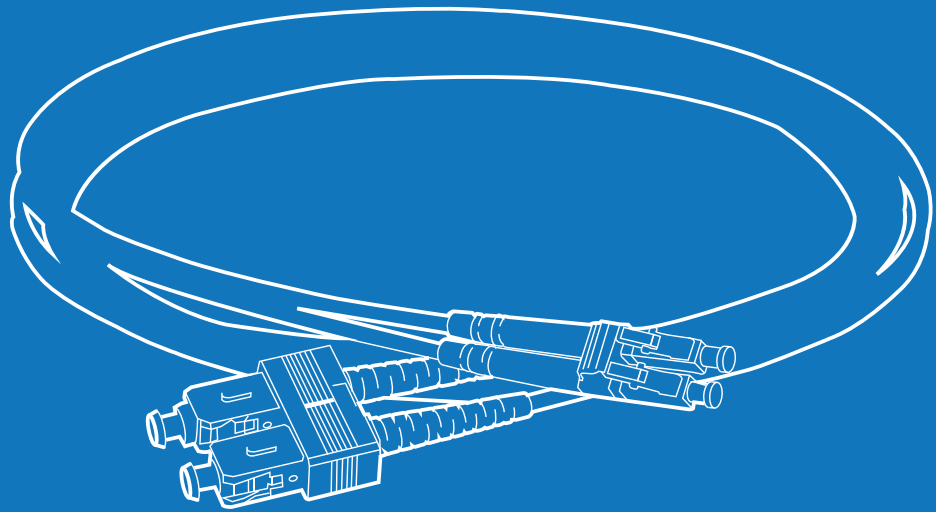
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INTRODUCTION

Passive cable management products are required for each fiber optic network. ProLabs passive cable management products offer network operators a complete solution for common network applications.

Passive Mux/Demux, FTTX Splitters, Fiber Breakout Cassettes, and Patch Cables are essential for all networks.





Our Passive Mux Offering

1) ProLabs Passive Mux/Demux

A) Overview

Wavelength Division Multiplexing (WDM) offers network operators cost-effective means to scale their fiber optic network and to maximize existing infrastructure. ProLabs offers an end to end WDM solution, pairing WDM transceivers with passive mux/demux components tailored to the unique needs of individual networks.

ProLabs offers passive mux/demux components focused on solving key network challenges.

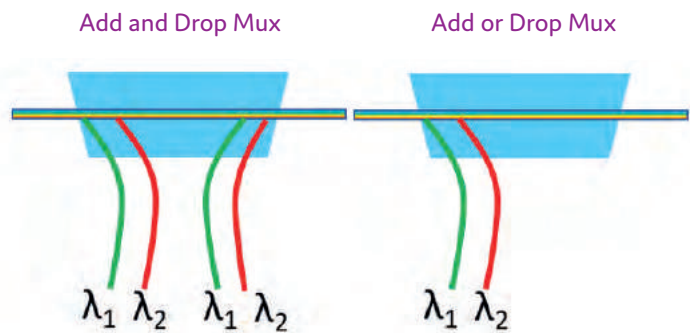
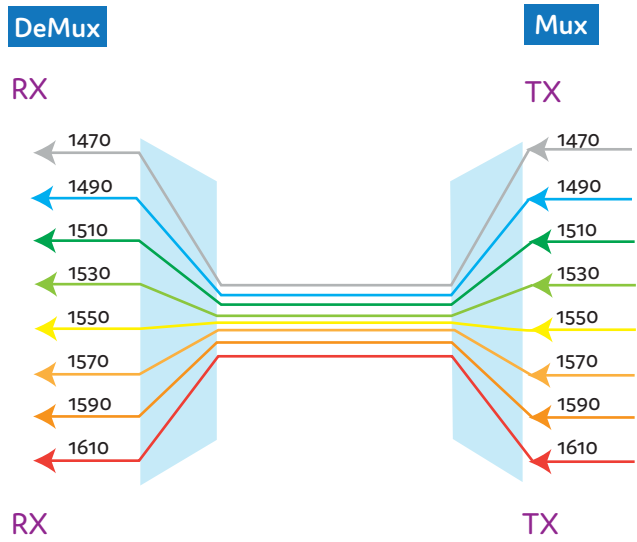
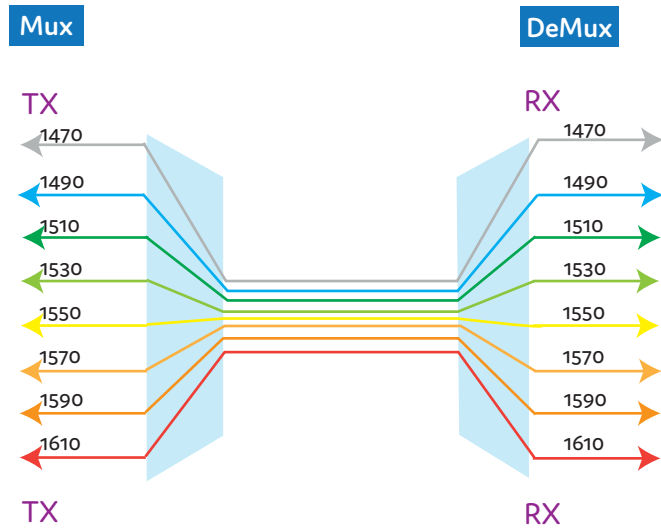
- Maximizing point-to-point fiber connections, Including single fiber
- Add/Drop of WDM channels

B) ProLabs Passive Mux Offering

- CWDM & DWDM Mux, Demux and Mux/Demux modules
- Modular Rack Mount
- Field Installable for Wall Boxes and Splice Cases

Modular Rack Mount	 <p data-bbox="743 1476 857 1508">Slim Mux</p>	 <p data-bbox="1143 1476 1328 1508">ProLabs Cartridge</p>
Field Installed	 <p data-bbox="727 1881 873 1913">Compact Mux</p>	 <p data-bbox="1175 1881 1279 1913">Field Mux</p>

C) Passive Mux Applications

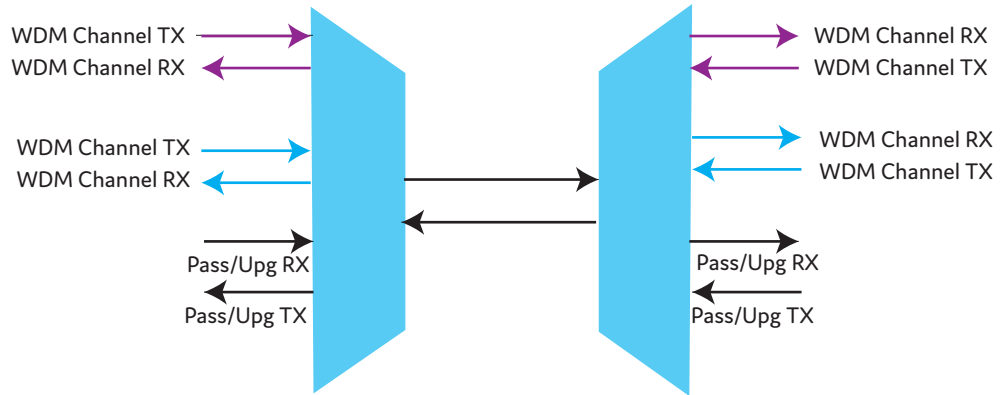




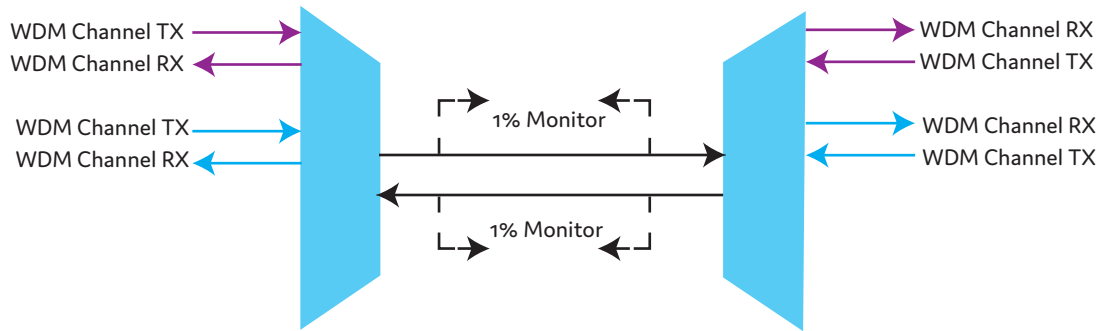
D) Passive Mux Options

ProLabs Passive Mux Products offer key features

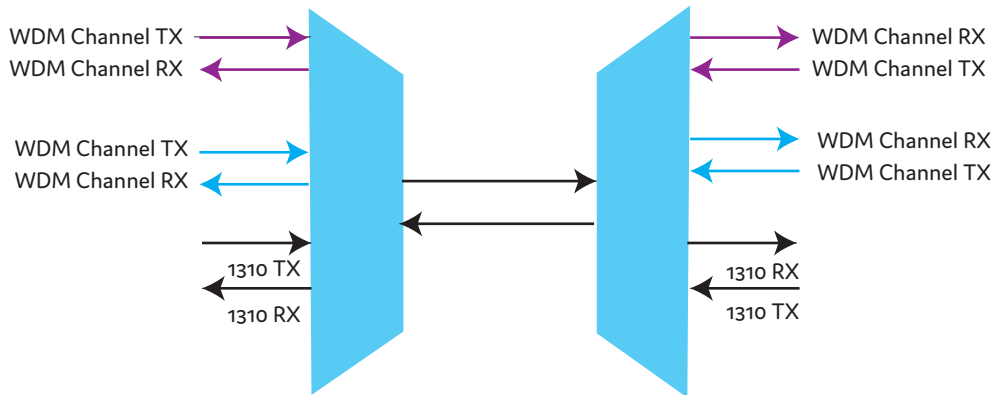
Pass Ports: Pass Ports, also referred to as Express or Upgrade ports, offer the function of add/drop or pass through additional WDM channels. On CWDM, it can be any CWDM wavelength not locally muxed or demuxed. For DWDM, this port is for CWDM channels.



Monitor Port: Test access port to monitor WDM signal.



1310 Port: Pass-through port of wideband 1310 or "gray" optic circuit on to a WDM connection.



2) Modular Rack Mount Mux / Demux

A) ProLabs Cartridge

Modular, high density passive WDM flexible to network needs. Supports:

- CWDM
- DWDM
- Mux/Demux
- Single Fiber Mux
- OADM



ProLabs Mux/Demux Cartridge

Duplex UPC/LC Adapters

Dimensions: 6.9" W x 9.98" D, 0.7" H

Part Number	Description
CWDM-MUX-4X1D-A	4 Ch CWDM Mux/Demux, 1471, 1491, 1511, 1531nm, with pass ports.
CWDM-MUX-4X1D-B	4 Ch CWDM Mux/Demux, 1551, 1571, 1591, 1611nm, with pass ports.
CWDM-MUX-4X1D-C	4 Ch CWDM Mux/Demux, 1511, 1531, 1551, 1571nm, with pass ports.
CWDM-MUX-4X1D-D	4 Ch CWDM Mux/Demux, 1471, 1491, 1591, 1611nm, with pass ports.
CWDM-MUX-4X1D-E	4 Ch CWDM Mux/Demux, 1271, 1291, 1311, 1331nm, with pass ports.
CWDM-MUX-4X1D-F	4 Ch CWDM Mux/Demux, 1331, 1351, 1371, 1391nm, with pass ports.
CWDM-MUX-4XSF-1	4 Ch Single Fiber CWDM Mux/Demux, 1471, 1511, 1551, 1591nm
CWDM-MUX-4XSF-2	4 Ch Single Fiber CWDM Mux/Demux, 1491, 1531, 1571, 1611nm
CWDM-MUX-8D	8 Ch CWDM Mux/Demux 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm, with Pass Port
CWDM-MUX-8D+	8 Ch CWDM Mux/Demux 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm, with Monitor Port
CWDM-MUX-8D+1310	8 Ch CWDM Mux/Demux 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm, with 1310 Gray port
CWDM-MUX-8D-A	8 Ch CWDM Mux/Demux 1291, 1311, 1331, 1351, 1371, 1391, 1411, 1431nm, with Pass Port
CWDM-MUX-8XSF-1	8 Ch CWDM Single Fiber Mux/Demux Cartridge, 1291/1331/1371 /1411/1471/1511/1551/1591
CWDM-MUX-8XSF-2	8 Ch CWDM Single Fiber Mux/Demux Cartridge, 1311/1351/1391 /1431/1491/1531/1571/1611
Part Number	Description
CWDM-MUX-8X1S	8 Ch CWDM Demux Cartridge 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm with pass ports
CWDM-MUX-8X1S+	8 Ch CWDM Demux Cartridge, 1291, 1311, 1331, 1351, 1371, 1391, 1411, 1431nm w/Pass Port



Continued...

C) Part Number	Description
CWDM-MUX-1D-XXXX	1 Ch CWDM OADM Cartridge, Add and Drop, XXXX = CWDM Wavelength Available channels 1271, 1291, 1311, 1331, 1351, 1371, 1391, 1411, 1431, 1451, 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm
CWDM-MUX-2D-XXXX	1 Ch CWDM OADM + 1310 port Cartridge, Add and Drop XXXX = CWDM Wavelength Available channels 1271, 1291, 1311, 1331, 1351, 1371, 1391, 1411, 1431, 1451, 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm
CWDM-MUX-3D-X	2 Ch CWDM OADM + 1310 port Cartridge, Add and Drop x= 1 - 1471/1491, 2 - 1511/1531, 3 - 1551/1571, 4 - 1591/1611

D) Part Number	Description
DWDM-MUX-4D-xx-yy	4Ch DWDM Mux/Demux, with pass ports, 100Ghz ITU C-Band
DWDM-MUX4DA-xx-yy	4Ch DWDM Mux/Demux, with pass and 1310 Port, 100Ghz ITU C-Band
DWDM-MUX4DB-xx-yy	4Ch DWDM Mux/Demux with 1310, pass, and monitoring port, 100Ghz ITU C-Band
DWDM-MUX-8D-xx-yy	8Ch DWDM Mux/Demux, with pass ports , 100Ghz ITU C-Band
DWDM-MUX8DA-xx-yy	8Ch DWDM Mux/Demux, with pass and 1310 Port, 100Ghz ITU C-Band
DWDM-MUX8DB-xx-yy	8Ch DWDM Mux/Demux with 1310, pass, and monitoring port, 100Ghz ITU C-Band
	xx= Beginning wavelength, yy= Ending wavelength

DWDM-MUX-8xSF-1	8 Ch DWDM Single Fiber Mux/Demux Cartridge, Chs 39, 37, 34, 32, 29, 27, 24, and 22
DWDM-MUX-8xSF-2	8 Ch DWDM Single Fiber Mux/Demux Cartridge, Chs 38, 36, 33, 31, 28, 26, 23, and 21
DWDM-MUX-8xSF+-1	8 Ch DWDM Single Fiber Mux/Demux Cartridge, Chs 59, 57, 54, 52, 49, 47, 44, and 42
DWDM-MUX-8xSF+-2	8 Ch DWDM Single Fiber Mux/Demux Cartridge, Chs 58, 56, 53, 51, 48, 46, 43, and 41

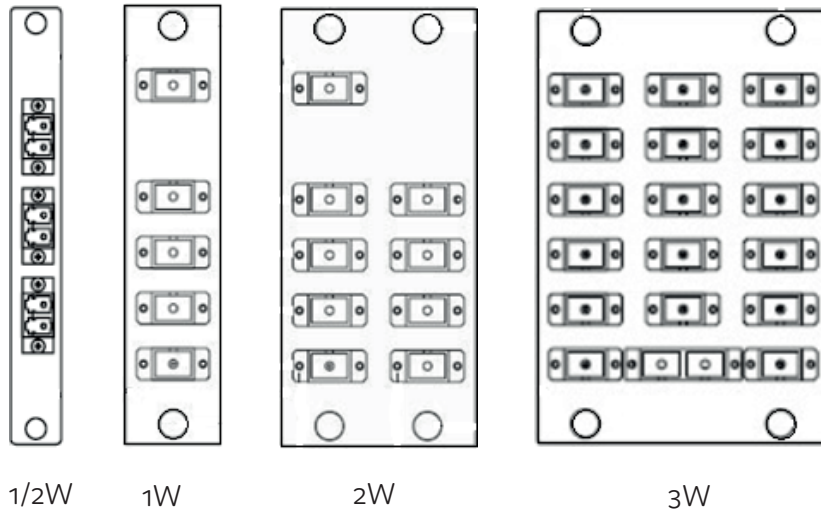
E) Part Number	Description
DWDM-OADM-4D-xx-yy	4Ch OADM Add and Drop DWDM Cartridge, ITU 100Ghz C-Band
DWDM-OADM-D-1D-XX	DWDM Add or Drop Cartridge with 1 wavelengths w/ pass port
DWDM-OADM-D-2D-XX-YY	DWDM Add or Drop Cartridge with 2 wavelengths w/ pass port
DWDM-OADM-D-3D-XX-YY	DWDM Add or Drop Cartridge with 3 wavelengths w/ pass port
DWDM-OADM-D-4D-XX-YY	DWDM Add or Drop Cartridge with 4 wavelengths w/ pass port

xx= Beginning wavelength, yy=Ending Wavelength

Part Number	Description
WDM-CH-4X1U	1U Four-slot chassis, Total Front Access Dimensions 1.7"H x 19"W x 10"D* (43mm x 480.5mm x 253.4mm*)
MUX-24X4U-CHASSIS	4U 24-slot chassis Total Front Access Dimensions 7.5"H x 19"W x 11"D (190.3mm x 484.4mm x 278.3mm)

3) LGX-Style

ProLabs offers industry standard, LGX-style mux modules for deployment in standard LGX chassis or in 1/2W LGX chassis. LC UPC adapters are standard on LGX-style mux modules.



A)

LGX-Style Dimensions			
1/2W "Slim Mux	1W LGX-Style	2W LGX-Style	3W LGX-Style
W: 0.6in (15.2mm)	W: 1.13in (28.7mm)	W: 2.28in (57.9mm)	W: 3.48in (87.12mm)
H: 5in (127mm)	H: 5in (127mm)	H: 5in (127mm)	H: 5in (127mm)
D: 3.98 (101mm)	D: 6.25 (158.75mm)	D: 6.25 (158.75mm)	D: 6.25 (158.75mm)

B) ProLabs LGX-Style Module Part Numbers

Slim Mux 1/2W LGX Form Factor

Coarse Wavelength Division Multiplexers (CWDM) modules.

ProLabs Part Number	Description
CMUX-2MUX-SM-xx-yy	Slim 2ch CWDM Mux
CMUX-4MUX-SM-xx-yy	Slim 4ch CWDM Mux
CMUX-8MUX-SM-xx-yy	Slim 8ch CWDM Mux
CMUX-16MUX-SM-xx-yy	Slim 16ch CWDM Mux
CMUX-2DEMUX-SM-xx-yy	Slim 2ch CWDM Demux
CMUX-4DEMUX-SM-xx-yy	Slim 4ch CWDM Demux
CMUX-8DEMUX-SM-xx-yy	Slim 8ch CWDM Demux
CMUX-2MUX/D-SM-xx-yy	Slim 2ch CWDM Mux/Demux
CMUX-4MUX/D-SM-xx-yy	Slim 4ch CWDM Mux/Demux
CMUX-4MUX-SMC-xx-yy	Slim 4ch CWDM Mux, w/1490/1310 port
CMUX-4DEMUX-SMC-xx-yy	Slim 4ch CWDM Demux, w/1490/1310 port

xx = beginning wavelength yy = ending wavelength.

C) Dense Wavelength Division Multiplexers (DWDM)

ProLabs Part Number	Description
DMUX-2MUX-SM-xx-yy	Slim 2ch DWDM Mux, 100GHz C-Band
DMUX-4MUX-SM-xx-yy	Slim 4ch DWDM Mux, 100GHz C-Band
DMUX-8MUX-SM-xx-yy	Slim 8ch DWDM Mux, 100GHz C-Band
DMUX-16MUX-SM-xx-yy	Slim 16ch DWDM Mux, 100GHz C-Band
DMUX-2DEMUX-SM-xx-yy	Slim 2ch DWDM Demux, 100GHz C-Band
DMUX-4DEMUX-SM-xx-yy	Slim 4ch DWDM Demux, 100GHz C-Band
DMUX-8DEMUX-SM-xx-yy	Slim 8ch DWDM Demux, 100GHz C-Band
DMUX-2MUX/D-SM-xx-yy	Slim 2ch DWDM Mux/Demux, 100GHz C-Band
DMUX-4MUX/D-SM-xx-yy	Slim 4ch DWDM Mux/Demux, 100GHz C-Band

xx = beginning ITU channel, yy = ending ITU channel

D) Standard LGX-Style Form Factor

Coarse Division Multiplexers (CWDM)

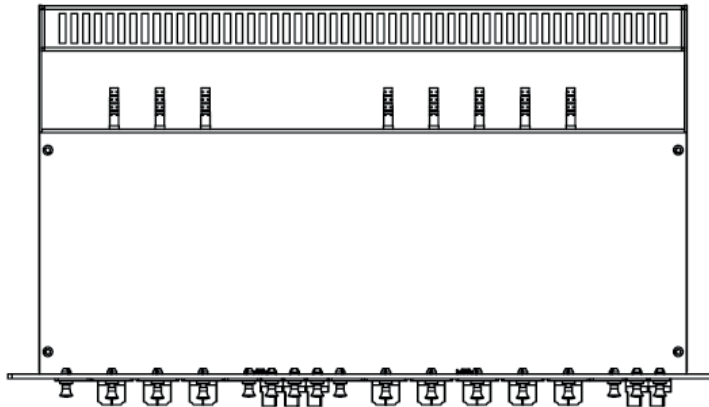
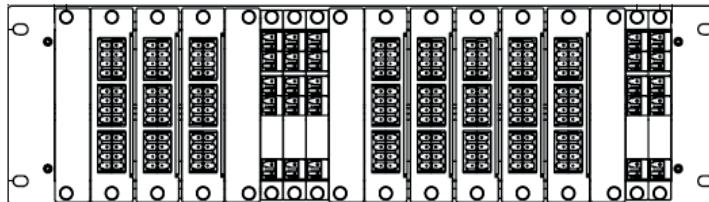
Part Number	Description
CWDM-LGX-MUX-4X1D-A	1W LGX 4 Ch CWDM Mux/Demux, 1471, 1491, 1511, 1531nm w/pass
CWDM-LGX-MUX-4X1D-B	1W LGX 4 Ch CWDM Mux/Demux, 1551, 1571, 1591, 1611nm w/pass
CWDM-LGX-MUX-4X1D-C	1W LGX 4 Ch CWDM Mux/Demux, 1511, 1531, 1551, 1571nm w/pass
CWDM-LGX-MUX-4X1D-D	1W LGX 4 Ch CWDM Mux/Demux, 1471, 1491, 1591, 1611nm w/pass
CWDM-LGX-MUX-4X1D-E	1W LGX 4 Ch CWDM Mux/Demux, 1271, 1291, 1311, 1331nm w/pass
CWDM-LGX-MUX-4X1D-F	1W LGX 4 Ch CWDM Mux/Demux, 1331, 1351, 1371, 1391nm w/pass
CWDM-LGX-MUX-4XSF-1	1W LGX 4 Ch Single Fiber CWDM Mux/Demux, 1471, 1511, 1551, 1591nm
CWDM-LGX-MUX-4XSF-2	1W LGX 4 Ch Single Fiber CWDM Mux/Demux, 1491, 1531, 1571, 1611nm
CWDM-LGX-MUX-8D	2W LGX 8 Ch CWDM Mux/Demux 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm w/pass
CWDM-LGX-MUX-8D+	2W LGX 8 Ch CWDM Mux/Demux 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm w/Monitor Port
CWDM-LGX-MUX-8D+1310	2W LGX 8 Ch CWDM Mux/Demux 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm w/1310 Gray port
CWDM-LGX-MUX-8D-A	2W LGX 8 Ch CWDM Mux/Demux 1291, 1311, 1331, 1351, 1371, 1391, 1411, 1431nm w/pass
CWDM-LGX-MUX-8XSF-1	2W LGX 8 Ch CWDM Single Fiber Mux/Demux Cartridge, 1291/1331/1371/1411/1471/1511/1551/1591
CWDM-LGX-MUX-8XSF-2	2W LGX 8 Ch CWDM Single Fiber Mux/Demux Cartridge, 1311/1351/1391/1431/1491/1531/1571/1611
CWDM-LGX-MUX-8D-A	2W LGX 8 Ch CWDM Demux Cartridge 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm w/pass
CWDM-LGX-MUX-8X1S+	2W LGX 8 Ch CWDM Demux Cartridge, 1291, 1311, 1331, 1351, 1371, 1391, 1411, 1431nm w/pass
CWDM-LGX-MUX-18X1S	3W LGX 18 Channel CWDM Mux Cartridge, 1271, 1291, 1311, 1331, 1351, 1371, 1391, 1411, 1431, 1451, 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm
CWDM-LGX-MUX-18X1S+	3W LGX 18 Channel CWDM Demux Cartridge, 1611, 1591, 1571, 1551, 1531, 1511, 1491, 1471, 1451, 1431, 1411, 1391, 1371, 1351, 1331, 1311, 1291, 1271nm
CWDM-LGX-OADM-1D-XXXX	1W LGX 1 Ch CWDM OADM Cartridge, Add and Drop
CWDM-LGX-OADM-2D-XXXX	1W LGX 1 Ch CWDM OADM + 1310 port Cartridge, Add and Drop
XXXX = CWDM Wavelength Available channels 1271, 1291, 1311, 1331, 1351, 1371, 1391, 1411, 1431, 1451, 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611nm	
CWDM-LGX-OADM-3D-X	1W LGX 2 Ch CWDM OADM + 1310 port Cartridge, Add and Drop

E) 1U Mounting Plate



1U Mounting Plate Dimensions
 H: 1.72in (43.8mm)
 W: 19in (482.6mm)
 D: Varies with LGX-Style Module

F) 3U Chassis



3U Chassis Dimensions
 H: 5.23in (133mm)
 W: 19in (482.6mm)
 D: 9.84in (250mm)

Part Number	Description
CAS-LGX5-PLATE-1U	1U 3-slot 1W LGX Mounting Plate
CAS-LM-CHASSIS-3U	13U 14-slot LGX-Style (28 1/2W) Chassis with rear cable management



G) Dense Wavelength Division Multiplexers (DWDM)

Part Number	Description
DWDM-LGX-MUX-4D-xx-yy	1W LGX, 4Ch DWDM Mux/Demux w/pass, 100Ghz ITU C-Band
DWDM-LGX-MUX4DA-xx-yy	1W LGX, 4Ch DWDM Mux/Demux, w/pass and 1310 Port, 100Ghz ITU C-Band
DWDM-LGX-MUX4DB-xx-yy	1W LGX, 4Ch DWDM Mux/Demux w/1310, pass, and monitoring ports, 100Ghz ITU C-Band
DWDM-LGX-MUX-8D-xx-yy	2W LGX, 8Ch DWDM Mux/Demux, w/pass, 100Ghz ITU C-Band
DWDM-LGX-MUX8DA-xx-yy	2W LGX, 8Ch DWDM Mux/Demux, w/pass and 1310 Port, 100Ghz ITU C-Band
DWDM-LGX-MUX8DB-xx-yy	2W LGX, 8Ch DWDM Mux/Demux w/1310, pass, and monitoring port, 100Ghz ITU C-Band xx= Beginning wavelength, yy= Ending wavelength
DWDM-LGX-MUX-8xSF-1	1W LGX, 8 Ch DWDM Single Fiber Mux/Demux Cartridge, Chs 39, 37, 34, 32, 29, 27, 24, and 22
DWDM-LGX-MUX-8xSF-2	1W LGX, 8 Ch DWDM Single Fiber Mux/Demux Cartridge, Chs 38, 36, 33, 31, 28, 26, 23, and 21
DWDM-LGX-MUX-8xSF+-1	1W LGX, 8 Ch DWDM Single Fiber Mux/Demux Cartridge, Chs 59, 57, 54, 52, 49, 47, 44, and 42
DWDM-LGX-MUX-8xSF+-2	1W LGX, 8 Ch DWDM Single Fiber Mux/Demux Cartridge, Chs 58, 56, 53, 51, 48, 46, 43, and 41
DWDM-LGX-MUX-8xSF-xx-yy	1W LGX, 8 Ch DWDM Single Fiber Mux/Demux Cartridge xx= Beginning wavelength, yy= Ending wavelength
DWDM-LGX-OADM-4D-xx-yy	2W LGX, 4Ch OADM Add and Drop DWDM Cartridge, ITU 100Ghz C-Band
DWDM-LGX-OADM-D-1D-XX	1W LGX, DWDM Add or Drop Cartridge with 1 wavelengths w/ pass port
DWDM-LGX-OADM-D-2D-XX-YY	1W LGX, DWDM Add or Drop Cartridge with 2 wavelengths w/ pass port
DWDM-LGX-OADM-D-3D-XX-YY	1W LGX, DWDM Add or Drop Cartridge with 3 wavelengths w/ pass port
DWDM-LGX-OADM-D-4D-XX-YY	1W LGX, DWDM Add or Drop Cartridge with 4 wavelengths w/ pass port

xx= Beginning ITU Channel, yy= Ending ITU Channel

4) 1U DWDM AWG

40 channels Athermal AWG DWDM multiplexer/demultiplexer, 100GHz Channel Spacing.

Fits into standard 19" one mounting unit. 440(W) x 44(H) x 340(D) 19 inch 1U rack (Unit: mm)



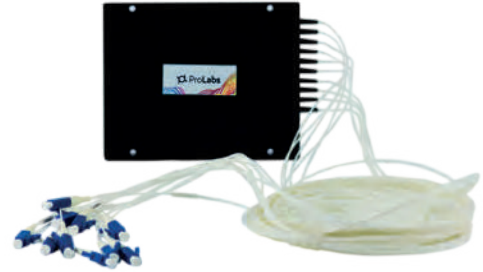
1U DWDM AWG Image

Part Number	Description
DWDM-AWG-40D-21-60-C	40Ch DWDM AWG Ch21 ~ 60, 1RU Tx/Rx Left/Right, SC/UPC Mux/Demux adapters
DWDM-AWG-40D-21-60	40Ch DWDM AWG Ch21 ~ 60, 1RU Mux LC connectors Rx/Tx Bottom/Top, COM LC connectors



5) Field Installed Compact/ Field Installed Mux

- Rugged ABS plastic box with 2M pigtails
- Versatile - Fits in splice case, wall box, cabinet or elsewhere in the network
- 100mm (W) x 80mm (H) x 10mm (D)
 - o 3.93" (W) x 3.15" (H) x 0.39" (D)



A) CWDM

Part Numbers	Description
CMUX-2MUX-CM-xx-yy	Compact 2ch CWDM Mux, 2m pigtails, LC/UPC Connectors
CMUX-4MUX-CM-xx-yy	Compact 4ch CWDM Mux, 2m pigtails, LC/UPC Connectors
CMUX-8MUX-CM-xx-yy	Compact 8ch CWDM Mux, 2m pigtails, LC/UPC Connectors
CMUX-16MUX-CM-xx-yy	Compact 16ch CWDM Mux, 2m pigtails, LC/UPC Connectors
CMUX-2DEMUX-CM-xx-yy	Compact 2ch CWDM Demux, 2m pigtails, LC/UPC Connectors
CMUX-4DEMUX-CM-xx-yy	Compact 4ch CWDM Demux, 2m pigtails, LC/UPC Connectors
CMUX-8DEMUX-CM-xx-yy	Compact 8ch CWDM Demux, 2m pigtails, LC/UPC Connectors
CMUX-16DEMUX-CM-xx-yy	Compact 16ch CWDM Demux, 2m pigtails, LC/UPC Connectors
CMUX-2MUX/D-CM-xx-yy	Compact 2ch CWDM Mux/Demux, 2m pigtails, LC/UPC Connectors
CMUX-4MUX/D-CM-xx-yy	Compact 4ch CWDM Mux/Demux, 2m pigtails, LC/UPC Connectors
CMUX-8MUX/D-CM-xx-yy	Compact 8ch CWDM Mux/Demux, 2m pigtails, LC/UPC Connectors
CMUX-16MUX/D-CM-xx-yy	Compact 16ch CWDM Mux/Demux, 2m pigtails, LC/UPC Connectors
CMUX-18MUX/D-CM-xx-yy	Compact 18ch CWDM Mux/Demux, 3m pigtails, LC/UPC Connectors

B) DWDM

Part Numbers	Description
DMUX-2MUX-CM-xx-yy	Compact 2ch DWDM Mux, 2m pigtails, 100GHz C-Band ,
DMUX-4MUX-CM-xx-yy	Compact 4ch DWDM Mux, 2m pigtails, 100GHz C-Band
DMUX-8MUX-CM-xx-yy	Compact 8ch DWDM Mux, 2m pigtails, 100GHz C-Band
DMUX-16MUX-CM-xx-yy	Compact 16ch DWDM Mux, 2m pigtails, 100GHz C-Band
DMUX-2DEMUX-CM-xx-yy	Compact 2ch DWDM Demux, 2m pigtails, 100GHz C-Band
DMUX-4DEMUX-CM-xx-yy	Compact 4ch DWDM Demux, 2m pigtails, 100GHz C-Band
DMUX-8DEMUX-CM-xx-yy	Compact 8ch DWDM Demux, 2m pigtails, 100GHz C-Band
DMUX-16DEMUX-CM-xx-yy	Compact 16ch DWDM Demux, 2m pigtails, 100GHz C-Band
DMUX-2MUX/D-CM-xx-yy	Compact 2ch DWDM Mux/Demux, 2m pigtails, 100GHz C-Band
DMUX-4MUX/D-CM-xx-yy	Compact 4ch DWDM Mux/Demux, 2m pigtails, 100GHz C-Band
DMUX-8MUX/D-CM-xx-yy	Compact 8ch DWDM Mux/Demux, 2m pigtails, 100GHz C-Band
DMUX-16MUX/D-CM-xx-yy	Compact 16ch DWDM Mux/Demux, 2m pigtails, 100GHz C-Band

6) Field Mux

- Rugged stainless steel package ideal for splice cases
- Package Size: 35mm(L) x 5.5mm Φ
- 2M Pigtails to stub standard



A)	Part Number	Description
	DMUX-1OADM-B-xx	Single Device OADM, DWDM, Bare Fiber
	DMUX-1OADM-S-xx	Single Device OADM, DWDM, Bare Fiber with SS Tube
	DMUX-1OADM-LT-xx	Single Device OADM, DWDM, 900um with SS Tube



7) FTTX Splitters

A) Overview

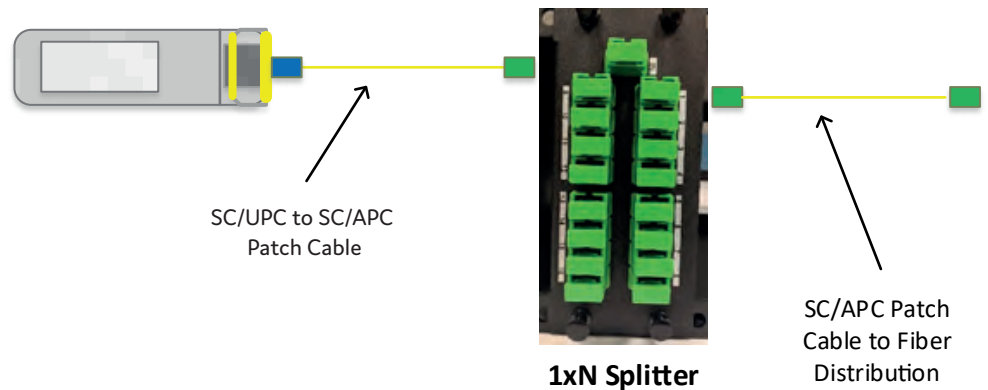
ProLabs offers FTTX Splitters for fiber to the premises applications. ProLabs modular packaging is compatible with existing or new LGX-style chassis.

B) FTTX Splitters Description

- 1x2, 1x4, 1x8, 1x16, and 1x32 Split Ratios
- 1/2W, 1W, 2W, and 3W LGX-Style mounting
- Backwards and Forward compatible with xPON technologies
- SC/APC adapters
- -40°C to +85°C Operating Temperatures

C) FTTX Splitters Application

PON OLT SFP





D) 2W LGX

- Single 1x16

E) Ordering Information

Part Number	Description
PRO-1/2LGXCS1X2SP9ASC	1/2W LGX Single 1x2 Splitter APC/SC
PRO-1/2LGXCS21X2SP9ASC	1/2W LGX Double 1x2 Splitter APC/SC
PRO-1/2LGXCS1X4SP9ASC	1/2W LGX Single 1x4 Splitter APC/SC
PRO-LGX5CS1X4SP9ASC	1W LGX Single 1x4 Splitter APC/SC
PRO-LGX5CS1X8SP9ASC	1W LGX Single 1x8 Splitter APC/SC
PRO-LGX5CS1X16SP9ASC	2W LGX Single 1x16 Splitter APC/SC
PRO-LGX5CS1X32SP9ASC	3W LGX Single 1x32 Splitter APC/SC

19" Rack Mount Chassis

CAS-1/2LGX5-PLATE-1U	1U 6-slot 1/2W Mounting Plate, 19" rack mount
CAS-LGX5-PLATE-1U	1U 3-slot LGX Style Mounting Plate, 19" rack mount
CAS-LM-CHASSIS-3U	4U 14-slot LGX Style Chassis (28 1/2W LGX) , 19" rack mount



F) Splitter Specifications

		1x2	1x4	1x8	1x16	1x32
Device type		PLC				
Operating Wavelength	nm	1260 ~ 1650				
Insertion Loss	dB	3.7	7.2	10.5	13.5	16.5
Uniformity	dB	0.4	0.6	0.8	1.2	
PDL	dB	0.2	0.2	0.3	0.3	0.4
Return Loss	dB	55				
Directivity	dB	55				
TDL	dB	0.5				
Fiber type		SMF-28e+				
Storage Temperature	°C	-40 ~ +85				
Operating Temperature	°C	-40 ~ +85				

8) ProLabs Fiber Cassettes

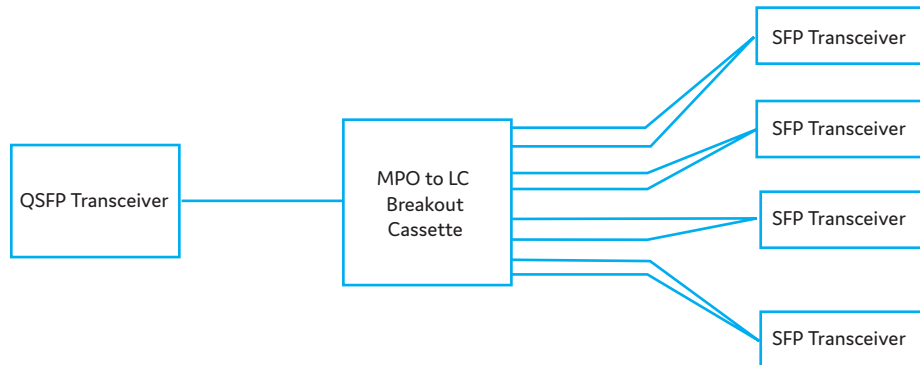
A) Overview

Network upgrades using MPO-based parallel series optics often require break out solutions to provide access at 10G or 25G. ProLabs provides purpose designed fiber cassettes compatible with industry standard 40G and 100G breakout applications.

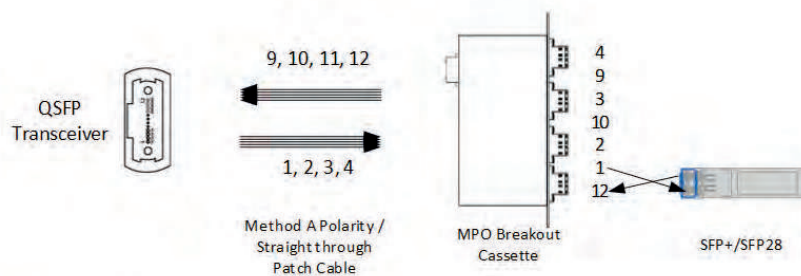
B) ProLabs Fiber Cassettes Offer:

- Standard MPO 12 and MPO-24 interfaces
- Up to 4 – 4” LGX-style cassettes in one 19” rack mount unit
- Duplex LC/UPC adapters
- Standard MPO polarity and breakout internal cabling
- Rear and front access options options

C) QSFP 40G/100G Breakout Application



Polarity for Application





Ordering Information

Part Number	Description
C-4BAYC1MPO12LCQM3	4" LGX Style Cassette, Rear MPO-12 to 12 Front LC, QSFP Breakout, OM3 Fiber
C-4BAYC1MPO12LCQM4	4" LGX Style Cassette Rear MPO-12 to 12 Front LC, QSFP Breakout, OM4 Fiber
C-4BAYC1MPO12LCQS1	4" LGX Style Cassette Rear MPO-12 to 12 Front LC/UPC, QSFP Breakout, SM Fiber
C-4BAYC2MPO24LCQM3	4" LGX Style Cassette, (3) Rear MPO-12 to 24 Front LC, QSFP Breakout, OM3 Fiber
C-4BAYC2MPO24LCQM4	4" LGX Style Cassette (2) Rear MPO-12 to 24 Front LC, QSFP Breakout, OM4 Fiber
C-4BAYC2MPO24LCQS1	4" LGX Style Cassette (2) Rear MPO-12 to 24 Front LC/UPC, QSFP Breakout, SM Fiber
C-4BAYC3MPO24LCQM3	4" LGX Style Cassette, (3) Rear MPO-12 to 24 Front LC, QSFP Breakout, OM3 Fiber
C-4BAYC3MPO24LCQM4	4" LGX Style Cassette (3) Rear MPO-12 to 24 Front LC, QSFP Breakout, OM4 Fiber
C-4BAYC3MPO24LCQS1	4" LGX Style Cassette (3) Rear MPO-12 to 24 Front LC/UPC, QSFP Breakout, SM Fiber
C-4BAYC1MPO2MPOCPM3	4" LGX Style Cassette, (1) Front MPO-24 to (2) Front MPO-12, CPAK 2x40G BO, OM3 Fiber
C-4BAYC1MPO2MPOCPM4	4" LGX Style Cassette, (1) Front MPO-24 to (2) Front MPO-12, CPAK 2x40G BO, OM4 Fiber
C-4BAYC2MPO4MPOCPM3	4" LGX Style Cassette, (2) Front MPO-24 to (4) Front MPO-12, CPAK 2x40G BO, OM3 Fiber
C-4BAYC2MPO4MPOCPM4	4" LGX Style Cassette, (2) Front MPO-24 to (4) Front MPO-12, CPAK 2x40G BO, OM4 Fiber
C-4BAYC1MPO24LCQM3	4" LGX Style Cassette, Rear MPO-24 to Front 24 LC, QSFP Breakout, OM3 Fiber
C-4BAYC1MPO24LCQM4	4" LGX Style Cassette, Rear MPO-24 to Front 24 LC, QSFP Breakout, OM4 Fiber
C-4BAYC1MPO24LCQS1	4" LGX Style Cassette, Rear MPO-24 to Front 24 LC, QSFP Breakout, SM Fiber

D) Chassis

Part Number	Description
C-PPS-4BAY	4 Slot 1U 19" Rack Mount Chassis for 4" LGX Style Cassette
C-PPS-12BAY	12 Slot 4U 19" Rack Mount Chassis for 4" LGX Style Cassette

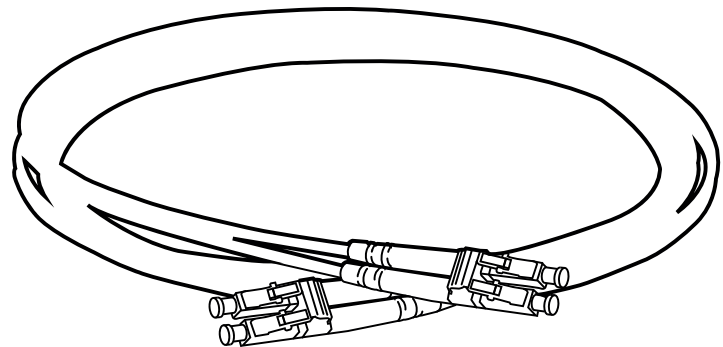
Standard 5" LGX and 1/2W LGX MPO breakout cassettes are available.
[Contact your ProLabs representative to learn more.](#)

Ideal for connectivity.

7) Duplex LC Patch Cables

- Duplex LC Connectors
- Ideal for Transceiver to Transceiver and Transceiver to Mux or Patch Panel Applications
- 2.0mm OFNR Riser Rated Cable
- OM3 and OM4 multi-mode fiber options
- OS2 Bend insensitive single-mode fiber

Part Number	OM3	OM4	Single-mode
1 m [3.3-ft.]	C-LC-LC-1M5OM3	C-LC-LC-1M5OM3	C-LC-LC-1M9SMF
2 m [6.6-ft.]	C-LC-LC-2M5OM3	C-LC-LC-2M5OM3	C-LC-LC-2M9SMF
3 m [9.8-ft.]	C-LC-LC-3M5OM3	C-LC-LC-3M5OM3	C-LC-LC-3M9SMF
4 m [13.1-ft.]	C-LC-LC-4M5OM3	C-LC-LC-4M5OM3	C-LC-LC-4M9SMF
5 m [16.4-ft.]	C-LC-LC-5M5OM3,	C-LC-LC-5M5OM4	C-LC-LC-5M9SMF
6 m [19.7-ft.]	C-LC-LC-6M5OM3	C-LC-LC-6M5OM4	C-LC-LC-6M9SMF
7 m [23.0-ft.]	C-LC-LC-7M5OM3	C-LC-LC-7M5OM4	C-LC-LC-7M9SMF
8 m [26.2-ft.]	C-LC-LC-8M5OM3	C-LC-LC-8M5OM4	C-LC-LC-8M9SMF
9 m [29.5-ft.]	C-LC-LC-9M5OM3	C-LC-LC-9M5OM4	C-LC-LC-9M9SMF
10 m [32.8-ft.]	C-LC-LC-10M5OM3	C-LC-LC-10M5OM4	C-LC-LC-10M9SMF
15 m [49.2-ft.]	C-LC-LC-15M5OM3	C-LC-LC-15M5OM4	C-LC-LC-15M9SMF
20 m [65.6-ft.]	C-LC-LC-20M5OM3	C-LC-LC-20M5OM4	C-LC-LC-20M9SMF
25 m [82.0-ft.]	C-LC-LC-25M5OM3	C-LC-LC-25M5OM4	C-LC-LC-25M9SMF
30 m [98.4-ft.]	C-LC-LC-30M5OM3	C-LC-LC-30M5OM4	C-LC-LC-30M9SMF
40 m [150.9-ft.]	C-LC-LC-40M5OM3	C-LC-LC-40M5OM4	C-LC-LC-40M9SMF
50 m [164.0-ft.]	C-LC-LC-50M5OM3	C-LC-LC-50M5OM4	C-LC-LC-50M9SMF



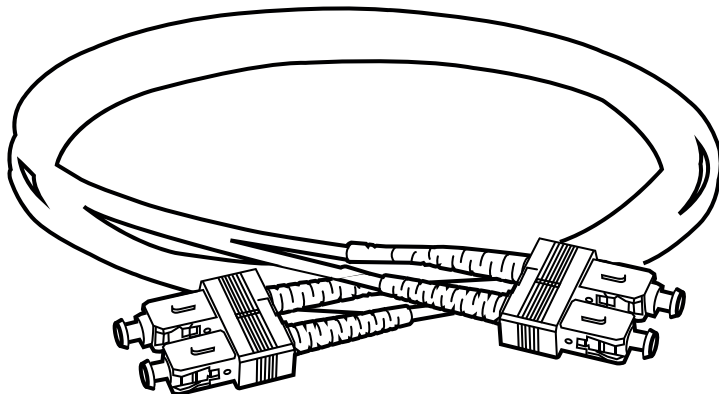


Quality
and
performance.

8) Simplex Patch Cables

- Simplex LC Patch cables – Ideal for single fiber mux applications
- Simplex SC Patch cables – Ideal for FTTH applications
- 2.0mm OFNR Riser Rated Cable
- OS2 Bend insensitive single-mode fiber

Length	Connector Type													
	LC/UPC	SC/APC - SC/APC	SC/UPC-SC/APC											
1 m [3.3-ft.]	C-LC-LC-1MS9SMF	C-ASC-ASC-1MS9SMF	C-ASC-SC-1MS9SMF											
2 m [6.6-ft.]	C-LC-LC-2MS9SMF	C-ASC-ASC-2MS9SMF	C-ASC-SC-2MS9SMF											
3 m [9.8-ft.]	C-LC-LC-3MS9SMF	C-ASC-ASC-3MS9SMF	C-ASC-SC-3MS9SMF											
4 m [13.1-ft.]	C-LC-LC-4MS9SMF	C-ASC-ASC-4MS9SMF	C-ASC-SC-4MS9SMF											
5 m [16.4-ft.]	C-LC-LC-5MS9SMF	C-ASC-ASC-5MS9SMF	C-ASC-SC-5MS9SMF											
6 m [19.7-ft.]	C-LC-LC-6MS9SMF	C-ASC-ASC-6MS9SMF	C-ASC-SC-6MS9SMF											
7 m [23.0-ft.]	C-LC-LC-7MS9SMF	C-ASC-ASC-7MS9SMF	C-ASC-SC-7MS9SMF											
8 m [26.2-ft.]	C-LC-LC-8MS9SMF	C-ASC-ASC-8MS9SMF	C-ASC-SC-8MS9SMF											
9 m [29.5-ft.]	C-LC-LC-9MS9SMF	C-ASC-ASC-9MS9SMF	C-ASC-SC-9MS9SMF											
10 m [32.8-ft.]	C-LC-LC-10MS9SMF	C-ASC-ASC-10MS9SMF	C-ASC-SC-10MS9SMF											
15 m [49.2-ft.]	C-LC-LC-15MS9SMF	C-ASC-ASC-15MS9SMF	C-ASC-SC-15MS9SMF											
20 m [65.6-ft.]	C-LC-LC-20MS9SMF	C-ASC-ASC-20MS9SMF	C-ASC-SC-20MS9SMF											
25 m [82.0-ft.]	C-LC-LC-25MS9SMF	C-ASC-ASC-25MS9SMF </tr <tr> <td>30 m [98.4-ft.]</td> <td>C-LC-LC-30MS9SMF</td> <td>C-ASC-ASC-30MS9SMF</td> <td>C-ASC-SC-30MS9SMF</td> </tr> <tr> <td>40 m [150.9-ft.]</td> <td>C-LC-LC-40MS9SMF</td> <td>C-ASC-ASC-40MS9SMF</td> <td>C-ASC-SC-40MS9SMF</td> </tr> <tr> <td>50 m [164.0-ft.]</td> <td>C-LC-LC-50MS9SMF</td> <td>C-ASC-ASC-50MS9SMF</td> <td>C-ASC-SC-50MS9SMF</td> </tr>	30 m [98.4-ft.]	C-LC-LC-30MS9SMF	C-ASC-ASC-30MS9SMF	C-ASC-SC-30MS9SMF	40 m [150.9-ft.]	C-LC-LC-40MS9SMF	C-ASC-ASC-40MS9SMF	C-ASC-SC-40MS9SMF	50 m [164.0-ft.]	C-LC-LC-50MS9SMF	C-ASC-ASC-50MS9SMF	C-ASC-SC-50MS9SMF
30 m [98.4-ft.]	C-LC-LC-30MS9SMF	C-ASC-ASC-30MS9SMF	C-ASC-SC-30MS9SMF											
40 m [150.9-ft.]	C-LC-LC-40MS9SMF	C-ASC-ASC-40MS9SMF	C-ASC-SC-40MS9SMF											
50 m [164.0-ft.]	C-LC-LC-50MS9SMF	C-ASC-ASC-50MS9SMF	C-ASC-SC-50MS9SMF											



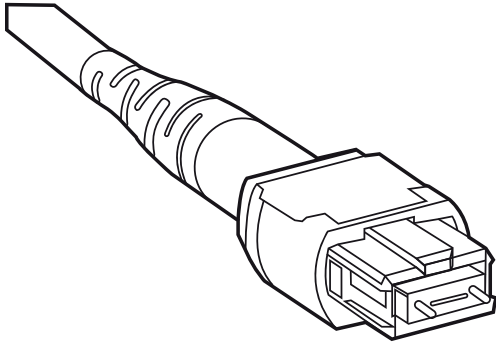


9) MPO Patch Cables

A) Overview

ProLabs MPO patch cables are fully interoperable with standard 40G and 100G transceivers. Common applications connect transceivers to transceivers and transceivers to fiber breakout cassettes. Type B, also called Method B or Crossover, polarity patch cables are used for these connections.

Transceiver Type	MPO Connector Type	Fiber Type
SR4	MPO-12	Multi-mode
SR10	MPO-24	Multi-mode
PSM	MPO-12	Single-mode
ER10 (10x10)	MPO-24	Single-mode
ZR10 (10x10)	MPO-24	Single-mode





B) Type B MPO Patch Cables

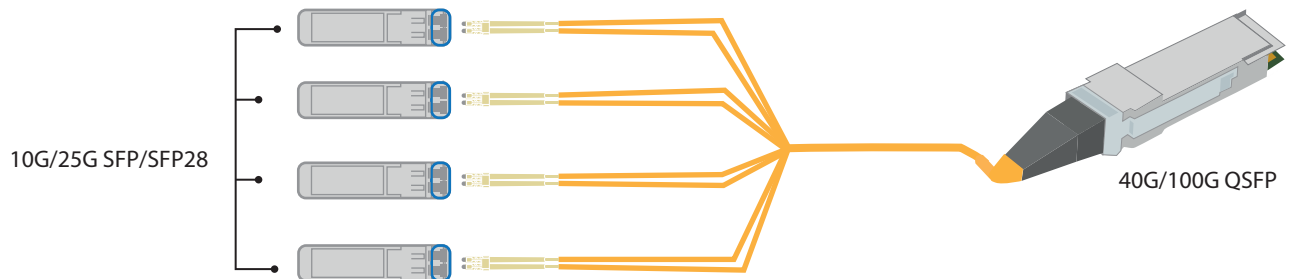
	OM3 Multi-Mode Fiber	
Length	12F MPO Type B	24F MPO Type B
1 m [3.3-ft.]	C-MPOMPO-1M5OM3	C-24FMPOMPO-1M5OM3
2 m [6.6-ft.]	C-MPOMPO-2M5OM3	C-24FMPOMPO-2M5OM3
3 m [9.8-ft.]	C-MPOMPO-3M5OM3	C-24FMPOMPO-3M5OM3
4 m [13.1-ft.]	C-MPOMPO-4M5OM3	C-24FMPOMPO-4M5OM3
5 m [16.4-ft.]	C-MPOMPO-5M5OM3	C-24FMPOMPO-5M5OM3
6 m [19.7-ft.]	C-MPOMPO-6M5OM3	C-24FMPOMPO-6M5OM3
7 m [23.0-ft.]	C-MPOMPO-7M5OM3	C-24FMPOMPO-7M5OM3
8 m [26.2-ft.]	C-MPOMPO-8M5OM3	C-24FMPOMPO-8M5OM3
9 m [29.5-ft.]	C-MPOMPO-9M5OM3	C-24FMPOMPO-9M5OM3
10 m [32.8-ft.]	C-MPOMPO-10M5OM3	C-24FMPOMPO-10M5OM3
15 m [49.2-ft.]	C-MPOMPO-15M5OM3	C-24FMPOMPO-15M5OM3
20 m [65.6-ft.]	C-MPOMPO-20M5OM3	C-24FMPOMPO-20M5OM3
25 m [82.0-ft.]	C-MPOMPO-25M5OM3	C-24FMPOMPO-25M5OM3
30 m [98.4-ft.]	C-MPOMPO-30M5OM3	C-24FMPOMPO-30M5OM3
40 m [150.9-ft.]	C-MPOMPO-40M5OM3	C-24FMPOMPO-40M5OM3
50 m [164.0-ft.]	C-MPOMPO-50M5OM3	C-24FMPOMPO-50M5OM3

	OM4 Multi-Mode Fiber	
Length	12F MPO Type B	24F MPO Type B
1 m [3.3-ft.]	C-MPOMPO-1M5OM4	C-24FMPOMPO-1M5OM4
2 m [6.6-ft.]	C-MPOMPO-2M5OM4	C-24FMPOMPO-2M5OM4
3 m [9.8-ft.]	C-MPOMPO-3M5OM4	C-24FMPOMPO-3M5OM4
4 m [13.1-ft.]	C-MPOMPO-4M5OM4	C-24FMPOMPO-3M5OM4
5 m [16.4-ft.]	C-MPOMPO-5M5OM4	C-24FMPOMPO-5M5OM4
6 m [19.7-ft.]	C-MPOMPO-6M5OM4	C-24FMPOMPO-6M5OM4
7 m [23.0-ft.]	C-MPOMPO-7M5OM4	C-24FMPOMPO-7M5OM4
8 m [26.2-ft.]	C-MPOMPO-8M5OM4	C-24FMPOMPO-8M5OM4
9 m [29.5-ft.]	C-MPOMPO-9M5OM4	C-24FMPOMPO-9M5OM4
10 m [32.8-ft.]	C-MPOMPO-10M5OM4	C-24FMPOMPO-10M5OM4
15 m [49.2-ft.]	C-MPOMPO-15M5OM4	C-24FMPOMPO-15M5OM4
20 m [65.6-ft.]	C-MPOMPO-20M5OM4	C-24FMPOMPO-20M5OM4
25 m [82.0-ft.]	C-MPOMPO-25M5OM4	C-24FMPOMPO-25M5OM4
30 m [98.4-ft.]	C-MPOMPO-30M5OM4	C-24FMPOMPO-30M5OM4
40 m [150.9-ft.]	C-MPOMPO-40M5OM4	C-24FMPOMPO-40M5OM4
50 m [164.0-ft.]	C-MPOMPO-50M5OM4	C-24FMPOMPO-50M5OM4

Length	Single-Mode Fiber	
	12F MPO Type B	24F MPO Type B
1 m [3.3-ft.]	C-MPOMPO-1M9SMF	C-24FMPOMPO-1M9SMF
2 m [6.6-ft.]	C-MPOMPO-2M9SMF	C-24FMPOMPO-2M9SMF
3 m [9.8-ft.]	C-MPOMPO-3M9SMF	C-24FMPOMPO-3M9SMF
4 m [13.1-ft.]	C-MPOMPO-4M9SMF	C-24FMPOMPO-4M9SMF
5 m [16.4-ft.]	C-MPOMPO-5M9SMF	C-24FMPOMPO-5M9SMF
6 m [19.7-ft.]	C-MPOMPO-6M9SMF	C-24FMPOMPO-6M9SMF
7 m [23.0-ft.]	C-MPOMPO-7M9SMF	C-24FMPOMPO-7M9SMF
8 m [26.2-ft.]	C-MPOMPO-8M9SMF	C-24FMPOMPO-8M9SMF
9 m [29.5-ft.]	C-MPOMPO-9M9SMF	C-24FMPOMPO-9M9SMF
10 m [32.8-ft.]	C-MPOMPO-10M9SMF	C-24FMPOMPO-10M9SMF
15 m [49.2-ft.]	C-MPOMPO-15M9SMF	C-24FMPOMPO-15M9SMF
20 m [65.6-ft.]	C-MPOMPO-20M9SMF	C-24FMPOMPO-20M9SMF
25 m [82.0-ft.]	C-MPOMPO-25M9SMF	C-24FMPOMPO-25M9SMF
30 m [98.4-ft.]	C-MPOMPO-30M9SMF	C-24FMPOMPO-30M9SMF
40 m [150.9-ft.]	C-MPOMPO-40M9SMF	C-24FMPOMPO-40M9SMF
50 m [164.0-ft.]	C-MPOMPO-50M9SMF	C-24FMPOMPO-50M9SMF

C) MPO Breakout Cables

Direct connecting transceivers with MPO interfaces with duplex LC SFP-type transceivers requires a MPO to LC Breakout cable.





Part Number	OM3	OM4	Single-mode
1 m [3.3-ft.]	C-MPO-4LC1M5OM3	C-MPO-4LC1M5OM4	C-MPO-4LC1M9SMF
2 m [6.6-ft.]	C-MPO-4LC2M5OM3	C-MPO-4LC2M5OM4	C-MPO-4LC2M9SMF
3 m [9.8-ft.]	C-MPO-4LC3M5OM3	C-MPO-4LC3M5OM4	C-MPO-4LC3M9SMF
4 m [13.1-ft.]	C-MPO-4LC4M5OM3	C-MPO-4LC3M5OM4	C-MPO-4LC4M9SMF
5 m [16.4-ft.]	C-MPO-4LC5M5OM3	C-MPO-4LC5M5OM4	C-MPO-4LC4M9SMF
6 m [19.7-ft.]	C-MPO-4LC6M5OM3	C-MPO-4LC6M5OM4	C-MPO-4LC6M9SMF
7 m [23.0-ft.]	C-MPO-4LC7M5OM3	C-MPO-4LC7M5OM4	C-MPO-4LC7M9SMF
8 m [26.2-ft.]	C-MPO-4LC8M5OM3	C-MPO-4LC8M5OM4	C-MPO-4LC8M9SMF
9 m [29.5-ft.]	C-MPO-4LC9M5OM3	C-MPO-4LC9M5OM4	C-MPO-4LC9M9SMF
10 m [32.8-ft.]	C-MPO-4LC10M5OM3	C-MPO-4LC10M5OM4	C-MPO-4LC10M9SMF
15 m [49.2-ft.]	C-MPO-4LC15M5OM3	C-MPO-4LC15M5OM4	C-MPO-4LC15M9SMF
20 m [65.6-ft.]	C-MPO-4LC20M5OM3	C-MPO-4LC20M5OM4	C-MPO-4LC20M9SMF
25 m [82.0-ft.]	C-MPO-4LC25M5OM3	C-MPO-4LC25M5OM4	C-MPO-4LC25M9SMF
30 m [98.4-ft.]	C-MPO-4LC30M5OM3	C-MPO-4LC30M5OM4	C-MPO-4LC30M9SMF
40 m [150.9-ft.]	C-MPO-4LC40M5OM3	C-MPO-4LC40M5OM4	C-MPO-4LC40M9SMF
50 m [164.0-ft.]	C-MPO-4LC50M5OM3	C-MPO-4LC50M5OM4	C-MPO-4LC50M9SMF

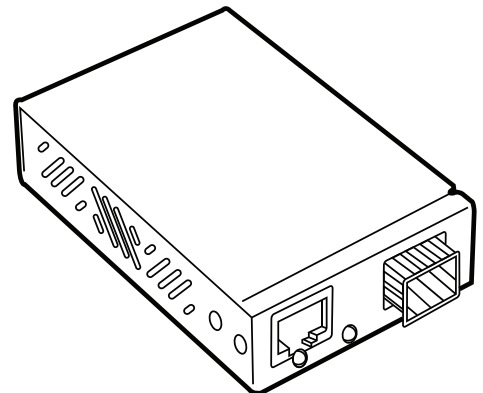
Part Number	OM3	OM4	Single-mode
1 m [3.3-ft.]	C-24FMPO-20LC1M5OM3	C-24FMPO-20LC1M5OM4	C-24FMPO-20LC1M9SMF
2 m [6.6-ft.]	C-24FMPO-20LC2M5OM3	C-24FMPO-20LC2M5OM4	C-24FMPO-20LC2M9SMF
3 m [9.8-ft.]	C-24FMPO-20LC3M5OM3	C-24FMPO-20LC3M5OM4	C-24FMPO-20LC3M9SMF
4 m [13.1-ft.]	C-24FMPO-20LC4M5OM3	C-24FMPO-20LC3M5OM4	C-24FMPO-20LC4M9SMF
5 m [16.4-ft.]	C-24FMPO-20LC5M5OM3	C-24FMPO-20LC5M5OM4	C-24FMPO-20LC5M9SMF
6 m [19.7-ft.]	C-24FMPO-20LC6M5OM3	C-24FMPO-20LC6M5OM4	C-24FMPO-20LC6M9SMF
7 m [23.0-ft.]	C-24FMPO-20LC7M5OM3	C-24FMPO-20LC7M5OM4	C-24FMPO-20LC7M9SMF
8 m [26.2-ft.]	C-24FMPO-20LC8M5OM3	C-24FMPO-20LC8M5OM4	C-24FMPO-20LC8M9SMF
9 m [29.5-ft.]	C-24FMPO-20LC9M5OM3	C-24FMPO-20LC9M5OM4	C-24FMPO-20LC9M9SMF
10 m [32.8-ft.]	C-24FMPO-20LC10M5OM3	C-24FMPO-20LC10M5OM4	C-24FMPO-20LC10M9SMF
15 m [49.2-ft.]	C-24FMPO-20LC15M5OM3	C-24FMPO-20LC15M5OM4	C-24FMPO-20LC15M9SMF
20 m [65.6-ft.]	C-24FMPO-20LC20M5OM3	C-24FMPO-20LC20M5OM4	C-24FMPO-20LC20M9SMF
25 m [82.0-ft.]	C-24FMPO-20LC25M5OM3	C-24FMPO-20LC25M5OM4	C-24FMPO-20LC25M9SMF
30 m [98.4-ft.]	C-24FMPO-20LC30M5OM3	C-24FMPO-20LC30M5OM4	C-24FMPO-20LC30M9SMF
40 m [150.9-ft.]	C-24FMPO-20LC40M5OM3	C-24FMPO-20LC40M5OM4	C-24FMPO-20LC40M9SMF
50 m [164.0-ft.]	C-24FMPO-20LC50M5OM3	C-24FMPO-20LC50M5OM4	C-24FMPO-20LC50M9SMF

Seamlessly integrate disparate networks

Introduction

In an era of ever-expanding connectivity and increased appetite for bandwidth there is a need to maximize existing infrastructures and connect dissimilar networks. As network complexities increase and distance requirements grow, network administrators are challenged with meeting new requirements and integrating new with old infrastructures; whether it be connecting copper to fiber, or single mode to multimode fiber networks.

ProLabs offers a range of media converters that support a variety of cable and connector types to seamlessly integrate disparate networks.



Robust options to maximize and transform your connectivity

Mini Media Converters (MiMCs)

Mini Media Converters reduce space due to their compact size. If used in a cabinet, 12 MiMCs can be used in a 1U rack space. MiMCs come with SFP or fixed connectors. A DIP switch on the back lets the user change between 100base and 1G, as well as Link Fault Pass Through (LFPT) functions.

Managed Media Converters

Managed Media Converters can be installed in a 2U-16 slot chassis providing the user with information such as Port status and Ethernet statistics on both TP and Fiber interface. This is achieved through SNMP and Event traps. QoS can be applied to differentiate traffic flows.

OAM / Loop Back Test are available for fault and maintenance diagnostics. They are powered the same way as the standard converters, and a maximum of 16 slot cards can be inserted into a 2U chassis. The managed converters come with SFP connections.

Power over Ethernet (PoE) Media Converters

Power over Ethernet allows for power to be delivered to low voltage equipment, such as VoIP phones, CCTV cameras and wireless access points. ProLabs offers 1G with POE 15.4w, POE+ 25.5w and POE+ Industrial temp products. The PoE converters are offered with SFP connections.

Industrial Media Converters

In harsh environments, industrial media converters are a smart choice, ensuring stable conversion of data. The converters are rated to IP40, and with a working temperature between -40°C~+85°C. ProLabs provides industrial media converters in both the standard form factor for basic conversion and for the PoE range. These are mounted on DIN rails when installed. The industrial range of converters come with SFP connections.

Unmanaged Media Converters

Unmanaged media converters have plug-and-play capabilities and are easily installed remotely or in cabinets, offering a simple, cost-effective solution without the same level of detection as managed converters.

ProLabs media converter range covers both multimode 850nm up to 550m, and single mode 1310nm up to a range of 40km. The converters are equipped with functions such as Auto MDI/MDI-X and support low-time lag transmission. Additionally, ProLabs offers both fixed and open-slot SFP versions of media converters, providing flexibility for your networking project needs.

Power

ProLabs media converters are powered by an AC to DC 5-12v input with a power rating less than 3w. A maximum of 4 standard converters can be installed into a 2U rack.

Certifications:

EMI:

FCC part 15, Subpart B Class A, EN55022 Class A
Vibration: IEC 60068-2-6
Freefall: IEC 60068-2-32
Shock: IEC60028-2-27
Rail Traffic: EN50121-4
CE Mark
CE/LVD EN60950

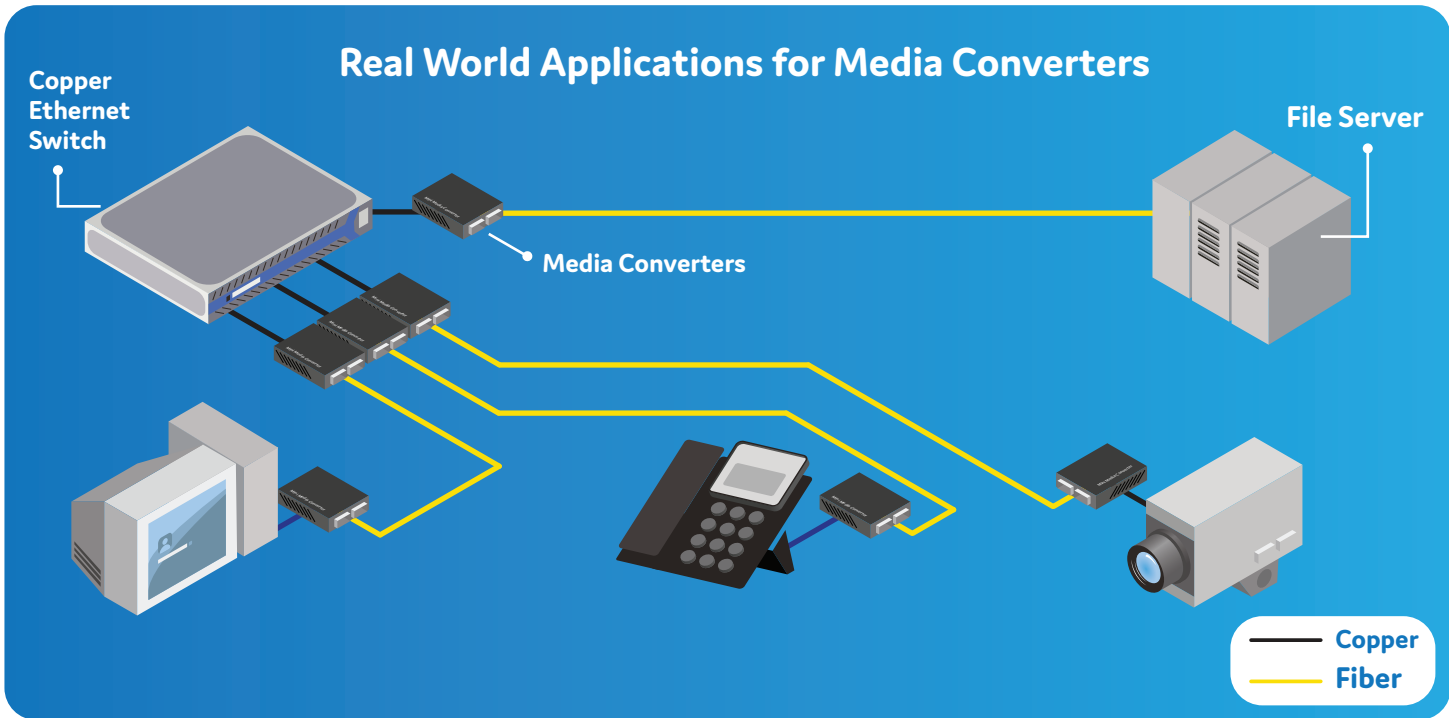
EMS:

EN61000-4-2 (ESD) Level 3
EN61000-4-3 (RS) Level 3
EN61000-4-4 (EFT) Level 3
EN61000-4-5 (Surge) Level 3
EN61000-4-6 (CS) Level 3
EN61000-4-8

Warranty:

ProLabs offers a 5-year replacement warranty on all media converters that fail under normal working conditions.

Real World Applications for Media Converters



Open SFP Port (LC) - RJ45

1000BASE-1GB/s		
Size	Part Number	Description
Standard	C-GMC-SFP	10/100/1000Base-TX(RJ-45) to Open SFP Port Media Converter
Mini	C-GMCMN-SFP	10/100/1000Base-TX(RJ-45) to Open SFP Port Mini Media Converter
SFP Options - Fiber Type/Distance		
Multimode	Part Number	Description
550m/850nm	SFP-1000BASE-SX-C	MSA and TAA Compliant 1000Base-SX SFP Transceiver (MMF, 850nm, 550m, LC)
2km/1310nm	SFP-1000BASE-MX-C	MSA and TAA Compliant 1000Base-MX SFP Transceiver (MMF, 1310nm, 2km, LC)
Singlemode	Part Number	Description
20km/1310nm	SFP-1000BASE-LX-C	MSA and TAA Compliant 1000Base-LX SFP Transceiver (SMF, 1310nm, 10km, LC)
40km/1310nm	SFP-1000BASE-EX-C	MSA and TAA Compliant 1000Base-EX SFP Transceiver (SMF, 1310nm, 40km, LC)
80km/1550nm	SFP-1000BASE-ZX-C	MSA and TAA Compliant 1000Base-ZX SFP Transceiver (SMF, 1550nm, 80km, LC)
100BASE - 100Mb/s		
Size	Part Number	Description
Standard	C-FMCMN-SFP	10/100Base-TX(RJ-45) to Open SFP Port Mini Media Converter
Mini	C-FMC-FX-SFP	10/100Base-TX(RJ-45) to Open SFP Port Media Converter
SFP Options - Fiber Type/Distance		
Multimode	Part Number	Description
2km/1310nm	SFP-100BASE-FX-C	MSA and TAA Compliant 100Base-FX SFP Transceiver (MMF, 1310nm, 2km, LC)
Singlemode	Part Number	Description
20km/1310nm	SFP-100BASE-LX-C	MSA and TAA Compliant 100Base-LX SFP Transceiver (SMF, 1310nm, 10km, LC)
40km/1310nm	SFP-100BASE-EX-C	MSA and TAA Compliant 100Base-EX SFP Transceiver (SMF, 1310nm, 40km, LC)
80km/1550nm	SFP-100BASE-ZX-C	MSA and TAA Compliant 100Base-ZX SFP Transceiver (SMF, 1550nm, 80km, LC)

NOTES:

- 1) Standard Media Converter Dimensions: (3.75" x 2.75" x 1.0")
- 2) Mini Media Converter Dimensions: (3.75" x 2.25" x 0.75")
- 3) Other Media Converter options available: Hardenend, 10G, 40G, Multi-Port, Managed, POE/+
- 4) Additional SFP options available: Hardenend, BiDirectional, WDM

Media Converter: Fixed SC - RJ45

1000BASE-1GB/s

Multimode	Size	Part Number	Description
550m/850nm	Standard	C-GMC-SX-5SC	10/100/1000Base-TX(RJ-45) to 1000Base-SX(SC) MMF 850nm 550m Media Converter
550m/850nm	Mini	C-GMCMN-SX-SC	10/100/1000Base-TX(RJ-45) to 1000Base-SX(SC) MMF 850nm 550m Media Converter
2km/1310nm	Standard	C-GMC-MX-SC	10/100/1000Base-TX(RJ-45) to 1000Base-MX(SC) MMF 1310nm 2km Media
2km/1310nm	Mini	C-GMCMN-FX-SC	10/100/1000Base-TX(RJ-45) to 1000Base-FX(SC) MMF 1310nm 2km Mini Media
Singlemode	Size	Part Number	Description
20km/1310nm	Standard	C-GMC-LX-2SC	10/100/1000Base-TX(RJ-45) to 1000Base-LX(SC) SMF 1310nm 20km Media Converter
20km/1310nm	Mini	C-GMCMN-LX-2SC	10/100/1000Base-TX(RJ-45) to 1000Base-LX(SC) SMF 1310nm 20km Mini Media
40km/1310nm	Standard	C-GMC-LX-4SC	10/100/1000Base-TX(RJ-45) to 1000Base-LX(SC) SMF 1310nm 40km Media Converter
40km/1310nm	Mini	C-GMCMN-LX-4SC	10/100/1000Base-TX(RJ-45) to 1000Base-LX(SC) SMF 1310nm 40km Mini Media

100BASE - 100MB/s

Multimode	Size	Part Number	Description
2km/1310nm	Standard	C-FMC-FX-SC	10/100Base-TX(RJ-45) to 100Base-FX(SC) MMF 1310nm 2km Media Converter
550m/850nm	Mini	C-FMCMN-SX-SC	10/100Base-TX(RJ-45) to 100Base-SX(SC) MMF 850nm 550m Mini Media Converter
2km/1310nm	Mini	C-FMCMN-FX-SC	10/100Base-TX(RJ-45) to 100Base-FX(SC) MMF 1310nm 2km Mini Media Converter
Singlemode	Size	Part Number	Description
20km/1310nm	Standard	C-FMC-FX-SC	10/100Base-TX(RJ-45) to 100Base-FX(SC) MMF 1310nm 2km Media Converter
20km/1310nm	Mini	C-FMCMN-LX-2SC	10/100Base-TX(RJ-45) to 100Base-LX(SC) SMF 1310nm 20km Mini Media Converter
40km/1310nm	Standard	C-FMC-FX-4SC	10/100Base-TX(RJ-45) to 100Base-LX(SC) SMF 1310nm 40km Media Converter
40km/1310nm	Mini	C-FMCMN-LX-4SC	10/100Base-TX(RJ-45) to 100Base-LX(SC) SMF 1310nm 40km Mini Media Converter

NOTES:

- 1) Standard Media Converter Dimensions: (3.75" x 2.75" x 1.0")
- 2) Mini Media Converter Dimensions: (3.75" x 2.25" x 0.75")
- 3) Other Media Converter options available: Hardenend, Multi-Port, Single Fiber, Managed, POE/+



We offer a range of media converters to suit your connectivity needs

Media Converter: Fixed ST - RJ45

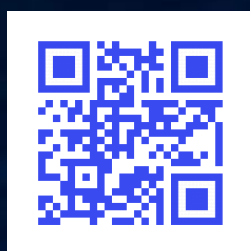
1000BASE-1GB/S			
Multimode	Size	Part Number	Description
550m/850nm	Standard	C-GMC-SX-5ST	10/100/1000Base-TX(RJ-45) to 1000Base-SX(ST) MMF 850nm 550m Media Converter
550m/850nm	Mini	C-GMCMN-SX-ST	10/100/1000Base-TX(RJ-45) to 1000Base-SX(ST) MMF 850nm 550m Mini Media
2km/1310nm	Standard	C-GMC-MX-ST	10/100/1000Base-TX(RJ-45) to 1000Base-MX(ST) MMF 1310nm 2km Media Converter
2km/1310nm	Mini	C-GMCMN-FX-ST	10/100/1000Base-TX(RJ-45) to 1000Base-FX(ST) MMF 1310nm 2km Mini Media
Singlemode	Size	Part Number	Description
20km/1310nm	Standard	C-GMC-LX-2ST	10/100/1000Base-TX(RJ-45) to 1000Base-LX(ST) SMF 1310nm 20km Media Converter
20km/1310nm	Mini	C-GMCMN-LX-2ST	10/100/1000Base-TX(RJ-45) to 1000Base-LX(ST) SMF 1310nm 20km Mini Media
40km/1310nm	Standard	C-GMCMN-LX-4ST	10/100/1000Base-TX(RJ-45) to 1000Base-LX(ST) SMF 1310nm 40km Mini Media
100BASE - 100MB/s			
Multimode	Size	Part Number	Description
2km/1310nm	Standard	C-FMC-FX-ST	10/100Base-TX(RJ-45) to 100Base-FX(ST) MMF 1310nm 2km Media Converter
550m/850nm	Mini	C-FMCMN-SX-ST	10/100Base-TX(RJ-45) to 100Base-SX(ST) MMF 850nm 550m Mini Media Converter
2km/1310nm	Mini	C-FMCMN-FX-ST	10/100Base-TX(RJ-45) to 100Base-FX(ST) MMF 1310nm 2km Mini Media Converter
Singlemode	Size	Part Number	Description
20km/1310nm	Standard	C-FMC-FX-2ST	10/100Base-TX(RJ-45) to 100Base-LX(ST) SMF 1310nm 20km Media Converter
20km/1310nm	Mini	C-FMCMN-LX-2ST	10/100Base-TX(RJ-45) to 100Base-LX(ST) SMF 1310nm 20km Mini Media Converter
40km/1310nm	Standard	C-FMC-FX-4ST	10/100Base-TX(RJ-45) to 100Base-LX(ST) SMF 1310nm 40km Media Converter
40km/1310nm	Mini	C-FMCMN-LX-4ST	10/100Base-TX(RJ-45) to 100Base-LX(ST) SMF 1310nm 40km Mini Media Converter

NOTES:

- 1) Standard Media Converter Dimensions: (3.75" x 2.75" x 1.0")
- 2) Mini Media Converter Dimensions: (3.75" x 2.25" x 0.75")
- 3) Other Media Converter options available: Hardenend, Multi-Port, Single Fiber, Managed, POE/+



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