



PRODUCTS

- **PLUGGABLE TRANSCEIVERS**
- **NETWORK INFRASTRUCTURE**
- **NETWORK PATCH CABLING**

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TABLE OF CONTENTS

Pluggable Transceivers

- 400G Transceivers..... 1
- 100G Transceivers..... 2
- 40G / 25G Transceivers..... 3
- 10G Transceivers..... 4
- 1G Transceivers..... 5

Multiplexers

- DWDM Mux/DeMux..... 6

Fiber Infrastructure

- Pre-terminated Trunk..... 7
- MPO Cassettes..... 8
- Panels..... 9

Network Patch Cables

- Category Patch Cables..... 10
- Fiber Patch Cables..... 11

Power & Media

- Power Cables..... 12
- Media Converters..... 12

OPTICAL TRANSCEIVERS

One of our most popular solutions is our private label transceiver line. Transceiver solutions offer a clear cost advantage over premium price OEM transceiver solutions while meeting or exceeding their OEM equivalent on performance. Additionally, we offer custom compatibility that OEMs cannot, which can allow operators to achieve greater performance and capacity in a cost effective manner.



LEAF

- ToR-to-Server links
Active Optical (AOC) & Direct Attach
- (DAC) Cables
Short range pluggable modules
- supporting form factors: SFP, SFP+, SFP28, QSFP+, QSFP28

AGGREGATION

- Switch-to-Switch links
- Intermediate range modules for multi-mode (MMF) & single-mode (SMF)
- Modules type: SR4, PSM (4x25GbE), PLR4 (4x10GbE), CWDM4, eCWDM4, LR4L

CORE

- Campus Jumps to Long-haul interconnects
- Complex 100G DWDM wave line systems
Standard LR4 (10km) to extended range
- LR4 (25km) pluggable QSFPs

400Gb/s QSFP-DD Transceivers

PART NUMBER	PACKAGE	WAVELENGTH	REACH	MEDIA	DATA RATE	CONNECTOR
QSFP-DD-SR8	QSFP-DD	VCSEL 850nm	100m	MMF OM4	425Gb/s	MPO-24
QSFP-DD-DR4	QSFP-DD	EML 1310nm	500m	OS2 SMF Duplex	425.4Gb/s	LC
QSFP-DD DR4+	QSFP-DD	EML 1310nm	2km	OS2 SMF Duplex	425.4Gb/s	LC
QSFP-DD-FR4	QSFP-DD	EML CWDM4 1310nm	2km	OS2 SMF Duplex	425.4Gb/s	LC
QSFP-DD-LR4	QSFP-DD	EML CWDM4 1310nm	10km	OS2 SMF Duplex	425.4Gb/s	LC

100Gb/s QSFP28 Transceivers & Cables

PART NUMBER	PACKAGE	WAVELENGTH	REACH	MEDIA	DATA RATE	CONNECTOR
QSFP28-SR4	QSFP28	VCSEL 850nm	70m OM3/100m OM4	MMF OM4	103.1Gb/s	MPO
QSFP28-CWDM4	QSFP28	DFB CWDM 1310nm	2km w/FEC	OS2 SMF Duplex	103.1Gb/s	LC
QSFP28-PSM4L	QSFP28	DFB 1310nm	2km	OS2 SMF (4xDuplex)	103.1Gb/s	MPO
QSFP28-eCWDM4	QSFP28	DFB CWDM 1310nm	10km	OS2 SMF Duplex	103.1Gb/s	LC
QSFP28-PSM4	QSFP28	DFB 1310nm	10km	OS2 SMF (4xDuplex)	103.1Gb/s	MPO
QSFP28-LR4	QSFP28	DFB CWDM 1310nm	10km	OS2 SMF Duplex	103.1Gb/s	LC
QSFP28-LR4-OTN	QSFP28	LWDM EML 1310nm	10km	OS2 SMF Duplex	103.1Gb/s and 112Gb/s	LC
QSFP28-LR4e	QSFP28	1310nm	25km	OS2 SMF Duplex	103.1Gb/s	LC
QSFP28-4WDM-20	QSFP28	1310nm	20km	OS2 SMF Duplex	103.1Gb/s	LC
QSFP28-4WDM-25	QSFP28	1310nm	25km	OS2 SMF Duplex	103.1Gb/s	LC
QSFP28-DWDM	QSFP28	various	80km	OS2 SMF Duplex	103.1Gb/s	LC
QSFP28-ER4	QSFP28	LWDM EML 1310nm	40km w/FEC	OS2 SMF Duplex	103.1Gb/s	LC
QSFP28-ER4-OTN	QSFP28	LWDM EML 1310nm	40km w/FEC	OS2 SMF Duplex	103.1Gb/s and 112Gb/s	LC

PART NUMBER	PACKAGE	REACH	MEDIA	DATA RATE
QSFP28-QSFP28-DAC-xM	QSFP28 to QSFP28	Up to 5M	Twinax	103.1Gb/s
QSFP28-QSFP28-DAC-xM	QSFP28 to 4xSFP28 (25G)	Up to 5M	Twinax	103.1Gb/s

PART NUMBER	PACKAGE	REACH	MEDIA	DATA RATE
QSFP28-QSFP28-AOC-xM	QSFP28 to QSFP28	Up to 100M	MMF OMF	103.1Gb/s
QSFP28-4SFP28-AOC-xM	QSFP28 to 4xSFP28 (25G)	Up to 100M	MMF OMF	103.1Gb/s

40Gb/s QSFP+ Transceivers & Cables

PART NUMBER	PACKAGE	WAVELENGTH	REACH	MEDIA	DATA RATE	CONNECTOR
QSFPP-SR4	QSFP+	VCSEL 850nm	100m	MMF OM3	44.8Gb/s	MPO
QSFPP-eSR4	QSFP+	VCSEL 850nm	300m	MMF OM3	44.8Gb/s	MPO
QSFPP-LX4	QSFP+	DFB CWDM 1310nm	150m OM3/2km SMF	MMF OM3/OS2 SMF Duplex	44.8Gb/s	LC
QSFPP-IR4	QSFP+	DFB CWDM 1310nm	2km	OS2 SMF Duplex	44.8Gb/s	LC
QSFPP-PSM4L	QSFP+	FP 1310nm	1.4km	OS2 SMF (4xDuplex)	44.8Gb/s	MPO
QSFPP-LR4	QSFP+	DFB CWDM 1310nm	10km	OS2 SMF Duplex	44.8Gb/s	LC
QSFPP-PSM4	QSFP+	DFB 1310nm	10km	OS2 SMF MPO	44.8Gb/s	MPO
QSFPP-ER4	QSFP+	DFB CWDM 1310nm	30km/40km FEC	OS2 SMF Duplex	44.8Gb/s	LC

PART NUMBER	PACKAGE	REACH	MEDIA	DATA RATE
QSP-PP-DAC-xM	QSFP+ to QSFP+	Up to 5M	Twinax	44.8Gb/s
QSP-PP-DAC-xM	QSFP+ to 4x SFP+ (10G)	Up to 5M	Twinax	44.8Gb/s and 11.2Gb/s

Where "x" denotes cable length in meters. Examples of cable length offered are as follows:

PART NUMBER	PACKAGE	REACH	MEDIA	DATA RATE
QSP-PP-DAC-xM	QSFP+ to QSFP+	Up to 5M	Twinax	44.8Gb/s
QSP-PP-DAC-xM	QSFP+ to 4x SFP+ (10G)	Up to 5M	Twinax	44.8Gb/s and 11.2Gb/s

25Gb/s SFP28 Transceivers & Cables

PART NUMBER	PACKAGE	WAVELENGTH	REACH	MEDIA	DATA RATE	CONNECTOR
SFP28-SR	SFP28	VCSEL 850nm	70m OM3/100m OM4	MMF OM4	25.78Gb/s	LC
SFP28-LR	SFP28	DFB 1310nm	10km	OS2 SMF Duplex	25.78Gb/s	LC

PART NUMBER	PACKAGE	REACH	MEDIA	DATA RATE
SFP28-SPF28-DAC-xM	SFP28 to SFP28	Up to 5M	Twinax	25.78Gb/s

Where "x" denotes cable length in meters. Examples of cable length offered are as follows:

PART NUMBER	PACKAGE	REACH	MEDIA	DATA RATE
SFP28-SPF28-AOC-xM	SFP28 to SFP28	Up to 100M	MMF OMF	25.78Gb/s

10Gb/s SFP+ Transceivers & Cables

PART NUMBER	PACKAGE	WAVELENGTH	REACH	MEDIA	DATA RATE	CONNECTOR
SFPP-T	SFP+	Copper	70m	Cat6+ Copper	11.3Gbps	RJ45
SFPP-SR	SFP+	VCSEL 850nm	300m	MMF OM3	11.3Gbps	LC
SFPP-LR	SFP+	DFB 1310nm	20km	OS2 SMF Duplex	11.3Gbps	LC
SFPP-ER	SFP+	EML 1550nm	40km	OS2 SMF Duplex	11.3Gbps	LC
SFPP-ZR	SFP+	EML 1550nm	80km	OS2 SMF Duplex	11.3Gbps	LC
SFPP-ZR100	SFP+	EML 1550nm	100km	OS2 SMF Duplex	11.3Gbps	LC

PART NUMBER	PACKAGE	REACH	MEDIA	DATA RATE
SFPP-SFPP-DAC-xM	SFP+ to SFP+	up to 10m	Twinax	10.5Gbps

Where "x" denotes cable length in meters. Examples of cable length offered are as follows:

SFPP-SFPP-AOC-xM	SFP+ to SFP+	up to 300m	MMF OM3	10.3Gbps
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10 Gb/s XFP Transceivers

PART NUMBER	PACKAGE	WAVELENGTH	REACH	MEDIA	DATA RATE	CONNECTOR
XFP-SR	XFP	VCSEL 850nm	300m	MMF OM3	10.3Gbps	LC
XFP-LR	XFP	EML 1310nm	20km	OS2 SMF Duplex	10.3Gbps	LC
XFP-ER	XFP	EML 1550nm	40km	OS2 SMF Duplex	10.3Gbps	LC
XFP-ZR	XFP	EML 1550nm	80km	OS2 SMF Duplex	10.3Gbps	LC
XFP-ZR100	XFP	EML 1550nm	100km	OS2 SMF Duplex	10.3Gbps	LC

10 Gb/s WDM Transceivers

PART NUMBER	PACKAGE	WAVELENGTH	REACH	MEDIA	DATA RATE	CONNECTOR
10G SFPP WDM						
SFPP-CWDM-40	SFP+	1470nm to 1610nm	40km	OS2 SMF Duplex	11.3Gbps	LC
SFPP-CWDM-80	SFP+	1470nm to 1610nm	80km	OS2 SMF Duplex	11.3Gbps	LC
SFPP-DWDM-40	SFP+	~1550nm	40km	OS2 SMF Duplex	11.3Gbps	LC
SFPP-DWDM-80	SFP+	~1550nm	80km	OS2 SMF Duplex	11.3Gbps	LC
10G XFP WDM						
XFP-CWDM-40	XFP	1470nm-1610nm	40km	OS2 SMF Duplex	11.3Gbps	LC
XFP-CWDM-80	XFP	1470nm-1610nm	80km	OS2 SMF Duplex	11.3Gbps	LC
XFP-DWDM-40	XFP	~1550nm	40km	OS2 SMF Duplex	11.3Gbps	LC
XFP-DWDM-80	XFP	~1550nm	80km	OS2 SMF Duplex	11.3Gbps	LC
10G TUNABLE						
SFPP-TUNE	SFP+	~1550nm	80km	OS2 SMF Duplex	11.3Gbps	LC
XFP-TUNE	XFP	~1550nm	80km	OS2 SMF Duplex	11.3Gbps	LC

1Gb/s SFP Transceivers

PART NUMBER	PACKAGE	WAVELENGTH	REACH	MEDIA	DATA RATE	CONNECTOR
SFP-T	SFP	Copper	100m	Cat5e/6 Copper	1.25Gbps	RJ45
SFP-T-AUTO	SFP	Copper	100m	Cat5e/6 Copper	1.25Gbps	RJ45
SFP-SX	SFP	850nm	550m	MMF OM3	1.25Gbps	LC
SFP-LX	SFP	1310nm	20km	OS2 SMF Duplex	1.25Gbps	LC
SFP-LX40	SFP	1310nm	40km	OS2 SMF Duplex	1.25Gbps	LC
SFP-EX	SFP	1550nm	40km	OS2 SMF Duplex	1.25Gbps	LC
SFP-EX60	SFP	1550nm	60km	OS2 SMF Duplex	1.25Gbps	LC
SFP-ZX	SFP	1550nm	80km	OS2 SMF Duplex	1.25Gbps	LC
SFP-ZX100	SFP	1550nm	100km	OS2 SMF Duplex	1.25Gbps	LC
SFP-ZX120	SFP	1550nm	120km	OS2 SMF Duplex	1.25Gbps	LC
SFP-ZX160	SFP	1550nm	160km	OS2 SMF Duplex	1.25Gbps	LC

Contact sales for additional information or ask about our free 30 days evaluation trial.



All optical transceivers are compliant to Class 1 Laser Product according to EN 60825-1:2014. These products comply with 21 CFR 1040.10 and 1040.11 .

TRANSCEIVERS

Custom Engineered: A case where an OEM transceiver part ID does not exist, we offer a compatible coded transceiver for that system.

OEM Equivalent: An optic that is coded as a specified OEM part number. The transceiver will meet or exceed its OEM counterpart in terms of performance, functionality, and quality.



MUX DEMUX



40-channel DWDM 1RU Mux



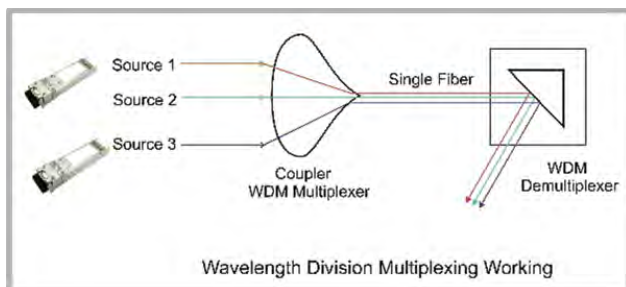
4-channel DWDM Expansion MUX



8-channel DWDM Expansion MUX

PRODUCT FEATURES

- CWDM and DWDM Mux/Demux Modules following the standard ITU-grid wavelengths
- DWDM modules available in 4, 8, 16, and 40-channel configuration
- Expansion module 4 and 8-channel Mux available
- Industry standard 1RU enclosures
- Industry standard SC/LC adapters
- Telcordia GR-1221_Core qualified



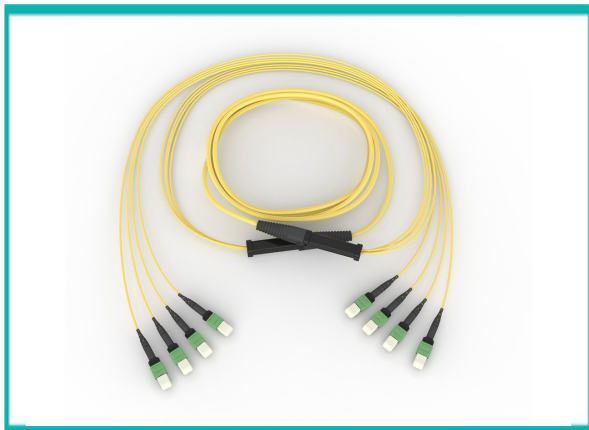
DWDM Transceiver Types	Orderable Part ID
10GBASE DWDM SFP 40-80KM	SFPP-DWDM-XX
10GBASE DWDM XFP 40-80KM	XFP-DWDM-XX
100GBASE DWDM QSFP28 NEW	QSFP28-DWDM
10GBASE DWDM Tunable SFP	SFPP-TUNE
10GBASE DWDM Tunable XFP	XFP-TUNE

XX = Denotes the optical transceiver reach

FIBER INFRASTRUCTURE

A pre-terminated cable, in its very nature, is a multi-strand fiber cable specified to a certain length and terminated with specified connectors

CONFIGURATION FOR TRUNK CABLING		BREAK-OUT AND TERMINATORS	
Fiber Count	12 14 24 36 48 72 96 144	Option 1	MPO/MTP (Standard loss or low loss)
Glass Type (Fiber)	OM3 OM4 SMF	Option 2	Duplex LC
Application Type	Indoor Outdoor	Option 3	Simplex LC
Jacket Type	LSZH Plenum ONFR	Option 4	Duplex SC
Armor	None Single-Armor Double-Armor	Option 5	Simplex SC



KEY BENEFITS



Proven Reliability

Factory terminated and tested, allows for error-free installation.



Configure Your Way

Build your cable exactly to the application from fiber strand, fiber count, staggering length, to end connectors.



Faster Deployments

Trunks show up ready to deploy and turn key for installation. No field termination necessary

MPO CASSETTES

We offer three lines of cassettes that are pre-terminated fiber housing units for high-speed bandwidth networks. These MPO fiber cassettes provide fiber linkage between standard LC/SC patch cords within the rack to MPO backbone trunks. Featured options include 12 or 24 fibers in OS2, OM3, or OM4 per MPO connection. Choose from cassettes series: LGX, High Density, and Ultra-High Density.



LGX

offers operators an easy way to manage their cabling within rack units in a structured cabling system. A 1RU enclosure can house up to three LGX cassettes, allowing a maximum of 72 fibers.



HIGH DENSITY (HD)

provides moderate fiber density for operators seeking to manage more fiber per pack unit and conserve cassettes, with a maximum of 96 fibers.



ULTRA-HIGH DENSITY (UHD)

provides the highest fiber density in the industry with its new slim design that allows operators to have six cassettes per 1RU that can house up 144 fibers



ATTRIBUTES	BUSINESS	ENTERPRISE	HYPERSCALE
Cassette Style	LGX	High Density (HD)	Ultra High Density (UHD)
Cassette per 1RU	3	4	6
Fiber Type	SMF OM3 OM4	SMF OM3 OM4	SMF OM3 OM4
Fiber Count	12 or 24	12 or 24	24
Polarity	Method A (most common)	Method A (most common)	Method A (most common)
Connector A	LC Duplex SC Duplex	LC Duplex SC Duplex	LC Duplex SC Duplex
Connector A Polish	UPC or APC (SMF only)	UPC or APC (SMF only)	UPC or APC (SMF only)
Connector B	1 or 2 MPO/MTP Standard Loss	1 or 2 MPO/MTP Low Loss	1 or 2 MPO/MTP Low Loss

PANELS

Panels and enclosures designed to optimize space and efficiency for networks management at scale. Whether you're cabling a small cabinet, MPoE, or a MDF, we have a range of products that are tailored to meet your cable management needs.

PRODUCT FEATURES

- Fiber and cable patch panels available
- 24 to 144 fiber 1RU panels
- 1RU, 2RU, 4RU, and 8RU solutions available
- Face-plate cable management optional
- Custom configurations designed to fit your IT environment
- High density solutions to reduce rack space and increase bandwidth



144 Fiber High Density LC APC 1RU Fiber Panel



24 LC APC Fiber Adapter Panel



24 LC UPC Fiber Adapter Panel

CATEGORY PATCH CABLES



Copper Patch Cables (CAT5E | CAT6 | CAT6A)

Cable Type	Gauge (AWG)	Boot Type	Jacket	Protector	Connector (s)	Color	Lengths
Cat5E	24 AWG	Non-Booted	PVC	Unshielded	RJ45	Black Blue Purple Red Yellow Green Gray White	1-100ft
Cat6	26 AWG						
Cat6a	28 AWG (NEW Slim)	Booted	Plenum	Shielded			Custom

Part Number Configuration	CBL	C6	U	B	28	XX	10FT
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Product Type	Cable Type	Protector	Boot Type	Gauge Type	Color	Length in FT.
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Part Number	CBL-C6-UB-28-RD-10
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SPOTLIGHT: SLIM28 CAT6, 6A HIGH SPEED ETHERNET CABLE



50% SLIMMER THAN STANDARD
24AWG COPPER PATCH

Many operators are choosing SLIM 28 AWG for its sleek build characteristics, which improves airflow and reduces congestion in high density areas. Compared to standard 24 AWG, the SLIM 28 AWG is 50% smaller in OD and 40% lighter in weight – making it the smart choice for networking.

High Performance CAT6, 6A



ANSI/TIA-568-C.2
UL Listed



Reduces Congestion
in Dense Areas



50µ Gold Plated
RJ45 Plug



Better Flexibility

KEY FEATURES & BENEFITS

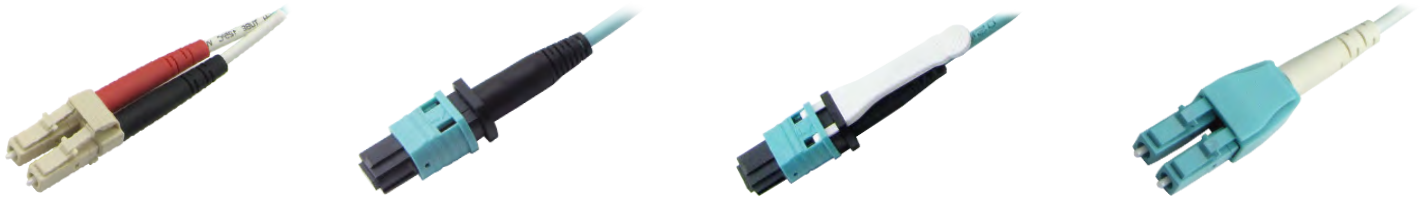
- Reduced Congestion
- Increase airflow, which helps maintain temperatures in server rooms
- Allows tighter bend radius
- Easier cable management and maintenance

APPLICATIONS

- Top of rack solutions
- Patching solutions
- High density applications
- 1G and 10G applications

Custom Lengths Available for Cat6+ and Cat6A Slim28

FIBER PATCH CABLES



Fiber Patch Cables (OM3 OM4 SMF)							
Fiber Type	Connectors	Fiber Count	Polish	Connectors	Speed Supported	Length	
50/125 Multimode OM3	MPO/MTP	8-Fiber	UPC	ONFR (Riser)	1-10 Gbps	1-30m	
		12-Fiber			40-100 Gbps		
50/125 Multimode OM4	LC	Duplex LC		APC (SMF only)	Plenum	1-400 Gbps	Custom
		Simplex LC					
9/125 Singlemode OS2 Duplex	SC	Duplex LC	LSZH	LSZH	1-400 Gbps	Custom	
		Simplex LC					

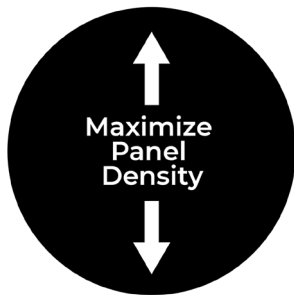
Part Number Configuration	CBL	MPO	MPO	MMOM4	5M
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Product Type	Connector A	Connector B	Cable Type	Length
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Part Number	CBL-MPOMPO-MMOM4-5M
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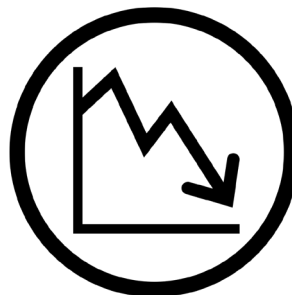
PREMIUM OPTIONS

Connectors



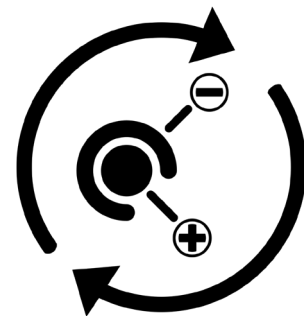
LC-HD

- Stackable Adapters
- 50% increase in density
- Ease of access



MPO/MTP LOW LOSS

- Low insertion loss



POLARITY FLIP

- Switch polarity in the field
- Easy cable management

POWER CORDS & MEDIA CONVERTERS



Data Center Power Cords						
AWG Size	No. of Conductors	Amps	Jacket	Connectors	Colors	Length
14	2	10AMP	SJT	C13	Black	1-30FT
16	3	15AMP			Blue	
18	4	20AMP	SVT	C14	Red	Custom

Part Number Configuration	CBL	PWR	C13	C14	18	XX	3
Product	Cable Type	Connector A	Connector B	Gauge Size	Color	Length in FT.	

Part Number	CBL-PWR-C13C14-18-BK-3
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*Import and Made in USA are available.
Other connectors, wire gauge, and colors available.*

MEDIA CONVERTERS



1000Base RJ45 to 1000Base SFP Ethernet Media Converter

Media converters are used as a junction point to switch media between two different network devices.

Operators can use a media converter to extend the life of older equipment that use copper ports or extend the distance of copper network links by using fiber as an intermediary media for data transmission.