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PANDUIT™

400G Fiber Optic Transceiver
Cable Ordering Guide: Cisco Nexus

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Step 1:

Choose the correct Cisco transceiver for your application

Did you know?

- As you increase data rates, reach decreases

- Only 10% of data centers exceed 100m

- Every connection introduces dB loss which further reduces the distance

Cisco 400G Optics: QSFP-DD

Cisco Part Number	Reach	Media	Connector
QDD-400G-SR4.2-BD	100m	Parallel MMF	MPO-12
QDD-400G-DR4-S	500m	Parallel SMF	MPO-12
QDD-400G-FR4-S	2km	Duplex SMF	LC
QDD-2X400G-FR4	2km	Duplex SMF	LC
QDD-400G-LR4-S	10km	Duplex SMF	LC
QDD-400G-LR8-S	10km	Duplex SMF	LC

Description

QDD-400G-SR4.2-BD

The Cisco **QDD-400G-SR4.2-BD** module supports length lengths of up to 100m parallel MMF with MPO-12 connector. It is compliant to IEEE 802.3cm protocol. The 400 Gigabit Ethernet signal is carried over four parallel lanes by two 50G wavelengths per lane. It can be used as 4x100G breakout to QSFP-40/100-SRBD. FEC is performed on the host platform.

QDD-400G-DR4-S

The Cisco **QDD-400G-DR4-S** module supports link lengths of up to 500m parallel SMF with MPO-12 connector. It is compliant to IEEE 802.3bs protocol and 400GAUI-8/CEI-56G-VSR-PAM4 standards. The 400 Gigabit Ethernet signal is carried over four parallel lanes by one wavelength per lane. It can be used as 4x100G breakout to QSFP-100G-FR-S. FEC is performed on the host platform.

QDD-400G-FR4-S

The Cisco **QDD-400G-FR4-S** module supports link lengths of up to 2km SMF with duplex LC connector. It is compliant to IEEE 802.3bs, 400GBASE-FR4 Spec of 100G Lambda MSA group, and 400GAUI-8/CEI-56G-VSR-PAM4 standards. The 400 Gigabit Ethernet signal is carried over four CWDM grid optical wavelengths. Multiplexing and demultiplexing of the four wavelengths are managed within the device. FEC is performed on the host platform.

QDD-2X400G-FR4

The Cisco **QDD-2X400G-FR4** module supports link lengths of up to 2 km SMF with two duplex LC connectors. It is compliant to IEEE 802.3cu for 400GBASE-FR4 requirements and 100G Lambda MSA group. The 400 Gigabit Ethernet signal is carried over four CWDM grid optical wavelengths. Multiplexing and demultiplexing of the four wavelengths are managed within the device. FEC is performed on the host platform.

QDD-400G-LR4-S

The Cisco **QDD-400G-LR4-S** module supports link lengths of up to 10km SMF with duplex LC connectors. It is compatible to IEEE 802.3cu for 400GBASE-LR4-6km requirements, but extends the reach to 10km, is compliant to 100G Lambda MSA group 400G-LR4 requirements, and 400GAUI-8/CEI-56G-VSR-PAM4 standards. The 400GbE signal is carried over four CWDM grid optical wavelengths. Multiplexing and demultiplexing of the four wavelengths are managed within the device. FEC is performed on the host platform.

QDD-400G-LR8-S

The Cisco **QDD-400G-LR8-S** module supports link lengths of up to 10km SMF with duplex LC connectors. It is compatible to IEEE 400GBASE-LR8 standard. The 400 GbE signal is carried over eight wavelengths. Multiplexing and demultiplexing of the eight wavelengths are managed within the device. FEC is performed on the host platform.

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Step 2:

Identify the enclosure system(s) that meet your application needs. Universal wired fiber cassettes provide optimal interoperability across fiber cabling systems.

For more information about universal wired fiber cassettes, see our video.

HD Flex™ Fiber Enclosures

The HD Flex™ Fiber Cabling System is the highest density solution designed to set you free by removing the barriers of architecture, deployment, scalability and maintenance challenges.

- Provides up to 144 fibers (72 duplex ports) per RU of density
- Enclosures and panels are adaptable between 4, 6, and 12-port configurations
- Split tray feature allows each half of the tray to be pulled out independently

For more information about the HD Flex™ Fiber Cabling System, reference the system brochure or visit panduit.com/hdflex

QuickNet™ Patch Panels

Panduit QuickNet™ Patch Panels provide the flexibility to deployment both copper and fiber connectivity in the same RU.

- High-density patch panels conserve valuable rack space with 96 fibers (48 duplex ports) per RU
- Available in flat or angled patch panels to facilitate proper bend radius control and minimize the need for horizontal cable managers

For more information about the QuickNet™ Fiber Cabling System, reference the QuickNet™ Data Center Application Guide

Opticom® Fiber Enclosures

Opticom® Fiber Enclosures accept pre-terminated, splice-on, and field terminated fiber connectivity.

- Slide-out, tilt-down drawer provides up to 96 LC fibers (48 duplex ports) per RU
- Integral bend radius control and cable management for fiber optic patch cords

For more information about the Opticom® Fiber Enclosures, reference the spec sheet

PanMPO™ Fiber Connector

The PanMPO™ Fiber Connector is a unique, patented MPO design that specifically addresses today's needs for fast and efficient Ethernet and Fiber Channel migration to help maximize return on cabling infrastructure investment and minimize downtime. Protect your investments today; minimizing installed cost of high-speed data center engineered links securing your position as a next-generation data center prepared to face future demands.

- Innovative push-pull boot to allow for easy installation and removal
- Alignment pins and tool are permanently housed and protected inside the connector allowing for a tool-less change of gender and polarity
- Easy migration from serial duplex (SR/SR-BD) to parallel (SR4.x) while maintaining compliance with cabling standards (TIA and ISO/IEC)
- Connector cleaning – the pin retraction feature allows for complete cleaning of the MPO surface
- Link certification – the gender changing ability of PanMPO™ on test leads allows for multiple test scenarios without the need for multiple test lead styles (which increase test variability)
- Mistake proofing – PanMPO™ Patch Cords can be reconfigured for gender and polarity in the field

For more information on the PanMPO™ Fiber Connector, visit panduit.com/panmpo.

Signature Core™ Fiber Optic Cabling System

Signature Core™ OM4+ and OM5+ Fiber Optic Cabling Systems extend the reach of standards-based Ethernet, BiDi, and Shortwave Wavelength Division Multiplexing (SWDM). Both are fully compliant and interoperable with standards based OM3, OM4 and OM5 solutions.

- Signature Core™ OM4+ Cabling extends reach on average by 20% compared to standard OM4
- Signature Core™ OM5+ Cabling outperforms the standard OM5 fiber for any SWDM applications, providing on average 15% extended reach while maintaining Bit Error Rate performance
- Signature Core™ Fiber Medi solutions allow for design flexibility (more connectors in the channel)

For more information on the Signature Core™ Fiber Optic Cabling System, visit here.

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Step 3:
Select the components to build out your end-to-end fiber connectivity channel.

400G Multimode Fiber Options for Multimode: QDD-400G-SR4-BD

Interconnect	Fiber Adapter Panels	Enclosures	Trunk Cable	Enclosures	Fiber Adapter Panels	Interconnect
MPO12	HD Flex		MPO12 OM4 Method B (Male to Male)	HD Flex		MPO12
	FHMP-6-BCG	FLEX1U06		FLEX1U06	FHMP-6-BCG	
	QuickNet			QuickNet		
QDD-400G-SR4.2-BD	FQMAP66CG	QAPP24BL		QAPP24BL	FQMAP66CG	QDD-400G-SR4.2-BD
FRZT^77Y001F*			FYZT^^88Y001F*			FRZT^77Y001F*
	Opticom			Opticom		
	FAPH0612CG-MPO	FCE1U		FCE1U	FAPH0612CGMPO	

*Interconnects and trunk cables are available in a variety of lengths, feet or meters; select the part numbers for additional information.
^Interconnects are available in P = OFNP (Plenum), L = LSZH or C = Euroclass Cca.
^^Trunk cables are available in P = OFNP (Plenum), L = LSZH or B = Euroclass B2ca.

400G Single Mode Options for: QDD-400G-DR4-S

Interconnect	Fiber Adapter Panels	Enclosures	Trunk Cable	Enclosures	Fiber Adapter Panels	Interconnect
MPO12	HD Flex		MPO12 OS2 Method B (Male to Male)	HD Flex		MPO12
	FHMP-6-ABL	FLEX1U06		FLEX1U06	FHMP-6-ABL	
	QuickNet			QuickNet		
QDD-400G-DR4-S	FQMAP65BL	QAPP24BL		QAPP24BL	FQMAP65BL	QDD-400G-DR4-S
FR9T^77B001F*			FY9T^^88B001F*			FR9T^77B001F*
	Opticom			Opticom		
	FAPH0612BLMPO	FCE1U		FCE1U	FAPH0612BLMPO	

*Interconnects and trunk cables are available in a variety of lengths, feet or meters; select the part numbers for additional information.
^Interconnects are available in P = OFNP (Plenum), L = LSZH or C = Euroclass Cca.
^^Trunk cables are available in P = OFNP (Plenum), L = LSZH or B = Euroclass B2ca.

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Step 3: Continued
Select the components to build out your end-to-end fiber connectivity channel.

400G Single Mode Options for: QDD-400G-FR4-S, QDD-2X400G-FR4, QDD-400G-LR4-S, QDD-400G-LR8-S

	Patch Cords	Cassettes	Enclosures	Trunk Cable	Enclosures	Cassettes	Patch Cords	
QDD-400G-FR4-S	LC	HD Flex		MPO12 OS2 Method B (Female to Female)	HD Flex		LC	QDD-400G-FR4-S
		FHC9N-12-10U	FLEX1U06		FLEX1U06	FHC9N-12-10U		
QDD-2X400G-FR4		QuickNet			QuickNet			QDD-2X400G-FR4
QDD-400G-LR4-S	F92E^LNLNSNM*	FQ9N-12-10U	QAPP24BL	FY9T^^77B001F*	QAPP24BL	FQ9N-12-10U	F92E^LNLNSNM*	QDD-400G-LR4-S
		Opticom			Opticom			
QDD-400G-LR8-S		FC29N-12-10U	FCE1U		FCE1U	FC29N-12-10U		QDD-400G-LR8-S

*Patch cords and trunk cables are available in a variety of lengths, feet or meters; select the part numbers for additional information.
^Patch cords are available in R = OFNR (Riser) or L = LSZH.
^^Trunk cables are available in P = OFNP (Plenum), L = LSZH or B = Euroclass B2ca.

Please note: For QDD-2X400G-FR4 you will need 2 connections per transceiver

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PANDUIT™

Panduit Corp.
World Headquarters
Tinley Park, IL 60487

800.777.3300

www.panduit.com

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