

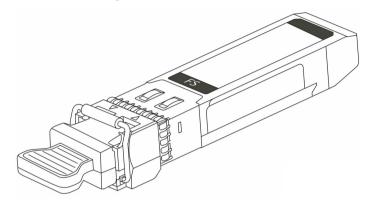


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Product overview

The FS®Fiber Channel Small Form-Factor Pluggable(SFP/SFP+/SFP28/SFP56/QSFP28) portfolio offers customers a wide variety of high-density and low-power 2G/4G/8G/16G/32G/64G/128G Fibre Channel connectivity options for data center, high-performance computing networks enterprise core and distribution layers and service provider applications. The 2G/4G/8G/16G/32G/64G/128G Fibre Channel modules are our latest generation of Fibre Channel transceiver modules solution based on SFP/SFP+/SFP 28/SFP56/QSFP28 form factor. (See Figure1).



- SFP-10G-BX
- SFP-10GER-55
- SFP-10GER-31
- SFP-10GSR-85

Figure 1.8G SFP+ Optical Fiber Channel modules

Features and benefits

- Hot-swappable input/output device that plugs into a 2G/4G/8G/16G/32G/64G/128G Gigabit Ethernet port
- Interoperable with other IEEE-compliant 2G/4G/8G/16G/32G/64G/128GBASE interfaces where applicable
- Certified and tested on Cisco, Arista, Juniper, Brocade SFP/SFP+/SFP28/SFP56/QSFP28 ports for superior performance, quality, and reliability. For more details, refer to the <u>FS Assured Program for Transceivers</u>
- · Digital optical monitoring capability for strong diagnostic capabilities

Table 1 describes the Fiber Channel modules portfolio.

Table 1. Fiber Channel modules portfolio

Product	Description	Connector type
Q28-128GM-SW4	128GBASE SW4 QSFP28 Transceiver, MTP/MPO-12, 100m over OM4 MMF	MTP/MPO-12
SFP28-32GSR-85	32GBASE SR SFP28 Transceiver, Duplex LC, 100m over OM4 MMF	Duplex LC
SFP28-32GLR-31	32GBASE LR SFP28 Transceiver, Duplex LC, 10km over SMF	Duplex LC

Product	Description	Connector type
SFP-16GSR-85	16GBASE SR SFP+ Transceiver, Duplex LC, 100m over OM4 MMF	Duplex LC
SFP-16GLR-31	16GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	Duplex LC
SFP-16GER-55	16GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	Duplex LC
CWxx-16GSFP-40	16GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	Duplex LC
SFP-10GSR-85	8GBASE SR SFP+ Transceiver, Duplex LC, 150m over OM4 MMF	Duplex LC
SFP-10GLR-31	8GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	Duplex LC
SFP-10GER-31	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	Duplex LC
SFP-10GER-55	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	Duplex LC
SFP-10GZR-55	8GBASE ZR SFP+ Transceiver, Duplex LC, 80km over SMF	Duplex LC
SFP-10G-BX	8GBASE BiDi SFP+ Transceiver, Duplex LC, 10km over SMF	Simplex LC
CWDM-SFP10G-40L	8GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	Duplex LC
SFP4G-SW-85	4GBASE SW SFP Transceiver, Simplex LC, 150m over OM4 MMF	Duplex LC
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 4km over SMF	Duplex LC
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 10km over SMF	Duplex LC
SFP-2GSR-85	2GBASE SR SFP Transceiver, Simplex LC, 300m over OM4 MMF	Duplex LC
SFP-2GSR-31	2GBASE SR SFP Transceiver, Simplex LC, 2km over SMF	Duplex LC
SFP-2GIR-31	2GBASE IR SFP Transceiver, Simplex LC, 10km over SMF	Duplex LC
SFP-2GLR-31	2GBASE LR SFP Transceiver, Simplex LC, 40km over SMF	Duplex LC
SFP-2GLR-55	2GBASE LR SFP Transceiver, Simplex LC, 40km over SMF	Duplex LC
SFP-2GL2-55	2GBASE LR SFP Transceiver, Simplex LC, 80km over SMF	Duplex LC
S56-64GM-SW	64GBASE SW SFP56 Transceiver, Duplex LC, 100m over OM4 MMF	Duplex LC

Q28-128GM-SW4

The QSFP28 transceiver supports up to 100m link lengths over multimode fiber (MMF) via MTP/MPO-12 connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 128G.

SFP28-32GSR-85

The SFP28-32GSR-85 Module provides 32GBase-SR throughput up to 100m over multimode fiber (MMF) using a wavelength of 850nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 32G

SFP28-32GLR-31

The SFP28-32GLR-31 Module provides 32GBase-LR throughput up to 10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 32G

SFP-16GSR-85

The SFP-16GSR-85 Module provides 16GBase-SR throughput up to 100m over multimode fiber (MMF) using a wavelength of 850nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 16G

SFP-16GLR-31

The SFP-16GLR-31 Module provides 16GBase-LR throughput up to 10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 16G

SFP-16GER-55

The SFP-16GER-55 transceiver provides 16GBase-ER throughput up to 40km over single mode fiber (SMF) using a wavelength of 1550nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 16G

CWxx-16GSFP-40

The CWxx-16GSFP-40 transceiver supports up to 40km link lengths over single-mode fiber (SMF) via an LC duplex connector. This transceiver is compliant with SFF-8431 and SFF-8472 MSA standards. Digital diagnostics functions are available via a 2-wire serial interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 16G.

DWCxx-16GSFP-40

The DWCxx-16GSFP-40 transceiver supports up to 40km link lengths over single-mode fiber (SMF) via an LC duplex connector. This transceiver is compliant with SFF-8431 and SFF-8472 MSA standards. Digital diagnostics functions are available via a 2-wire serial interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 16G.

SFP-10GSR-85

The SFP-10GSR-85 Module provides 8GBase-SR throughput up to 150m over multimode fiber (MMF) using a wavelength of 850nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 8G

SFP-10GLR-31

The SFP-10GLR-31 Module provides 8GBase-LR throughput up to 10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 8G

SFP-10GER-31

The SFP-10GER-31 transceiver provides 8GBase-ER throughput up to 40km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 8G

SFP-10GER-55

The SFP-10GER-55 transceiver provides 8GBase-ER throughput up to 40km over single mode fiber (SMF) using a wavelength of 1550nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 8G

SFP-10GZR-55

The SFP-10GZR-55 transceiver provides 8GBase-ER throughput up to 80km over single mode fiber (SMF) using a wavelength of 1550nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 8G

CWDM-SFP10G-40L

The CWDM-SFP10G-40L transceiver supports up to 40km link lengths over single-mode fiber (SMF) via an LC duplex connector. This transceiver is compliant with SFF-8431 and SFF-8472 MSA standards. Digital diagnostics functions are available via a 2-wire serial interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application such up to 8G.

SFP-10G-BX

The SFP-10G-BX transceiver supports up to 10km link lengths over OS2 SMF and is suitable for 10G Ethernet, CPRI/eCPRI and Data Center applications. This bi-directional unit must be used with another transceiver or network equipment of complementary wavelengths. It is compliant with IEEE 802.3cc, SFP MSA, SFP-8402, SFF-8432, SFF-8431 and CEI-28G-VSR standards. The built-in digital diagnostics monitoring (DDM) allows access to real-time operating parameters.

SFP4G-SW-85

The SFP4G-SW-85 Module provides 4GBase-SW throughput up to 150m over multimode fiber (MMF) using a wavelength of 850nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 4G

SFP4G-LW-31

The SFP4G-LW-85 Module provides 4GBase-LW throughput up to 4km/10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 4G

SFP-2GSR-85

The SFP-2GSR-85 Module provides 2GBase-SR throughput up to 300m over multimode fiber (MMF) using a wavelength of 850nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

SFP-2GSR-31

This SFP-2GSR-31 Module provides 2GBase-SR throughput up to 10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

SFP-2GIR-31

This SFP-2GIR-31 Module provides 2GBase-IR throughput up to 10km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

SFP-2GLR-31

This SFP-2GLR-31 Module provides 2GBase-LR throughput up to 40km over single mode fiber (SMF) using a wavelength of 1310nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

SFP-2GLR-55

This SFP-2GLR-55 Module provides 2GBase-LR throughput up to 40km over single mode fiber (SMF) using a wavelength of 1550nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

SFP-2GL2-55

This SFP-2GL2-55 Module provides 2GBase-LR throughput up to 80km over single mode fiber (SMF) using a wavelength of 1550nm via an LC duplex connector. This transceiver is compliant with SFF-8636 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communications application up to 2G

S56-64GM-SW

SFP56 transceiver supports up to 100m link lengths over multimode fiber (MMF) via LC duplex connector . This transceiver is compliant with SFF-8472、SFF-8431、SFF-8432 and FC-PI-8 standards. Digital diagnostics functions are available via a 2-wire common management interface, as specified in SFF-8472, to allow access to real-time operating parameters. With these features, this easy to install, hot swappable transceiver is suitable for fiber communication applications up to 64G

I Product Specifications

Table 2 shows the key electrical characteristics for the Fiber Channel modules.

Table 2. Electrical specifications

Product	Description	Nominal datarate (Gbs)	Link meter
Q28-128GM-SW4	128GBASE SW4 QSFP28 Transceiver, MTP/MPO-12, 100m over OM4 MMF	112.2Gbps	100m
SFP28-32GSR-85	32GBASE SR SFP28 Transceiver, Duplex LC, 100m over OM4 MMF	28.05Gbps	100m
SFP28-32GLR-31	32GBASE LR SFP28 Transceiver, Duplex LC, 10km over SMF	28.05Gbps	10km
SFP-16GSR-85	16GBASE SR SFP+ Transceiver, Duplex LC, 100m over OM4 MMF	14.025Gbps	100m
SFP-16GLR-31	16GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	14.025Gbps	10km
SFP-16GER-55	16GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	14.025Gbps	40km
CWxx-16GSFP-40	16GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	14.025Gbps	40km
DWCxx-16GSFP-40	16GBASE DWDM SFP+ Transceiver, Duplex LC, 40km over SMF	14.025Gbps	40km
SFP-10GSR-85	8GBASE SR SFP+ Transceiver, Duplex LC, 150m over OM4 MMF	8.5Gbps	150m
SFP-10GLR-31	8GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	8.5Gbps	10km
SFP-10GER-31	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	8.5Gbps	40km
SFP-10GER-55	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	8.5Gbps	40km
SFP-10GZR-55	8GBASE ZR SFP+ Transceiver, Duplex LC, 80km over SMF	8.5Gbps	80km
SFP-10G-BX	8GBASE BiDi SFP+ Transceiver, Duplex LC, 10km over SMF	11.3Gbps	10km
CWDM-SFP10G-40L	8GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	11.3Gbps	40km

Product	Description	Nominal datarate (Gbs)	Link meter
SFP4G-SW-85	4GBASE SW SFP Transceiver, Simplex LC, 150m over OM4 MMF	4.25Gbps	150m
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 4km over SMF	4.25Gbps	4km
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 10km over SMF	4.25Gbps	10km
SFP-2GSR-85	2GBASE SR SFP Transceiver, Simplex LC, 300m over OM4 MMF	2.67Gbps	300m
SFP-2GSR-31	2GBASE SR SFP Transceiver, Simplex LC, 2km over SMF	2.67Gbps	2km
SFP-2GIR-31	2GBASE IR SFP Transceiver, Simplex LC, 10km over SMF	2.67Gbps	10km
SFP-2GLR-31	2GBASE IR SFP Transceiver, Simplex LC, 40km over SMF	2.67Gbps	40km
SFP-2GLR-55	2GBASE LR SFP Transceiver, Simplex LC, 40km over SMF	2.67Gbps	40km
SFP-2GL2-55	2GBASE LR SFP Transceiver, Simplex LC, 80km over SMF	2.67Gbps	80km
S56-64GM-SW	64GBASE SW SFP56 Transceiver, Duplex LC, 100m over OM4 MMF	64Gbps	100m

Table 3 shows the key optical characteristics for the Fiber Channel modules.

Table 3. Optical specifications

Table 3. Optical						
Product	Description	Transmit P (dBm) per		Receive Po	wer (dBm)	Transmit and Receive Wavelength (nm)
		Minimu m	Maximu m	Minimu m	Maximu m	
Q28-128GM-SW4	128GBASE SW4 QSFP28 Transceiver, MTP/MPO-12, 100m over OM4 MMF	-8.5	2.4	-10.3	2.4	850
SFP28-32GSR-85	32GBASE SR SFP28 Transceiver, Duplex LC, 100m over OM4 MMF	-8	3	-14	0	850
SFP28-32GLR-31	32GBASE LR SFP28 Transceiver, Duplex LC, 10km over SMF	-7	2	-14	2	1310
SFP-16GSR-85	16GBASE SR SFP+ Transceiver, Duplex LC, 100m over OM4 MMF	-7.8	-1.3	-10.5	0	850
SFP-16GLR-31	16GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	-5	2	-18	2	1310
SFP-16GER-55	16GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	-1	3	-19	2	1550
CWxx-16GSFP-40	16GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	0	5	-19	2	1470 to 1610
DWCxx-16GSFP-40	16GBASE DWDM SFP+ Transceiver, Duplex LC, 40km over SMF	0	5	-19	2	1528.77 to 1563.86
SFP-10GSR-85	8GBASE SR SFP+ Transceiver, Duplex LC, 150m over OM4 MMF	-7.3	-1	-11.1	0.5	850
SFP-10GLR-31	8GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF	-8.2	0.5	-14.4	0.5	1310
SFP-10GER-31	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	0	5	-15	1	1310
SFP-10GER-55	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF	-1	4	-16	-1	1550
SFP-10GZR-55	8GBASE ZR SFP+ Transceiver, Duplex LC, 80km over SMF	0	5	-23	-7	1550

Product	Description	Transmit P	ower (dBm)	Receive Po	wer (dBm)	Transmit and Receive Wavelength (nm)
		Minimum	Maximu m	Minimum	Maximu m	Wavelengen (min)
SFP-10G-BX	8GBASE BiDi SFP+ Transceiver, Duplex LC, 10km over SMF	-8.2	0.5	-14.4	0.5	1270 (Tx) 1330 (Rx)
CWDM-SFP10G-40L	8GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF	-1	4	-6	-8	1470 to 1610
SFP4G-SW-85	4GBASE SW SFP Transceiver, Simplex LC, 150m over OM4 MMF	-2	4	-13	2	850
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 4km over SMF	-9	-3	-14	2.5	1310
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 10km over SMF	-8.4	-1	-18	2	1310
SFP-2GSR-85	2GBASE SR SFP Transceiver, Simplex LC, 300m over OM4 MMF	-10	-3	-17	-3	850
SFP-2GSR-31	2GBASE SR SFP Transceiver, Simplex LC, 2km over SMF	-7	2.5	-19	-3	1310
SFP-2GIR-31	2GBASE IR SFP Transceiver, Simplex LC, 10km over SMF	-5	0	-18	0	1310
SFP-2GLR-31	2GBASE IR SFP Transceiver, Simplex LC, 40km over SMF	-1	3	-30	0	1310
SFP-2GLR-55	2GBASE LR SFP Transceiver, Simplex LC, 40km over SMF	-2	3	-18	0	1550
SFP-2GL2-55	2GBASE LR SFP Transceiver, Simplex LC, 80km over SMF	-2	3	-28	-7	1550
S56-64GM-SW	64GBASE SW SFP56 Transceiver, Duplex LC, 100m over OM4 MMF	-4.5	3		4	850

Table 4 shows the mechanical characteristics for the Fiber Channel modules.

Table 4. Mechanical specifications

Parameter	Product	Weight
Module dimension with pull tab	(H x W x D) 8.5 x 18.35 x 123.41 mm	
Module weight (Max)	72 g	
Module operation temperature	0 to 70° C	
Storage temperature	-40 to 85° C	

Warranty

- Standard warranty: 5 years
- For more information for FS Returns & Refunds policy, visit https://www.fs.com/policies/warranty.html or https://www.fs.com/policies/day_return_policy.html

I Ordering information

Table 5 provides the ordering information for Fiber Channel modules.

Table 5. Ordering information

Part number	Description
SFP28 optics modules	
Q28-128GM-SW4	128GBASE SW4 QSFP28 Transceiver, MTP/MPO-12, 100m over OM4 MMF
SFP28-32GSR-85	32GBASE SR SFP28 Transceiver, Duplex LC, 100m over OM4 MMF
SFP28-32GLR-31	32GBASE LR SFP28 Transceiver, Duplex LC, 10km over SMF
<u>SFP-16GSR-85</u>	16GBASE SR SFP+ Transceiver, Duplex LC, 100m over OM4 MMF
SFP-16GLR-31	16GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF
<u>SFP-16GER-55</u>	16GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF
CWxx-16GSFP-40	16GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF
DWCxx-16GSFP-40	16GBASE DWDM SFP+ Transceiver, Duplex LC, 40km over SMF
<u>SFP-10GSR-85</u>	8GBASE SR SFP+ Transceiver, Duplex LC, 150m over OM4 MMF
SFP-10GLR-31	8GBASE LR SFP+ Transceiver, Duplex LC, 10km over SMF
SFP-10GER-31	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF
SFP-10GER-55	8GBASE ER SFP+ Transceiver, Duplex LC, 40km over SMF
SFP-10GZR-55	8GBASE ZR SFP+ Transceiver, Duplex LC, 80km over SMF
SFP-10G-BX	8GBASE BiDi SFP+ Transceiver, Duplex LC, 10km over SMF
CWDM-SFP10G-40L	8GBASE CWDM SFP+ Transceiver, Duplex LC, 40km over SMF
SFP4G-SW-85	4GBASE SW SFP Transceiver, Simplex LC, 150m over OM4 MMF
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 4km over SMF
SFP4G-LW-31	4GBASE LW SFP Transceiver, Simplex LC, 10km over SMF
SFP-2GSR-85	2GBASE SR SFP Transceiver, Simplex LC, 300m over OM4 MMF
SFP-2GSR-31	2GBASE SR SFP Transceiver, Simplex LC, 2km over SMF
SFP-2GIR-31	2GBASE IR SFP Transceiver, Simplex LC, 10km over SMF

Part number	Description
QSFP28 optics modules	
SFP-2GLR-31	2GBASE IR SFP Transceiver, Simplex LC, 40km over SMF
SFP-2GLR-55	2GBASE LR SFP Transceiver, Simplex LC, 40km over SMF
SFP-2GL2-55	2GBASE LR SFP Transceiver, Simplex LC, 80km over SMF
SFP56 optics modules	
<u>S56-64GM-SW</u>	64GBASE SW SFP56 Transceiver, Duplex LC, 100m over OM4 MMF

Regulatory and standards compliance

Standards

- FC-PI 13.0 Compliance for 1.0625/2.125 Gbit/sec Operation
- FC-PI-2 Compliance for 1.0625/2.125/4.25 Gbit/sec Operation
- FC-PI-4 compliance for 8.5/4.25/2.125 Gbit/sec operation
- FC-PI-5 Compliance for 14.025/8.5/4.25Gb/s Operation
- FC-PI-6 Compliance for 28.05/14.025/8.5Gb/s Operation
- FC-PI-6P Compliance for 112.2/56.1/34Gb/s Operation
- SFF-8472: Common Management Interface
- 802.3™-2012 IEEE Standard for Ethernet
- GR-20-CORE: Generic Requirements for Optical Fiber and Optical Fiber Cable
- GR-326-CORE: Generic Requirements for Single-Mode Optical Connectors and Jumper Assemblies
- GR-468-CORE: Generic Requirements for Optoelectronic Devices Used in Telecommunications Equipmet
- GR-1435-CORE: Generic Requirements for Multifiber Optical Connectors
- RoHS 6

Safety

 Modules are compliant with Laser Class 1 as defined in IEC 60825-1, IEC 60825-2 and Comply with 21 CFR 1040.10 and 1040.11

Table 6. Laser class for the Fiber Channel optical modules

Product	Laser class
Q28-128GM-SW4	1
SFP28-32GSR-85	1
SFP28-32GLR-31	1
SFP-16GSR-85	1
SFP-16GLR-31	1
SFP-16GER-55	1
CWxx-16GSFP-40	1
DWCxx-16GSFP-40	1
SFP-10GSR-85	1
SFP-10GLR-31	1
SFP-10GER-31	1
SFP-10GER-55	1
SFP-10GZR-55	1
SFP-10G-BX	1
CWDM-SFP10G-40L	1
SFP4G-SW-85	1
SFP4G-LW-31	1
SFP4G-LW-31	1
SFP-2GSR-85	1
SFP-2GSR-31	1
SFP-2GIR-31	1
SFP-2GLR-31	1
SFP-2GLR-55	1
SFP-2GL2-55	1

Product	Laser class
S56-64GM-SW	1

| Additional information

For more information about Fiber Channel optics modules, contact your account manager or visit https://www.fs.com/c/fiber-optic-transceivers-9

Document history

New or revised topic	Described in	Date
Fiber Channel Transceiver Modules Data Sheet	Updated all	10/14/2022
Fiber Channel Transceiver Modules Data Sheet	Add Q28-128GM-SW4 module	11/10/2022
Fiber Channel Transceiver Modules Data Sheet	Add CWxx-16GSFP-40 module	12/31/2022
Fiber Channel Transceiver Modules Data Sheet	Add DWCxx-16GSFP-40 module	2/15/2023
Fiber Channel Transceiver Modules Data Sheet	Add S56-64GM-SW module	3/22/2023

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