GLC-SX-MMD GBIC Transceiver Module 1000Base-SX SFP Dual LC

Part Number: NV-GLC-SX-MMD

CLEER24 Managed Switch
NV-CLR-024

PoLRE24/48 Managed Switch
NV-PL-024/NV-PL-048

FLEX24 Managed Switch
NV-FLX-024

Fibre Module
NV-GLC-SX-MMD/NV-GLC-LH-SMD/NV-GLC-EX-SMD
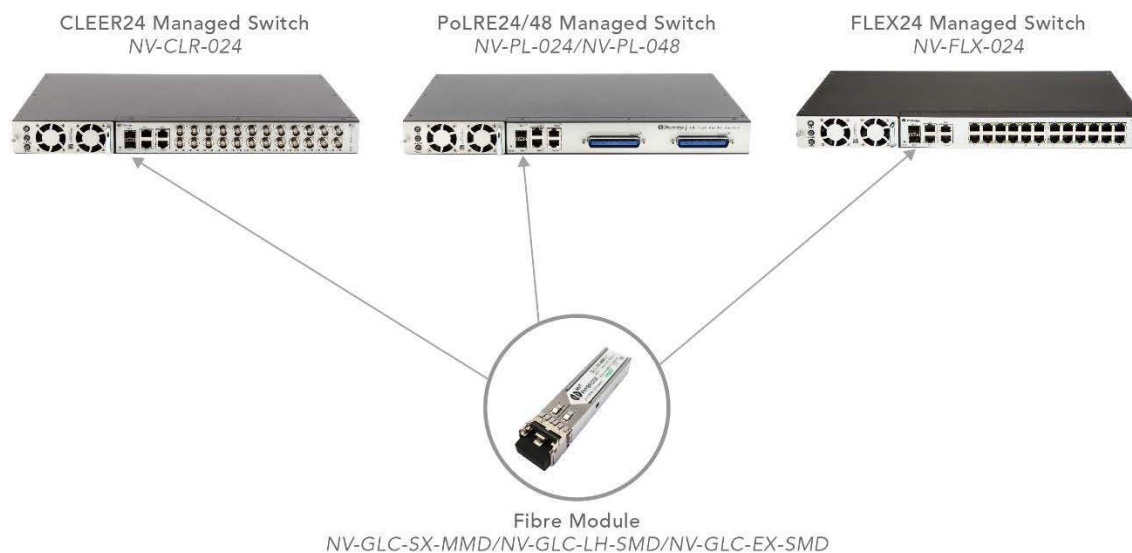
Product Features

- Hot-pluggable SFP footprint
- 850nm VCSEL laser transmitter
- Up to 550m on 50/125µm MMF, 500m on 62.5/125µm MMF
- Digital Diagnostic Monitoring Function
- Metal enclosure for lower EMI
- Single +3.3V power supply
- Low power dissipation <600mW
- Commercial operating temperature range:0℃ to +70℃

Applications

- 1.25Gb/s 1000Base-SX Ethernet
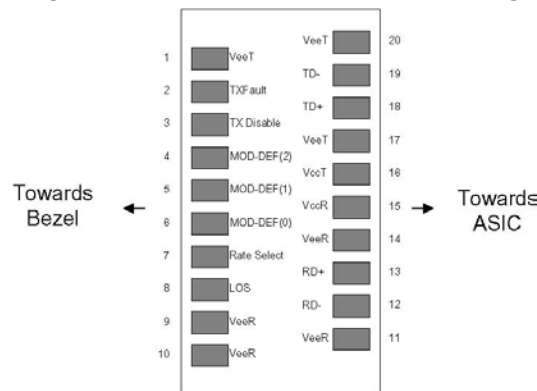- 1.063Gb/s Fibre Channel

General

Small Form Factor Pluggable (SFP) transceivers are compatible with the Small Form Factor Pluggable Multi-Sourcing Agreement (MSA). They simultaneously comply with 1.25Gb/s 1000Base-SX Ethernet and1.063Gb/s Fibre Channel.

Phone: (905) 901-3633
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I. Pin Descriptions

Pin	Symbol	Name/Description	Ref.
1	VeeT	Transmitter Ground (Common with Receiver Ground)	1
2	TX Fault	Transmitter Fault.	
3	TX Disable	Transmitter Disable. Laser output disabled on high or open.	2
4	MOD_DEF(2)	Module Definition 2. Data line for Serial ID.	3
5	MOD_DEF(1)	Module Definition 1. Clock line for Serial ID.	3
6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	3
7	Rate Select	No connection required	
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation.	4
9	VeeR	Receiver Ground (Common with Transmitter Ground)	1
10	VeeR	Receiver Ground (Common with Transmitter Ground)	1
11	VeeR	Receiver Ground (Common with Transmitter Ground)	1
12	RD–	Receiver Inverted DATA out. AC Coupled	
13	RD+	Receiver Non–inverted DATA out. AC Coupled	
14	VeeR	Receiver Ground (Common with Transmitter Ground)	1
15	VccR	Receiver Power Supply	
16	VccT	Transmitter Power Supply	
17	VeeT	Transmitter Ground (Common with Receiver Ground)	1
18	TD+	Transmitter Non–Inverted DATA in. AC Coupled.	
19	TD–	Transmitter Inverted DATA in. AC Coupled.	
20	VeeT	Transmitter Ground (Common with Receiver Ground)	1

Notes:

1. Circuit ground is internally isolated from chassis ground.
2. Laser output disabled on TX Disable >2.0V or open, enabled on TX Disable<0.8V.
3. Should be pulled up with 4.7k – 10kohms on host board to a voltage between 2.0V and 3.6V.
4. MOD_DEF (0) pulls line low to indicate module is plugged in.
5. LOS is LVTTL output. Should be pulled up with 4.7k – 10kohms on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.

Pinout of Connector Block on Host Board

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II. Optical Characteristics (TOP=25°C, Vcc=3.3 Volts)

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Transmitter						
Output Opt. Power	PO	−9	–	−3	dBm	1
Optical Wavelength	λ	830	850	860	nm	
Spectral Width	σ	–	–	0.85	nm	
Side Mode Suppression Ratio	SMSR	30	–	–	dB	
Optical Rise/Fall Time	tr/tf	–	–	175	ps	2
Deterministic Jitter Contribution	TXΔDJ	–	–	0.07	UI	3
Total Jitter Contribution	TXΔTJ	–	–	0.007	UI	
Optical Extinction Ratio	ER	9	10	–	dB	
Receiver						
Average Rx Sensitivity	RSENS	–	–	−20	dBm	4
Maximum Received Power	RXMAX	−2	–	–	dBm	
Optical Center Wavelength	λC	770	850	860	nm	
LOS De-Assert	LOSD	–	–	−24	dBm	
LOS Assert	LOSA	−35	–	–	dBm	
LOS Hysteresis		0.5	–	–	dB	

Notes:

1. Class 1 Laser Safety.
2. Unfiltered, 20-80%.
3. Measured with DJ-free data input signal. In actual application, output DJ will be the sum of input DJ and ΔDJ.
4. Measured with PRBS 27-1 at 10-12 BER.

III. General Specifications

Parameter	Symbol	Min	Typ	Max	Units	Ref.
Data Rate	BR	–	–	1250	Mb/sec	1
Bit Error Rate	BER	–	–	10^{-12}		2
Max. Supported Link Length on 50/125µm MMF @ 1.25G	LMAX	–	–	550	m	3

Notes:

1. 1.25G and 1.063G compliant.
2. Tested with a PRBS 27-1 data pattern.
3. Dispersion limited per FC-PI-2 Rev. 10

IV. Compliance and Agency Approval

EMC	Emissions: FCC Part 15, EN 55032:2012
	Immunity: EN 55024:2010
Safety	EN 60825-1:2014
	21 CFR Part 1040.10:2013
Environment	RoHS Directive 2011/65

V. Mechanical Specifications

Small Form Factor Pluggable (SFP) transceivers are compatible with the dimensions defined by the SFP Multi-Sourcing Agreement (MSA).

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