

**1000BASE-T to 1000BASE-SX/LX media converter**



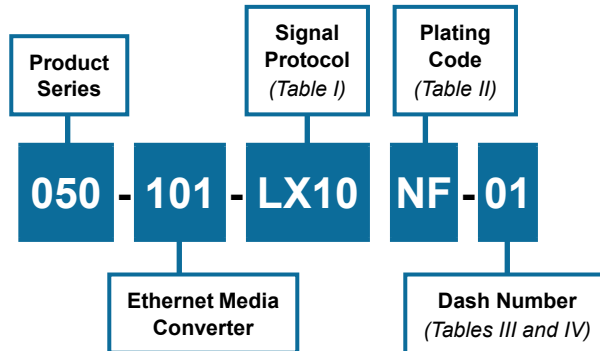
**1000BASE-T to 1000BASE-SX/LX Media Converter**

The Glenair Gigabit fiber optic/electric media converter allows longer distance and more reliable communication in ruggedized military and other 1000BASE-T networks. It extends network link distances between switches, routers, and other Gigabit Ethernet peripherals. It converts 1000BASE-T data from twisted pair copper cable to 1000BASE-SX/LX serial data transmitted over a pair of optical fibers.

**KEY FEATURES**

- IEEE 802.3-2005 Gigabit Ethernet standard compliant
- -40°C to +85°C operating temperature range
- Ideal for military and other harsh environment applications.
- Meets MIL-STD-810 Mechanical Shock and Vibration
- Meets MIL-STD-1344 immersion resistance
- Up to 550 Meters for VCSEL 850nm version with Multimode fiber
- Up to 10 Kilometers for 1310nm laser version with Singlemode fiber
- Single power supply operation from 5V to 36V, with optional 3.3V version. (Consult factory for 3.3V version)
- MIL-STD-1560 standard layouts for both electrical and fiber optic connectors
- Available fiber receptacle compatible with 1.25mm, 1.57mm, 2mm, and 2.5mm ferrule sizes. Expanded beam contacts also available.

**How To Order**



**050-101**  
**GigaBit Ethernet Copper to Fiber Media Converter**  
**1000BASE-T to 1000BASE-SX/LX**

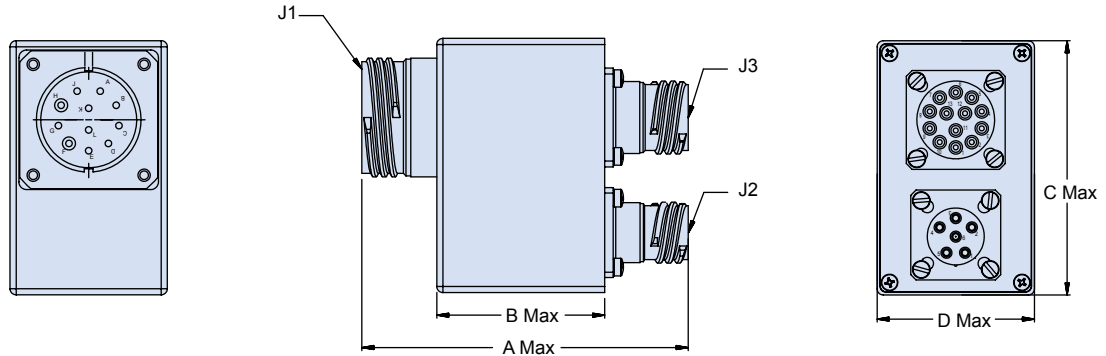


Table I: Signal Protocol		
Code	Name	Medium
-SXMM	1000BASE-SX	Multimode Fiber
-LX10	1000BASE-LX10	Singlemode Fiber

Table IV: Dimensions				
Dash No.	A Max	B Max	C Max	D Max
-01	3.430 (87.12)	1.780 (45.21)	2.680 (68.10)	1.670 (42.42)

Table II: Material And Finish		
SYM	Material	Finish Description
M*	Aluminum	Electroless Nickel
MT		Nickel - PTFE
NF		Cadmium, Olive Drab
ZN		Zinc-Nickel, Olive Drab
ZNU		Zinc-Nickel, Black

**Material and Finish**

Connectors: See indicated data sheets (Table III)  
 Enclosures: See Table II

**Assembly Notes**

All connector cavities without defined contacts to be populated with appropriate sealing plug. MS27488 Type sealing plugs are recommended.



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## Ratings and Specifications

Absolute Maximum Rating					
Parameter	Symbol	Min	Typ	Max	Unit
Storage Temperature	$T_s$	-55		+100	°C
Operating Voltage	$V_{cc}$	-0.4		+40	V

Operating Conditions					
Parameter	Symbol	Min	Typ	Max	Unit
Operating Temperature	$T_{op}$	-40		+85	°C
Supply Voltages	$V_{cc}$	4.75		36	V

Optical Transmitter					
Parameter	Sym	Min	Typ	Max	Unit
Optical Output Power 850nm VCSEL	$P_{out}$	-9	-6	-3	dBm
1310nm Fabry-Perot		-5	-3	-1	
Optical Wavelength 850nm VCSEL	$\lambda_{out}$	830	850	860	nm
1310nm Fabry-Perot		1285	1310	1345	
Spectral Width 850nm VCSEL		$\Delta\lambda$			
1310nm Fabry-Perot				4	

Optical Receiver					
Parameter	Sym	Min	Typ	Max	Unit
Receiver Input Sensitivity 850nm VCSEL	$P_{in}$	-20			dBm
1310nm Fabry-Perot		-22			
Optical Wavelength 850nm VCSEL	$\lambda_{in}$	830	850	860	nm
1310nm Fabry-Perot		1270	1310	1355	

Copper Link Distances		
Protocol	Cable Type	Distance
Gigabit Ethernet, 1000BASE-T	TIA/EIA-568-B Cat 5E	100 Meters

Optical Link Distances		
Protocol	Fiber Type	Distance
Gigabit Ethernet, 1000BASE-SX, 850nm VCSEL	62.5/125 $\mu$ m, 200MHZ*Km	275 Meters
	50/125 $\mu$ m, 500MHZ*Km	550 Meters
Gigabit Ethernet, 1000BASE-LX, 1310nm FP	9/125 $\mu$ m	10 Kilometers

Power Supply Current @ 85 C Max. Operating Condition			
Parameter	Symbol	Max	Unit
Supply Voltage	$I_{cc}$		mA
3.3 V		700	
5 V		630	
12 V		230	
24 V		110	
28 V		95	
36 V		85	

Military Specification Compliance			
Feature	Standard	Condition	Notes
Mechanical Shock	MIL-STD-810	40g	6-9ms
Mechanical Vibration	MIL-STD-810	30g RMS	18ms
ESD	MIL-STD-883	Class II	2200v
Mating Durability	MIL-STD-38999/20	500 Cycles	<0.5 db change
Flame Resistance	MIL-STD-1344	Method 1012	30 Seconds
Damp Heat	MIL-STD-1344	10 Cycles	24 Hours