



Features and Benefits

- Compliance with all Gigabit Ethernet (IEEE 802.3z) standards
- Data rates up to 1.25 Gb/s
- Industry standard 1x9 pin configuration and duplex SC connectors
- Link distances < 550m
- Single +5V power supply
- ECL/PECL compatible
- Size: 25.91mm x 39.62mm x 9.78mm
- Excellent eye pattern
- DC coupled data input & outputs
- AC coupled version also available

Applications

- Data communication networks
- Telecommunications networks
- Broadband deployments
- Cross-connects
- ATM switches
- Disk array links
- Workstation & mainframe backbones
- Network interface cards

Gigabit Ethernet Link (DC Coupled)



The Molex Ethernet Link is a compact optical transceiver capable of serial gigabit transmission over inexpensive multi-mode fiber for distances up to 550m. Molex's Gigabit Ethernet Link transmits data at speeds of 100 Mb/s to 1.25 Gb/s, enabling use in Gigabit Ethernet, Fibre Channel, ATM and proprietary data interconnect systems. Higher speed versions of this device (up to 1.5 Gb/s) are available upon request. It features an industry standard 1x9 pin configuration and dual SC connectors. Molex also offers a AC coupled version of this device.

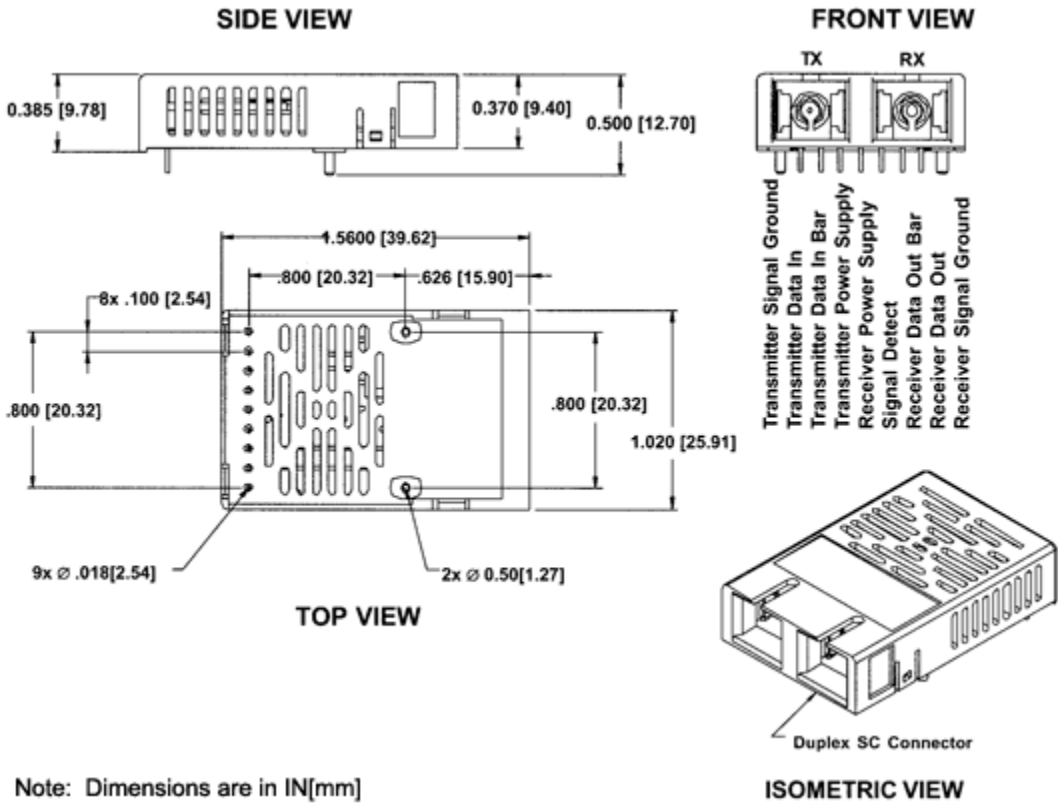
Molex's emphasis on safety allows this product to meet all CDRH and IEC 825-1 Class 1 eye safety requirements. Molex offers a level of safety unparalleled within the industry with the addition of our unique optional shutter mechanism.

SPECIFICATIONS

Parameter	Symbol	Min	Typ	Max	Unit	Comments
Data Rate	-	0.100	-	1.25	Gb/s	-
Maximum Fiber Length	-	2	-	550	m	50um core / 500 MHz-km fiber
Input Voltage	V_{cc}	+4.75	+5	+5.25	V	Vcc referenced to GND
Supply Current (transmitter)	I_{TX}	-	-	110	mA	-
Supply Current (receiver)	I_{RX}	-	-	60	mA	-
Data In High	V_{IN-H}	$V_{cc} - 1.165$	-	-	V	DC Coupled PECL Levels
Data In Low	V_{IN-L}	-	-	$V_{cc} - 1.475$	V	DC Coupled PECL Levels
Data Out High	V_{OUT-H}	$V_{cc} - 1.045$	-	-	V	DC Coupled PECL Levels
Data Out Low	V_{OUT-L}	-	-	$V_{cc} - 1.620$	V	DC Coupled PECL Levels
Transmitter Center Wavelength	λ_{TX}	770	785	860	nm	-
Transmitter Spectral Width (RMS)	$\Delta \lambda$	-	-	0.85	nm	-
Transmitter Optical Output Power	P_o	-10	-	-5	dBm	Average Power
Transmitter Extinction Ratio	-	9	-	-	dB	-
Transmitter Eye Opening	-	57	-	-	%	-
Duty Cycle	-	-	50	-	%	-
Bit Error Rate	BER	-	-	10^{-12}	-	-
Jitter	-	-	-	-	-	IEEE 802.3z, Table 38-7 Compliant
Optical Input Wavelength	λ_{RX}	770	785	860	nm	-
Optical Input Sensitivity	P_i	-18	-	-	dBm	-
Signal Detect Asserted	P_a	-	-18	-	dBm	Measured on low-to-high transition
Signal Detect Deasserted	P_d	-	-21	-	dBm	Measured on high-to-low- transition
Signal Detect Hysteresis	$P_a - P_d$	-	3	-	dB	-
Operating Temperature	T_{OP}	0	-	+70	°C	-
Storage Temperature	T_{STORE}	-40	-	+85	°C	-
Relative Intensity Noise	RIN	-	-	-117	dB/mHz	-
Eye Safety	-	-	-	-	-	Class 1 Laser Product
Optical Rise/Fall Time	$P/P_{r f}$	-	-	210	ps	20% - 80%

DIMENSIONS

Gigabit Ethernet Link (DC Coupled)
Note: All dimensions in INCHES / mm

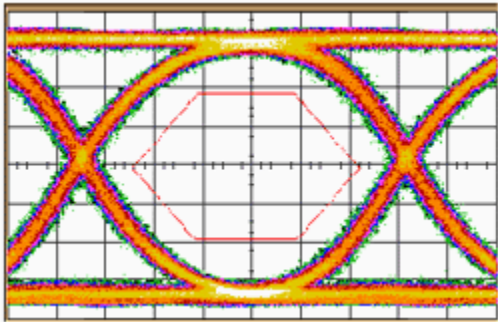


ORDERING INFORMATION

Order Number	Description
86990-9021	Gigabit Ethernet Transceiver-DC Coupled

Eye Pattern

Typical 86990-9021 Eye Pattern (RCVR)*



(Data Rate= 1.25 Gb/s, Receive Power = -17 dBm, Time Sale = 125 ps/div)

* Electrical output of receiver. Test configuration: optical output of the transmitter attenuated to -17dBm and looped back to the receiver.

Note: Specifications are subject to change without notice.

FOR ADDITIONAL INFORMATION ON THIS OR OTHER PRODUCTS AND THEIR AVAILABILITY, PLEASE CONTACT FIBER OPTIC CENTER, INC.