

050-201 DVI Copper to Fiber Media Converter



Digital Visual Interface (DVI) copper to fiber media converter for High Definition Video



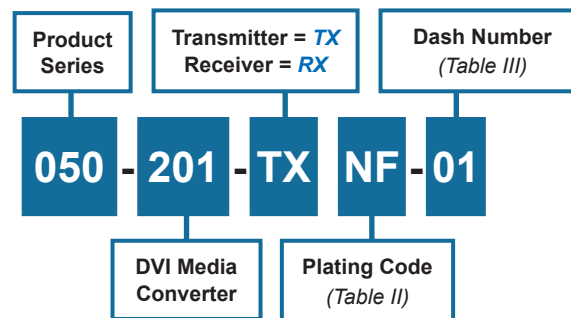
DVI Copper to Fiber Media Converter

The Glenair Digital Visual Interface (DVI) Copper to Fiber Optic Media Converter lengthens DVI link distance in harsh environments. It allows both longer distance and more reliable communication on optical fibers in ruggedized military systems using DVI protocol between graphics cards and remote displays.

KEY FEATURES

- -40°C to +85°C operating temperature range
- Meets MIL-STD-810 Mechanical Shock and Vibration
- Meets MIL-STD-1344 immersion resistance
- Fiber link distance of up to 320meters with 50/125 um Multimode fiber (500 MHz km fiber)
- Fiber connector interface compatible with MIL-T-29504
- D38999 connector with quadrax electrical interface for RGB and Clock
- TMDS compatible electrical interface
- Operates from a single power supply 18V to 36V
- MIL-STD-1560 standard layouts for both electrical and fiber optic connectors
- Available options for fiber receptacle compatible with: 1.25mm, 1.57mm, 2mm, and 2.5mm ferrules sizes. Expanded beam contacts also available. Pin or socket contacts supported.
- Alternate options for electrical and optical connectors available.
- Custom packaging available.

How To Order



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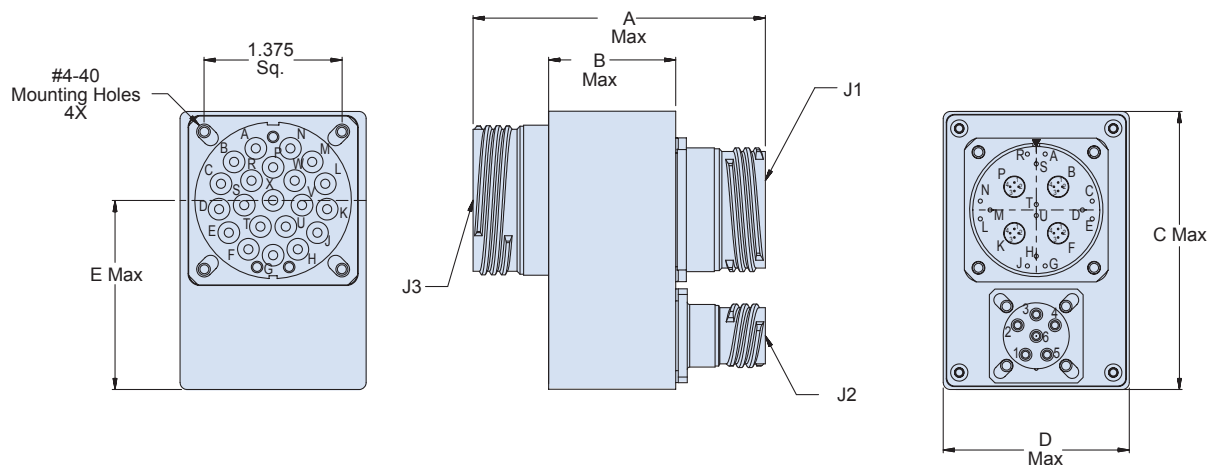


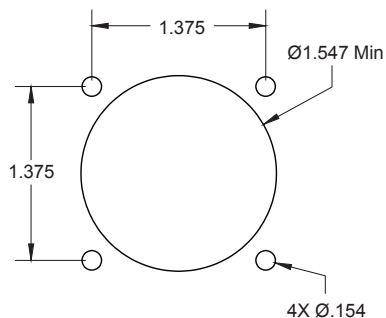
Table II: Material And Finish

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

Table III: Dimensions

Dash No.	A Max	B Max	C Max	D Max	E Max
-01	3.8 (96.52)	2.00 (50.80)	2.78 (70.61)	2.00 (50.80)	1.890 (48.01)

Recommended Panel Cutout



Max Screw Length 3/8"
with .060 Thick Panel

Material and Finish

Connectors: See indicated data sheets (Table III)

Enclosures: See Table I

Printed Circuit Board: .062±.006 thick glass epoxy, natural color, laminate NEMA grade FR-4.1 ounce copper. This is a 6 layer board.

Interface connectors are designed to mate with any QPL manufacturer's MIL-DTL-38999 plug having the same insert arrangement and polarization; opposite contact gender. Mating connector information shown in 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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Table IV: J1 Data Connector/Contacts

PIN	Channel	Function	Input / Output	+ / -	Mating Contact
B1	0	TMDS-Blue	Input	-	854-002-XX
B2	0	TMDS-Blue	Input	+	
B3	0	TMDS-Blue	Output	-	
B4	0	TMDS-Blue	Output	+	
F1	1	TMDS-Green	Input	-	854-002-XX
F2	1	TMDS-Green	Input	+	
F3	1	TMDS-Green	Output	-	
F4	1	TMDS-Green	Output	+	
K1	2	TMDS-Red	Input	-	854-002-XX
K2	2	TMDS-Red	Input	+	
K3	2	TMDS-Red	Output	-	
K4	2	TMDS-Red	Output	+	
P1	3	TMDS-Clock	Input	-	854-002-XX
P2	3	TMDS-Clock	Input	+	
P3	3	TMDS-Clock	Output	-	
P4	3	TMDS-Clock	Output	+	

Table II: Mating Connectors and Pin Outs: Dash No. -01

	J1: Data Connector	Mating Connector
Connector Part Number	257-606*00-19Q-18PN (D38999/20WF18PN type)	257-606*G6-19Q-18SN (D38999/20WF18SN type)
	J2: Power Connector	Mating Connector
Connector Part Number	233-105-00*09-35PN (D38999/20WA35PN type)	233-105-G6*09-35SN (D38999/20WA35SN type)
	J3: Optical Connector	Mating Connector
Connector Part Number	180-091*H7-23-21SN (D38999/20WH21SN type)	180-091*06-23-21PN (D38999/26WH21PN type)

* - Depends on finish, see Table II

Table V: J2 Power Ports/Contacts

PIN	Description	Contact Part No.	Mating Contact
1	Isolated Case Ground	850-002-22-360 (M39029/58-360)	850-002-22-348 (M39029/56-348)
2	Isolated Case Ground	850-002-22-360 (M39029/58-360)	850-002-22-348 (M39029/56-348)
3	Isolated Case Ground	850-002-22-360 (M39029/58-360)	850-002-22-348 (M39029/56-348)
4	Isolated Case Ground	850-002-22-360 (M39029/58-360)	850-002-22-348 (M39029/56-348)
5	18V-36V DC	850-002-22-360 (M39029/58-360)	850-002-22-348 (M39029/56-348)
6	VDC Return	850-002-22-360 (M39029/58-360)	850-002-22-348 (M39029/56-348)

Table VI: J3 Fiber Ports/Contacts

PIN	DVI Data/ Clock	Color/ Clock	TX Output / RX Input	Contact Part No.	Mating Contact
J	0	Blue	Output-TX	181-001-125 (M29504/5-4237)	181-002-126 (M29504/4-4208)
L	0	Blue	Input-RX	181-001-125 (M29504/5-4237)	181-002-126 (M29504/4-4208)
N	1	Green	Output-TX	181-001-125 (M29504/5-4237)	181-002-126 (M29504/4-4208)
G	1	Green	Input-RX	181-001-125 (M29504/5-4237)	181-002-126 (M29504/4-4208)
X	2	Red	Output-TX	181-001-125 (M29504/5-4237)	181-002-126 (M29504/4-4208)
A	2	Red	Input-RX	181-001-125 (M29504/5-4237)	181-002-126 (M29504/4-4208)
E	3	Clock	Output-TX	181-001-125 (M29504/5-4237)	181-002-126 (M29504/4-4208)
C	3	Clock	Input-RX	181-001-125 (M29504/5-4237)	181-002-126 (M29504/4-4208)

DVI copper to fiber media converter—ratings and specifications

Absolute Maximum Rating				
Parameter	Symbol	Min	Max	Unit
Storage Temperature	Ts	-55	+100	°C
Supply Voltage	Vcc	-0.5	+40	V
Data Input Voltage	VI	-0.5	+3.3	V

Operating Conditions					
Parameter	Symbol	Min	Typ	Max	Unit
Operating Temperature	TA	-40		+85	°C
Supply Voltage	Vcc	+18	+28	+36	V
Power Supply Noise	NP			100	mV

Optical Transmitters—Operating Temperature (-40°C To +85°C), Supply Voltage Vcc = 18V To 36V					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Optical Output Power	PO	-6.0	-4	-1	dBm
Optical Output Wavelength	λ_{OUT}	830	850	860	nm
Spectral Width(RMS)	$\Delta\lambda$			.85	nm
Extinction Ratio	ER	9.0			dB

Optical Receivers—Operating Temperature (-40°C To +85°C), Supply Voltage Vcc = 18V To 36V					
Parameter	Symbol	Minimum	Typical	Maximum	Unit
Optical Input Power	PI	-19.0		0	dBm
Optical Input Wavelength	λ_{IN}	830	850	860	nm

Power Supply—Operating Temperature (-40°C To +85°C), Supply Voltage Vcc = 18V To 36V			
Parameter	Symbol	Maximum	Unit
Power Supply Current	ICC	200	mA

Military Specification Compliance			
Feature	Standard	Condition	Notes
ESD	MIL-STD-883	Class II	2200V
Shock	MIL-STD-810	40g	6-9ms
Vibration	MIL-STD-810	40g RMS	