

Amphenol CTF-4G-4TXRX Four Bi-Directional Channel Fiber Optic Media Converter

The CTF-4G-4TXRX Media Converter is an integrated, standalone, convection cooled, and rugged fiber to copper and copper to fiber converter for use with Gigabit Ethernet, Fiber Channel, Infiniband, Digital Video Interface (DVI), and many other interfaces

Features & Benefits:

- Built around a rugged and high technology readiness level (TRL) quad channel bi-directional transceiver
 - Four copper to fiber transmitters/receivers
 - Four optical to copper transmitters/receivers
- For use with the DVI interface, has optional receive equalization and transmit pre-emphasis CDR
- Standard serial interface for built-in test interface
- For DVI fiber repeating, a single product to convert from copper to fiber and from fiber to copper concurrently
 - Copper DVI input and output channels connect to unit via standard MIL-DTL-38999 connectors and high speed quadrax sockets
 - Fiber DVI input and output channels connect to unit via a standard MIL-DTL-38999 connector with M29504 fiber optic termini sockets
- 28 V DC power input for low power operation on a standard MIL-DTL-38999 connector
- Built upon Amphenol low risk and affordable CTF copper to fiber converter product line

Fiber Interface:

- Uses industry standard M29504/5 fiber termini

Copper Interface:

- Quadrax inputs can utilize Split-Pair Quadrax versus standard quadrax
 - Contacts rated for 6.5Gbps versus 3.125Gbps

Ruggedization:

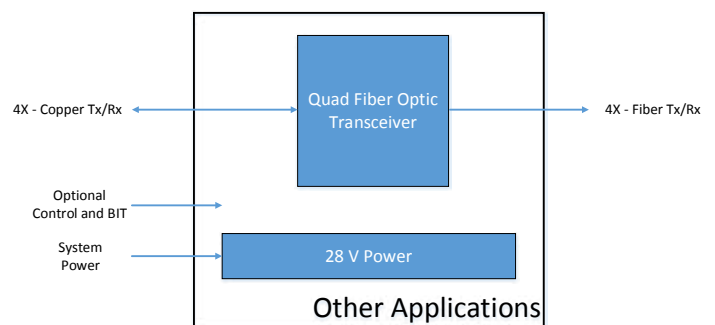
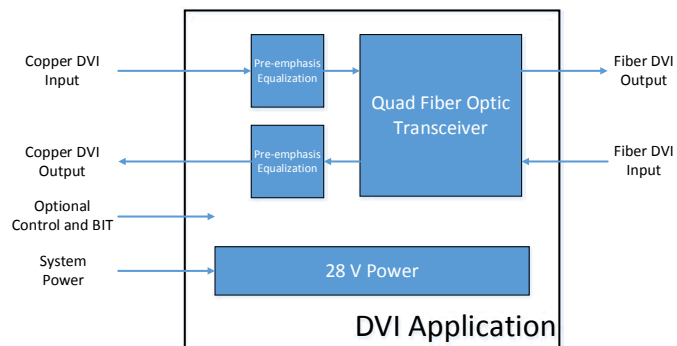
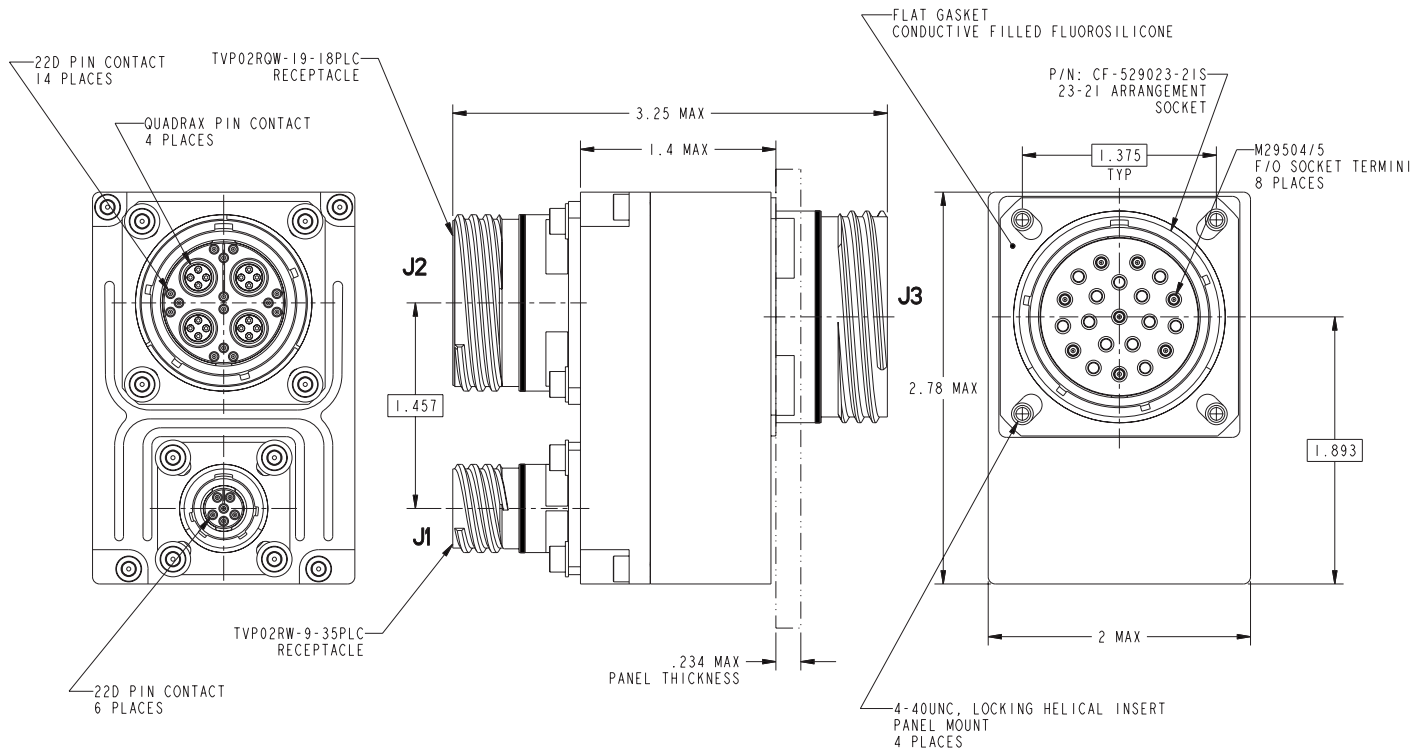
- Natural convection cooled (no fan)
- Operational temperature -40°C to +85°C
- Environmentally sealed



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Amphenol CTF-4G-4TXRX

Drawing



Amphenol CTF-4G-4TXRX

How to Order

Ordering procedure is shown below using part number CTF-5QZ0-ABC

1.	2.	3.	4.	5.	6.	7.	8.
Connector Type	Material	Quadrax Contact	Finish	Shell Style	Copper DVI Keying	Power Connector Keying	Fiber Connector Keying
CTF	-5	Q	Z	0	-A	B	C

Step 1. Connector Type

	Designates
CTF	Copper to Fiber Product Family

Step 2. Select a Material

	Designates
-5	Aluminum Shell
-6	Composite Shell
-8	Stainless Steel Shell

Step 3. Quadrax Configuration

	Designates
Q	3.125 GB Quadrax Sockets for copper DVI inputs and outputs
S	6.5 GB Split-Pair Quadrax Sockets

Step 4. Select a Finish

	Designates
T	Aluminum Durmalon
Z	Aluminum Black Zinc Nickel
F	Aluminum Electroless Nickel
M	Composite Electroless Nickel
W	Aluminum OD Cad
J	Composite OD Cad
L	Stainless Steel Electrodeposited Nickel
Y	Stainless Steel Passivated

Step 5. Select a Shell Style

	Designates
0	Wall Mount

Step 6. Select Copper DVI Connector Keying (IAW MIL-DTL-38999)

	Designates
N	N
A	A
B	B
C	C
D	D
E	E

Step 7. Select Power Connector Keying (IAW MIL-DTL-38999)

	Designates
N	N
A	A
B	B
C	C
D	D
E	E

Step 8. Select Fiber Connector Keying (IAW MIL-DTL-38999)

	Designates
N	N
A	A
B	B
C	C
D	D
E	E

Available Test Equipment

Part Number	Description
CF-901201-007	LC Fiber Optic Test Cable for D38999 Connector
CA-628485-A42	Power Test Cable for D38999 Power Connector
CA-628485-A43	High Speed Copper SMA Cable for D38999 Data Connector

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Specifications

Absolute Maximum Ratings

Stress beyond the values stated below may cause permanent damage to the device.

Parameter	Symbol	Min	Max	Unit	Notes
Storage temperature	Tst	-55	+125	°C	-
Soldering temperature	Tsol	-	230	°C	-
Soldering Time	tsol	-	60	s	-
Supply voltage range	VCCTx, VCCR _x	-0.3	+4.0	V	-
Signal pins voltage range	V _{pin}	V _{EE} -0.3	V _{CC} +0.3	V	-
Differential input voltage	ΔV _{in}	-	1.2	V	-
Junction temperature	T _j	-	130	°C	-
ESD resistance voltage	ESD	-	1	KV	-

Module Specifications-General

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Supply voltage	V _{CC} T _x , V _{CC} R _x	3.0	3.3	3.6	V	-
Supply voltage noise	N _{VCCx}	-	-	100	mV	-
Supply current (Tx + Rx)	I _{CC}	-	275	300	mA	1
Power consumption (Tx + Rx)	P	-	900	1000	mW	1
Data Rate	B	0.001	2.5	3.125	Gbps	-
Operating temperature	T _{op}	-40	-	+85	°C	2

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Module Specifications-Electrical

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Number of TX or Rx channels	Nch	2	-	4	-	-
Transmitter (one channel)						
Input voltage range	V _{IN}	V _{EE} +0.825		V _{CC} +0.2	V	
Differential input voltage	V _{INpp}	100	-	950	mV	-
Input impedance	Z _{IN}	80	100	120	Ω	-
Input capacitance (each input)	C _{IN}	1.0	1.3	1.6	pF	-
Digital inputs	High	V _{high}	0.7V _{CC}	-	V _{CC} +0.3	V
	Low	V _{low}	V _{EE} -0.3	-	0.3V _{CC}	V
Tx supply current	I _{ccTx}	-	150	160	mA	-
Receiver (one channel)						
Differential output voltage	V _{OUTp}	100	250	350	mV	-
Output impedance	Z _{out}	80	100	120	Ω	-
Output CML drive current	I _o	-	12	-	mA	
Average proportional photocurrent output	I _{ovg}	0	-	160	μA	1.2
Total jitter receiver	T _{jRx}	-	60	150	ps	-
Rise/Fall Time	T _{R RX} , T _{F RX}	-	80	150	ps	3
Rx supply current	I _{ccRx}	-	125	140	mA	-

Module Specifications-Optical

Parameter	Symbol	Min	Typ	Max	Unit	Notes
Transmitter (one channel)						
Center wavelength	λ _c	840	850	860	nm	-
Spectral width-rms	Δλ	-	-	0.85	nm	-
Core diameter of the Tx optical fiber pigtail	D _c	50	62.5	-	μm	-
Optical output power (average)	P _{out}	-5	-3	+1	dBm	1,2,3
Optical output power variation over the specified temperature range	ΔP _{out}	-	0.5	1	dB	3,4
Optical modulation amplitude	OMA _{Tx}	650	-	-	μW	-
Optical extinction ratio	E _R	7.0	9.0	-	dB	-
Relative intensity Noise	RIN	-	-	-117	dB/Hz	-
Total jitter		-	60	150	ps	-
Rise/Fall time	τ _R , τ _F	-	80	150	ps	5
Receiver (one channel)						
Center wavelength	λ _c	760	850	860	nm	-
Spectral width-rms	Δλ	-	-	1	nm	-
Core diameter of the Rx optical fiber pigtail	D _c	50	-	62.5	μm	-
Optical sensitivity	P _{in}	-21	-19	-17	dBm	6
Optical modulation amplitude	OMA _{Rx}	-	-	-	μW	-
Optical return loss	ORL	-30	-	-	dB	-

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