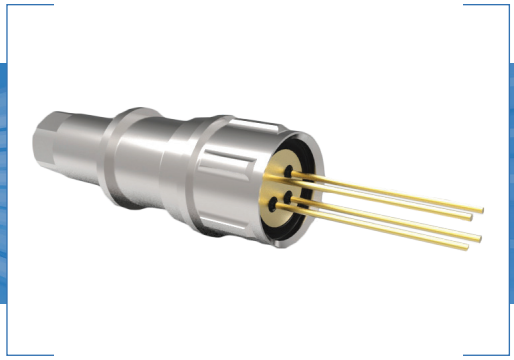
Amphenol Aerospace

PDS-243-2



CTF-QUAD

FEATURES

+ Quadrax form factor embedded fiber optic transmitters and receivers
+ Replace any quadrax pin in receptacle and configure with media conversion copper to fiber and fiber to copper
+ Utilizes standard quadrax receptacle connectors and inserts

FIBER INTERFACE

+ Industry standard 1.25mm fiber optic ferrules (LC & ARINC-801)
+ Plug/socket side utilizes quadrax socket to ARINC-801 pin adapter for system fiber connection

COPPER INTERFACE

+ Speed support from DC to 10 Gbps in both transmitter and receiver
+ PCB lead connection to customer circuit board or PCB lead connection to flex with nano

RUGGEDIZATION

+ Industry standard rugged transmitters and receivers -40°C to +85°C
+ Components epoxy sealed in place
+ Refer to page 3 for additional details

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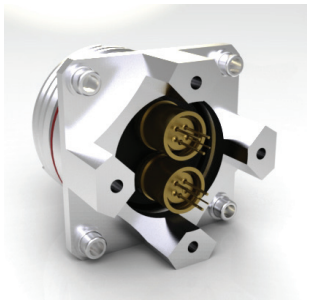
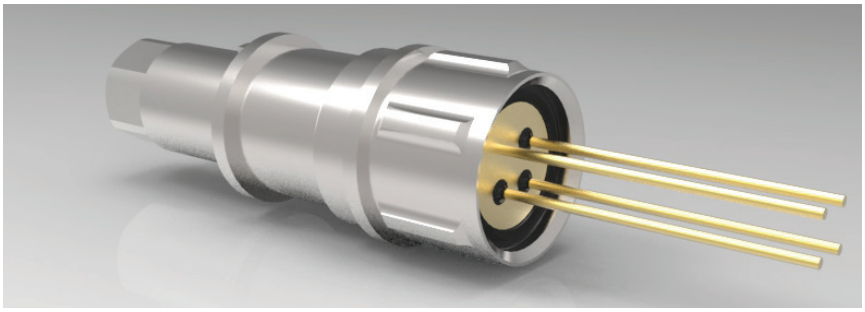
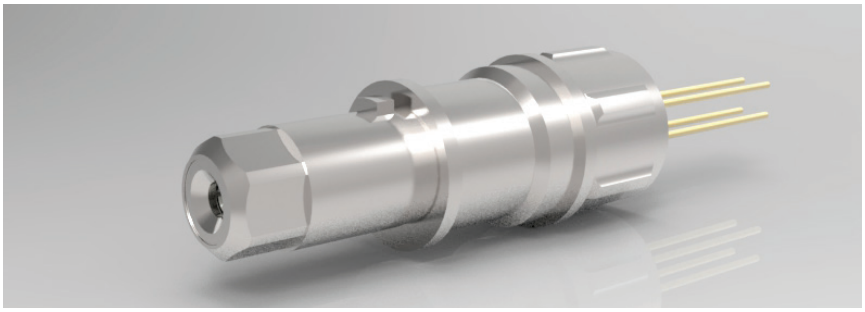
OVERVIEW

Amphenol Aerospace adds CTF-QUAD to the CTF (Copper to Fiber) Media Converter Product Family. This product line utilizes standard quadrax receptacle connectors and inserts.

The CTF-QUAD product line is fiber to copper and copper to fiber media conversion in quadrax form factor pins for standard D38999 quadrax insert arrangements.







How to Order

Ordering procedure is shown below using part number CTF-5Q90A1-04TN

1. Connector Type	2. Material	3. Quadrax Contact	4. Finish	5. Shell Style	6. Shell Size-Insert Arrangement	7. Mode	8. Device Type	9. Rotation
CTF	5	Q	Z	0	A1	04	T	N

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 Contact

	Designates
Q	Quadrax Size 8 Contact Active Device

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 Pas-sivated*

*environmental only-not hermetic

Note: There is not a Mil-Spec finish for environmental passivated steel-only hermetic, hence the asterisk.

Step 5. Select a Shell Style

	Designates
0	Wall Mount
N	Wall Mount w/ Clinch Nuts
7	Jam Nut

Note: All with Stand-off

Step 6. Select a Shell Size-Insert Arrangement

	Designates
A1	9-5
E2	17-52
F4	21-75
H6	23-6
J8	25-8

Step 7. Select a Mode

	Designates
04	4 Gb/s multimode
08	8 Gb/s multimode
10	10 Gb/s multimode

Step 8. Device Type

	Designates
T	Transmit
R	Receive
X	Transceiver

Step 9. Select a Rotation

	Designates
N	Normal
A	
B	
C	
D	
E	

CTF-QUAD Mating Plug

Ordering procedure is shown below using part number CTF-5P96A1-000N (kit w/ connector and appropriate number of A801 cavity adapters)

1. Connector Type	2. Material	3. Quadrax Contact	4. Finish	5. Shell Style	6. Shell Size-Insert Arrangement		7. Rotation
CTF	5	P	Z	6	A1	000	N

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 Contact

	Designates
P	Quadrax Size 8 Contact Adapter for ARINC 801 Contact

Step 4. Select a Finish

Note: See Finish Key above

Step 5. Select a Shell Style

	Designates
6	Straight Plug

Note: No Stand-off, accessory threads

Step 6. Select a Shell Size-Insert Arrangement

	Designates
A1	9-5
E2	17-52
F4	21-75
H6	23-6
J8	25-8

Step 7. Select a Rotation

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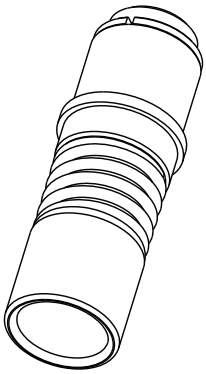
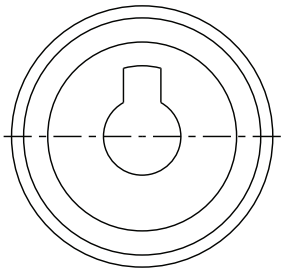
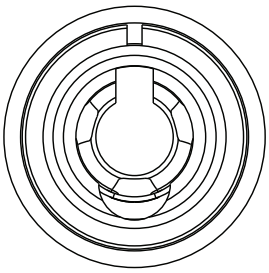
ARINC-801 Size 8 Socket Adapter

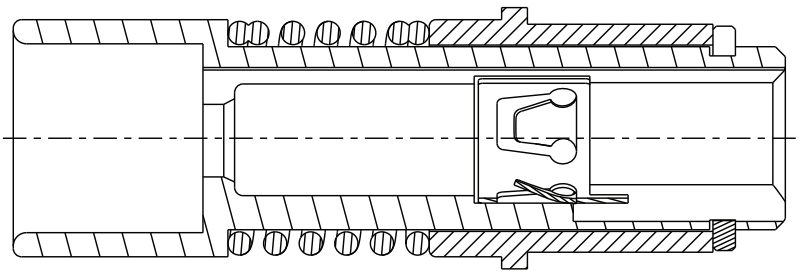
Quadrax ARINC-801 Fiber Adapter part number – CF-198201-000

Multi-mode ARINC-801 Termini for the Adapter – CF-198148-1128









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AMPHENOL INTEGRATED ELECTRONIC PRODUCTS RUGGEDIZATION DESIGN

Amphenol Aerospace

Overview

Amphenol integrated electronic products are designed and manufactured to our Ruggedization guidelines listed below. These guidelines ensure years of reliable operation in harsh environment applications where extreme operating temperatures, shock, vibration and corrosive atmospheres are regularly experienced

Temperature

- Operating Temperature - Thermal Cycles between -40°C and 85°C while device is operating
- Temperature is measured at chassis housing or card edge
- Storage Temperature - Thermal Cycles between -55°C and 125°C

Humidity

- Operating Humidity – Humidity cycle between 0-100% non-condensing humidity while device is operating
- Storage Humidity – Humidity cycle between 0-100% condensing humidity

Sealing

- Sealing can be optionally provided at the MIL-DTL-38999 interface with up to 10-5 cc/sec performance

Fluids Susceptibility

- MIL-DTL-38999 receptacle interface per EIA-364-10E

Vibration & Shock

- Sine Vibration – 10 g Peak, 5-2,000Hz
  -Based on a sine sweep duration of 10 minutes per axis in each of three mutually perpendicular axes. May be displacement limited from 5 to 44 Hz, depending on specific test.
- Random Vibration - 0.005@5Hz, 0.1@15Hz, 0.1@2,000Hz
  -60 minutes per axis, in each of three mutually perpendicular axes.
- 40 G Peak Shock Cycle
  -Three hits in each axis, both directions, ½ sine and terminal-peak saw tooth, Total 36 hits.

Altitude

- -1,500 to 60,000 ft Altitude Testing w/ Rapid Depressurization

Electromagnetic Compatibility

- Designed to comply with MIL-STD-461E

Printed Circuit Board Assemblies

- Conformal Coat
  -Amphenol performs Conformal Coating to both sides of printed circuit board assemblies using HUMISEAL IB31 in accordance with IPC-610, Class 3.
- Printed Circuit Board Rigidity
  -Amphenol printed circuit boards are fabricated in accordance with IPC-6012, Class 3.
- Printed Circuit Board Fabrication
  -Amphenol printed circuit boards acceptance criteria is in accordance with IPC-610, Class 3.

Reliability Predictions (MTBF)

Amphenol can perform Mean Time Between Failure (MTBF) reliability analysis in full compliance with MIL-HDBK-217F-1 Parts Count Prediction and MIL-HDBK-217F-1 Parts Stress Analysis Prediction. We can also perform reliability analyses in full compliance of ANSI/VITA 51.1 if it is required or preferred over the later method.

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