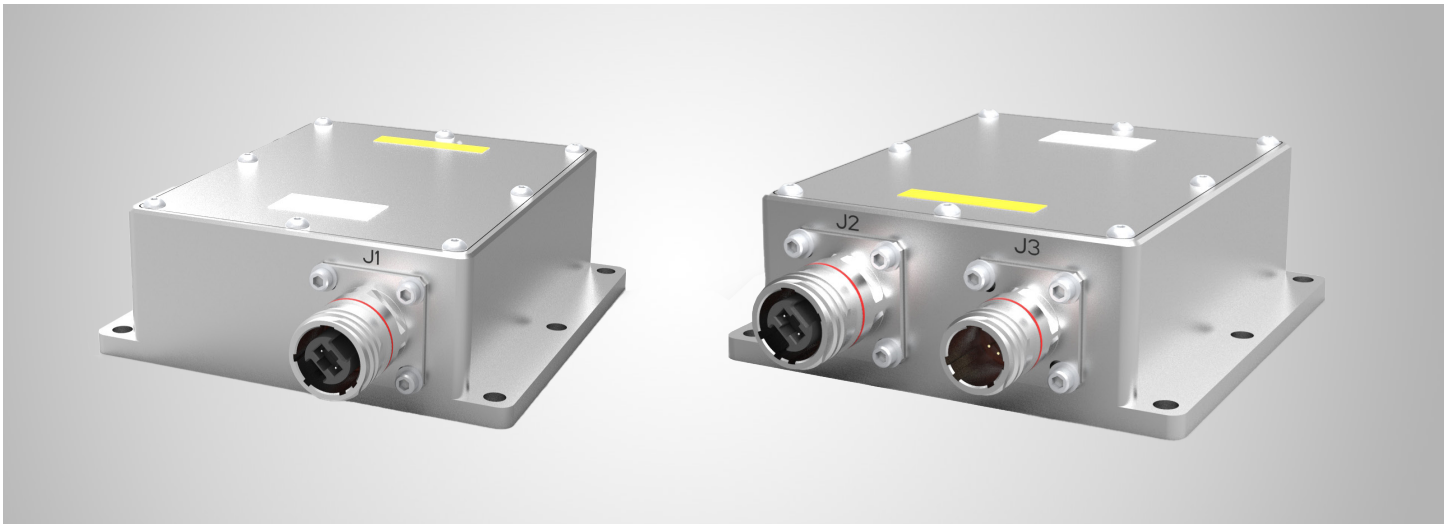
Amphenol
MILITARY HIGH SPEED

FIBER OPTIC REPEATER

4-CHANNEL 25G BASE-SR FIBER OPTIC REPEATER

PDS - 376



Compact High-Performance Fiber Optic Solution for Short Range Multimode Networks.

Amphenol's 4-Channel 25G Base-SR Fiber Optic Repeater is a compact, high-performance solution designed to extend the reach and enhance the performance of short-range multimode fiber (MMF) networks. Built for modern data center and enterprise environments, this repeater regenerates and amplifies 25G optical signals across up to four independent channels, ensuring signal integrity and data reliability over longer distances. Whether upgrading existing infrastructure or designing new systems, this repeater provides a plug-and-play method for overcoming loss and distance limitations in high-speed MMF links.

FEATURES & BENEFITS:

- **4-Channel Support:** Handles four independent 25G Base-SR optical lanes simultaneously, optimizing bandwidth and port density.
- **Multimode Fiber Compatibility:** Designed for OM3/OM4/OM5 multimode fiber systems typically used in data center environments.
- **Signal Regeneration:** Fully regenerates optical signals, reducing jitter, dispersion, and attenuation-related errors.
- **Low-Latency Design:** Preserves timing with minimal added latency for performance-critical applications.
- **Compact Form Factor:** Space-saving design allows for easy integration into dense installation with low power consumption channel.
- **Hot-Pluggable & Power Efficient:** Easy installation with low power consumption per channel.
- **Transparent Operation:** No need for reconfiguration of existing network hardware — simply extend the link.
- **Military-Grade Reliability:** Built to withstand demanding operational environments with robust thermal and electrical tolerances.

Part Number	Description
CF-02FA00-35X	Repeater

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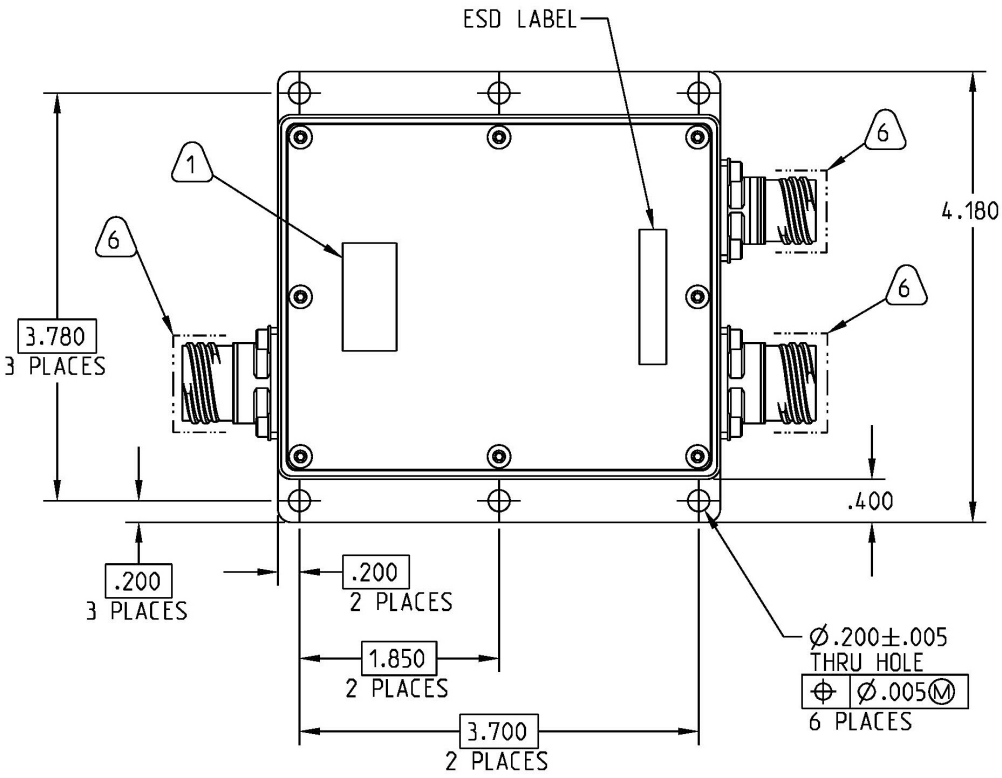
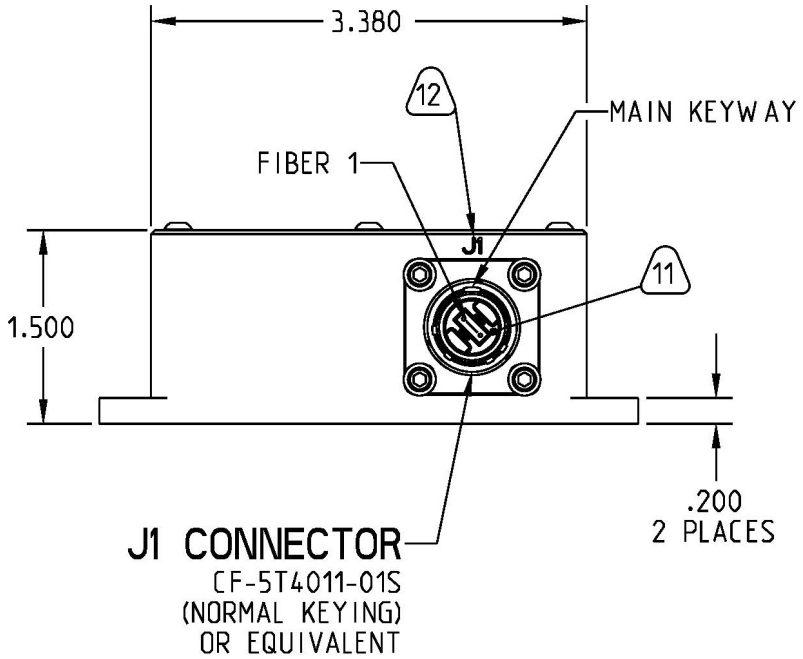
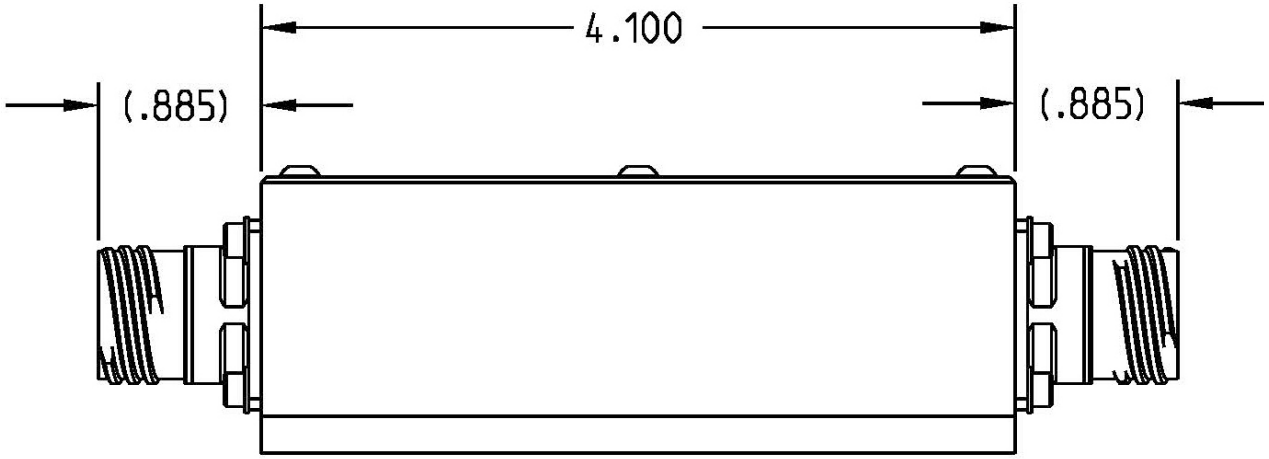
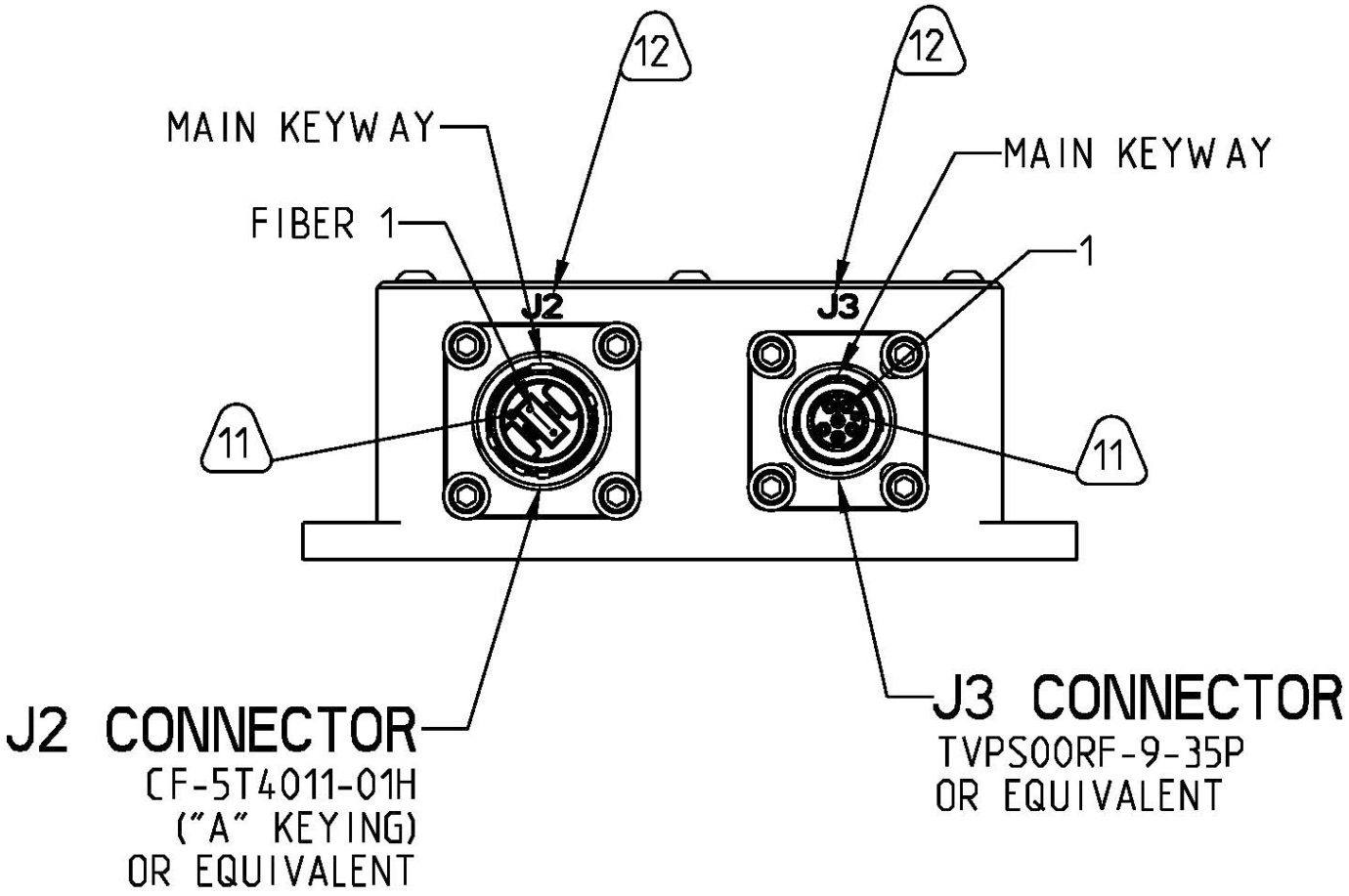
DIMENSIONAL INFORMATION





DIMENSIONAL INFORMATION (CONTINUED)





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I/O CHART

J1 I/O CHART (8)			J2 I/O CHART (8)	
ID	SIGNAL	DIRECTION	SIGNAL	ID
1	25GBase-SR_TX1	<<<---	25GBase-SR_RX1	12
2	25GBase-SR_TX2	<<<---	25GBase-SR_RX2	11
3	25GBase-SR_TX3	<<<---	25GBase-SR_RX3	10
4	25GBase-SR_TX4	<<<---	25GBase-SR_RX4	9
5	N/C	--	N/C	8
6	N/C	--	N/C	7
7	N/C	--	N/C	6
8	N/C	--	N/C	5
9	25GBase-SR_RX4	--->>>	25GBase-SR_TX4	4
10	25GBase-SR_RX3	--->>>	25GBase-SR_TX3	3
11	25GBase-SR_RX2	--->>>	25GBase-SR_TX2	2
12	25GBase-SR_RX1	--->>>	25GBase-SR_TX1	1

J3 I/O CHART (8)	
ID	SIGNAL
1	CHASSIS_GND
2	CHASSIS_GND
3	CHASSIS_GND
4	CHASSIS_GND
5	28VDC
6	28VDC_RTN

Amphenol Ruggedization Design

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. Unless otherwise noted, the parts conform to the below specifications

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 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

SHOCK AND VIBRATION:

- Sine Vibration - 10g 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 - 0.0005 @ 5Hz, 0.1 @ 15 Hz, 0.1 @ 2,000 Hz
  - 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.

FLUIDS SUSEPTABILITY:

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

ALTITUDE:

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

ELECTRONMAGNETIC COMPATIBILITY:

- Designed to comply with MIL-STD-461E

PRINTED CIRCUIT BOARD ASSEMBLIES:

- Conformal Coat
- Amphenol performs Conformal Coting to both sides of printed circuit board assemblies using HUSMISEAL 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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