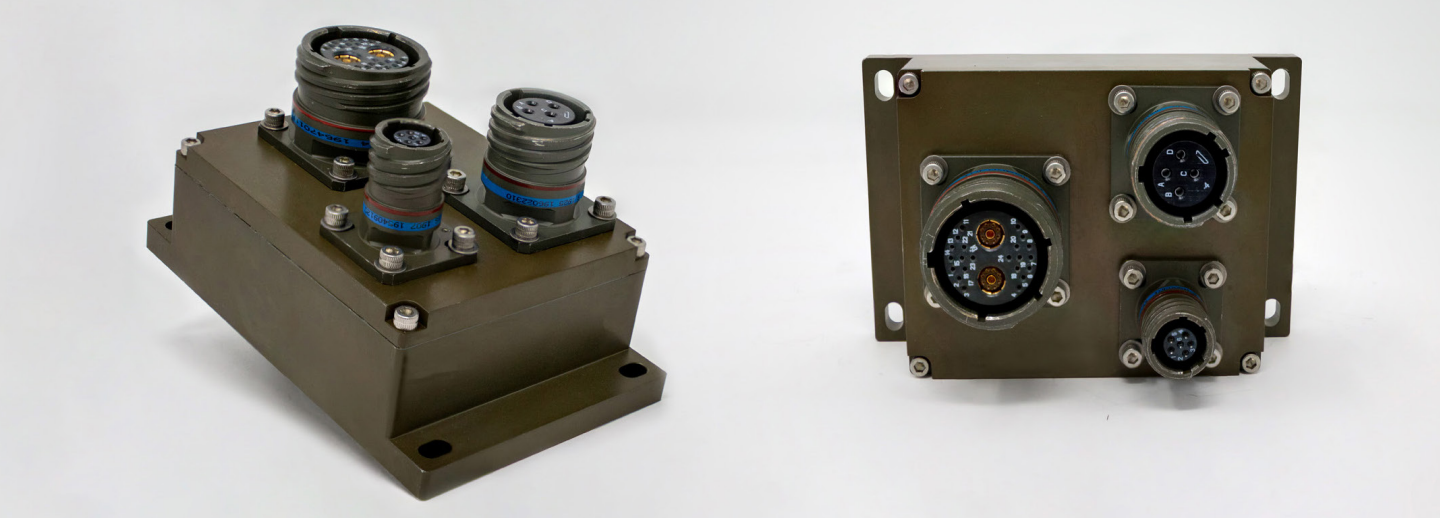
Amphenol
MILITARY HIGH SPEED

DUAL CHANNEL 10GBASE-SR TO 10GBASE-T CONVERTER

MEDIA CONVERTER



DESCRIPTION

This product converts two channels of 1G or 10GBase-T copper Ethernet to fiber optic protocols. In the 1GBase-T protocol, the corresponding fiber protocol is 1GBase-SX. In the 10GBase-T protocol, the corresponding fiber protocol is 10GBase-SR. The product auto-negotiates the fastest speed on the copper side of the interface and then sets the fiber speed. In addition to the functionality described above, this part is also available as a stand-alone item to a platform with a 28VDC input power connector.

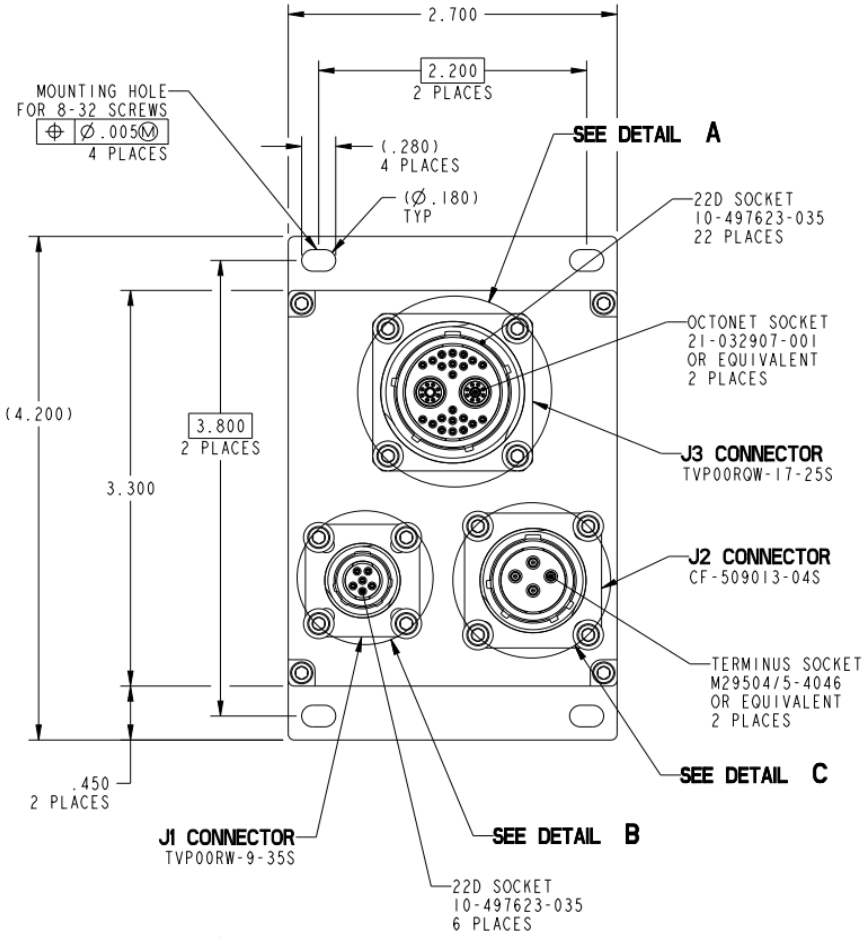
FEATURES & BENEFITS:

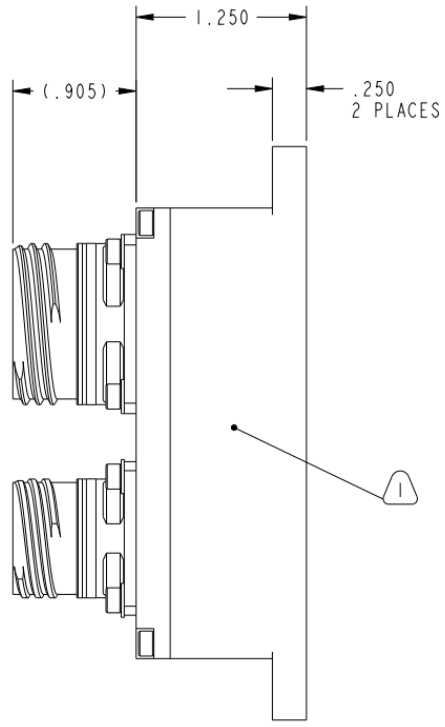
- Two Channels of Ethernet – two transmits / two receives
- 850nm signal compatible 50/125 multi-mode fiber (options exist for 62.5/125)
- Copper protocols are auto-negotiated and can be 1GBase-T or 10GBase-T compliant to IEEE 802.3an standards
- Fiber protocols can be 1GBase-SX and 10G Base-SR compliant to industry standards.
- Fiber optic output power is -3dBm minimum.
- Fiber optic receive sensitivities are -13dBm minimum.
- Power supply is 28V; 5 Watts max
- Stand-alone adapter for integrating systems
- Expandable from 1G to 10G speeds
- Conduction cooled and -40C- to +85C operating temperatures

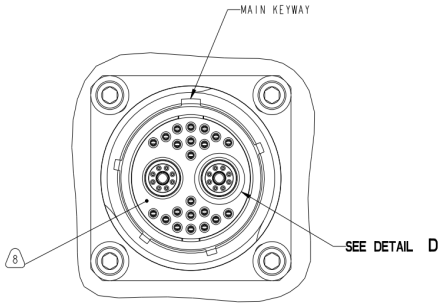
Jared Sibrava | +1 (607) 643-1845 | jsibrava@amphenol-aao.com | amphenol-aerospace.com

DIMENSIONAL INFORMATION

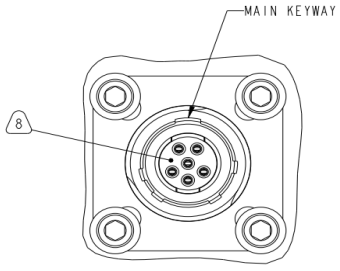
CF-020011-332



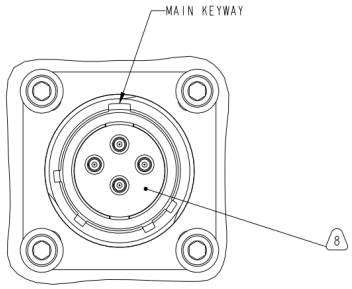




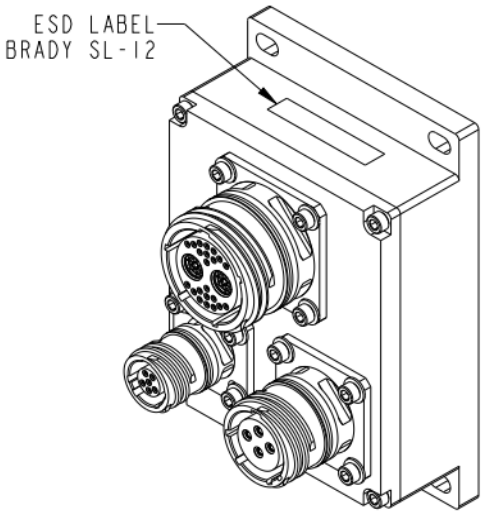
DETAIL A
J3 CONNECTOR
SCALE 3.000



DETAIL B
J1 CONNECTOR
SCALE 3.000



DETAIL C
J2 CONNECTOR
SCALE 3.000



ISOMETRIC VIEW
SCALE 1.000

Jared Sibrava | +1 (607) 643-1845 | jsibrava@amphenol-aao.com | amphenol-aerospace.com

I/O CHARTS

J1 CONNECTOR I/O CHART	
PIN ID	DESCRIPTION
1	CHASSIS GROUND
2	CHASSIS GROUND
3	CHASSIS GROUND
4	CHASSIS GROUND
5	28V IN
6	GND

J2 CONNECTOR I/O CHART (9)	
PIN ID	DESCRIPTION
A	ETHERNET CHANNEL 1 TX
B	ETHERNET CHANNEL 1 RX
C	ETHERNET CHANNEL 2 TX
D	ETHERNET CHANNEL 2 RX

J3 CONNECTOR I/O CHART (9)	
PIN ID	DESCRIPTION
1	SPARE/DEBUG
2	SPARE/DEBUG
3	SPARE/DEBUG
4	SPARE/DEBUG
5	SPARE/DEBUG
6	SPARE/DEBUG
7	SPARE/DEBUG
8	SPARE/DEBUG
9	SPARE/DEBUG
10	SPARE/DEBUG
11	SPARE/DEBUG
12	SPARE/DEBUG
13	SPARE/DEBUG
14	SPARE/DEBUG
15	SPARE/DEBUG
16	SPARE/DEBUG
17-1	CHANNEL 1 DA+
17-2	CHANNEL 1 DA-
17-3	CHANNEL 1 DB+
17-4	CHANNEL 1 DB-
17-5	CHANNEL 1 DC+
17-6	CHANNEL 1 DC-
17-7	CHANNEL 1 DD+
17-8	CHANNEL 1 DD-
18	SPARE/DEBUG
19	SPARE/DEBUG
20	SPARE/DEBUG
21-1	CHANNEL 2 DA+
21-2	CHANNEL 2 DA-
21-3	CHANNEL 2 DB+
21-4	CHANNEL 2 DB-
21-5	CHANNEL 2 DC+
21-6	CHANNEL 2 DC-
21-7	CHANNEL 2 DD+
21-8	CHANNEL 2 DD-
22	SPARE/DEBUG
23	SPARE/DEBUG
24	SPARE/DEBUG

Amphenol
MILITARY HIGH SPEED

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

- Opperating Temperature - thermal cycles between -40ºC and 85ºC while device is operating.
- Temperature is measured at chassis housing or card edge
- Storage temperature - thermal cycles between -55ºC and 125ºC

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
  - o 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
  - o 60 minutes per axis, in each of three mutually perpendicular axes.
- 40 G Peak Shock Cycle
  - o Three hits in each axis, both directions, 1/2 sine and terminal-leak saw tooth, total 36 hits

FLUID SUSCEPTABILITY

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

ALTITUDE

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

ELECTROMAGNETIC COMPATIBILITY

- Designed to comply with MIL-STL-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

Jared Sibrava | +1 (607) 643-1845 | jsibrava@amphenol-aao.com | amphenol-aerospace.com