PDS-255-1

EP-PCI-MAC-10G-Base-T Converter

FEATURES

+ 2 PCI-Express to 10G Ethernet Channels
+ Perfect for routing multiple 10 Gigabit Ethernet connections into systems and to and from electrical backplanes
+ Compliant with IEEE 802.3 Ethernet and PCI-Express Standards and Specifications
+ Integration of MAC, PHY, and transformers for 10G-Base-T

10G-BASE-T COPPER INTERFACE

+ D38999 Shell Size 25 with standard rotations available
+ 4 High speed split-pair quadrax contacts capable of 6.25Gbps (8 differential pairs)

PCI EXPRESS INTERFACE

+ Samtec EQDP Series for PCI-Express, power and MDC/MDIO control

POWER SPECIFICATIONS

+ 5V power connection in Samtec connector flexible ribbon cable
+ Low power consumption

RUGGEDIZATION

+ Natural convection cooled (no fan or cold plate required)
+ Operational temperature-40°C to 85°C
+ Storage temperature -50°C to +125°C
+ Shock, vibration, immersion resistant per MIL-STD-810
+ EMI/EMC compatible

OVERVIEW

Amphenol Aerospace adds the EP-PCI-MAC-10G -Base-T 10G-Base-T to PCI-Express Converter to the Electronics Product Family. This product line is rugged, flexible, and affordable with many options available.

The 10G-Base-T to PCI-Express Converter couples protocol conversion and transformer coupling with a new level of ruggedization. This product can take a PCI-Express signal in an electrical backplane and convert it to a protocol that allows for signal transmission over 100 meters between devices, all with a new level of ruggedization.

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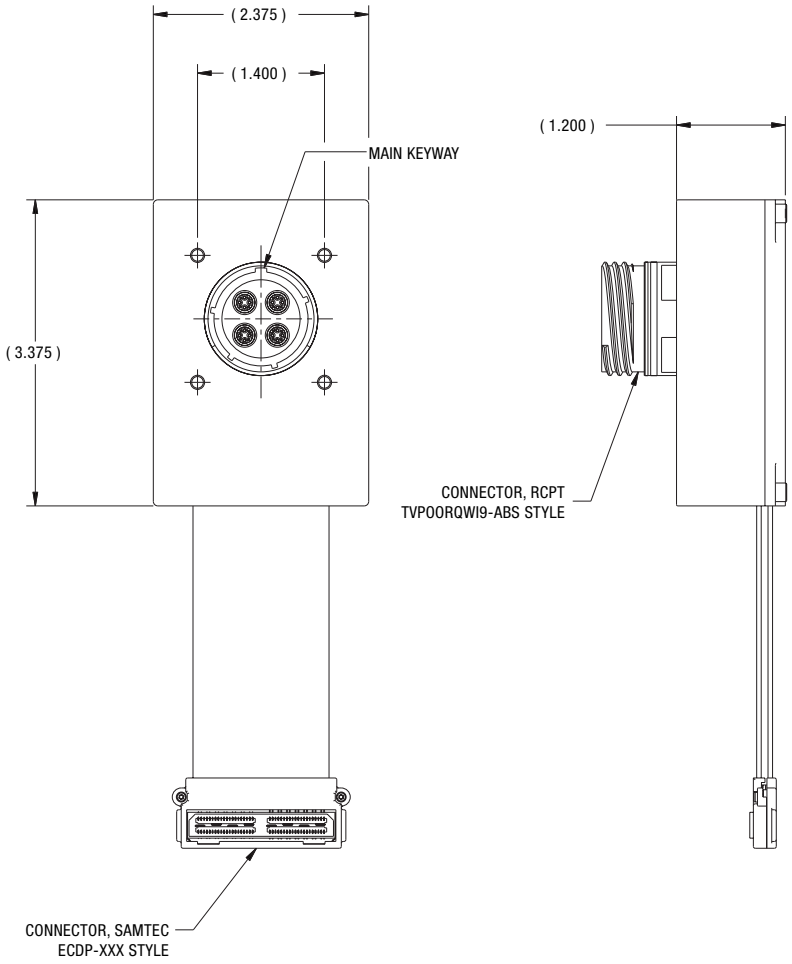
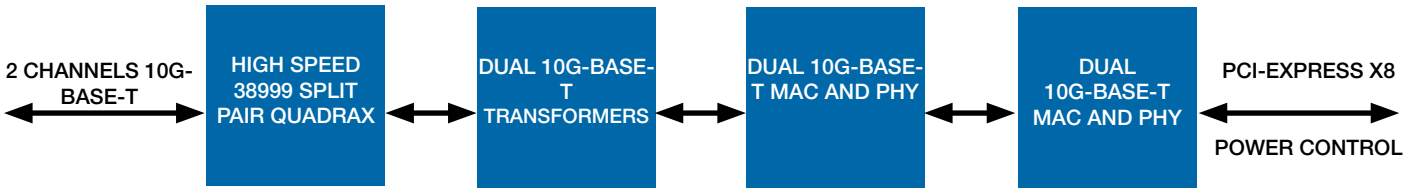
Drawing





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Ordering Guide

Ordering procedure is shown below using part number EP-

1.	2.	3.	4.	5.	6.	7.
Connector Type	**Material**	**PCI-Express Interface**	**Finish**	**Shell Style**	**D38999 Connector Rotation**	**Main Keyway Rotation**
EP						

Step 1. Connector Type

	Designates
EP	Electronics Product Family

Step 2. Select a Material

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

Step 3. Select a PCI-Express Interface

	Designates
S	Samtec EQDP Series Connector

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 a Rotation for D38999 Connector
(IAW MIL-DTL-38999)

	Designates
N	N
A	A
B	B
C	C
D	D

Step 7. Select a Rotation for Main Keyway
(IAW MIL-DTL-38999)

	Designates
W	0°
X	90°
Y	180°
Z	270°

Available Test Equipment

	Part Number	Description
Test Cable	**CF-980062-024**	**SMA Test Cable for D38999 Connector**
Test Board	**CF-980062-025**	**SMA Test Board for Samtec Connector**

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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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