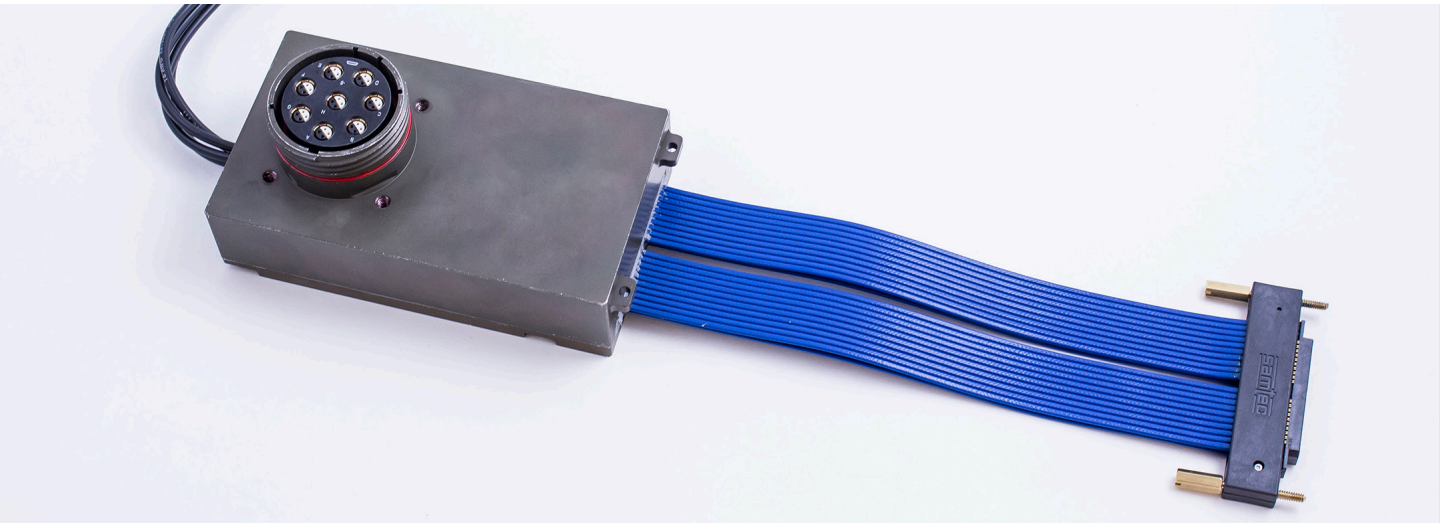
Amphenol Aerospace

PLUG WITH INTEGRAL BANDING PLATFORM

38999+ CONNECTORS

PDS - 248-3



Amphenol Aerospace adds 10GBASE-T to XAUI Converter to the Integrated Electronic Products line. This product line is rugged, flexible, and affordable with many options available.

This 10GBASE-T to XAUI converter couples SerDes technology and transformer coupling, which allows for protocol conversion with a new level of ruggedization. This product takes a high speed signal in an electrical backplane and convert it to a protocol that allows for signal transmission over 100 meters between devices.

FEATURES:

- Eliminates need for additional accessory
- Time savings during order and installation
- Cost effective
- Space and weight savings
- EMI protection
- Compatible with overmolding processes

10GBASE-T COPPER INTERFACE:

- D38999 Shell Size 25 with standard rotations available
- 8 High speed split-pair quadrax contacts capable of 6.25Gbps
- Allows for (4) ports of 10 gigabit ethernet

POWER SPECIFICATIONS:

- 5V power connection in Samtec connector flexible ribbon cable
- Low power consumption
  - Less than 5 watts

XAUI INTERFACE:

- Samtec Q Series®
  High Speed Cable Assembly
- Consult factory for
  specific type required

RUGGEDIZATION:

- Operational temperature
  -40°C to +85°C
- Storage temperature
  -50°C to +125°C
- EMI/EMC compatible
- Refer to page 5 for additional details

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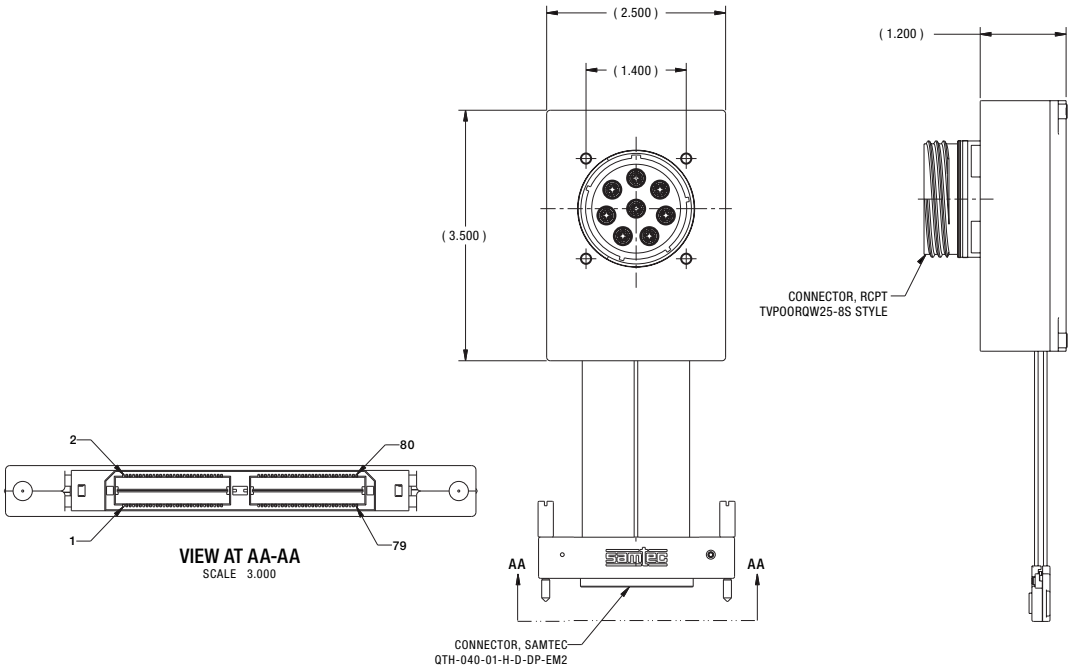
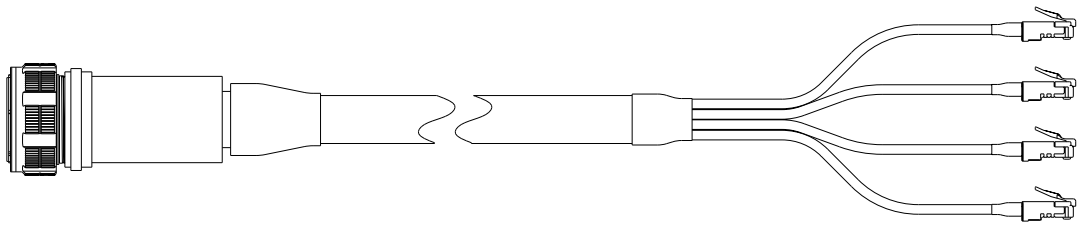
QUAD 10GBASE-T TO XAUI CONVERTER DRAWINGS

CTF-ENET-QUAD-10G

DRAWING FOR BOTH HERMETIC & NON-HERMETIC CONFIGURATIONS



DRAWING FOR TEST CABLE CA-628485-A2( )



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QUAD 10GBASE-T TO XAUI CONVERTER

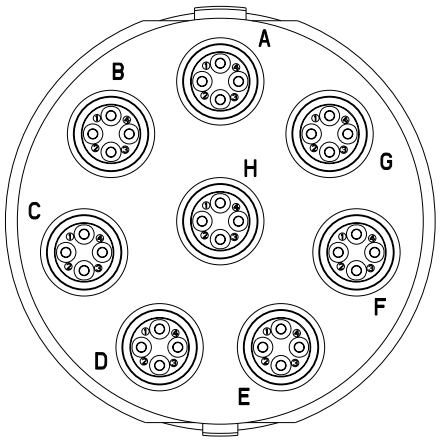
CTF-ENET-QUAD-10G

Amphenol Aerospace

PINOUT

Samtec HQDP-040 (40 Pairs; 80 Signals)							
Pin	Description	Pin	Description	Pin	Description	Pin	Description
1	CH 1 XAUI 1 Tx+	2	CH 2 XAUI 1 Tx+	41	CH 3 XAUI 1 Tx+	42	CH 4 XAUI 1 Tx+
3	CH 1 XAUI 1 Tx-	4	CH 2 XAUI 1 Tx-	43	CH 3 XAUI 1 Tx-	44	CH 4 XAUI 1 Tx-
5	CH 1 XAUI 1 Rx+	6	CH 2 XAUI 1 Rx+	45	CH 3 XAUI 1 Rx+	46	CH 4 XAUI 1 Rx+
7	CH 1 XAUI 1 Rx-	8	CH 2 XAUI 1 Rx-	47	CH 3 XAUI 1 Rx-	48	CH 4 XAUI 1 Rx-
9	CH 1 XAUI 2 Tx+	10	CH 2 XAUI 2 Tx+	49	CH 3 XAUI 2 Tx+	50	CH 4 XAUI 2 Tx+
11	CH 1 XAUI 2 Tx+	12	CH 2 XAUI 2 Tx+	51	CH 3 XAUI 2 Tx+	52	CH 4 XAUI 2 Tx+
13	CH 1 XAUI 2 Rx+	14	CH 2 XAUI 2 Rx+	53	CH 3 XAUI 2 Rx+	54	CH 4 XAUI 2 Rx+
15	CH 1 XAUI 2 Rx-	16	CH 2 XAUI 2 Rx-	55	CH 3 XAUI 2 Rx-	56	CH 4 XAUI 2 Rx-
17	CH 1 XAUI 3 Tx+	18	CH 2 XAUI 3 Tx+	57	CH 3 XAUI 3 Tx+	58	CH 4 XAUI 3 Tx+
19	CH 1 XAUI 3 Tx-	20	CH 2 XAUI 3 Tx-	59	CH 3 XAUI 3 Tx-	60	CH 4 XAUI 3 Tx-
21	CH 1 XAUI 3 Rx+	22	CH 2 XAUI 3 Rx+	61	CH 3 XAUI 3 Rx+	62	CH 4 XAUI 3 Rx+
23	CH 1 XAUI 3 Rx-	24	CH 2 XAUI 3 Rx-	63	CH 3 XAUI 3 Rx-	64	CH 4 XAUI 3 Rx-
25	CH 1 XAUI 4 Tx+	26	CH 2 XAUI 4 Tx+	65	CH 3 XAUI 4 Tx+	66	CH 4 XAUI 4 Tx+
27	CH 1 XAUI 4 Tx-	28	CH 2 XAUI 4 Tx-	67	CH 3 XAUI 4 Tx-	68	CH 4 XAUI 4 Tx-
29	CH 1 XAUI 4 Rx+	30	CH 2 XAUI 4 Rx+	69	CH 3 XAUI 4 Rx+	70	CH 4 XAUI 4 Rx+
31	CH 1 XAUI 4 Rx-	32	CH 2 XAUI 4 Rx-	71	CH 3 XAUI 4 Rx-	72	CH 4 XAUI 4 Rx-
33	5V Power	34	5V Power	73	5V Power	74	5V Power
35	Ground	36	Ground	75	Ground	76	Ground
37	MDIO	38	MDC	77	Spare	78	Spare
39	Spare	40	Spare	79	Spare	80	Spare
Ribbon Connector - QTH-040-01-H-D-DP-EM2							
Board Connector QSH-040-01-H-D-DP-K							
Board Connector must be used with So-0165-04-01-02 Screw Mounts with correct spacing							

Samtec HQDP-040 (40 Pairs; 80 Signals)					
Quad	Pin	Description	Quad	Pin	Description
A	1	CH 1 A+	A	1	CH 3 A+
	4	CH 1 A-		4	CH 3 A-
	2	CH 1 B+		2	CH 3 B+
	3	CH 1 B-		3	CH 3 B-
B	1	CH 1 C+	B	1	CH 3 C+
	4	CH 1 C-		4	CH 3 C-
	2	CH 1 D+		2	CH 3 D+
	3	CH 1 D-		3	CH 3 D-
C	1	CH 2 A+	C	1	CH 4 A+
	4	CH 2 A-		4	CH 4 A-
	2	CH 2 B+		2	CH 4 B+
	3	CH 2 B-		3	CH 4 B-
D	1	CH 2 C+	D	1	CH 4 C+
	4	CH 2 C-		4	CH 4 C-
	2	CH 2 D+		2	CH 4 D+
	3	CH 2 D-		3	CH 4 D-



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ORDERING GUIDE

Complete steps 1-8 to create your part number

1.	2.	3.	4.	5.	6.	7.	8.
Connector Type	Material	XAUI Interface	Finish	Shell Style	Option (Hermetic or Non-Hermetic)	D38999 Connector Rotation	Main Keyway Rotation
CTC							

STEP 1 :
Choose a Connector Type

Connector Type	
CTC	Copper to Copper Media Conversion Family

STEP 2 :
Choose a Material

Material	
-5	Aluminium Shell
-6	Composite Shell
-8	Stainless Steel Shell

STEP 3 :
Choose a XAUI Interface

Interface	
-5	Samtec EQDP Series® Connector

STEP 4 :
Choose a Finish

Finish	
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 :
Choose an Shell Style

Shell Style	
0	Wall Mount

STEP 6 :
Choose an Option

Option	
05	Non-Hermetic
06	Hermetic

STEP 7 :
Choose a Rotation for D38999 Connector (IAW MIL-DTL-38999)

D38999 Rotation	
W	0°
X	90°
Y	180°
Z	270°

STEP 8 :
Choose a Rotation for Main Key-way (IAW MIL-DTL-38999)

Keyway Rotation	
T	Aluminum Durmalon
Z	Aluminum Black Zinc Nickel
F	Aluminum Electroless Nickel
M	Composite Electroless Nickel

AVAILABLE TEST EQUIPMENT

	Part Number	Description
Test Cable	CA-628485-A20	RJ45 Test Cable for D38999 Connector, 5'
	CA-628485-A21	RJ45 Test Cable for D38999 Connector, 10'
	CA-628485-A22	RJ45 Test Cable for D38999 Connector, 15'
	CA-628485-A23	RJ45 TEst Cable for D38999 Connector, 20'
Test Board	CF-020005-013	SMA Test Board for Samtec Connector

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AMPHENOL INTEGRATED ELECTRONIC PRODUCTS 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.

TEMPERATURE:

- Operating Temperature- Thermal Cycles between -40ºC and 85ºC while device is operating
- Temperature is measured at chassis housing or card edge
- Storage Tempterature- 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

FLUIDS SUSEPTIBILITY:

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

VIBRATION & SHOCK:

- 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 perendicular 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 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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