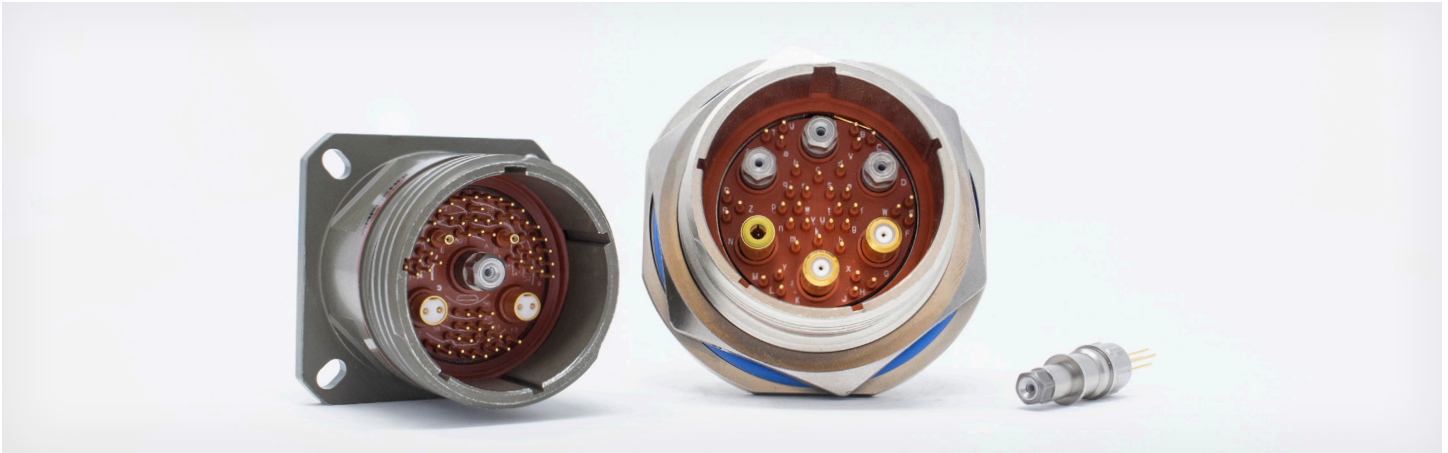


FIBERQUAD

HIGH PERFORMANCE RUGGEDIZED QUADRIX CONTACT



DESCRIPTION

Amphenol provides a high performance ruggedized Quadrix contact, known as FiberQuad, that embeds a fiber optic transmitter or receiver within the contact itself, along with the support electronics to provide a plug-and-play solution to our customers.

The contact is flexible enough to be a transmitter or receiver, support many wavelengths and modes, and support multiple protocols, including those which encoded and pathological. The contact fits within a standard Quadrix contact and can be installed in plugs and receptacles meant for Amphenol Quadrix 38999 connectors.

FEATURES & BENEFITS

- Each Quadrix contact can contain a fiber optic transmitter or receiver
- Support for speeds up to 4.25Gbps
- Support for 1300 multi-mode (for legacy protocols such as 100-Base-FX), 1310nm single-mode, and 850nm multi-mode wavelengths
- Support for encoded data as well as pathological data
- Each contact can be installed in any Amphenol Quadrix 38999 Connector
- Onboard diagnostics and control
- Operating temperatures: -40C to +85C
- Transmit enable pin for transmitters
- Loss of signal pin for receivers

SUPPORTED PROTOCOLS

- Ethernet
- Fibre Channel
- ARINC-818
- PCI-Express
- Infiniband
- SDI / HD-SDI / 3G-HD-SDI
- Many others

Part Number	Tx or Rx	Wavelength/Mode	Speed	Interface Type
CF-170900-034	Transmitter	850nm Multi-Mode	Up to 4.25 Gbps	Encoded Data
CF-170900-035	Receiver	850nm Multi-Mode	Up to 4.25 Gbps	Encoded Data
1310nm Variants	*	*	*	*
1550nm Variants	*	*	*	*
Speeds at 10 Gbps	*	*	*	*
Pathological Data	*	*	*	*

* Please contact factory

SPECIFICATIONS

General

Parameter	Min	Nom	Max	Units	Notes
Supply Voltage	2.9	3.3	3.6	V	-40°C to +85°C, [1]
Support Current (all channels active)	298	345	402	mA	-40°C to +85°C, [1]
Data Rate	0.025		10.75	Gbps	-40°C to +85°C, [2]
Operating Temperature	-40		85	Deg C	[1]

Electrical

Parameter	Min	Nom	Max	Units	Notes
Transmitter					
Supply Current (per channel)	18	22	37	mA	-40°C to +85°C, [3]
Input Differential Impedance	80	100	120	W	Differential [7]
Differential Input Voltage Swing	150(8)	1000	1200(8)	mVpp	-40°C to +85°C, [5]
Receiver					
Supply Current (per channel)			1	mA	-40°C to +85°C, [3]
Output Termination Impedance		50		W	Single-ended [7]
Differential Output Voltage Swing	298	427	610	mVpp	-40°C to +85°C, [4]

Optical

Parameter	Min	Nom	Max	Units	Notes
Transmitter					
Output Optical Power	-10		-1	dBm	-40°C to +85°C, [5]
Optical Wavelength		850		nm	
Extinction Ratio	1.82		3.36	dB	-40°C to +85°C, [5]
Optical Rise Time		30(8)	50(8)	ps	-40°C to +85°C, [5]
Optical Fall Time		30(8)	50(8)	ps	-40°C to +85°C, [5]
Receiver					
Sensitivity		-10		dBm	-40°C to +85°C, [5]

PINOUT AND DESCRIPTION

Transmitter

TOSA Contact I/O Chart	
PIN ID	Function
1	DIABLE
2	VCC
3	GND
4	FAULT
5	INPUT-
6	INPUT+

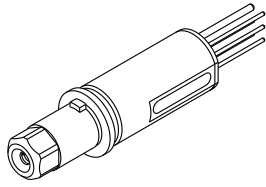
Mating Electrical Connector Pinout	
Signal Name	Description
CH#_TX/RX_P/N	High speed differential signal. The direction of this signal is from the perspective of transceiver.
CH#_TX_DISABLE	Optical transmit disable pin. To enable the optical transmitter, apply 0VDC. To disable the optical transmitter, apply 3.3VDC or leave floating.
FAULT	The on board processor was unable to successfully write to the laser driver or limiting amplified over 12C.
VCC_3V3	Apply 3.3 VDC to power the CF-020012-0XX device
GND	Ground Return

Receiver

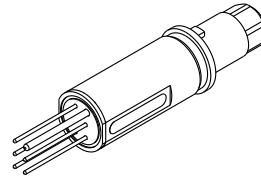
ROSA Contact I/O Chart	
PIN ID	Function
1	GND
2	VCC
3	GND
4	LOS
5	INPUT-
6	INPUT+

Mating Electrical Connector Pinout	
Signal Name	Description
CH#_TX/RX_P/N	High speed differential signal. The direction of this signal is from the perspective of transceiver.
CH#_RX_LOS	Optical receive loss of signal indicator. High level indicates the amplitude is below the programmed threshold level.
VCC_3V3	Apply 3.3 VDC to power the CF-020012-0XX device
GND	Ground Return

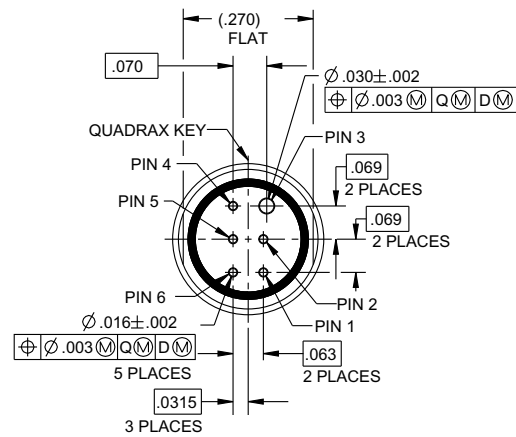
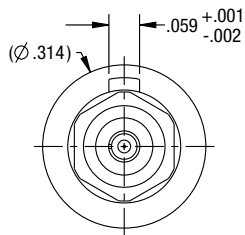
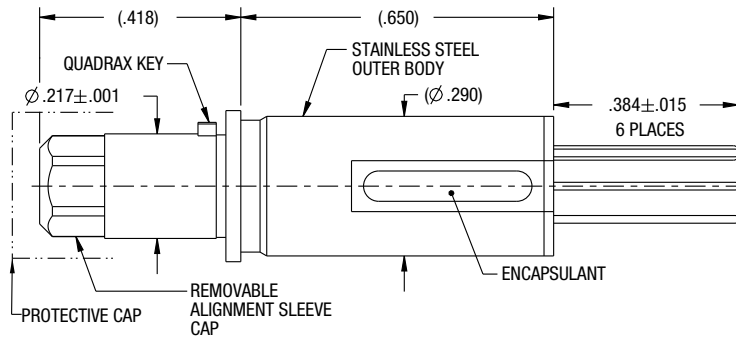
DIMENSIONS



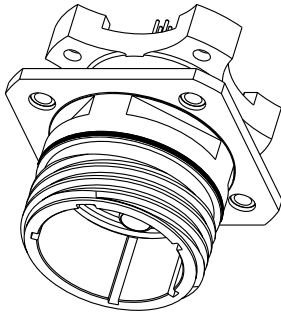
FRONT ISO VIEW



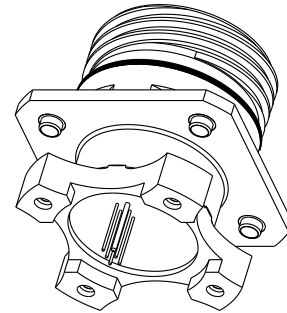
REAR ISO VIEW



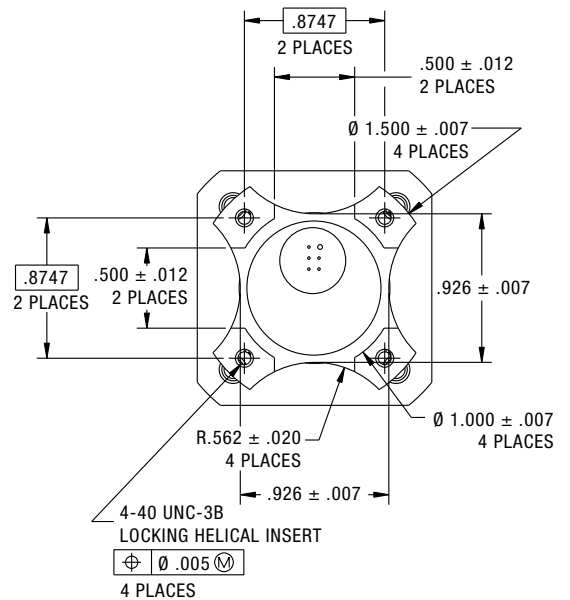
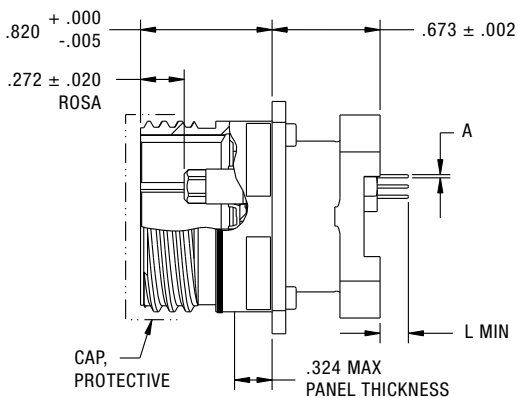
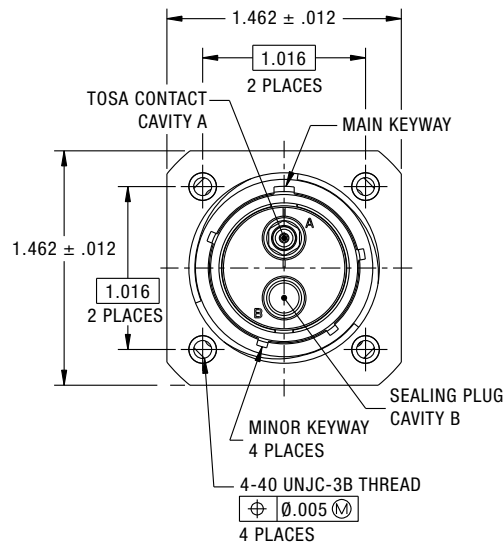
EXAMPLE CONNECTOR WITH FIBERQUAD CONTACTS 1



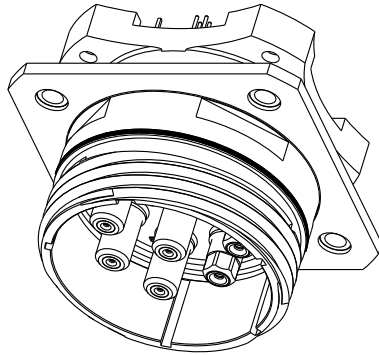
FRONT



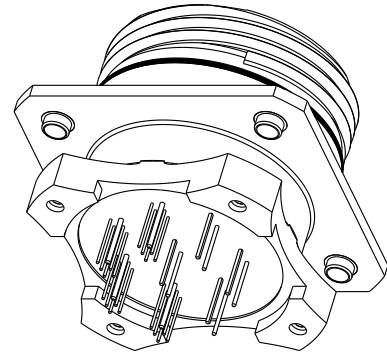
REAR



EXAMPLE CONNECTOR WITH FIBERQUAD CONTACTS 2



FRONT



REAR

