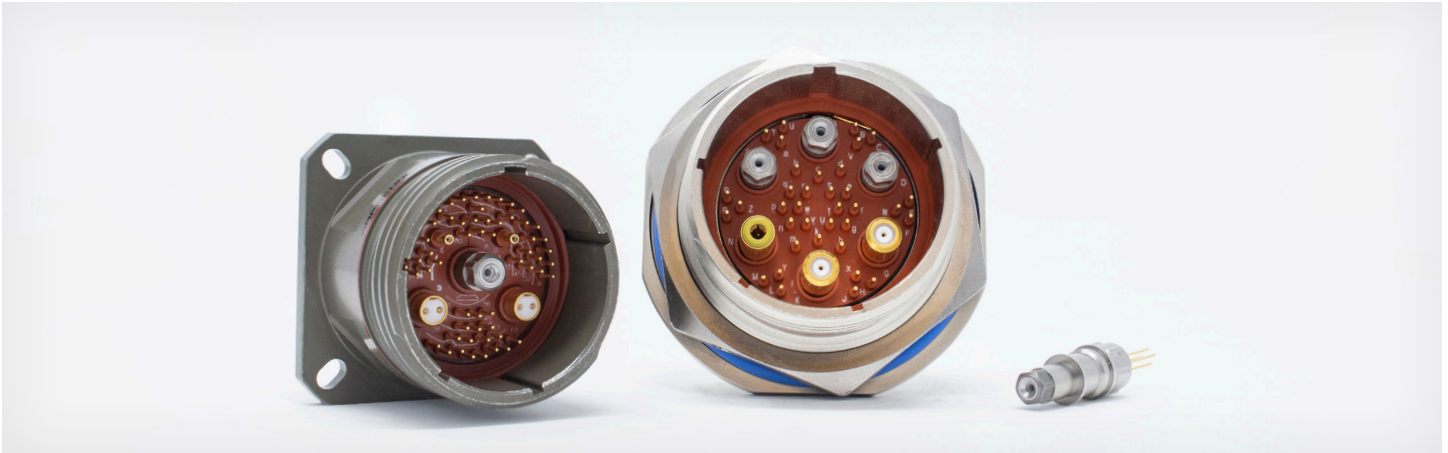


FIBERQUAD

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 10.3125 Gbps
- 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: -40° F (-40° C) to 185° F (85° C)
- 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
CF-170900-EXX (1)	Transmitter	850nm Multi-Mode	Up to 10.3125 Gbps	Encoded Data
CF-170900-FXX (1)	Receiver	850nm Multi-mode	Up to 10.3125 Gbps	Encoded Data
1310nm Variants	*	*	*	*
1550nm Variants	*	*	*	*
Pathological Data	*	*	*	*

* Please contact factory

(1) See final part number configuration under the 10G dimension page

CF-170900-034 AND CF-170900-035 SPECIFICATIONS

General

Parameter	Min	Nom	Max	Units	Notes
Supply Voltage	2.9	3.3	3.6	V	-40°F(-40°C) to 185°F(+85°C)
Data Rate	0.155		4.25	Gbps	-40°F(-40°C) to 185°F(+85°C)

Electrical

Parameter	Min	Nom	Max	Units	Notes
Transmitter					
Input Differential Impedance		100		Ohms	Differential
Differential Input Voltage Swing	150	1000	1200	mVpp	-40°F(-40°C) to 185°F(+85°C)
Receiver					
Differential Output Voltage Swing	520	760	1200	mVpp	-40°F(-40°C) to 185°F(+85°C)

Optical

Parameter	Min	Nom	Max	Units	Notes
Transmitter					
Output Optical Power	-2			dBm	-40°F(-40°C) to 185°F(+85°C)
Optical Wavelength		850		nm	
Receiver					
Sensitivity			-24	dBm	-40°F(-40°C) to 185°F(+85°C)

4.25GBPS FIBERQUAD PINOUT AND DESCRIPTION

Transmitter :

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

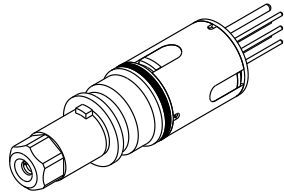
Mating Electrical Connector Pinout	
Signal Name	Description
Input +/-	High speed AC coupled differential input signals
DISABLE	Optical transmit disable pin. To enable the optical transmitter, apply 0VDC. To disable the optical transmitter, apply 3.3VDC or leave floating.
FAULT	Fiber optic transmitter fault
VCC	3.3 VDC
GND	Ground Return

Receiver :

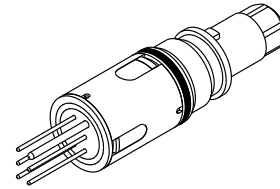
ROSA Contact I/O Chart	
PIN ID	Function
1	GND
2	VCC
3	GND
4	LOS
5	OUTPUT-
6	OUTPUT+

Mating Electrical Connector Pinout	
Signal Name	Description
Output +/-	High speed AC coupled differential output signals
LOS	Optical receive loss of signal indicator. High level indicates the amplitude is below the programmed threshold level.
VCC	3.3 VDC
GND	Ground Return

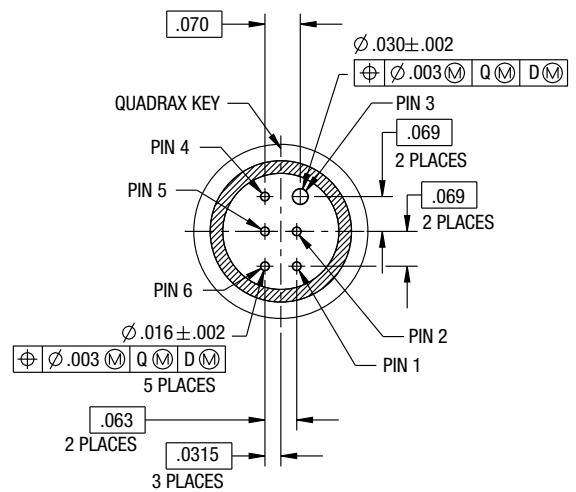
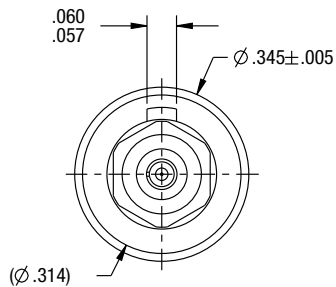
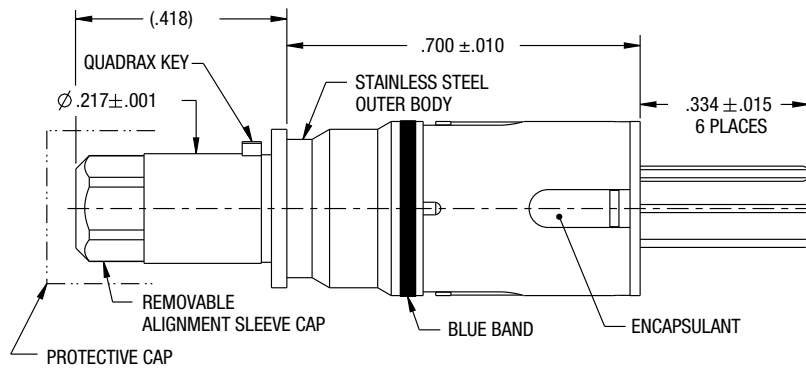
CF-170900-034/035 4.25GBPS DIMENSIONS



FRONT ISO VIEW



REAR ISO VIEW



CF-170900-EXX/FXX SPECIFICATIONS

General

Parameter	Min	Nom	Max	Units	Notes
Supply Voltage	2.9	3.3	3.6	V	-40°F(-40°C) to 185°F(+85°C)
Data Rate	1		10	Gbps	-40°F(-40°C) to 185°F(+85°C)
Operating Temperature	-40		85	Deg C	

Electrical

Parameter	Min	Nom	Max	Units	Notes
Transmitter					
Input Differential Impedance	75	100	125	Ohms	Differential
Differential Input Voltage Swing	200		800	mVpp	-40°F(-40°C) to 185°F(+85°C)
Receiver					
Differential Output Voltage Swing	595	800	1005	mVpp	-40°F(-40°C) to 185°F(+85°C)

Optical

Parameter	Min	Nom	Max	Units	Notes
Transmitter					
Output Optical Power	-4			dBm	-40°F(-40°C) to 185°F(+85°C)
Optical Wavelength		850		nm	
Receiver					
Sensitivity			-18	dBm	-40°F(-40°C) to 185°F(+85°C)

CF-170900-EXX/FXX PINOUT AND DESCRIPTION

Transmitter :

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

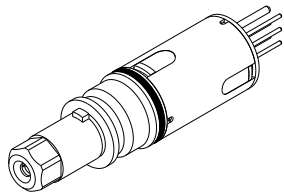
Mating Electrical Connector Pinout	
Signal Name	Description
Input +/-	High speed AC coupled differential input signals
DISABLE	Optical transmit disable pin. To enable the optical transmitter, apply 0VDC. To disable the optical transmitter, apply 3.3VDC or leave floating.
FAULT	Fiber optic transmitter fault
VCC	3.3 VDC
GND	Ground Return

Receiver :

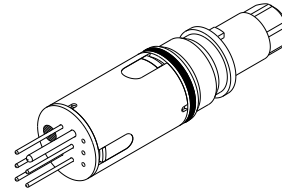
ROSA Contact I/O Chart	
PIN ID	Function
1	GND
2	VCC
3	GND
4	LOS
5	OUTPUT-
6	OUTPUT+

Mating Electrical Connector Pinout	
Signal Name	Description
Output +/-	High speed AC coupled differential output signals
LOS	Optical receive loss of signal indicator. High level indicates the amplitude is below the programmed threshold level.
VCC	3.3 VDC
GND	Ground Return

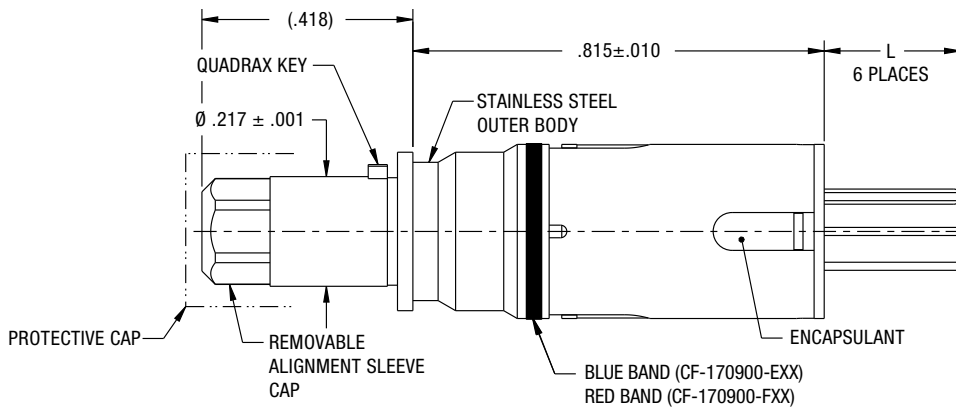
CF-170900-E01/F01 DIMENSIONS



FRONT ISO VIEW

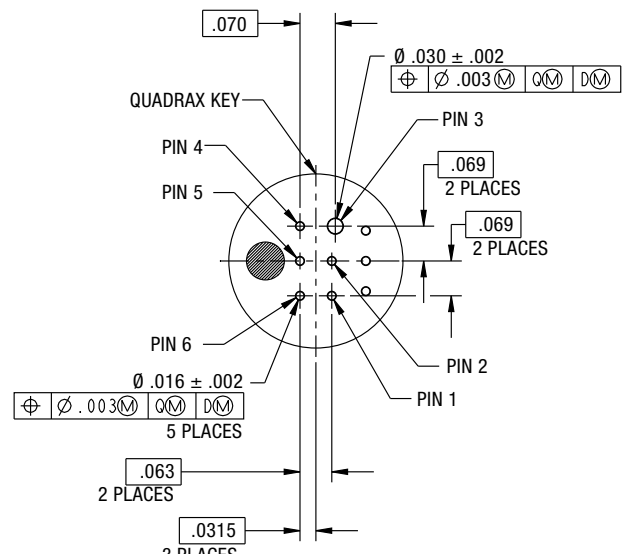
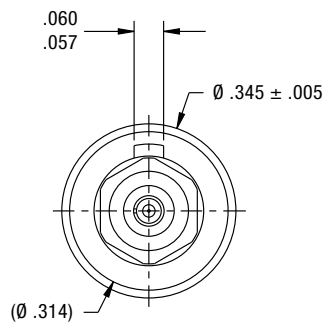


REAR ISO VIEW

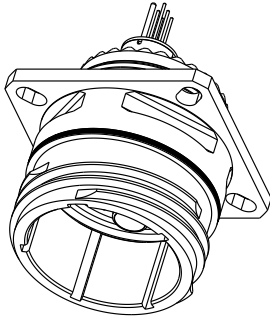


Part Number	L ± .015
CF-170900-F01	.333
CF-170900-F02	.270
CF-170900-F03	.158

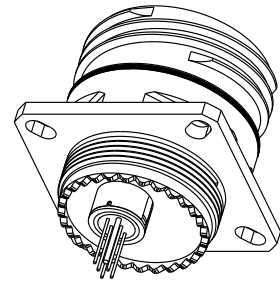
Part Number	L ± .015
CF-170900-E01	.333
CF-170900-E02	.270
CF-170900-E03	.158



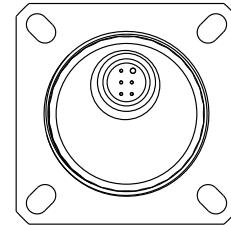
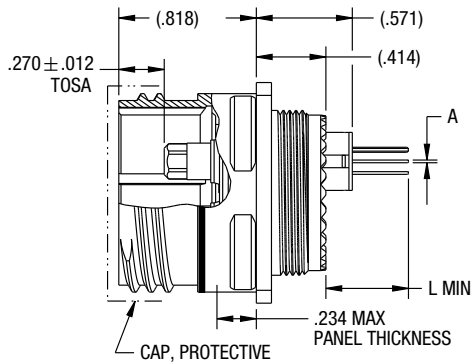
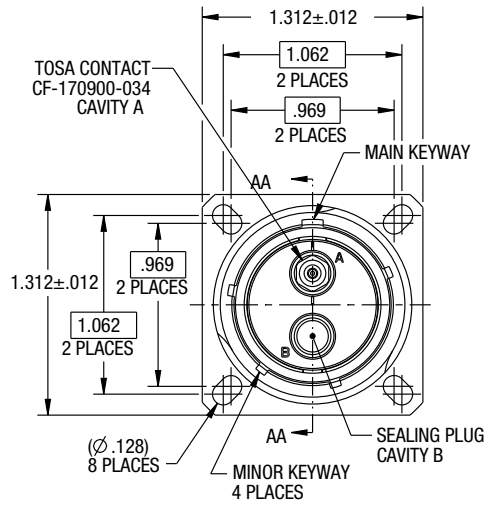
EXAMPLE CONNECTOR WITH FIBERQUAD CONTACTS 1



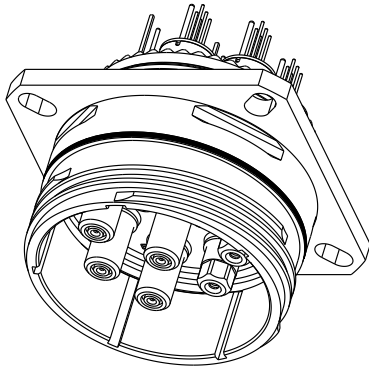
FRONT



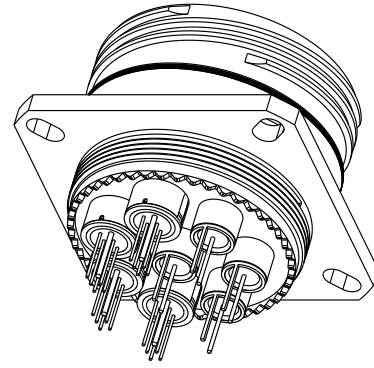
REAR



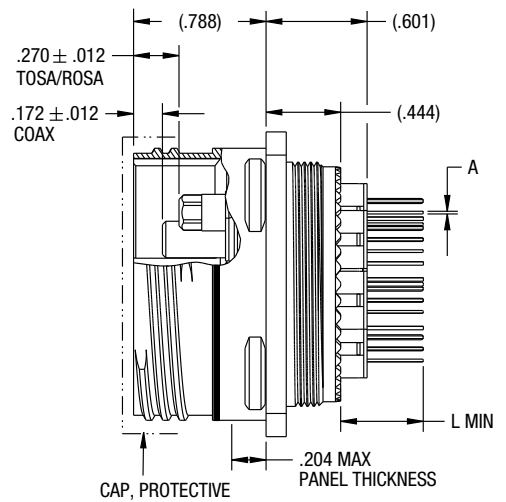
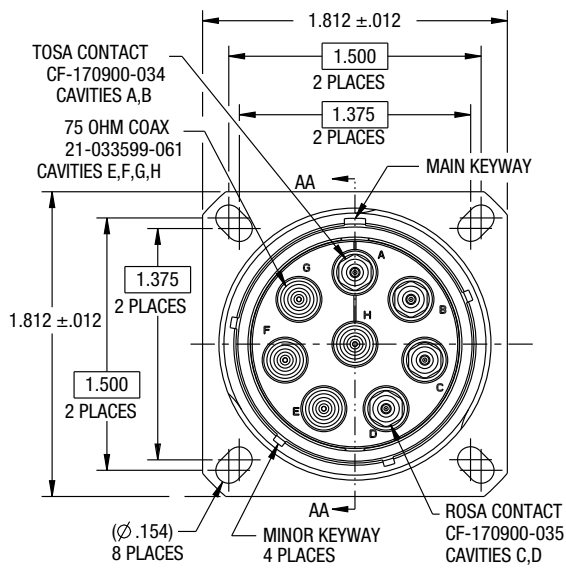
EXAMPLE CONNECTOR WITH FIBERQUAD CONTACTS 2



FRONT



REAR



NOTES:

NOTES:



amphenol-aerospace.com