smiths interconnect

*Light*CONEX 10G 4TRX

Optical plug-in module connectors for VPX systems

VPX optical interconnect designed to meet the defense industry requirements

Qualification

MIL-STD-883

- Vibration tests, Method 2007.3
- Mechanical shock tests, Method 2002.5
- Thermal shock tests, Method 1011.9
- Thermal cycling tests, Method 1010.8

JEDEC-STD-22

- Damp heat - Method A101

MIL-STD-810

- Cold storage tests, Method 502.5

Key features

- Industrial temperature: −40 °C to 85 °C
- Sensitivity down to −12 dBm
- Up to 10.3125 Gbps per channel
- LGA interposer mount
- Link distance up to 100 m (OM3 fiber)
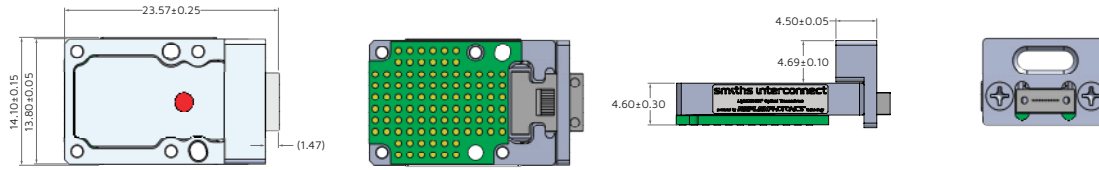- I2C communication interface

Application

The *Light*CONEX 10G 12TRX optical module is used in 3U and 6U VPX backplane applications:
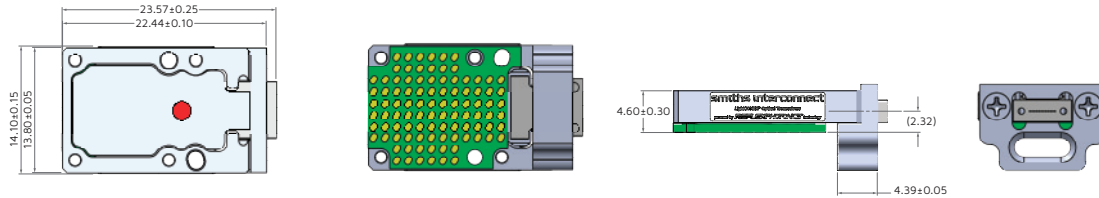
- Embedded VPX computing systems
- Phased array radar
- CCD/CMOS imaging sensor
- Data intensive applications

Product Summary

The *Light*CONEX 10G 4TRX VITA 66.5 optical plug-in module is a four-lane, full-duplex, 10 Gbps per lane, optical transceiver in a small, ruggedized package for harsh-environment applications.

The *Light*CONEX 10G 4TRX is available with a VITA 66.5-compliant Style A, Style C, or Style D connector that mates with a respective style VITA backplane connector.

The electrical interfaces support per lane data rates of up to 10.3125 Gbps (a total bandwidth of over 40 Gbps full-duplex).

The optical transceiver integrates an industry-standard, 1×12 MT, optical interface using the QSFP+ compatible channel configuration (4-TX/4-n.c./4-RX). The transceiver uses a 96-pin LGA-type electrical interposer connector and the entire plug-in module is screw-attached on to the host board. Style D offers additional backplane bandwidth port density by including passive feedthrough optical connectors for mid-board *Light*ABLE™ transceivers.

The module contains a preprogrammed microcontroller for configuration – only power and high-speed signaling is required.

Mechanical layout

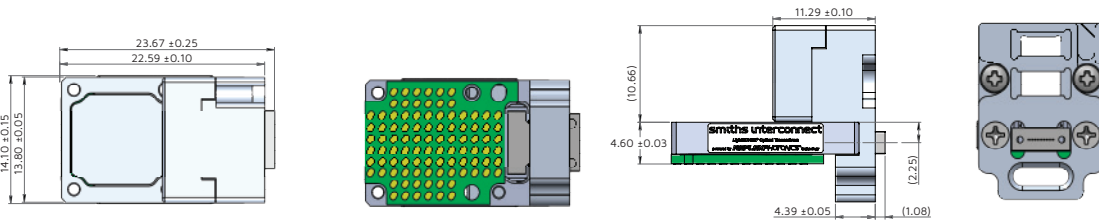**Style A**

Style C

Style D

Part Numbering and Ordering Information

Part number	Description
Transceiver	
LCX04A4185321AA	LightCONEX 10G 4TRX Style A, standard sensitivity
LCX04A4185323AA	LightCONEX 10G 4TRX Style A, high sensitivity
LCX04C418532101	LightCONEX 10G 4TRX Style C, standard sensitivity
LCX04C418532302	LightCONEX 10G 4TRX Style C, high sensitivity
LCX04D418532101	LightCONEX 10G 4TRX Style D, standard sensitivity
LCX04D418532301	LightCONEX 10G 4TRX Style D, high sensitivity
Accessories	
415-00005	Interposer kit for Style A, includes: 1× 700-00018 interposer + 4× $\frac{5}{16}$ in. screws
415-00018	Interposer kit for Styles C and D, includes: 1× 700-00106 interposer + 4× ¼ in. screws
700-00018	2.74 mm, 96 positions LGA interposer for Style A (no screws)
700-00106	1.00 mm, 96 positions LGA interposer for Styles C and D (no screws)
399-00033	MT dust cap for Style A and C (included with the *Light*CONEX).
399-00037	MT dust cap for Style D (included with the *Light*CONEX)
Optical cables	
500-00256	1×12 plug-in 15 cm MT-to-MT optical cable