

LightCONEX 10G 12TX or 12RX

Optical plug-in module connectors for VPX systems



Product Summary

The *LightCONEX*® 10G 12TX or 12RX VITA 66.5 optical plug-in module is a 12-channel, half duplex, 10 Gbps per channel optical transmitter/receiver in a small, ruggedized package for harsh environment applications.

The *LightCONEX* 10G 12TX or 12RX 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 channel data rates of up to 10.3125 Gbps (a total bandwidth of over 120 Gbps half-duplex).

The module integrates an industry standard, 1x12 MT optical interface compatible with twelve-channel parallel optical fiber ribbon cables. The module uses LGA type electrical interface connector with 96 pins 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 mounted *LightABLE*™ transceivers.

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

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
- LGA interposer mount
- Link distance up to 100 m (OM3 fiber)
- I2C communication interface

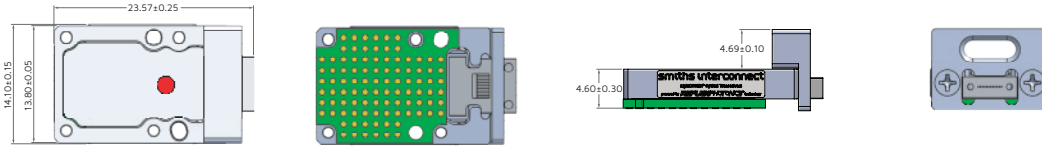
Application

The *LightCONEX* 10G 12TX or 12RX optical modules are used in 3U and 6U VPX backplane applications:

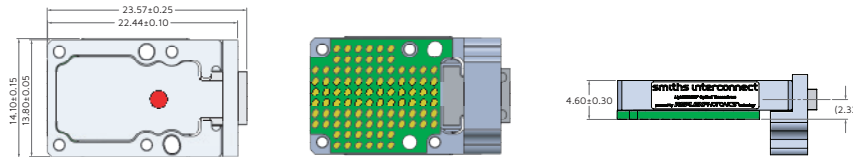
- Embedded VPX computing systems
- Phased array radar
- CCD/CMOS imaging sensor
- Data intensive applications

Mechanical layout

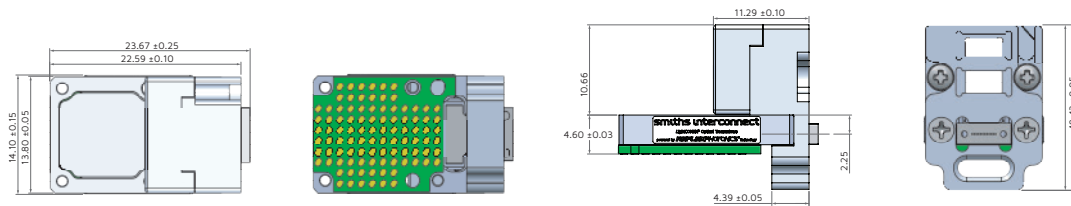
Style A



Style C



Style D



Part Numbering and Ordering Information

Part number	Description
Transceiver	
LCT12A418533001	LightCONEX 10G 12TX, Style A
LCT12C4185330AA	LightCONEX 10G 12TX, Style C
LCT12D4185330AA	LightCONEX 10G 12TX, Style D
LCR12A418530101	LightCONEX 10G 12RX, Style A, standard sensitivity
LCR12A418530301	LightCONEX 10G 12RX, Style A, high sensitivity
LCR12C4185301AA	LightCONEX 10G 12RX, Style C, standard sensitivity
LCR12C4185303AA	LightCONEX 10G 12RX, Style C, high sensitivity
LCR12D4185301AA	LightCONEX 10G 12RX, Style D, standard sensitivity
LCR12D4185303AA	LightCONEX 10G 12RX, Style D, high sensitivity
Accessories	
415-00005	Interposer kit for Style A, includes: 1x 700-00018 interposer + 4x 5/16 in. screws
415-00018	Interposer kit for Styles C and D, includes: 1x 700-00106 interposer + 4x 1/4 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 C and Style A (Included with the LightCONEX)
399-00037	MT dust cap for Style D (Included with the LightCONEX)
500-00256	1x12 plug-in 15 cm MT-to-MT optical cable
500-00262	2x12 plug-in 15 cm MT-to-MT optical cable
Evaluation boards and related parts	
LLK12P418500001	Evaluation board for LightABLE 10G LGA (12TX or 12RX)
865-00003	I2C host adapter (AARDVARK)
500-00017	12-fiber multimode breakout fiber cable with MT to FC/PC connectors