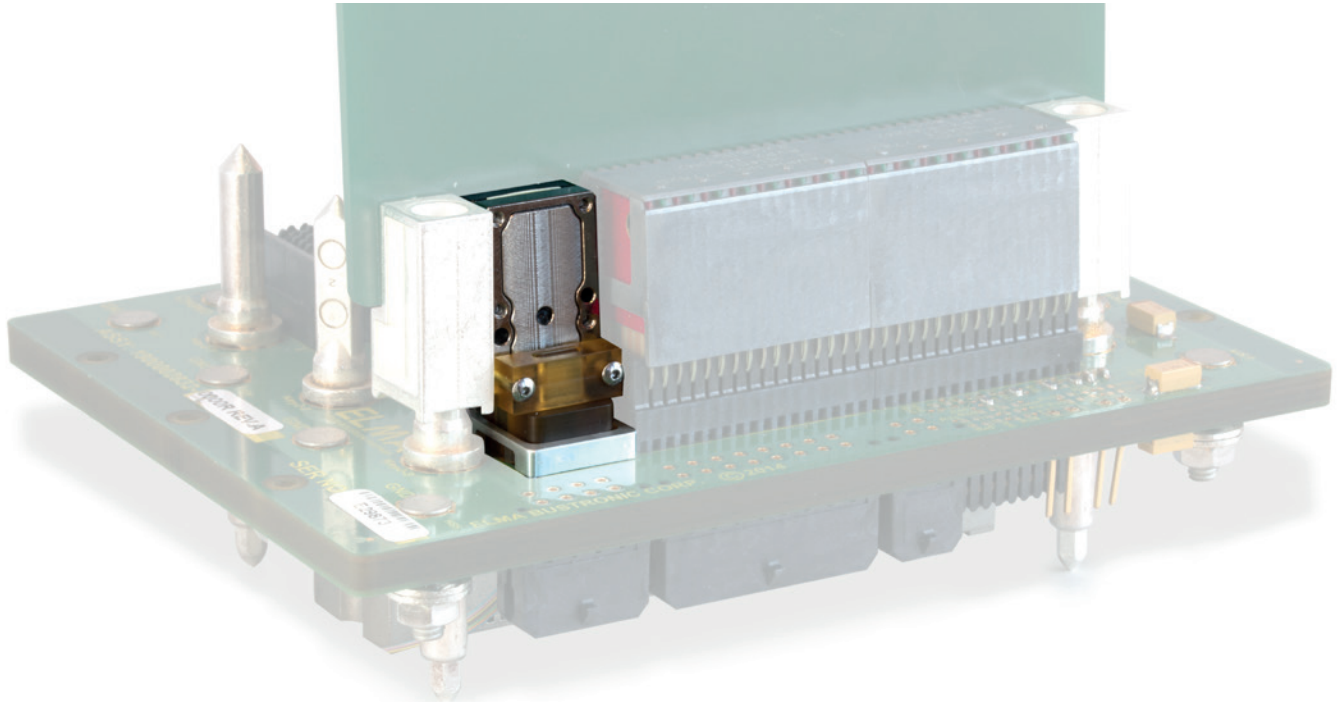


LightCONEX: A rugged VPX blind mate optical interconnect



LightCONEX 50G and 150G

Key advantages

- VITA 66.4 compatible
- 2-level maintenance
- Board-edge mount
- Reach : 300 m over OM3 fiber
- Module connectors operate at 12.5 Gbps per lane from -40°C to 100°C at ultra-low bit error rates of 10^{-15} .
- Module connector includes equalizers and pre-emphasis to compensate trace impedance.

LightCONEX product summary

The LightCONEX® revolutionary active blind mate optical interconnect for VPX embedded computing systems, consists of a module connector and a backplane connector compatible with the VITA 66.4 standard. A *LightABLE* 50G optical transceiver is directly integrated into the plug-in module connector, saving board space and eliminating fiber cable handling. The backplane connector is a low profile drop-in replacement for the VITA standard but includes springs to ensure a secure MT to MT mating connection under extreme shock and vibration.

The *LightCONEX* is offered with 12-lane transmitters, a 12-lane receivers, or (4+4)-lane transceivers in commercial or industrial operating temperatures. Each lane operates at up to 12.5 Gbps.

Configurations

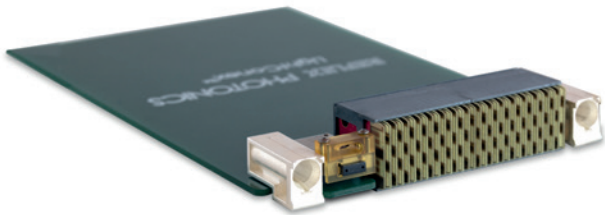
- 4 TRX, 12 TX, 12 RX
- 12 TRX (Q2-2018)

Applications

- VPX single board computers
- All digital AESA radars
- High I/O, high BW communication links
- ISR embedded systems

Plug-in module connector features

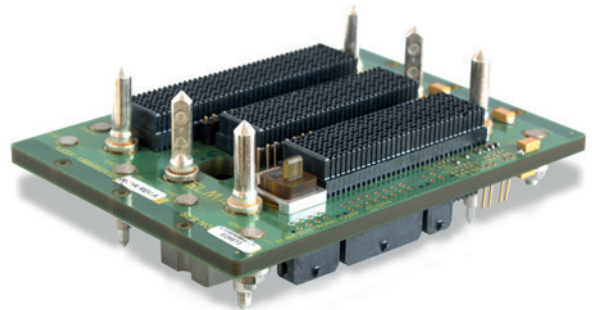
- **Rugged:** MIL STD 883 compliant
- **Moisture resistant:** sealed
- **Small size (D×W×H):** 23 mm×14 mm×6 mm
- **Bandwidth:** 12.5 Gbps/lane
- **Temperature:** -40 °C to 100 °C
- **Reach:** 300 m, OM3 fiber
- **BER:** 10⁻¹⁵
- **Low power consumption:** 1.2 W per module
- **Data interface:** CML
- **Board Mount:** LGA connector



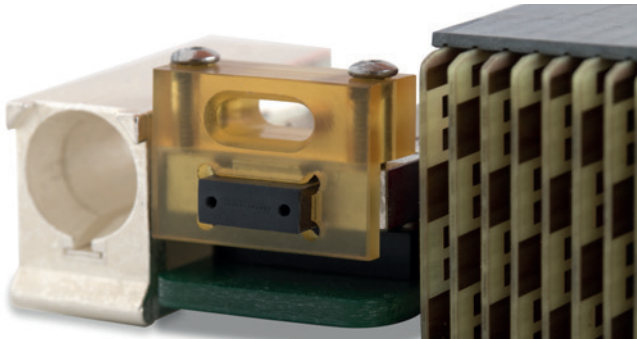
3U VPX board with VITA 46 and *LightCONEX* plug-in connectors.

Backplane connector features

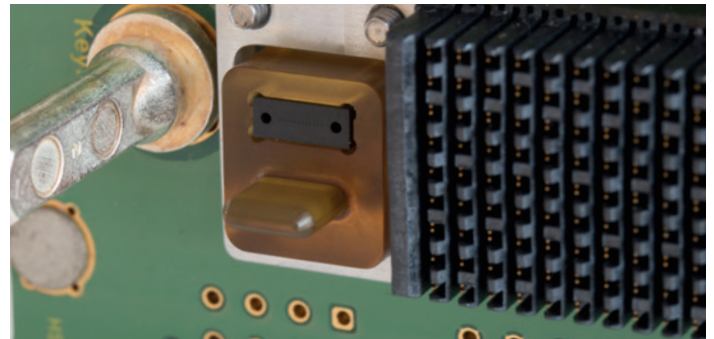
- VITA 66.4 drop-in replacement
- Spring-loaded MT ferrule
- Coarse and fine mating alignment
- Low profile: 10 mm height
- Available VITA 67.3 drop-in replacement with a 12-lane TX and a 12-lane RX at 12.5 Gbps per lane



ELMA 3U VPX backplane with VITA 46 and *LightCONEX* connectors.



Close-up of the *LightCONEX* plug-in module connector.

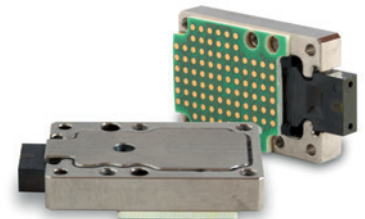


Close-up of the *LightCONEX* backplane connector.

LightABLE™ LGA

The low profile plug-in module connector (6.5 mm) mounts to the board edge via an LGA connector to facilitate eventual integration of mezzanine card. It is offered as a 4-lane transceiver, a 12-lane transmitter, or a 12-lane receiver. All plug-in module connectors operate at 12.5 Gbps per lane from -40 °C to 100 °C at ultra-low bit error rates of 10⁻¹⁵.

The plug-in module connector includes equalizers and pre-emphasis to compensate long traces; these features can be turned off for short traces (less than 10 cm) to reduce power consumption.



Amphenol Aerospace *LightCONEX*® is developed in partnership with Amphenol Aerospace.

THE *Light* on Board® Company

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Reflex Photonics is certified to ISO 9001

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