**LightCONEX LC: A rugged VPX blind mate optical interconnect**

**Key advantages**
- Compatible with the forthcoming VITA 66.5 standard
- Supports two-level maintenance
- Board-edge mount
- Reach: 300 m over OM3 fiber
- Operates at 12.5 Gbps per lane from −40 °C to 100 °C with ultra-low bit error rate of $10^{-15}$
- Includes equalizers and pre-emphasis to compensate trace impedance.

**Configurations**
- 4TRX (50G)
- 12TX or 12RX (150G)
- 12TRX (150G, full duplex)
- 24TX or 24RX (300G), in development.

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

**LightCONEX LC product summary**
The *LightCONEX* LC revolutionary active blind mate optical interconnect for VPX systems, consists of a plug-in module connector and a backplane connector compatible with the forthcoming VITA 66.5 standard. A *LightABLE™* LL 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 66.4 standard but includes springs to ensure a secure MT to MT mating connection under extreme shock and vibration. The *LightCONEX LC* is offered with a 12-lane transmitter, a 12-lane receiver, a (4+4)-lane transceiver or a (12+12)-lane transceiver in commercial or industrial operating temperatures. Each lane operates at up to 12.5 Gbps.
Plug-in module connector features

- **Compact transceiver (L×W×H):**
  - 23 mm × 14 mm × 5 mm (12-lane)
  - 32 mm × 14 mm × 5 mm (24-lane)
- **Bandwidth:** 12.5 Gbps/lane
- **Temperature:** −40 ºC to 100 ºC
- **Reach:** 300 m, OM3 fiber
- **BER:** 10⁻¹⁵
- **Low power consumption:**
  - 1.4 W (12-lane)
  - 2.8 W (24-lane)
- **Data interface:** CML
- **Board Mount:** LGA connector

Backplane connector features

- **VITA 66.4 drop-in replacement**
- **Spring-loaded MT ferrule** (12-lane or 24-lane)
- **Coarse and fine mating alignment**
- **Low profile:** 10 mm height
- **Compatible with 12-lane or 24-lane OM3 or OM4 fiber ribbon cable**

LightCONEX LC ordering information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Product Description</th>
<th>Lanes</th>
<th>Bandwidth (Gbps/lane)</th>
<th>Sensitivity (dBm)</th>
<th>BER</th>
<th>Mounting</th>
<th>Operating Temperature (ºC)</th>
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<td>LightCONEX LC 12TX Transmitter</td>
<td>12</td>
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<td>LightCONEX LC 4TRX Transceiver</td>
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<td>LightCONEX LC 12TRX Transceiver</td>
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<td>RoHS LGA</td>
<td>−40 to 85</td>
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ACCESSORIES

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<tr>
<th></th>
<th>LightCONEX LC Amphenol adapter kit</th>
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<tr>
<td>415-00005</td>
<td>LightCONEX LC Amphenol VITA 66.5 backplane connector kit</td>
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THE Light on Board® Company

www.reflexphotonics.com

Reflex Photonics Inc.
16771, Chemin Ste-Marie
Kirkland, QC
H9H 5H3, Canada

For information on Reflex Photonics products, contact:

sales@reflexphotonics.com
+1.514.842.5179 (Montreal)
+1.408.715.1781 (USA)

Reflex Photonics is certified to ISO 9001

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