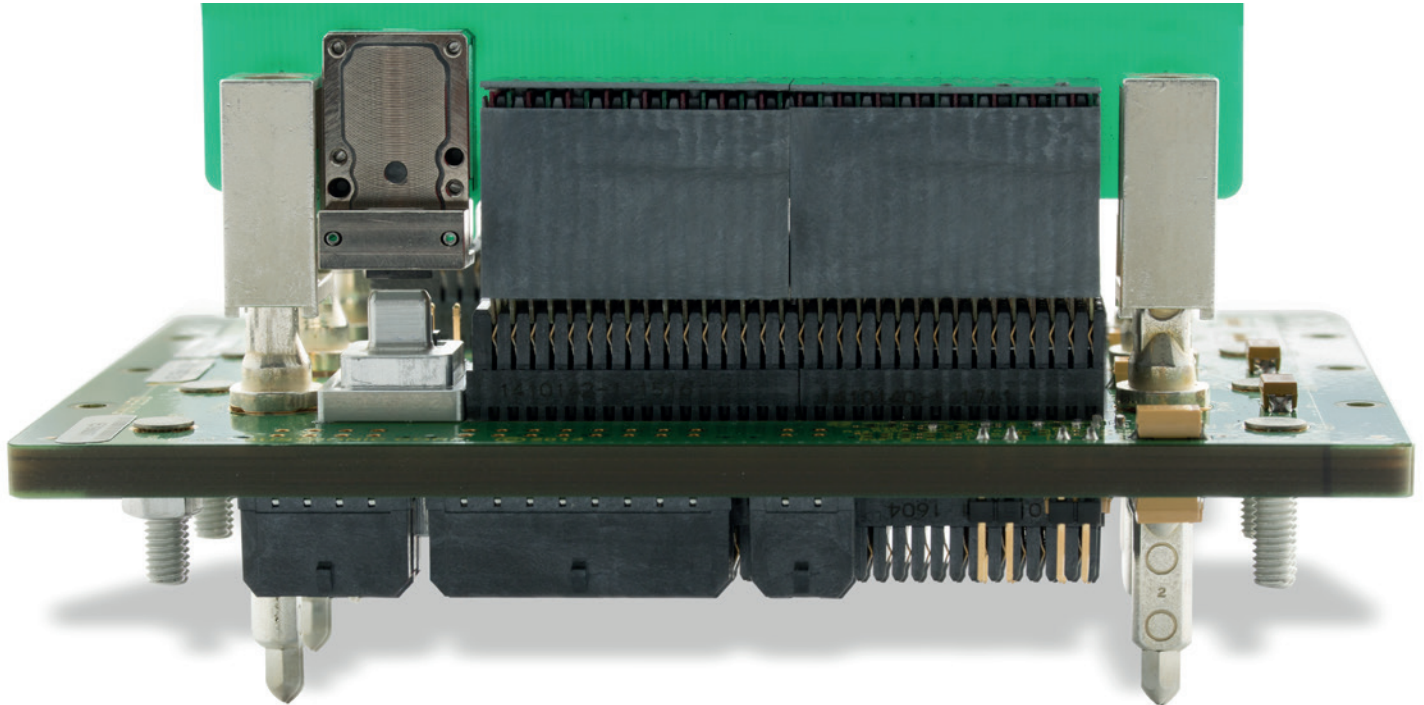


## Radiation-resistant VPX blind mate optical interconnect.



## SpaceCONEX28 SC 100G

The *SpaceCONEX28*™ SC revolutionary active blind mate optical interconnect for Space VPX systems, consists of a plug-in module connector and a backplane connector compatible with the forthcoming VITA 66.5 standard. A *SpaceCONEX* optical transceiver is directly integrated into the plug-in module connector, saving board space and eliminating fiber cable handling. The backplane connector is VITA 66.4 backplane cut-out compatible and includes springs to ensure a secure MT to MT mating connection under extreme shock and vibration conditions.

### Key advantages

- **Performance:** up to 28 Gbps/lane from  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$
- Compatible with the forthcoming VITA 66.5 standard
- No fiber management
- **Rugged:** withstands radiation doses  $>100$  krad (Si) and qualified per MIL-STD 883 shock and vibration.
- **Expected life:** up to 20 years
- **Cold start temperature:**  $-55^{\circ}\text{C}$
- **BER:** As low as  $10^{-12}$
- **Sensitivity:**  $-9$  dBm
- Low power consumption: 120 mW/lane ( $<10$  pJ per bit).

### Configurations

- 4TRX (100G, full duplex)
- 12TX (300G), in development
- 12RX (300G), in development

### Applications

- High-throughput communication satellites
- LEO satellite constellations
- GEO satellites
- Space VPX single board computers

## Plug-in module connector features

- **Compact transceiver (LxWxH):**  
27 mm × 14 mm × 3.5 mm
- **Low power consumption:** 1 W
- **Data interface:** CML
- **Board Mount:** LGA connector
- Equalizer, pre-emphasis, adjustable output

## Backplane connector features

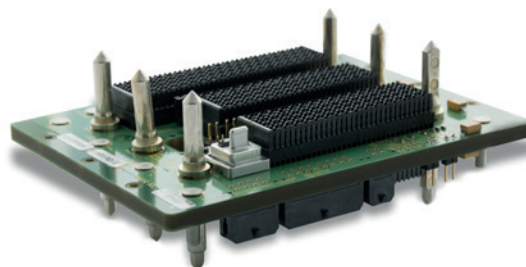
- VITA 66.4 backplane cut-out compatible
- Spring-loaded MT ferrule (12-lane or 24-lane)
- Coarse and fine mating alignment
- Compatible with 12-lane or 24-lane OM3 or OM4 fiber ribbon cable

The SpaceCONEX28 SC optical modules will be tested under heavy ions, protons, and Cobalt 60 electrons sources.

- **Heavy-ion tested** (Single Event Effect & Latch-up (SEE and SEL)).
- **Cobalt 60 electron source tested** (MIL-STD-883G, method 1019.7) Total Ionizing Dose (TID).
- **High and low energy protons tested** (Total Non-Ionizing Dose (TNID)).



SpaceCONEX28 SC 4+4-lane active module on a 3U VPX board.



ELMA 3U VPX backplane with SpaceCONEX28 SC backplane connector.



Close-up of the SpaceCONEX28 SC 4+4-lane plug-in module connector.



Close-up of the SpaceCONEX28 SC 4+4-lane backplane connector.

## SpaceCONEX28 SC ordering information

Part Number	Product Description	Lanes	Bandwidth (Gbps/lane)	Sensitivity (dBm)	BER	Mounting	Operating Temperature (°C)
SLX04P528532101	SpaceCONEX28 SC 4TRX transmit/receive	4+4	28	-9	E <sup>-12</sup>	RoHS LGA	-40 to 85

### ACCESSORIES

415-00012	2.74 mm 96-positions nLGA interposer kit (Interposer + screws)
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[www.reflexphotonics.com](http://www.reflexphotonics.com)

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