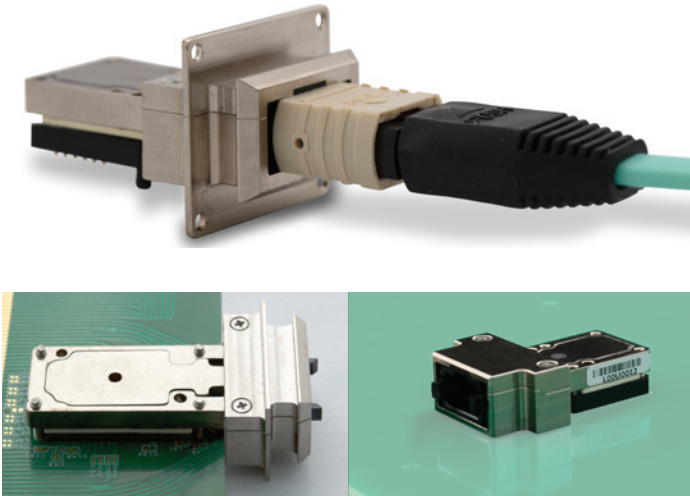


LightVISION VM with MPO interface

Industrial Optical Transceivers Up to 120G

Industrial multichannel optical transceivers designed for commercial aerospace applications.



The LightVISION VM is available in bulkhead (board-edge) and "midboard" versions.

The LightVISION family of optical embedded transceivers are affordable, reliable, high-performance embedded optical transceivers with bandwidth up to 120 Gbps.

These are well suited for high-bandwidth commercial aerospace systems with the added benefit of reducing aircraft wiring and system weight and bringing fault, EMI/EMC and lightning tolerance.

The LightVISION[®] VM is a screw-in, robust, industrial, and RoHS optical module with MPO interface. This approach combines a standard MPO cable connection with a robust, board mounted optical engine providing small size (footprint), face-plate or line-card mounting, and convenient optical cabling.

In addition, the MPO connector is covered with an outside cover boot addressing the issue of dust contamination.

The LightVISION VM acts like a QSFP+ but offers reduced dimensions and power consumption, industrial temperature range, multiple board mounting options, and board-mount and edge-mount capability. This optical module offers advantages over the QSFP+ form-factor and it is backed by Reflex Photonics proven reliability and rugged design.

Key advantages

- **Flexible:** height adjustable with LGA interposer
- **Rugged:** RoHS electrical interface
- **Performance:** up to 10.3125 Gbps/channel
- **Standards:** MPO/MTP[®] cable connection
- **Robust:** Screw-in board-mounted optical module with reduced footprint
- **Low power consumption:** 100 mW per channel

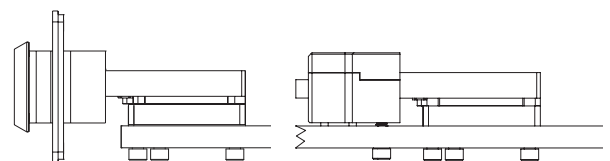
Configurations

- 4TRX (20G or 40G, full duplex)
- 12TX or 12RX (120G)
- 12TRX (120G, full duplex), in development

Applications

- In-flight entertainment (IFES) and communication
- Smart car, high-resolution cameras
- LIDAR connection to embedded computer
- Smart city, surveillance cameras
- Industry 4.0 and machine vision

Real size illustration

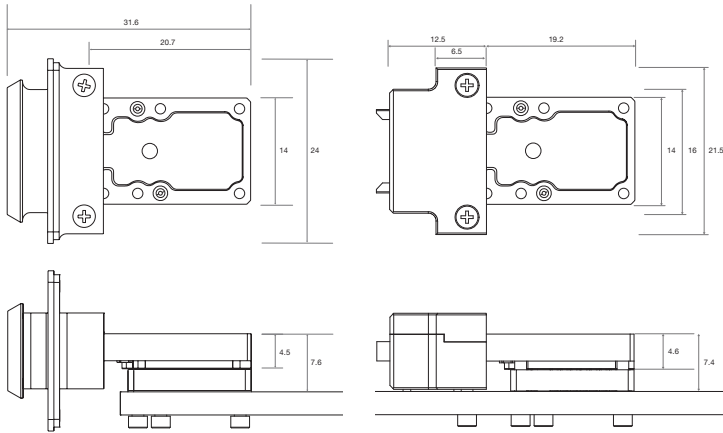


Real size for LightVISION VM bulkhead and LightVISION VM midboard versions.

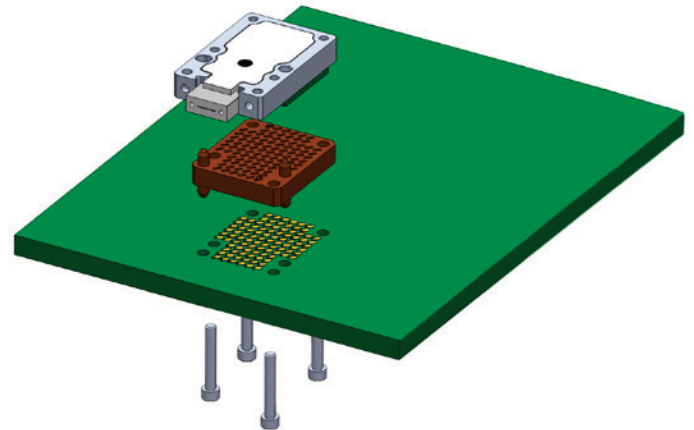
LightVISION VM features

The LightVISION® VM module is offered with bandwidth from 20G (2 TX or 2 RX channel) to 120G (12 TX or 12 RX channel). All modules operate at up to 10.3125 Gbps per channel with a BER as low as 10⁻¹² and a -9 dBm sensitivity.

- Multimode 850 nm wavelength laser
- Over 100 m reach on OM3 ribbon fiber
- Standard MPO parallel fiber connector
- Equalizer, pre-emphasis, adjustable output
- Monitoring: LOS, RSSI, temperature, etc.
- Integrated microcontroller
- Available in industrial grade temperature range (-40 °C to 85 °C)



Drawing of LightVISION VM bulkhead (board-edge) mount (left) and midboard (right). (measurements given in mm)



LightVISION VM LGA interposer and board attachment.

LightVISION VM with MPO interface ordering information

Part Number	Product Description	Channels or Lanes	Bandwidth (Gbps/ch.)	Mounting	Optical Interface	Sensitivity (dBm)	Operating Temp. (°C)
Bulkhead version							
VMX04P6185321AA	LightVISION 4TRX transmit /receive	4+4	10.3125	RoHS LGA	MTP/MPO	-9	-40 to 85
VMX04P6185121AA	LightVISION 4TRX transmit/receive	4+4	10.3125	RoHS LGA	MTP/MPO	-9	0 to 70
VMT12P6185330AA	LightVISION VM 12TX transmitter	12	10.3125	RoHS LGA	MTP/MPO	n.a.	-40 to 85
VMT12P6185130AA	LightVISION VM 12TX transmitter	12	10.3125	RoHS LGA	MTP/MPO	n.a.	0 to 70
VMR12P6185301AA	LightVISION VM 12RX receiver	12	10.3125	RoHS LGA	MTP/MPO	-9	-40 to 85
VMR12P6185101AA	LightVISION VM 12RX receiver	12	10.3125	RoHS LGA	MTP/MPO	-9	0 to 70

MidBoard version							
VMX04B6185321AA	LightVISION 4TRX transmit/receive	4+4	10.3125	RoHS LGA	MTP/MPO	-9	-40 to 85
VMX04B6185121AA	LightVISION 4TRX transmit/receive	4+4	10.3125	RoHS LGA	MTP/MPO	-9	0 to 70
VMT12B6185330AA	LightVISION VM 12TX transmitter	12	10.3125	RoHS LGA	MTP/MPO	n.a.	-40 to 85
VMT12B6185130AA	LightVISION VM 12TX transmitter	12	10.3125	RoHS LGA	MTP/MPO	n.a.	0 to 70
VMR12B6185301AA	LightVISION VM 12RX receiver	12	10.3125	RoHS LGA	MTP/MPO	-9	-40 to 85
VMR12B6185101AA	LightVISION VM 12RX receiver	12	10.3125	RoHS LGA	MTP/MPO	-9	0 to 70

Accessories	
Part Number	Product Description
500-00090	LightSNAP MPO cable

more > smithsinterconnect.com [in](#) [twitter](#) [youtube](#)