smiths interconnect

SNAP12

40G, 75G, and 120G Optical Transmitters and Receivers

MSA-compliant industrial multichannel optical transceivers designed for commercial aerospace applications

The SNAP12 family of optical embedded transceivers are affordable, reliable, high-performance embedded optical transceivers with bandwidth up to 120 Gbps.

These modules 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, and increased signal integrity.

SNAP12 is a 12-channel pluggable parallel optical transmitter or receiver module with an MSA standard chassis mountable MPO interface. It is a self-contained, electrical to optical converter, which requires no internal fiber management or handling. All modules include the state of the art Reflex Photonics *Light*ABLE™ optical packaging technology.

The SNAP12 high-speed rugged modules are used extensively in commercial aerospace for IFEC (in-flight entertainment and connectivity) applications, high performance computers, and industrial equipment.

Key advantages

- **Standard compatibility**: 850-nm short-reach OIF-VSR (OC-768)
- **Performance**: up to 10.3125 Gbps/channel
- **Proven**: thousands used in IFEC and industrial applications
- **Reliable**: rugged construction to provide long life and consistent service
- **Easy to use**: Plug & Play – Standard MPO/MTP® optical interconnect
- **Interoperable**: SNAP12 MSA compliant
- Commercial operating temperature (0 °C to 70 °C)
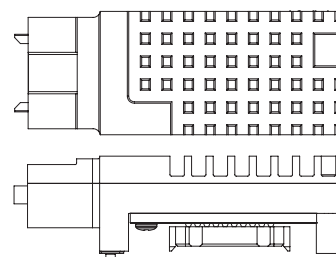
Configurations

- 12-channel transmitter
- 12-channel receiver

Applications

- In-flight entertainment systems and connectivity (IFEC)
- Advanced manufacturing, industrial automation, and machine vision
- Medical equipment
- High performance computer interconnects
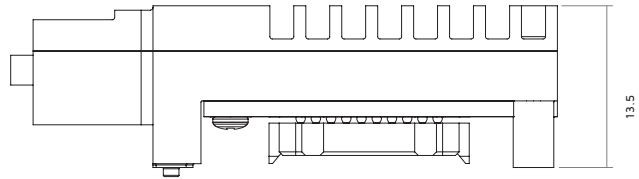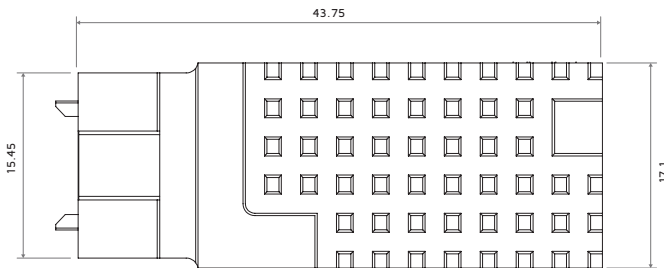- Server farms and mass storage interconnects

Life size illustration

Real size of SNAP12 module.

SNAP12 Features

- 12 independent parallel optical channels
- Data rates: 3.125, 6.25, and 10.3125 Gbps per channel
- Commercial (0 °C to 70 °C) operating temperature range
- Standard MPO/MTP interconnect
- Support for OM3 and OM4 multimode fibers cables
- Data protocol agnostic

- Single 3.3 V power supply
- 100 mW/channel typical power consumption
- CML/LVDS compatible electrical I/O
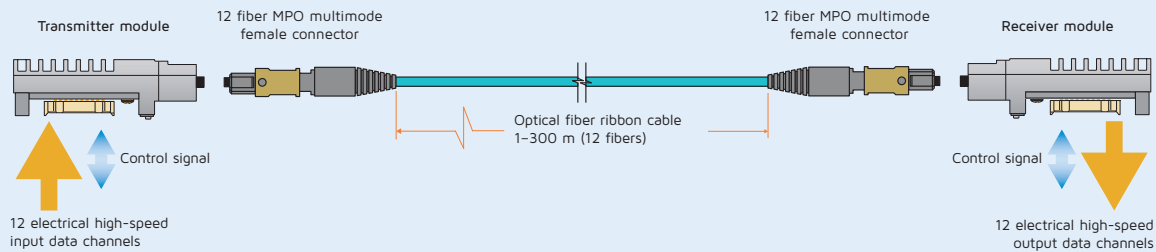- Field replaceable
- Board edge mountable

Drawing of SNAP12 (measurements given in mm)

Application example

The use of the SNAP12 brings numerous advantages over traditional copper interconnects such as:

- Ability to distribute uncompressed video
- Reduced wiring and system weight

- Fault tolerance
- EMI/EMC and lightning tolerance

Complete end-to-end 12 channel parallel optical link

Transmitter module
12 fiber MPO multimode female connector
12 fiber MPO multimode female connector
Receiver module

Control signal

Optical fiber ribbon cable 1–300 m (12 fibers)

Control signal

12 electrical high-speed input data channels

12 electrical high-speed output data channels

SNAP12 ordering information

Part Number	Product Description	Channels	Bandwidth (Gbps/ch.)	Soldering	Operating Temp. (°C)
SNT12C0180123	SNAP12 transmitter	12	10.3125	RoHS	0 to 70
SNR12C0180123	SNAP12 receiver	12	10.3125	RoHS	
SNT12C0100123	SNAP12 transmitter	12	6.25	RoHS	
SNR12C0100123	SNAP12 receiver	12	6.25	RoHS	
SNT12C0050123*	SNAP12 transmitter	12	3.125	RoHS	
SNR12C0050123*	SNAP12 receiver	12	3.125	RoHS	

*: Fully MSA compliant

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