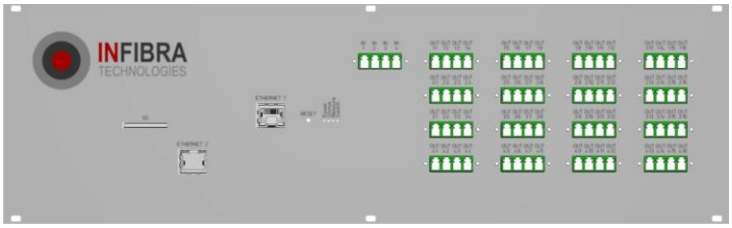
FBG.HUB UNIT

Fiber Optical Multiplexer for FBG sensors systems

The FBG.HUB unit is an optical multiplexer which can be used in combination with FBG interrogators for the acquisition of FBG-based sensors. In details, each of 4 input channels can be connected to an acquisition channel of a compatible FBG interrogator in order to expand the interrogator acquisition channel from 1 to 16. This capability, combined with its 4 inputs channels, allows the acquisition of 4 x 16 = 64 multiplexed channels.

Moreover, the FBG.HUB unit has an on-board intelligence, which can communicate through a TCP/IP port with the connected FBG interrogator, acquire, processing the signals coming from FBG sensors and then export them in real-time to supervisor systems connected to a dedicated second TCP/IP port. Switching time and logic is parametrized and can be simply adapted to the specific application, in order to offer to customers the maximum versatility in terms of sensors network architecture and measurement performance. INFIBRA TECHNOLOGIES offers firmware development services for specific applications and communication protocols.



TECHNICAL SPECIFICATIONS	
Wavelength Range	1300 ÷ 1600 nm (300 nm)
Number of Input Channels	4
Number of Output Channels	64
Insertion Loss	≤ 1.7 dB (Typical 0.7 dB)
Number of sensors	Depending on FBG interrogator capabilities
Polarization dependent loss	≤ 0.15 dB
Repeatability	± 0.01 dB
Switching Time	≤ 10 ms (Typical 5 ms)
Durability	MEMS technology – no wear out
Power Supply	19 ÷ 36 V_{DC} (Typical 24 V_{DC})
Power Consumption	10 ÷ 20 W (Typical 15 W)
Operating Temperature	-10 ÷ 50°C, 10 ÷ 90% RH non condensating
Storage Temperature	-20 ÷ 85°C
Dimensions	19” Standard RACK, 3U Height, 84HP Depth
Weight	3 kg
Communication	TCP/IP Ethernet Interface (Modbus standard protocol, other on request)
Optical Connectors	LC/APC
Certifications	CE

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