

DATASHEET

FAZT M64S4 SYSTEM EXPANSION MODULE



Description

The FAZT M64S4 System Expansion Module is a high-isolation and ultra-low back-reflection optical switch and serves as a companion product to the FAZT range of Optical Sensing Interrogators. It expands the number of sensing channels from 4 to 64 enabling support for a wide range of additional applications. Enclosed in a field deployable stainless-steel casing, the module increases the maximum sensor capacity of our flagship FAZT-I4G and lower cost FAZT-I4W Interrogators from 120 sensors to 1920 sensors with each sensor continuing to maintain 1pm wavelength accuracy. The FAZT I4G is optimized for static long-term measurements with a channel switching speed of just under one second.

Our family of rugged FAZ Technology interrogators is used extensively in marine, railways, roads, energy, civil, geotechnical, industrial, security, medical, and many other commercial applications. They are also the instruments of choice for Research and Development Centres that seek to achieve ultimate precision and repeatability measurements.

Benefits

Vast sensor capacity expansion: The FAZT M64S4 expands the sensor monitoring capacity of our flagship FAZT-I4G interrogators while maintaining ultimate precision, repeatability, and accuracy: The FAZT I4G Interrogator returns measurements in 1pm steps across its wavelength range. Using patented FAZ Technology scan-by-scan calibration, the instrument features ultimate 0.1pm absolute precision, superb repeatability of 50fm max, and absolute accuracy of 1pm (Gas Cell and MZI referenced in closed PM circuit). With low polarization dependent loss (PDL) and excellent repeatability, the FAZT M64S4 preserves these world leading features of the FAZ brand for significantly larger sensor systems.

High quality and reliability: The M64S4 System Expansion Module is based on field proven technology from LEONI and offers excellent performance, low insertion loss, and long-term stability. The guaranteed lifetime of more than 100 million cycles gives the internal optical switch a lifetime of 15 years (using a 5 second update rate).

System data sampling flexibility and network ready: The M64S4 is fully controlled by the FAZT I4G or FAZT I4W interrogator and hence requires no additional configuration or network connections. The module's switching speed can be varied from 1 second to 1 day allowing for adequate static sampling to fit most long-term measurements and for allowing each customer to manage the amount of data that needs to be processed and analysed based on the applications' requirements.

Specifications

Performance		
Wavelengths Range	100nm	1520nm to 1620nm
Number of Channels	64	
Number of Sensors per Channel (see Note 1)	1 to 30	64ch * 30 = 1920 sensors (when used with FAZT I4G, assuming 1.2nm spacing of FBG sensors)
Insertion Loss	1.2 dB	1.6 dB max
Adjacent Channels Crosstalk	< 55 dB	
Return Loss	< 60 dB	
Repeatability	< 0.01 dB	
Switching Time	< 1s	64 channels in 1 minute, with options to decrease the channels switching rate to once a day
Environmental		
Operating temperature	0 to +55°C	
Storage temperature	-40 to +80°C	
Physical		
Dimensions (W x D x H)	323.3x276x87.25mm	Color is White
Max. weight	4.2kg	
Housing material	Stainless steel	
Input Voltage and Power Consumption	110 to 240V and 200mW	
Optical Connection to Sensors	LC/APC	We offer standard and ruggedized hybrid optical jumpers and adapters to FC/APC, SC/APC, LSA (DIN) APC, E2000, and to other sensor connectors.
Certifications and Test Reports	YES	EN55022, EN55024, EN61000
Communications Interface	YES	100 Mbps Ethernet

Note 1: FBGs from 40pm to 1.5nm BW@3dB (FWHM) are supported when used with the FAZT I4G. FBGs from 100pm to 1.5nm BW@3dB (FWHM) are supported when used with the FAZT I4W.

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