

## OEM1000 series Fibre-optic Sensor Interrogation (FSI) unit



The OEM-1000 Series FSI is rugged and reliable having originally been designed for use in wind turbines where it is subject to high vibration, electro-magnetic noise, power dips and large variations in temperature and humidity. It is therefore well suited to a wide range of other applications in harsh environments. With over 2000 units now deployed world-wide, it has an excellent track record for reliability and long-term accuracy.

### Specification for: OEM-1000-422 series

Number of channels (optical fibres)	1 to 4
Maximum acquisition speed (sensor readings per second)	500Hz
Maximum number of sensors	100
Measurement range	+/- 4500 microstrain <sup>(1)</sup>
Noise (RMS)	1.7 microstrain
Minimum sensor spacing	2.5m <sup>(2)</sup>
Power Supply	9 to 36V DC, 100 to 240V AC with mains adapter
Power consumption (typical)	3W <sup>(3)</sup>
Interface	RS422, 38400baud
Optical Connectors	E2000/APC
Weight	1.7Kg
Dimensions	240 X 97 X 120mm
Operating temperature	0 to 50°C
Storage temperature	-40 to 65°C
Humidity	5 to 85% (non-condensing)
Shock	15g for 11ms, 5 times per axis
Vibration	1.5g on a level sine sweep 10 to 150 Hz, 4 tests per axis

1. The measurement range can be modified by offsetting the sensor central wavelength to give a range of 0 to 9000 microstrain, or 0 to -9000 microstrain, or incremental values in between.
2. 2.5m is the standard minimum in-fibre distance between sensors. This can be reduced depending on detailed design of the sensor arrays. There are also a number of deployment techniques that enable much closer physical spacing of sensors when installed in a structure.
3. The system power consumption is dependent on the interface and processing configuration.