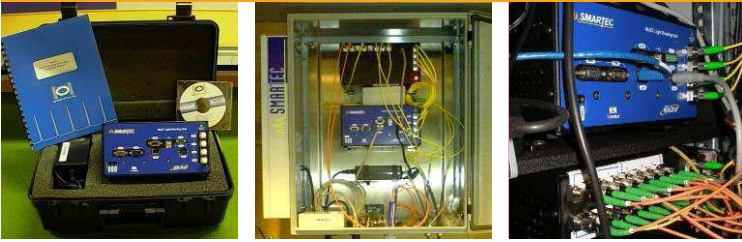


# 12.2030 MUST-DYNAMIC READING UNIT



## GENERAL DESCRIPTION

The MuST Dynamic (Multiplexed Strain and Temperature Monitoring System) Reading Unit is a Fiber Bragg Grating (FBG) demodulator based on the proven Micron Optics engine and optionally integrated in a watertight steel housing designed for permanent installation in any structure that requires continuous monitoring. The unit allows to simultaneously measure up to 4 sensor strings with several sensors per string (5 deformation sensors or 12 strain sensors or 24 temperature sensors or 12 mono-axial accelerometers or 6 mono-axial tiltmeters). The MuST Dynamic Reading unit is designed for dynamic measurements, allowing a data acquisition speed of up to 1 kHz.

## TECHNICAL DESCRIPTION

Through the use of an optional optical switch, it is possible to monitor up to 8 or 16 sensors strings sequentially. The measurement speed is in this case reduced to 1/2 or 1/4 respectively.

The optional MuST Reading Unit housing has been designed for surface installation and for specific project requirements. The optional ruggedized housing (IP 65, housing and door: e-coat primer, powder painted) grants protection from water, rodents, accidental crashes and a key lock grants protection against vandalism.



## FEATURES

- Dynamic measurements
- Permanent instrumentation
- Compatible with all FBG sensors
- High resolution and precision
- Peak wavelength information
- Full-spectrum information
- Optional watertight steel housing
- Modular design
- Automatic and remote control
- TCP/IP connectivity

## OPTIONS

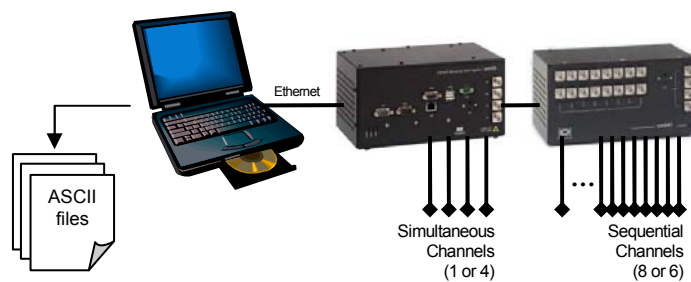
- 1 to 4 channels for simultaneous FBG string measurements
- Heating and thermal isolation option for use in harsh climates
- 8 or 16 channels switch for sequential FBG strings measurements. (Measurement speed is reduced to 1/2 or 1/4 respectively.)
- Internet connection

## PERFORMANCES

MuST Dynamic Model	700	500	200
Repeatability, resolution	1 pm (1 $\mu\epsilon$ / 0.1 $^{\circ}\text{C}$ )	1 pm (1 $\mu\epsilon$ / 0.1 $^{\circ}\text{C}$ )	1 pm (1 $\mu\epsilon$ / 0.1 $^{\circ}\text{C}$ )
Stability	2pm (2 $\mu\epsilon$ / 0.2 $^{\circ}\text{C}$ ) typical	2pm (2 $\mu\epsilon$ / 0.2 $^{\circ}\text{C}$ ) typical	2pm (2 $\mu\epsilon$ / 0.2 $^{\circ}\text{C}$ ) typical
Wavelength range	1510 to 1590 nm	1510 to 1590 nm	1510 to 1590 nm
Number of channels	4 (8 or 16 optional)	4 (8 or 16 optional)	1 (up to 4 optional)
Power dynamic range	25 dB with user-selectable gain	25 dB with user-selectable gain	25 dB with user-selectable gain
Measurement frequency	1kHz	500Hz (1kHz optional)	100Hz (500Hz optional)

## TECHNICAL CHARACTERISTICS

Input voltage	7-36 VDC
Power supply	AC/DC converter included (100~240 VAC, 47~63 Hz)
Power consumption	35 W typical (50 W max)
External connectors	Ethernet RJ data connection, 1 to 16 optical ports (depending on model and channel switch), power supply
Dimensions	L x W x H: ~135 mm x 268 mm x 120 mm, Weight: ~2 kg L x W x H: ~500 mm x 500 mm x 210 mm, Weight: ~15 kg (with protection housing)
Operating temperature	0 $^{\circ}\text{C}$ to 50 $^{\circ}\text{C}$ , -20 $^{\circ}\text{C}$ to 50 $^{\circ}\text{C}$ (with heating option)
Operating humidity	0 to 80%, non-condensing



## ORDERING INFORMATION

- Number of channels (4 or 8).  
Option: Rugged transport metallic casing (yes or no).

