

FIBER OPTIC MULTI-CHANNEL TABLETOP DATALOGGER

Model UMI

APPLICATIONS

- Civil engineering laboratory applications
- Microwave and RF related applications
- New material research
- Power utility applications

DESCRIPTION

The UMI is a tabletop, universal fiber optic datalogger ideally suited to performing multi-point temperature, pressure, strain and displacement measurements in applications that are hostile to non-fiber optic transducers.

Roctest's fiber optic temperature, pressure, strain and displacement transducers feature complete immunity to microwave and RF radiation with high temperature operating capability, intrinsic safety, and non-invasive use. The UMI is designed to perform accurate multi-channel measurements. The system can scan through all the channels in use with a switching time of 0.15s, or sample one specific channel at a rate of 20 Hz. A 7-digit gauge factor affixed on the connector of each transducer allows the UMI conditioner to easily recognize the transducer type and calibration.

Through the use of a white-light cross-correlator (U.S. Patents 5,392,117 and 5,202,939), the UMI datalogger is capable of measuring with astonishing accuracy the absolute cavity length of Fabry-Perot fiber optic transducers, providing highly accurate and reliable measurements. The UMI has a 0.01% F.S. resolution (without averaging) and 0.025% F.S. precision.

The UMI datalogger has a non-volatile memory buffer that can store up to 50 000 data samples. Datalogging sequences, duration and other operational parameters are easily programmable using the front panel interface or through the RS-232 communication port. Each channel has a dedicated $\pm 5V$ adjustable analog output. The use of a flash EEPROM allows for easy firmware upgrade.



FEATURES

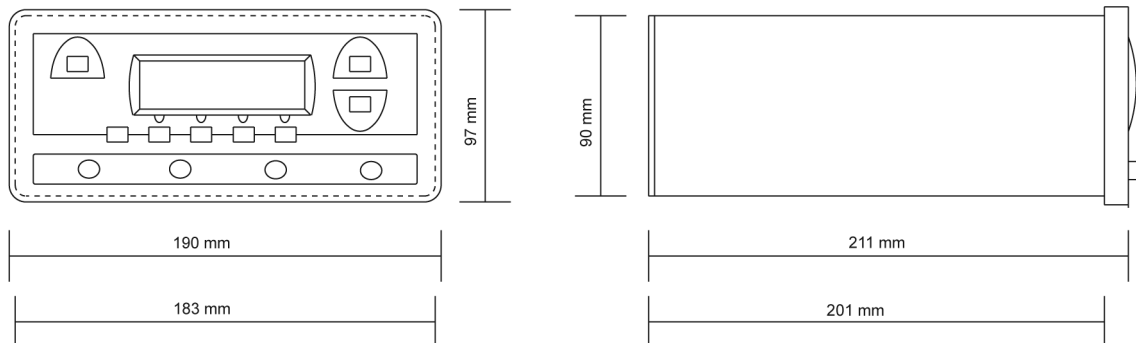
- 4 or 8 channels
- Voltage output and RS-232 communication ports
- Up to 20 Hz sampling rate
- Large vacuum fluorescent display

SPECIFICATIONS

Dynamic range	15 000:1
Precision	0.025% of F.S.
Resolution	0.01% of F.S.
Number of channels	4 or 8
Sampling rate	20 Hz (one specific channel)
Switching time	150 ms (in scan mode: time to switch between two channels)
Averaging	1 to 500 samples
Display	4 lines of 20 characters, vacuum fluorescent display
Operating mode	Direct (front panel) or through RS-232 (light version software included)
Datalogging	50 000 samples; programmable datalogger
Analog output	±5 volts (span and offset software adjustable)
Communication	RS-232 and USB 1.1
Diagnostic	Yes
Upgradeability – firmware	Flash ROM upgradeable
Upgradeability – channels	No
Light life expectancy	~40 000 hours of continuous use (MTBF)
Enclosure material	Aluminum and PVC
Power requirements	10 to 14 volts (5 watts); AC/DC adapter included
Operating temperature	–20 to +40°C
Enclosure dimensions	190 mm × 211 mm × 97 mm (w × d × h) (1/2 DIN)
Weight	2 kg

FRONT (4-CHANNEL)

SIDE



UMI Dimensions