

## 10.2010 SOFO READING UNIT



### GENERAL DESCRIPTION

The SOFO Reading Unit is a computerized equipment which measures all SOFO sensors.

It includes an optical source, a mobile mirror, a photo-detector and the related electronics. These components are contained within a case designed to withstand the harsh environment of a civil engineering construction site.

### TECHNICAL DESCRIPTION

The SOFO Reading Unit is powered either by the internal battery or by an AC source.

An external portable PC is used to program or control the Reading Unit allowing initiating the measurements, storing the obtained results for further analysis or programming the unit for automatic and autonomous acquisitions in data logging mode. A single Reading Unit allows the measurements of virtually unlimited number of sensors.

Optical switching units are used to automatically multiplex different sensors. SOFO units are available in single channel or with integrated 12 channels switch. For larger sensor networks external switching units with up to 100 channels each can be added.

A standard serial link connects the SOFO reading unit with the control PC, while the SOFObus port is used to connect external switching units and external data acquisition devices to the SOFO.

The SOFO Reading Unit contains a data logged that can be programmed to automatically scan SOFO sensors and external data acquisition devices and store the measurements in the local memory. This can hold thousands of measurements that can be later downloaded into an SDB database.

Remote connection to the SOFO unit is guaranteed though wired (Ethernet, fiber optic, etc.) or wireless (analog, cellular, radio modem) connections.

The SOFO Reading Unit is available as a portable or as rack mountable unit. The portable unit is protected in a rugged case and is well suited for use on building sites. The rack-mounted version is designed for permanent monitoring installations or for laboratory use.



### FEATURES

- Compatible with all SOFO Sensors
- Compatible with conventional electrical sensors using optional SOFO Bridge unit
- Measurement resolution 2 $\mu$ m
- Linearity and accuracy 2‰
- Dynamic range 50 mm
- No calibration required
- Automatic and remote control
- Suitable for building site conditions
- AC or battery power supply

## PERFORMANCES

Measurement resolution	2 m RMS
Linearity / Accuracy	< 2 ‰
Measurement range	Max. 50 mm
Measurement drift	Below measurement resolution
Calibration	None, not required
Measurement time	< 10 s
Available channel count	1 or 12 channels, up to 100 channels with separate switching unit. Can be cascaded for up to 1000 channels

## TECHNICAL CHARACTERISTICS

AC power supply	230 VAC 50 Hz / 110 VAC 60 Hz Auto detect
Internal battery	12 VDC, rechargeable
Autonomy on batteries	5'000 measurements (@ 20°C), 2'500 measurements (@ -10°C) in data logger mode > 8 hours in interactive mode
External connections	RS232 to PC or modem, 12+1 or 24+1 <sup>(1)</sup> optical ports, power supply, ADAM modules connection port, modem power supply <sup>(1)</sup>
Data logger capacity	Typical 20'000 measurements, minimum 8'000 measurements (with standard 4MB flash memory) Up to 80'000 measurements with 16 MB flash memory <sup>(1)</sup>
Dimensions	470 mm x 350 mm x 170 mm
Weight	~12 kg
Operating temperature	1 Channel unit: -20 °C to +60 °C With integrated channel switch: 0 °C to +60 °C
Storage temperature	-30 °C to +70 °C
Humidity	90% non condensed

<sup>(1)</sup> optional

## ORDERING INFORMATION



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