



**COST EFFECTIVE FIBER OPTIC INTERROGATOR
IDEAL FOR SMALL PROJECTS**

**Reliable and versatile fiber optic datalogger for field applications.
Reads high-accuracy SOFO deformation sensors.**

Description

The SOFO Lite reading unit is able to measure up to 10 or 12 SOFO (Interferometric) sensors. SOFO sensors offer the best accuracy and temperature compensation performance for long-gauge sensing. The system is designed for static, long-term measurements and monitoring, in particular of civil structures. The SOFO Lite is integrated in a compact housing designed for installation in a cabinet or indoors. Thanks to the Ethernet interface, it is possible to address the unit remotely from a PC running the SDB software or network several SOFO Lite units to increase the channel count. The SOFO Lite reading unit allows to measure 10 or 12 channels. On each channel it is possible to connect a single SOFO sensor. The unit contains a processing unit that analyzes the optical signal to convert it to deformation measurements.

The main features of SOFO Lite are: cost effectiveness, accuracy and scalability, allowing the customer to profit from the best-in-class accuracy and temperature compensation of SOFO sensing technology at an unprecedented low price. This reading unit is particularly useful for smaller projects or applications where multiple reading units can be used to monitor different parts of a structure that are spread out over a large distance.

The SOFO Lite has been designed for installation indoors or outdoors with an optional protection cabinet.

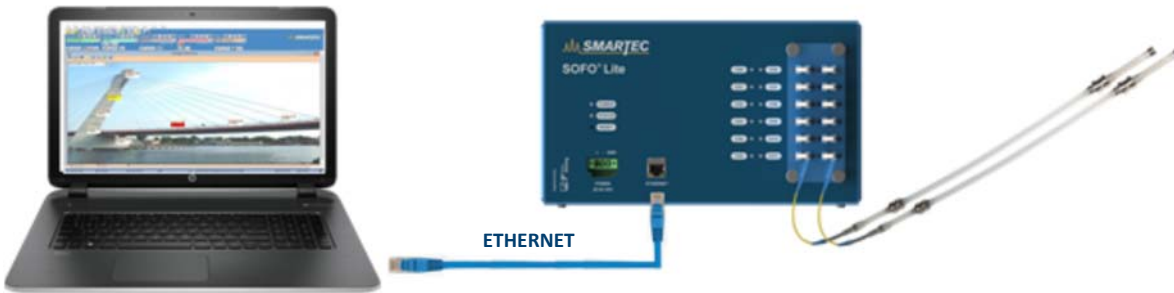
Key Features

- Reads long-gauge SOFO sensors
- 12 Channels
- High resolution and accuracy
- No calibration required
- Integrated Data Processing
- Control via Ethernet interface
- Easy networking
- Temperature self-referenced

Applications

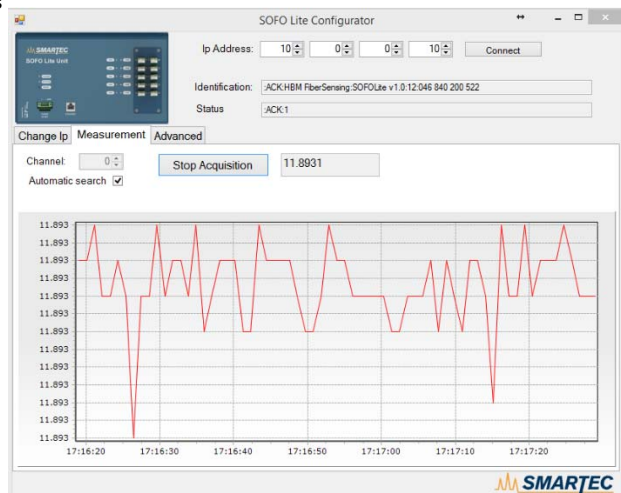
- Bridge Structural Health Monitoring SHM
- Building monitoring
- Dam instrumentation
- Tunnel deformation monitoring
- Pipeline local deformation analysis

SOFTWARE INTERFACE (COMES WITH THE SOFO LITE)



SOFO LITE CONFIGURATOR

The SOFO Lite Configurator is a software used to configure the SOFO Lite Reading Unit and provides IP configuration, real-time measurements as well as diagnostic capabilities.



SOFO SDB SOFTWARE

The new SDB Software is an integral part of all SMARTEC Monitoring Systems. SDB is designed for the static acquisition, data representation and for the control of SOFO and MuST FBG Reading Units, FISO Fabry-Perot as well as ROCTEST - SENSLOG sensors (Vibrating Wires Technology and others).



COMPATIBLE WITH FOLLOWING SENSORS

SOFO Standard Long Base Deformation Sensors 0.25 to 10 meters active length



Embedded



Surface-mounted (concrete)



SOFO SMARTape Compact Deformation Sensors
(contact Smartec)



Fixed in tie-back anchor



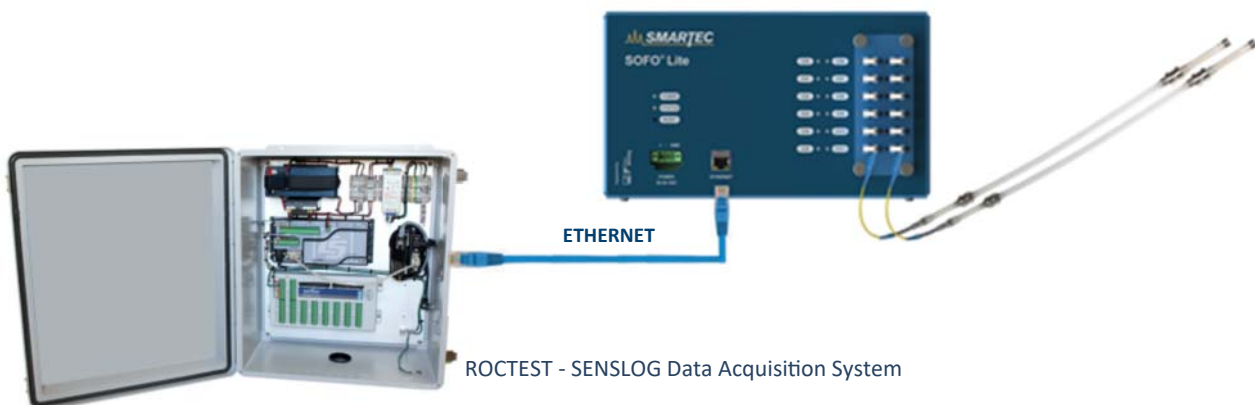
Surface-mounted (steel)



COMPATIBLE WITH FOLLOWING DATALOGGERS

ROCTEST / CAMPBELL SCIENTIFIC - SENSLOG Data Acquisition System or other industrial controllers via set of command (contact SMARTEC for set of command)

Permanent monitoring in remote / harsh environment, solar panel and wireless compatible, all-in-one box; SOFO Long Base Sensors, Vibrating Wire Sensors (extensometers, load cells, piezometers etc...), Barometer, etc...



DESIGNED FOR LONG-TERM MONITORING

Fanless design, No movable part, Easy cleaning of optical connector accessible on front panel



PERFORMANCES

SOFO Sensors Measurement	
Measurement resolution	2 µm RMS
Linearity / Accuracy	< 2 ‰
Sample rate	Max. 1 S/s (1Hz)
Measurement time	< 2 s (incl. SDB writing) per channel
Measurement range	Max. 50 mm
Available channel count	12 channels total / Individual status LEDs on front panel
Sensors per channel	1 SOFO Deformation Sensor (not compatible with SOFO splitters)
Calibration	Not required
Optical Connectors	E-2000 PC

Specifications

DC power supply	+24 VDC (± 4V)
Power consumption	< 10 W
External connections	Ethernet connection
Dimensions	260x160x110mm
Weight	2 kg
Enclosure	Aluminium
Mounting	DIN Rail on the back
Operating temperature	-10°C to + 50°C
Humidity	< 90% at 40°C

Ordering information
10.2015 SOFO Lite Reading Unit

- SOFO Lite Reading unit, 12 channels, parallel static (1 Hz) measurements of up to 12 SOFO sensors, Ethernet connection for data streaming, remote communication via SDB Pro software (included) or Ethernet command set
- SOFO Lite Portable Enclosure 530 * 325 * 325 mm, including batteries for 6-7 hours autonomy, charger, overall weight 10kg, measurements with laptop (not included), SOFO Lite sold separately
- SOFO Lite Portable Enclosure 530 * 325 * 325 mm, including batteries for 6-7 hours autonomy, charger, acquisition module for up to 10 thermocouples, overall weight 10kg, measurements with laptop (not included), SOFO Lite sold separately
- SOFO Lite Wall-Mount Enclosure 850 * 640 * 300 mm, backup batteries for autonomy 2-3 hours, UPS, lightning protection, pre-configured industrial computer (Win 7), SOFO Lite sold separately, requires external power supply 110 / 220 VAC
- SOFO Lite Wall-Mount Enclosure 850 * 640 * 300 mm, backup batteries for autonomy 2-3 hours, UPS, lightning protection, acquisition module for up to 10 thermocouples, pre-configured industrial computer (Win 7), SOFO Lite sold separately, requires external power supply 110 / 220 VAC