
DATA ACQUISITION SYSTEM

Model SENSLOG 1000X

APPLICATIONS

Remote and unattended monitoring of:

- Dams and bridges
- Steel or concrete structures
- Tunnels
- Mines
- Natural and man-made slopes
- Flood and canal control

DESCRIPTION

The SENSLOG 1000X datalogger is a turnkey system used for remote monitoring of virtually any type of instrument. It offers a wide range of data retrieval options, from removable storage modules to cellular telephone, radio, and satellite.

Once the instruments and the SENSLOG 1000X system are installed, site presence is not required. All functions can be controlled remotely. The SENSLOG 1000X is well suited to logging data from instruments located in isolated, inaccessible or harsh environments that may also undergo extreme climatic changes. It offers reduced system costs, powerful software and efficient telecommunication links.

The 1000X is supplied with a complete software package as well as custom, designed programs to gather, process, store, forward and analyze instrument data. The capacity of the SENSLOG 1000X can be expanded from its basic 12 channels of single-ended inputs to a maximum of 255 channels per measurement and control module.



FEATURES

- Low-cost turnkey system
- Fully programmable, directly or remotely
- Usable in harsh environments
- Rugged and compact
- Battery- or solar-powered
- Alarm and control functions
- Research grade performance
- Reads most common type of instruments including any type of vibrating wire transducers
- Special customized interface available

SPECIFICATIONS

ELECTRICAL

Analog input

Number of channels	6 differentials or up to 12 single-ended. Each differential channel may be configured as two single-ended channels
Channel expansion	The RTX-248 multiplexer allows up to 32 single-ended channels to multiplex into four 1000X single-ended channels

Excitation output

Description	3 switched excitations, active during measurement, with one output active at a time. Non-active outputs are high impedance
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Pulse counter

Number of pulse counter channels	2 8-bit or 1 16-bit; software selectable
Digital I/O ports	8 ports, software selectable as binary inputs or control outputs 3 ports may be configured to count switch closures up to 40 Hz

System power requirements

Voltage	9.6 to 16 V
Typical current drain	1 mA quiescent, 13 mA during processing, and 46 mA during analog measurement
Batteries	12 V. Several power supply options are available from the manufacturer Model CR2430 lithium battery (for clock and RAM backup) capacity: 270 mAh

MECHANICAL

Dimensions	41 × 36 cm
Basic kit (includes)	12-V battery, RTS-127 charger, MCM CR-10 Additional room required for connectors
Weight	12 kg

ACCESSORIES

Multiplexer

The RTX-248 multiplexer sequentially connects up to 32 sensors to the measurement and control module. The RTX-248 is housed in a weather resistant indoor/outdoor enclosure of fiber glass, baked enamelled steel or stainless steel. Surge protectors installed at each wire connection in the RTX-248 provide protection from lightning.

Optical coupler

The SC32A optical coupler is used to interface the base station computer, printer or plotter to the MCM. The optical coupler also provides electrical protection.

Telephone modem

The COM210 is a 9600/1200 baud modem employing the Hayes AT command set. Its primary use is a remote site modem connected to a SENSLOG datalogger. The modem is powered and enabled by the battery-powered datalogger. When not active, the COM210 draws less than 120 mA from the datalogger's 12 VDC output. The COM210 is designed to be used only with standard analog telephone lines.

Short-haul modem

Two required. An asynchronous modem used for local communication between a SENSLOG 1000X datalogger and a computer with an RS-232 serial port. Uses an unconditioned 4-wire telephone line; operates at data rates up to 9600 baud.