

MINILOG T1 to T6

datalogger for long-term and accurate measurements



- 1 to 6 precision Pt100 temperature sensors
- Very accurate temperature measurement using the reference method - four-wire Pt100 connection, resolution 0.01 °C
- Stainless steel case for temperature sensors and the datalogger itself
- Possibility to configure selected inputs instead of temperature measurement for volume soil moisture measurement
- Connection of sensors with data logger PUR cables without terminals
- Special recording channels for monitoring the voltage of the supply battery and the current consumed by the sensors
- Small dimensions, robust design and high IP67 protection for quick installation
- Up to 20 years of operation without battery replacement

Basic description

MINILOG is a very accurate and reliable 6-channel datalogger with a large memory capacity and a long operating time without replacing the battery.

The variability of the inputs allows you to configure MINILOG to measure temperatures or volumetric soil moisture and also to combine them.

For temperature measurement, the datalogger contains 6 voltage inputs adapted for four-wire connection of precision Pt100 class A temperature sensors, which are encapsulated in a stainless steel housing with a lead-out polyurethane (PUR) cable. The cable can be in lengths from 0.5 m to 50 m (standard 1 m). The four-wire connection of the temperature sensor ensures accurate temperature measurement unaffected by the cable length.

Volumetric soil moisture can be measured with VIRRIB sensors connected to the MINILOG. A maximum of 3 VIRRIB sensors (as well as 3 Pt100 temperature sensors) can be connected to one device. Because VIRRIB soil moisture sensors require a 12 V supply voltage, the electronics of the device include a voltage converter that generates the required supply voltage for the VIRRIB sensors from the 3.6 V battery voltage for the duration of the measurement.

The price of the MINILOG measuring set depends on the number of connected temperature and humidity sensors and on the length of cables used for these sensors (see Price list on the manufacturer's website).

Mechanical design

MINILOG is supplied in a compact design with permanently connected cables. The number and type of connected temperature or humidity sensors and the cable length are entered when ordering the device and cannot be changed later.

MINILOG has 6 measuring channels, which correspond to 6 voltage inputs. In order to achieve high reliability of operation, after connecting the sensors, the entire interior of the device is filled with potting compound so that water or condensing moisture cannot get to the electronics of the device.

The M8 communication connector with the RS232 serial line is protected against moisture by a screw cap.

Power batteries and operating time

MINILOG is powered by a 3.6 V/19 Ah lithium battery.

The very low current consumption of the MINILOG practically does not require the replacement of this battery for the entire life of the device. Even after 20 years of operation, less than 50% of its capacity is consumed in the normal temperature measurement mode in the interval of 60 minutes.

However, because non-standard operation of the device, for example with the setting of frequent measurements in the order of units of minutes using several soil moisture sensors, can increase the current consumption of the device several times compared to standard measurements, the device's battery is replaceable. The battery is replaced by the device manufacturer.

MINILOG - special program functions

- The archiving interval can be set separately for each recording channel. This means that selected rapidly changing quantities can be measured and recorded more often and vice versa.
- MINILOG supports the transition to more frequent recording of selected quantities after exceeding the set limits (limit alarm) or after a quick change of value (gradient alarm).
- For special applications it is possible to use auxiliary calculation functions performed directly in MINILOG and save the result of the calculation on a free recording channel (sum or difference between measured channels, sliding sum, correction by 2nd order polynomial and some others).
- MINILOG also contains control C channels for recording battery voltage and current drawn by the connected sensors.

MOST program

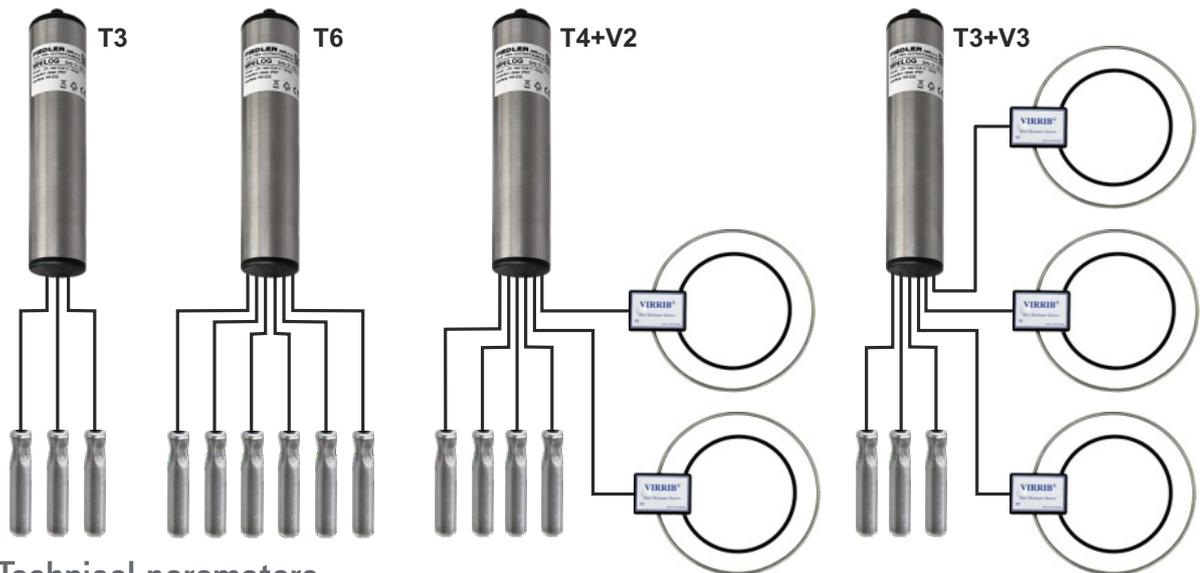
The MOST program is a local desktop application designed for computers with the Windows operating system and is mainly used for parameterization and reading of measured data at FIEDLER data loggers.

A PC or notebook with the MOST program installed is connected to the MINILOG using a KP232 / M8 connection cable via the RS232 interface.

The MOST program allows the user to:

- Loading of archived data from MINILOG to a connected PC or laptop, their tabular and graphical display, saving the read data to a file.
- Data averaging, limit value search.
- MINILOG parameterization (setting of measuring channels, measuring intervals, ...).
- On-line display of current measured values from the connected device during installation and inspection of the assembly.

Examples of MINILOG measuring sets



Technical parameters

Recording channels:	6 analog, 1 text, 8 control (battery voltage, ...)
AD converter:	Low noise 24 bits, resolution 0.002 ° C
Archiving in units of measure:	16 bits, 0-3 decimal places
Archiving interval:	adjustable from 1 minute to 1 day separately for each channel
Data memory capacity:	2MB Flash, up to 300,000 values
Supported quantities:	temperature, soil moisture.
Temperature sensor type:	Pt100-A, accuracy class A (± 0.15 ° C)
Sensor power supply:	programmable voltage 12 V, current measurement
Real time error:	max 4 sec / day, (automatic time correction can be set from connected PC)
Power battery:	battery pack - lithium battery 3.6 V / 19 Ah
Operating time without battery replacement:	depending on the number and type of connected sensors and measurement frequency up to 20 years
Working temperature range:	-30 °C to +60 °C
Material:	stainless steel housing, polyurethane cables
Dimensions:	housing diameter 40 mm, length 160 mm (without cabling)
Weight:	450 g including built-in battery
Protection:	IP67