Technical information
TI089R/09/en
51003364

Data logger
Minilog B, Version II

Measured value collector with 2 input channels for storing analogue and digital values

Application areas:
- Data storage for temperature, humidity, pressure, flow, level and analysis values
- Temperature monitoring: Store temperatures and transport temperature measurement
- Operation time recording
- Access monitoring
- Piece part and quantity recording
- Quantity recording by integrating the analogue signal
- Where measured values are to be automatically recorded and stored
- Start analogue value recording using an external digital control signal
- ON/OFF signals are stored using date and time and displayed in ReadWin® 2000

Advantages:
- Variable sensor connections using 0/4 to 20 mA, 0 to 1 V or Pt100, as well as potential free contact for event or count impulses
- Instantaneous value or min-, max-, average value recording
- Measured value storage always includes date and time
- Storage of up to 64,000 measured values
- Presettable storage cycle (1 minute to 24 hours)
- Stand alone battery powered unit or for external power supply available
- Robust (IP 65/NEMA4), small and economical
- User friendly setting up and data analysis using the ReadWin® 2000 software package
- Selectable display function

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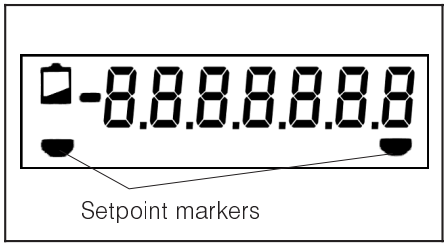
The Power of Know How

Function

The Mini-Log B, Version II data-logger records analogue and digital measured values. The analogue input signals can be 0/4 to 20 mA, 0 to 1 V and Pt100 resistive thermometers. In addition to the analogue input there is also a digital input available. A potential free contact (or TTL signal) can be connected to this input. This input records, for example, count impulses with a max. frequency of 25 Hz and 1 s at events. Alternatively this input can be used to, for example, calculate the running time of a particular piece of equipment or machine.
The unit reads these values every second. From values it calculates the instanataneous values or min-, max-, and averages. The memory capacity is a max. 16,000 measured values (optionally max. 64,000 measured values) giving up to 24 hours using a scan cycle of 1 minute.

Set points

In addition to recording the data the data-logger also monitors two set points. These set points can be set up using the ReadWin® 2000 software package. Any infringement of these values is indicated in the display. A choice of whether to record continuously or only in the case of a set point infringement (in the preset storage cycle) is available and can be set up.



Interface/ ReadWin® 2000 PC software

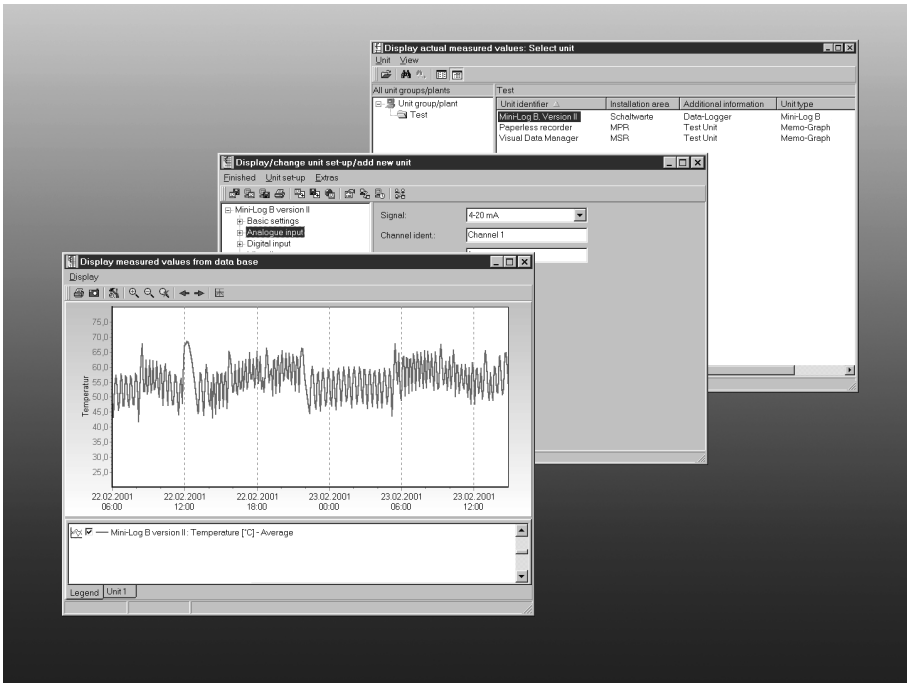
Mini-Log B, Version II data-logger can be simply and easily set up using the RS 232 interface.
Simple and safe setting up is made possible by using the on-line help text.

The ReadWin® 2000 PC software package is delivered with the unit free of charge. Interface cables for connection to a PC or Modem can be purchased as accessories.

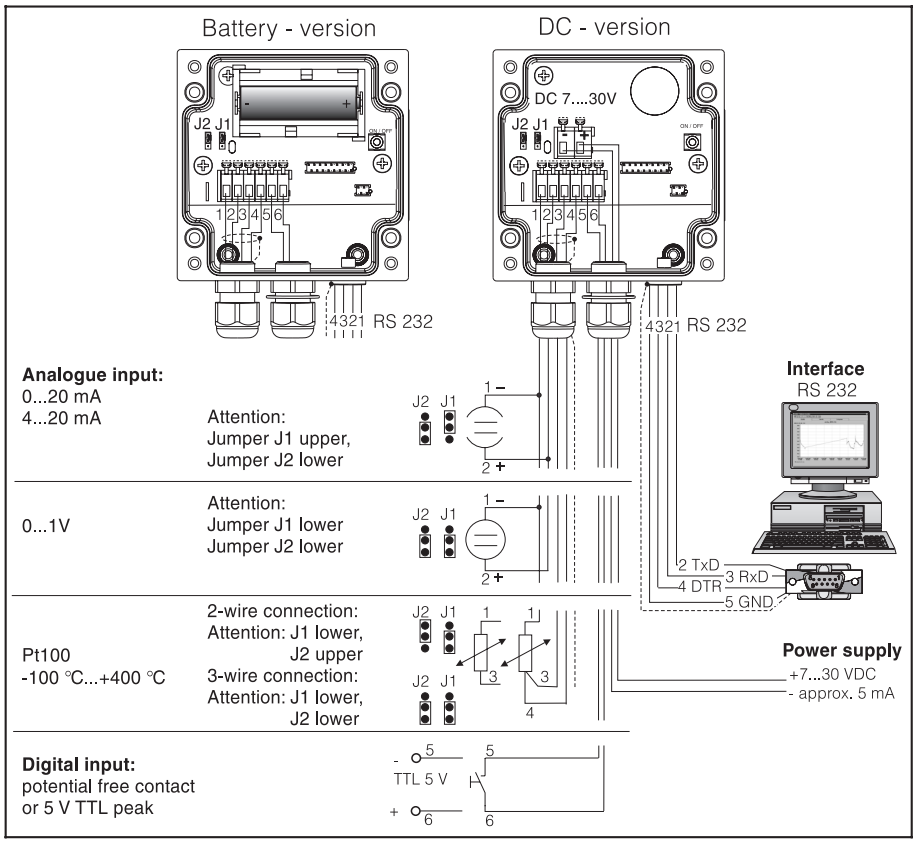
Data visualisation

The recorded data can be read out, transmitted and displayed using the ReadWin® 2000 PC software package. The main features are:

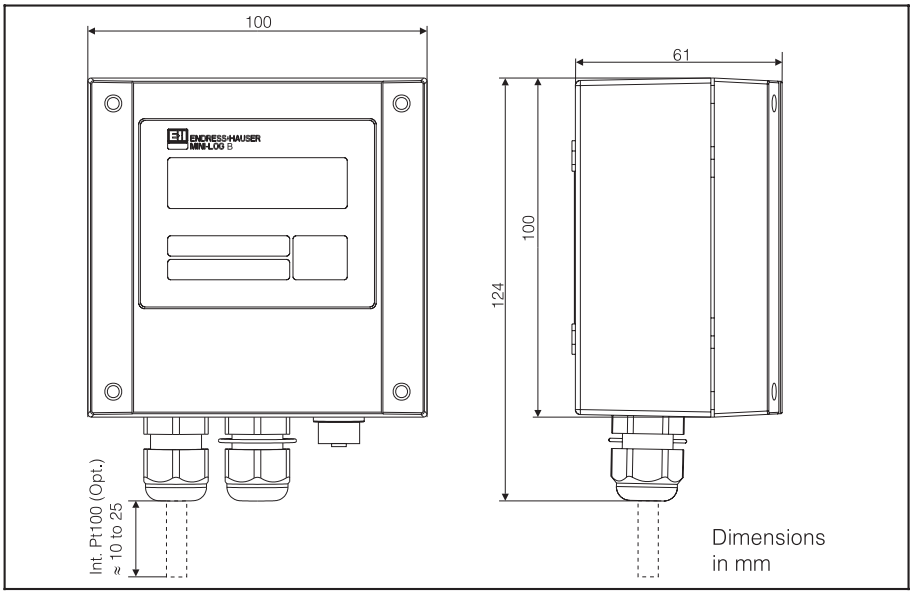
- Common PC operating system using Windows 95/98/ME/NT4.0/2000
- Saving the unit settings in a data bank
- Instantaneous value display
- Min-, max-, average value display
- Quantities
- Events
- Read out of the values stored in the unit
- Measured value display in the form of traces, columns and tables
- Data export onto spread sheets (e.g. Excel, Lotus etc.)
- Printout of graphics, tables and unit parameters



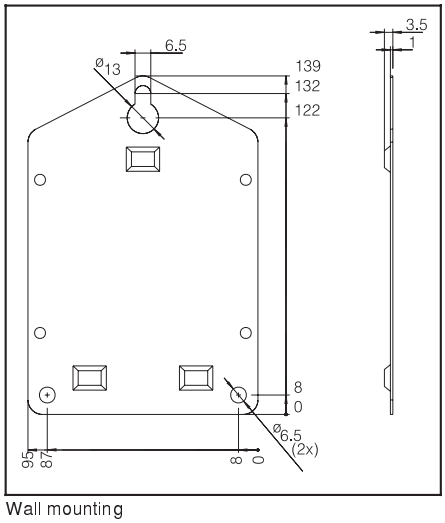
Electrical connection



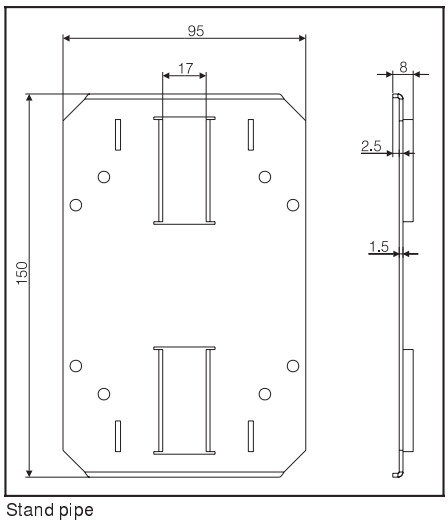
Housing



Installation



Wall mounting



Stand pipe

Technical data

Application

Application	Measured value collector for recording and storing analogue and digital values
Equipment	Mini-Log B, Version II
Manufacturer	Endress+Hauser

Operation and system construction

Principle	Measured value recording using analogue/digital conversion. The measured values are updated every second and, after a selectable storage cycle time, are stored in an internal memory, which can store 16,000 measured values (optionally 64,000 measured values). Number of events: Approx 1000 events (32 k) or 4000 event (128 k) can be stored. Simultaneous recording of integrated values is not possible. Selectable operating modes: Continuously or only on set point infringement. Data can be transferred to a PC using the ReadWin® 2000 PC software package. This means the data can then be processed further.
Measurement system	Analogue: Data-logger Mini-Log B, Version II and separate 0/4 to 20 mA, 0 to 1 V and Pt100 transmitter Digital: Data-logger Mini-Log B, Version II and potential free contact
Interface	RS 232 max. cable length 8 m, a complete RS 232 interface cable, length 1.5 m, and PC software package ReadWin® 2000

Inputs

Input	Universal application analogue: transmitter must have 0/4 to 20 mA, 0 to 1 V output signal or direct Pt100 digital: potential free contact or 5 V DC TTL peak Note: Mini-Log B, Version II has no loop power supply: Power supply minus, GND connetion (pin 4) of the interface, analogue input minus (terminal 1) and terminal 5 of the digital input are internally connected.
Number of inputs	Analogue input: 1
	Digital input: 1

Accuracy

Analogue input	0 to 1 V, R_i >= 1 MΩ Accuracy ± 0.25 % FSD
	0/4 mA to 20 mA, via shunt, R_i= 50 Ω Cable open circuit monitor < 2 mA (on 4 to 20 mA) Accuracy ± 0.25 % FSD
	Pt100, -100 to +400 °C, screened cable Accuracy ± 0.5 °C, cable open circuit monitor
Digital input	1 input using two terminals, f_{max} = 25 Hz on pulses, 1 s on events; for potential free contact
Temperature influence	Temperature drift ± 0.25 % / 10 K
Time drift	± 50 ppm (<= 30 min/year)

Application conditions

Installation conditions	
Installation hint	The unit should be mounted vertically, for this a wall or stand pipe mounting kit can be ordered

Application conditions (continuation)

Environmental conditions	
Ambient temp.	-25 °C to +55 °C
Storage temp.	-25 °C to +60 °C
Climate class	IEC 654 Part 1 Class C1
Ingress protection	IP 65 / NEMA4 with closed cover
Vibration security	IEC 654-3, v < 3 mm/s, 1<f<150 Hz
EMC/immunity	
RF protection	To EN 55011 Group 1, Class B
Interference safety	
- ESD	To EN 61000-4-2, Level 3, 6/8 kV
- Electromagnetic Fields	To EN 61000-4-3, Level 3, 10 V/m
- Burst (supply circuit)	To EN 61000-4-4, Level 3, 1 kV / 2 kV
- Burst (Signal circuit)	To EN 61000-4-4, Level 3, 1 kV
- Surge HF discharge	To EN 61000-4-6, 10 V additional measurement accuracy ≤ 0.5%
- Normal mode noise rejection	26 dB at input range/10, f = 50/60 Hz, not on resistance measurement

Housing/construction

Dimensions	W: 100 mm / H: 100 mm / D: 60 mm
Weight	approx. 0.5 to 0.7 kg (dependent on model)
Material	Housing: Aluminium die cast, surface galvanised Wall/stand pipe adapter: 1.4301 Strap: 1.4301
Electrical connection	Two wire connection (three wire on Pt100). Connection access using 2 x PG 9 cable glands (optionally 1 x ½“ NPT thread instead of 1 x PG9) . Termination on 2.5 mm^2 terminals, 1,5 mm^2 core with ferrule.

Display and operating level

Display	LC display, 7 segment, prefix, decimal point, limit symbol, battery status symbol
Operating level	ReadWin® 2000 PC software package for setting up, transmission and display of measured data. Software will run under Windows 95/98/ME/NT4.0/2000.

Power supply

Power supply	Lithium battery 3.6 Volt Type AA, optionally Type C or external power supply 7 to 30 V_{DC}, approx. 5 mA		
Battery life cycle		Type AA (2.1 Ah)	Type C (7.2 Ah)
	Monthly readout:	min. 2 years	min. 5 years
	Continuous readout:	min. 1 month	min. 2 months

Certificates

CE	89/336/EWG guide lines

Documentation

System information	SI 007R/09/en
Operating manual	BA 123R/09 Mini-Log B, version II

Order information

Order structure	See how to order on page 6

Technical alterations reserved.

How to order

Data logger Minilog B, Version II

Power supply:

- **R** Battery 3.6 V; 2.1 Ah
- **S** Battery 3.6 V; 7.2 Ah
- **T** 7-30VDC, (w/o battery)

Input; Software:

- **1** 0/4-20mA 0-1VDC Pt100; Basic software
- **2** w/o E+H Label, 0/4-20mA 0-1VDC Pt100, Basic software
- **3** Telealarm + GSM cable, 0/4-20mA 0-1V_{DC} Pt100
- **4** w/o E+H Label, Telealarm + GSM cable, 0/4-20mA 0-1V_{DC} Pt100

Internal memory:

- **B** 32K, max 16000x meas. value
- **C** 128K max 64000x meas. value
- **F** Works calib. certif., 32K
- **G** Works calib. certif., 128K

Temperature sensor:

- **1** Not selected
- **2** Incl. Pt100, -25...+55oC, PG gland

Cable entry:

- **A** Gland PG9
- **B** Gland PG9 + Lead seal option
- **C** Thread NPT1/2
- **D** Thread NPT1/2 + Lead seal option

Additional option:

- **1** Basic version
- **2** Mounting bracket, wall
- **3** Mounting bracket, pipe
- **4** RS232 cable
- **5** Mounting bracket, wall + RS232 cable
- **6** Mounting bracket, pipe + RS232 cable

RDL10- [ ][ ][ ][ ][ ][ ] ← Order code

Accessories

The following is included in the delivery

Built-in lithium battery (only with battery version), 1 operating manual, mounted cable glands, PC software package ReadWin® 2000

Accessories/consumables

Interface cable without softwareOrder code: 50086167
Interface cable for MODEM with adapterOrder code: RDL10A-VL
Mounting bracket cpl. for wall mountingOrder code: 51000946
Mounting bracket/pipe mounting/completeOrder code: 51000924
Battery (Lithium) 3,6V 2,1Ah MignonOrder code: 51000981
Battery (Lithium) 3,6V 7,2Ah C BabyOrder code: 51000982
Adapter set for connection of two Minilog to one modem Order code: RDL10A-AA

International Head Quarter

Endress+Hauser
GmbH+Co. KG
Instruments International
Colmarer Str. 6
79576 Weil am Rhein
Germany

Tel. +49 76 21 9 75 02
Fax +49 76 21 9 75 34 5
www.endress.com
info@ii.endress.com

Endress+Hauser
The Power of Know How