

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

Endress + Hauser
The Power of Know How



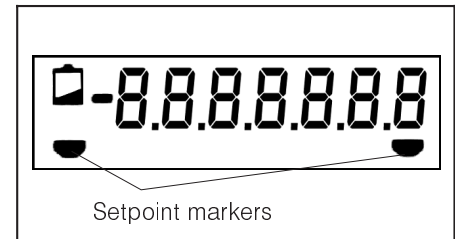
Function

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 instantaneous 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

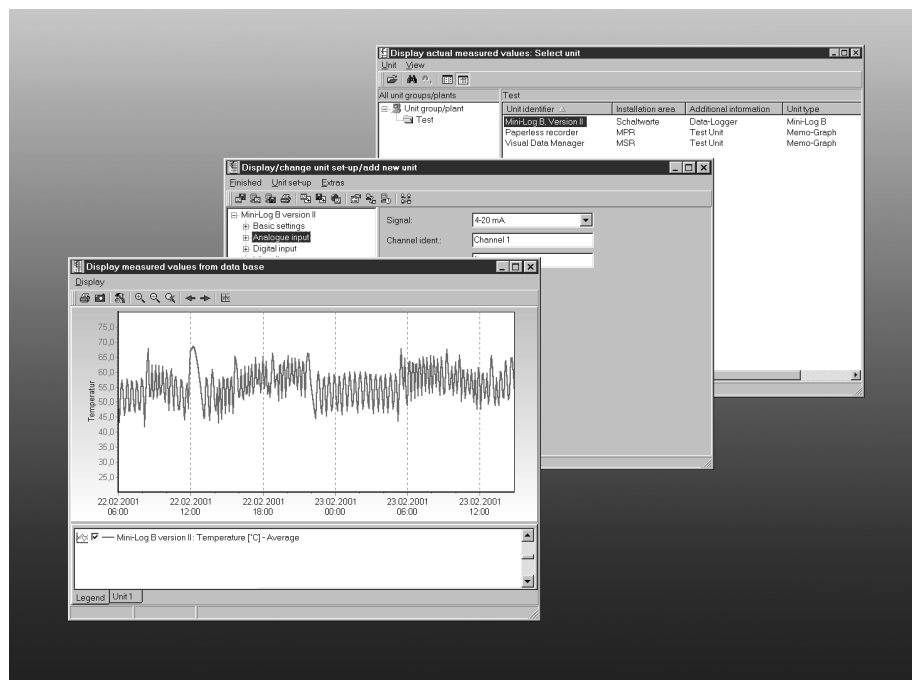
Mini-Log B, Version II data-logger can be simply and easily set up using the RS 232 interface. Simple and safe setting up is made possible by using the on-line help text.

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.

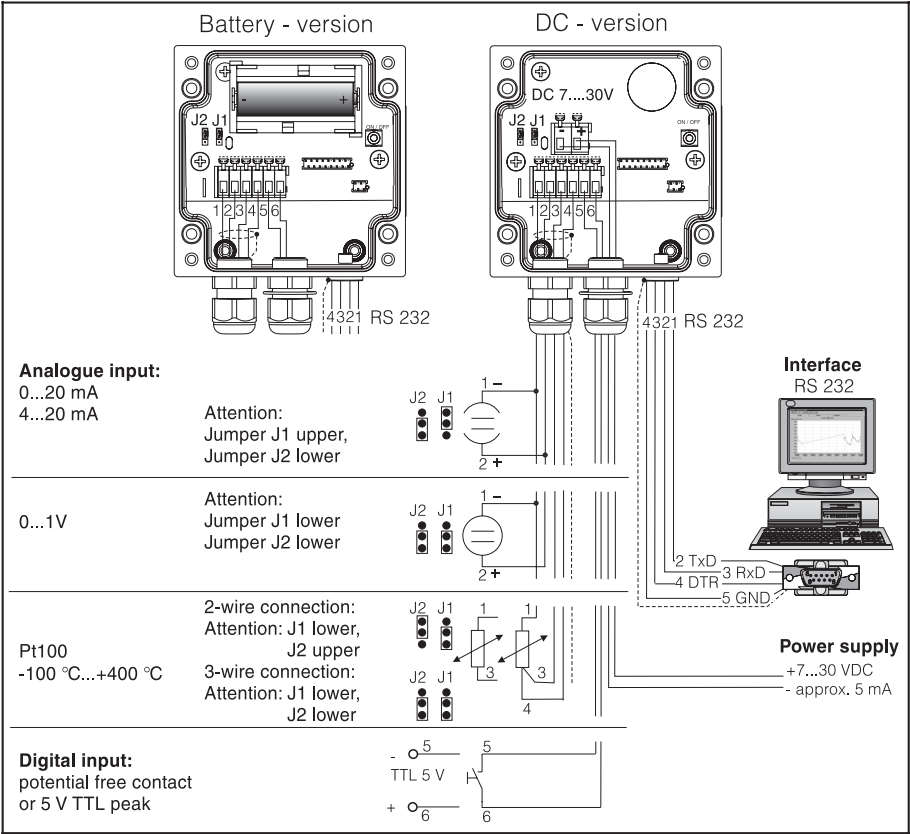
Data visualisation

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

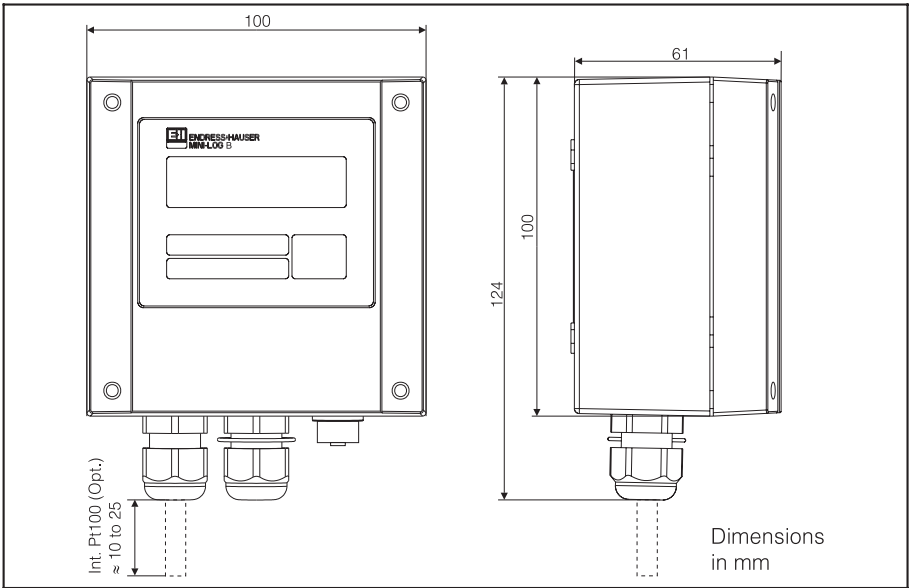
- Common PC operating system using Windows 95/98/ME/NT4.0/2000
- Saving the unit settings in a data bank
- Instantaneous value display
- Min-, max-, average value display
- Quantities
- Events
- Read out of the values stored in the unit
- Measured value display in the form of traces, columns and tables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



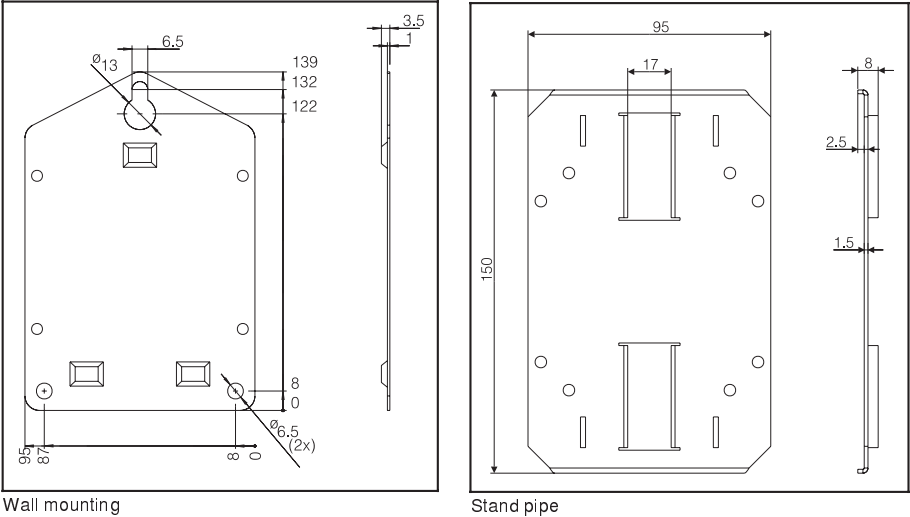
Electrical connection



Housing



Installation



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 connection (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, $R_i \geq 1 \text{ M}\Omega$ Accuracy $\pm 0.25 \text{ \% FSD}$
	0/4 mA to 20 mA, via shunt, $R_i = 50 \text{ }\Omega$ Cable open circuit monitor $< 2 \text{ mA}$ (on 4 to 20 mA) Accuracy $\pm 0.25 \text{ \% FSD}$
	Pt100, -100 to +400 °C, screened cable Accuracy $\pm 0.5 \text{ }^\circ\text{C}$, cable open circuit monitor
Digital input	1 input using two terminals, $f_{\max} = 25 \text{ Hz}$ on pulses, 1 s on events; for potential free contact
Temperature influence	Temperature drift $\pm 0.25 \text{ \%} / 10 \text{ K}$
Time drift	$\pm 50 \text{ ppm}$ ($\leq 30 \text{ min/year}$)

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 Continuous readout: min. 1 month	min. 5 years min. 2 months

Certificates

CE	89/336/EWG guide lines
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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
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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

For more Endress+Hauser product please visit: www.ainstru.com

Mail: Sales@ainstru.com

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 software Order code: 50086167
 Interface cable for MODEM with adapter Order code: RDL10A-VL
 Mounting bracket cpl. for wall mounting Order code: 51000946
 Mounting bracket/pipe mounting/complete Order code: 51000924
 Battery (Lithium) 3,6V 2,1Ah Mignon Order code: 51000981
 Battery (Lithium) 3,6V 7,2Ah C Baby Order code: 51000982
 Adapter set for connection of two Minilog to one modem Order code: RDL10A-AA

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