

# Data-logger *mini-log b*

**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
- Event and operation time recording
- Access monitoring
- Piece part and quantity recording
- Where measured values are to be automatically recorded and stored

#### Advantages:

- Variable sensor connections using 0/4...20 mA, 0...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 software package

Endress+Hauser

Nothing beats know-how



## Function

The Mini-Log B data-logger records analogue and digital measured values. The analogue input signals can be 0/4...20 mA, 0...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. 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 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 PC software

Mini-Log B 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.

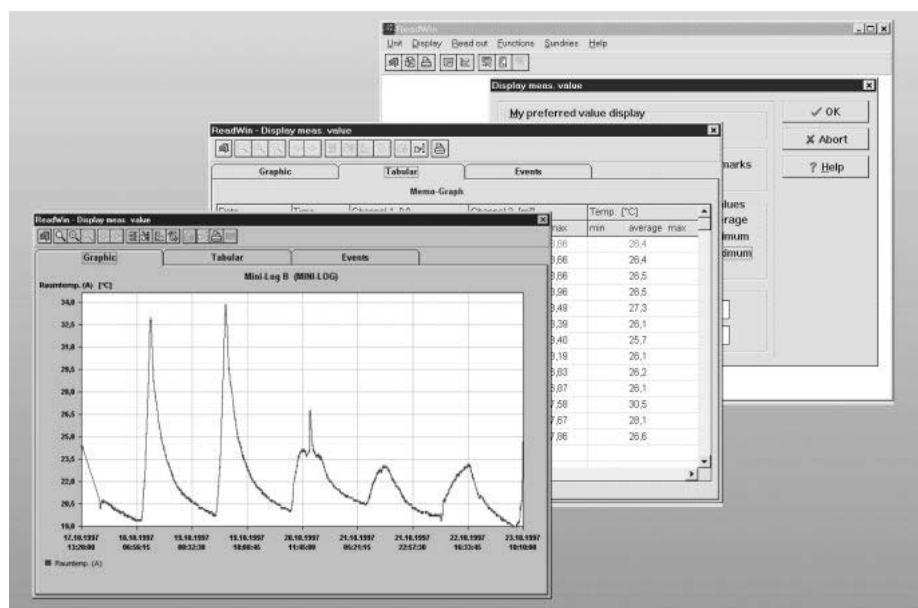
The ReadWin software package is delivered with the unit free of charge. The interface cable for connection to a PC or Modem can be purchased as accessories.

## Data visualisation

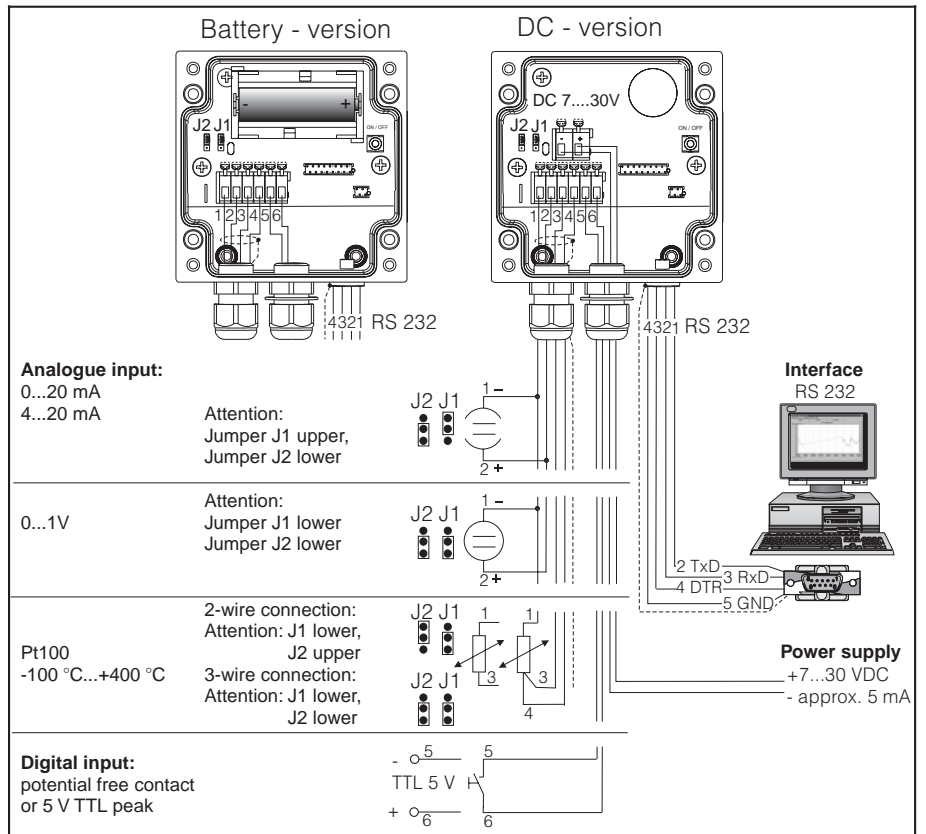
The recorded data can be read out, transmitted and displayed using the ReadWin software. The main features are:

- Single PC operating system using Windows 3.11/95/98/NT
- Saving the unit settings in a data bank
- Instantaneous value display
- Min-, max-, average value display

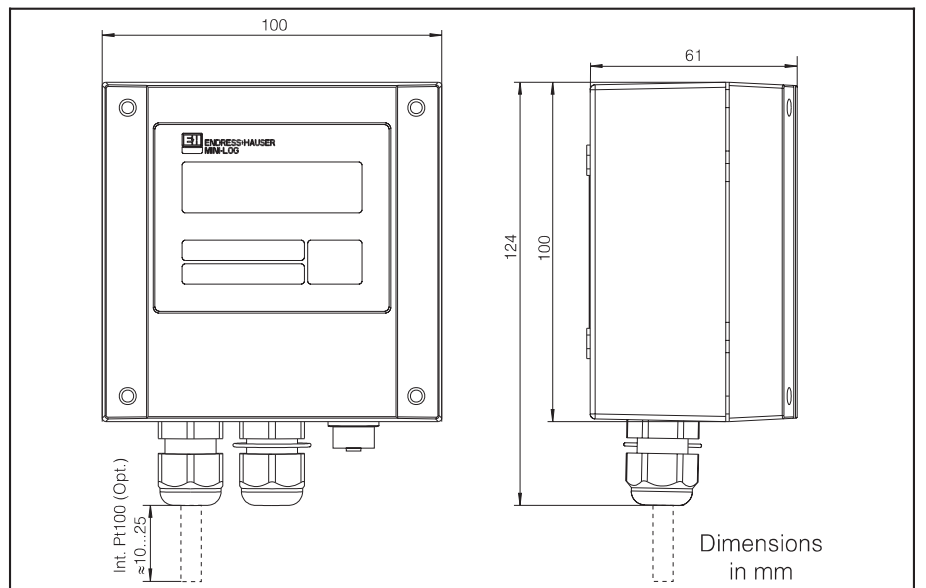
- Read out of the values stored in the unit
- Measured value display in the form of traces, columns and tables
- Data export onto spread sheets (e.g. Excel, Lotus etc.)
- Printout of graphics, tables and unit parameters



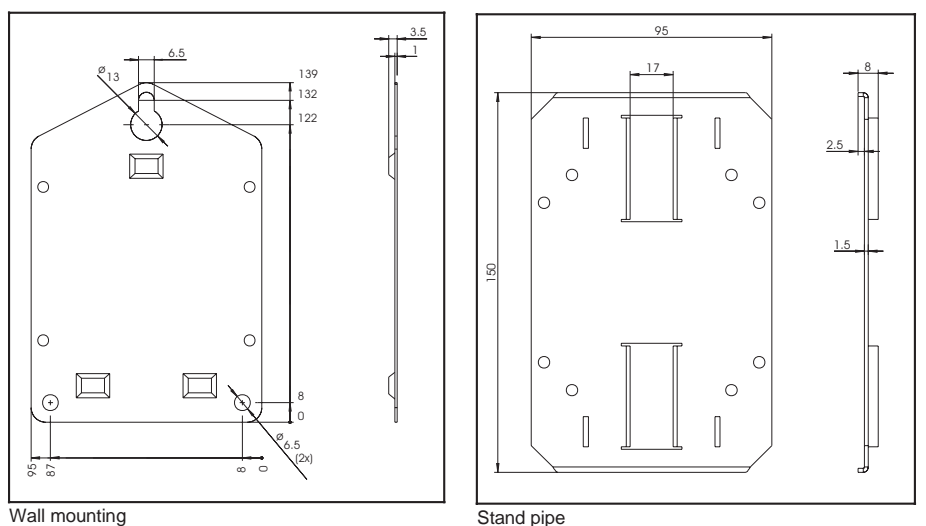
# Electrical connection



# Housing



# Installation



## Technical data

### Application

Application	Measured value collector for recording and storing analogue and digital values
Equipment	Mini-Log B
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). Selectable operating modes: Continuously or only on set point infringement. Data can be transferred to a Personal Computer using the ReadWin software package. This means the data can then be processed further.
Measurement system	Analogue: Data-logger Mini-Log B and separate 0/4...20 mA, 0...1 V and Pt100 transmitter Digital: Data-logger Mini-Log B and potential free contact
Interface	RS 232 max. cable length 8 m, a complete RS 232 interface cable 1.5 m long is optionally available

### Inputs

Input	Universal application analogue: transmitter must have 0/4...20 mA, 0...1 V output signal or direct Pt100 digital: potential free contact or 5 V DC TTL peak Note: Mini-Log B 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...1 V, $R_i \geq 1 \text{ MOhm}$ Accuracy $\pm 0.25 \% \text{ FSD}$
	0/4 mA...20 mA, via shunt, $R_i = 50 \text{ Ohm}$ Cable open circuit monitor $< 2 \text{ mA}$ (on 4...20 mA) Accuracy $\pm 0.25 \% \text{ FSD}$
	Pt100, -100...+400 °C, screened cable Accuracy $\pm 0.5 \text{ }^\circ\text{C}$ , cable open circuit monitor
Digital input	1 input using two terminals, $f_{\text{max}} = 25 \text{ Hz}$ , for potential free contact
Temperature influence	Temperature drift $\pm 0.25 \% / 10 \text{ K}$
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

Environmental conditions	
Ambient temp.	-25 °C...+55 °C
Storage temp.	-25 °C...+60 °C
Climate class	IEC 654 Part 1 Class C1
Ingress protection	IP 65 / NEMA4 with closed cover
Vibration security	IEC 654-3, $v < 3 \text{ mm/s}$ , $1 < f < 150 \text{ Hz}$

**Application conditions  
(continuation)**

<b>EMC/immunity</b>	
RF protection	To EN 55011 Group 1, Class B
<b>Interference safety</b>	
- 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 $\leq 0.5\%$
- 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 ... 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 1/2" NPT thread instead of 1 x PG9) . Termination on 2.5 mm <sup>2</sup> terminals, 1,5 mm <sup>2</sup> core with ferrule.

**Display and operating level**

Display	LC display, 7 segment, prefix, decimal point, limit symbol, battery status symbol
Operating level	ReadWin software package for setting up, transmission and display of measured data. Software will run under Windows 3.11/95/98/NT.

**Power supply**

Power supply	Lithium battery 3.6 Volt Type AA, optionally Type C or external power supply 7...30 V <sub>DC</sub> , 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
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**Documentation**

System information	SI 007R/09/en
Operating manual	BA 073R/09...

**Order information**

Order structure	See how to order, last page
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**Technical alterations reserved.**

## How to order

### Data logger MINI-LOG B

#### Certificates

- R Battery 3.6 V; 2.1 Ah
- S Battery 3.6 V; 7.2 Ah
- T Ext. power supply 7...30 V<sub>DC</sub>, without battery

#### Measured signal input

- 1 0/4...20 mA, 0...1 V<sub>DC</sub>, Pt100  
(range -100...+400 °C)

#### Internal memory

- A 32 K internal memory for max. 16,000 measured values
- B 128 K internal memory for max. 64,000 measured values

#### Temperature sensors

- 1 Unit without temperature sensor Pt100
- 2 Unit with Pt100 temperature sensor fitted in gable gland  
(measurement range -25 °C...+55 °C)

#### Model

- A Unit without lead seal  
PG 9 cable gland
- B Unit with lead seal  
PG 9 cable gland
- C Unit without lead seal 1/2" NPT threaded  
cable entry
- D Unit with lead seal 1/2" NPT threaded  
cable entry

#### Accessories

- 1 No accessories required
- 2 Wall mounting adapter
- 3 Stand pipe adapter

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®

#### Accessories/consumables

RS232 interface cable for PCs	Order code: 50086167
Interface cable for modems (incl. adaptor)	Order code: RDL10A-VL
Wall mounting adapter	Order code: 50086642
Stand pipe adapter	Order code: RDL10A-MA
Lead seal possibility	Order code: RDL10XPA
Spare battery Lithium 3.6 Volt Type AA, 2.1 Ah	Order code: 51000981
Spare battery Lithium 3.6 Volt Type C, 7.2 Ah	Order code: 51000982

#### United Kingdom

Endress+Hauser Ltd.  
Floats Road  
Manchester  
M23 9NF  
Tel. (0161) 286 - 5000  
Fax. (0161) 998 - 1841  
<http://www.endress.com>

#### Export division

Endress+Hauser  
GmbH+Co.  
Instruments International  
P.O. Box 2222  
D-79674 Weil am Rhein  
Germany  
Tel. (07621) 975-02  
Fax (07621) 975-345  
<http://www.endress.com>

