



Level



Pressure



Flow



Temperature



Liquid  
Analysis



Registration



Systems  
Components



Services



Solutions

## Technical Information

# Minilog RDL10

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



### Application

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

### Your benefits

- 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 up to 24 hours)
- Stand alone battery powered unit or for external power supply available
- Robust (IP 65 / NEMA 4), small and economical
- User friendly setting up and data analysis using the Readwin® 2000 software package
- Selectable display function

## Function and system design

### Measuring principle

The Minilog B, Version II data-logger records analog and digital measured values. The analog input signals can be 0/4 to 20 mA, 0 to 1 V and Pt100 resistive thermometers. In addition to the analog 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 the values it calculated the instantaneous values or min, max and averages. The memory capacity is a max. 16,000 measured values (optionally max. 64,000 measured values) with a presettable storage cycle of 1 minute up to 24 hours.

### Measuring system

analog: Data-logger Minilog B, Version II and separate transmitters in 0/4 to 20 mA, 0 to 1 V and Pt100 technology

digital: Data-logger Minilog B, Version II and potential free contact

### 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 software

Minilog B, Version II data-logger can be simply and easily set up using the RS232 interface. Simple and safe setting up is made possible by using the on-line help text.

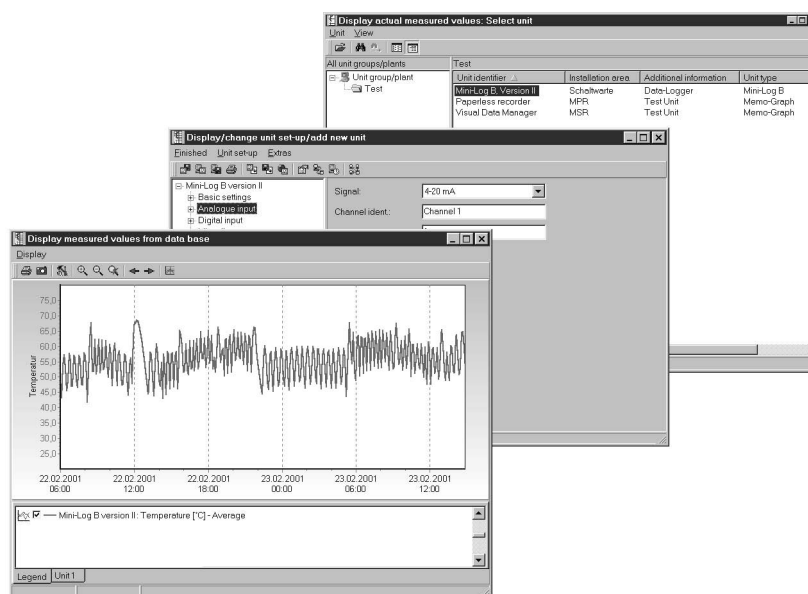
The Readwin® 2000 software package is delivered with the unit free of charge. Interface cables for connection to a PC or Modem can be purchased as accessories.

### Data visualization

The recorded data can be read out, transmitted and displayed using the Readwin® 2000 software package.

The main features are:

- Common PC operating system
- Saving the unit settings in a database
- 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



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Readwin® 2000 PC operating software

# Input

## Measured variable

Universal application  
 analog: transmitter must have 0/4 to 20 mA, 0 to 1 V output signal or direct Pt100.  
 digital: potential free contact or TTL peak 5 V<sub>DC</sub>



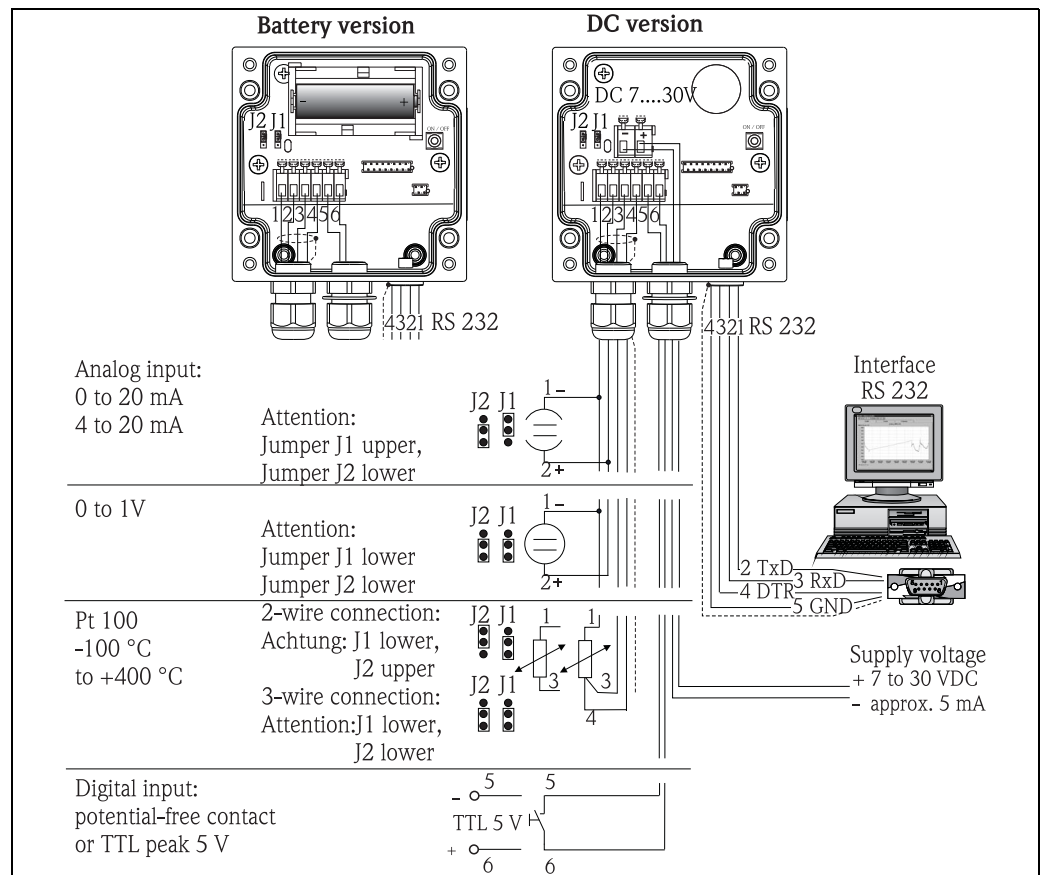
Note!  
 Minilog B, Version II has no loop power supply.  
 Power supply minus, GND connection (pin 4) of the interface, analog input minus (terminal 1) and terminal 5 of the digital input are internally connected.

## Number of inputs

Analog input: 1  
 Digital input: 1

# Power supply

## Terminal assignment



Terminal assignment of the data-logger

R09-RDL10xx-04-xx-xx-en-000

## Supply voltage

Lithium battery 3.6 V Type AA, optional Type C or external power supply 7 to 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 month

<b>Terminals</b>	Termination on 2.5 mm <sup>2</sup> (14 AWG) terminals, 1.5 mm <sup>2</sup> (16 AWG) core with ferrule.
<b>Cable entries</b>	Two-wire connection (three-wire on Pt100); connection access using 2x PG9 cable glands (optional 1x ½" NPT instead of 1x PG9)

## Performance characteristics

<b>Maximum measured error</b>	Analog input	0 to 1 V, $R_i \geq 1 \text{ M}\Omega$ Accuracy $\pm 0.25 \%$ FSD
		0/4 to 20 mA, via shunt, $R_i = 50 \Omega$ Cable open circuit monitor < 2 mA (on 4 to 20 mA) Accuracy $\pm 0.25 \%$ FSD
		Pt100, -100 to +400 mA, screened cable Accuracy $\pm 0.5 \text{ }^\circ\text{C}$ ( $\pm 0.8^\circ\text{F}$ ), cable open circuit monitor
	Digital input	1 input using two terminals; $f_{\text{max}} = 25 \text{ Hz}$ on pulses, 1 s on events; for potential free contact

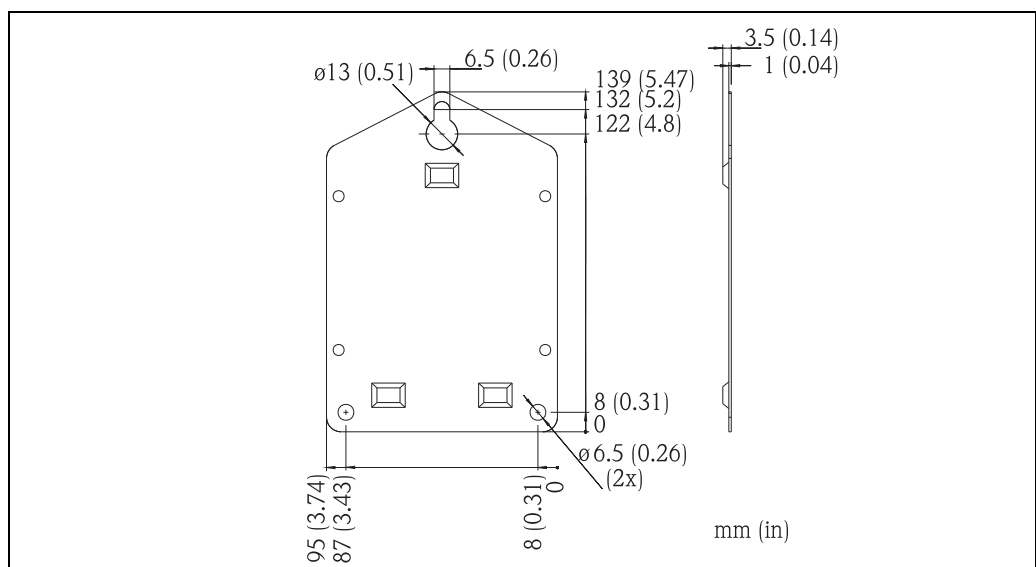
**Long-term drift** Time drift  $\pm 50 \text{ ppm}$  ( $\leq 30 \text{ min/year}$ )

**Influence of ambient temperature** Temperature drift  $\pm 0.25 \%$  / 10 K ( $\pm 0.14 \%$  / 10 °F)

## Installation

**Orientation** The unit should be mounted vertically, for this a wall or stand pipe mounting kit can be ordered.

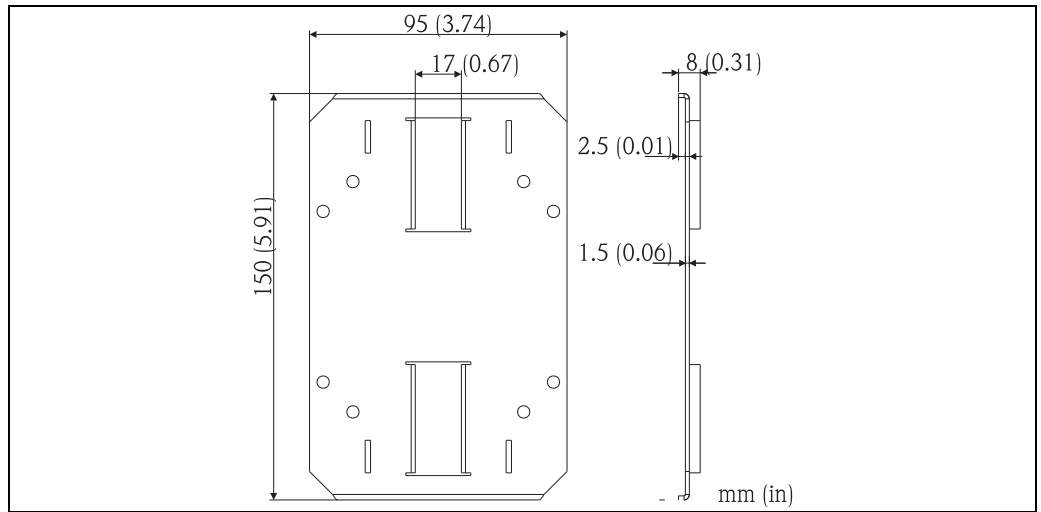
**Mounting kit** **Wall mounting**



Dimensions of the wall mounting plate

R09-RDL10xx-06-00-06-xx-000

**Stand pipe mounting**



Dimensions of the stand pipe mounting plate

R09-RDL10xx-06-00-06-xx-001

**Environment**

<b>Ambient temperature range</b>	-25 to +55 °C (-13 to 131 °F)
<b>Storage temperature</b>	-25 to +60 °C (-13 to 140 °F)
<b>Climate class</b>	IEC 654 Part 1 Class C1
<b>Degree of protection</b>	IP 65 / NEMA 4 with closed cover
<b>Vibration resistance</b>	IEC 654-3, v < 3 mm/s, 1<f<150 Hz

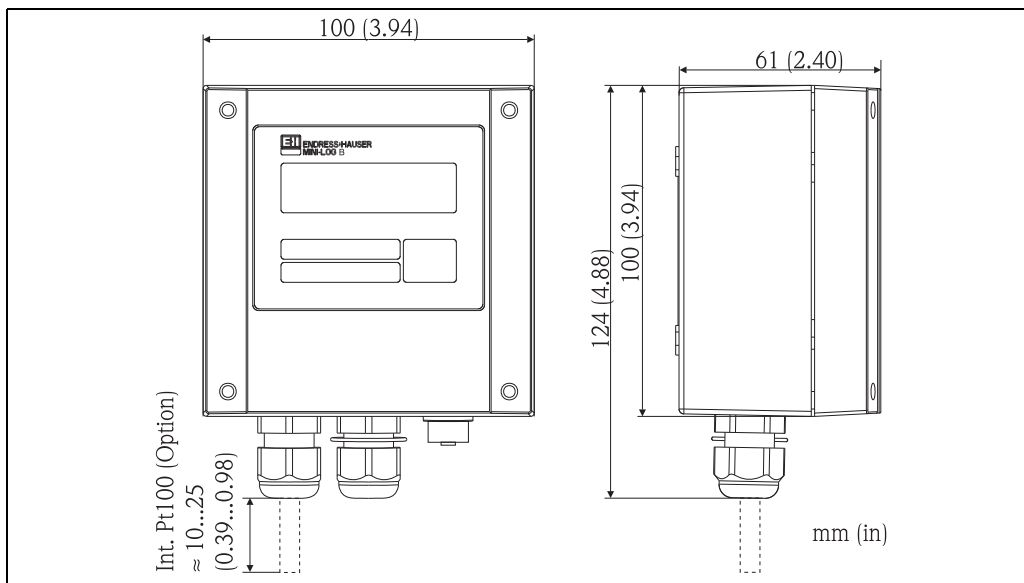
**Electromagnetic compatibility**    **RF protection**  
 To EN 55011 Group 1, Class B

**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

## Mechanical construction

### Design, dimensions



Dimensions of the data-logger

R09-RDL10xx-06-00-06-xx-002

**Weight** 0.5 to 0.7 kg (1.1 to 1.5 lb), dependent on model

**Materials**

**Transmitter housing**  
Aluminum die cast, surface galvanized

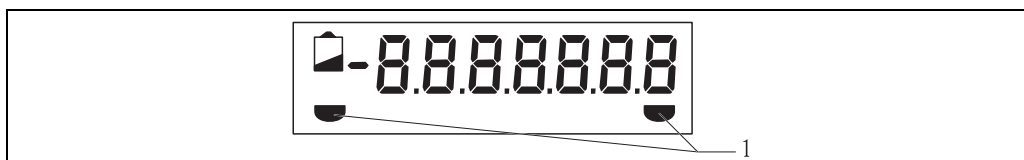
**Accessories**  
Wall / stand pipe adapter: 1.4301 (304 SS)  
Strap: 1.4301 (304 SS)

## Operability

**Operating concept** The device is operated using the Readwin® 2000 operating software.

**Local operation**

**Display**  
LC display, 7 segment, prefix, decimal point, limit symbol, battery status symbol



Display of the data-logger

1 Limit symbol

R09-RDL10xx-07-xx-xx-xx-000

**Remote operation** Readwin® 2000 software package for setting up, transmission and display of measured data. Download under [www.readwin2000.com](http://www.readwin2000.com)

## Certificates and approvals

CE mark

Guide lines 2004/108/EG

## Ordering information

### Product structure

RDL10	Data-logger Minilog B, Version II				
	<b>Power Supply:</b>				
	<b>R</b>	Battery 3.6V 2.1Ah			
	<b>T</b>	7-30VDC, (w/o battery)			
	<b>U</b>	Prepared for battery 3.6V 7.2Ah (w/o battery)			
	<b>Y</b>	Special version, TSP-no. to be spec.			
	<b>Input; Software:</b>				
	<b>1</b>	0/4-20mA 0-1VDC Pt100; standard			
	<b>2</b>	W/o E+H label, 0/4-20mA 0-1VDC Pt100, basic software			
	<b>3</b>	0/4-20mA 0-1VDC Pt100; telealarm + GSM cable, w/o digital input, only 24VDC version			
	<b>4</b>	W/o E+H label, telealarm + GSM cable, 0/4-20mA 0-1VDC Pt100 w/o digital input, only 24VDC version			
	<b>9</b>	Special version, TSP-no. to be spec.			
	<b>Internal memory:</b>				
	<b>B</b>	32K, max 16000x meas. value			
	<b>C</b>	128K max 64000x meas. value			
	<b>F</b>	Works calib. certif., 32K			
	<b>G</b>	Works calib. certif., 128K			
	<b>Y</b>	Special version, TSP-no. to be spec.			
	<b>Temperature Sensor:</b>				
	<b>1</b>	Not selected			
	<b>2</b>	Incl. Pt100, -25...+55oC, PG gland			
	<b>9</b>	Special version, TSP-no. to be spec.			
	<b>Cable Entry:</b>				
	<b>A</b>	Gland PG9			
	<b>B</b>	Gland PG9 + Lead seal option			
	<b>C</b>	Thread NPT1/2			
	<b>D</b>	Thread NPT1/2 + Lead seal option			
	<b>Y</b>	Special version, TSP-no. to be spec.			
	<b>Additional Option:</b>				
	<b>1</b>	Basic version			
	<b>2</b>	Mounting bracket, wall			
	<b>3</b>	Mounting bracket, pipe			
	<b>4</b>	RS232 cable			
	<b>5</b>	Mounting bracket, wall + RS232 cable			
	<b>6</b>	Mounting bracket, pipe + RS232 cable			
	<b>9</b>	Special version, TSP-no. to be spec.			
	<b>Customer requirements:</b>				
	<b>L</b>	Board varnished, mounted in ASP2000			
	<b>M</b>	Board varnished			
	<b>Z</b>	Special version, TSP-no. to be spec.			
	<b>Marking:</b>				
	<b>A</b>	Tagging (TAG), metal			
	<b>B</b>	Tagging (TAG), on device			
	<b>C</b>	Commissioning label, paper			
	<b>F</b>	Tagging (TAG), by customer			
RDL10-					← Order code complete

## Scope of delivery

### The following is included in the delivery:

Built-in lithium battery (only for version with 3.6 V / 2.1 Ah battery), operating manual, mounted cable glands, PC software package Readwin® 2000.

## Accessories

### Device-specific accessories

Description	Order no.
Interface cable without software	50086167
Interface cable for MODEM with adapter	RDL10A-VL
Mounting bracket cpl. for wall mounting	51000946
Mounting bracket/pipe mounting/complete	51000924
Battery (Lithium) Typ AA, 3.6 V / 2.1 Ah	51000981
Battery (Lithium) Typ C, 3.6 V / 7.2 Ah	Can be ordered from: <a href="http://www.tadiranbat.com/index.php/tadiran-international-distributors">http://www.tadiranbat.com/index.php/tadiran-international-distributors</a>
Adapter set for connection of two Minilog B to one modem	RDL10A-AA

## Documentation

### Standard documentation

- Recorder and data acquisition technology brochure: Data managers, paperless recorders and associated software packages: FA014R/09
- Operating instructions Minilog B, RDL10: BA00123R/09

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