Technical Information

Minilog RDL10

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

Application

- Data storage for termperature, 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

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Function and system design

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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
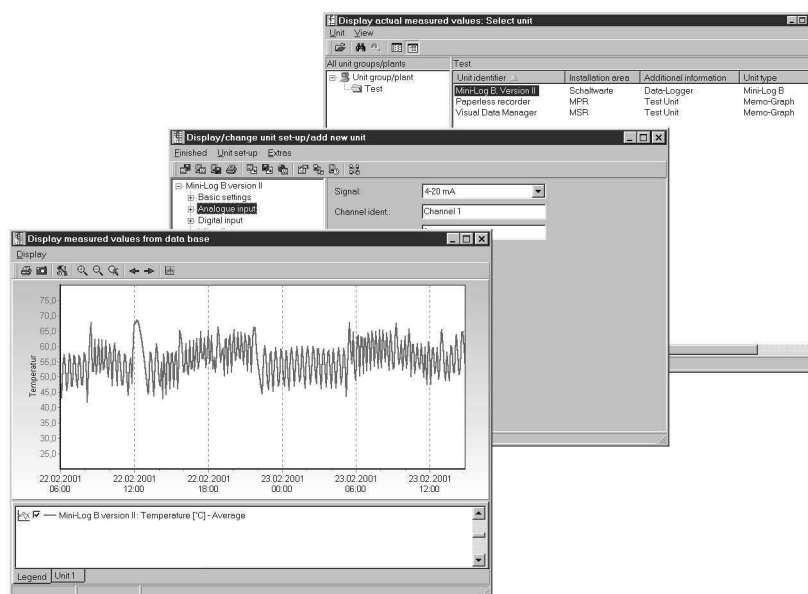
Input

Measured variable

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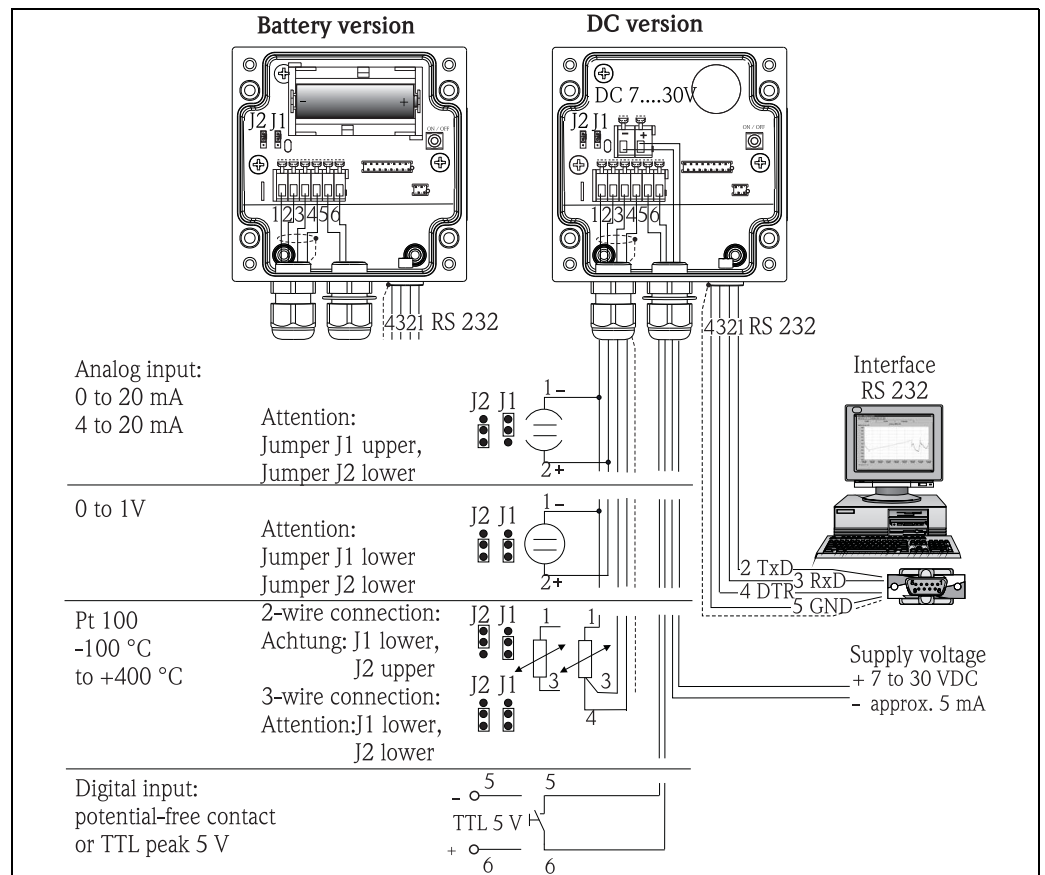digital: potential free contact or TTL peak 5 V_{DC}

✎ 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

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Supply voltage

Lithium battery 3.6 V Type AA, optional 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 month

Terminals	Termination on 2.5 mm^2 (14 AWG) terminals, 1.5 mm^2 (16 AWG) core with ferrule.

Cable entries	Two-wire connection (three-wire on Pt100); connection access using 2x PG9 cable glands (optional 1x ½" NPT instead of 1x PG9)

Performance characteristics

Maximum measured error

Analog input	0 to 1 V, $R_i \geq 1$ MΩ Accuracy ± 0.25 % FSD
	0/4 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 mA, screened cable Accuracy ± 0.5 °C (± 0.8°F), 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

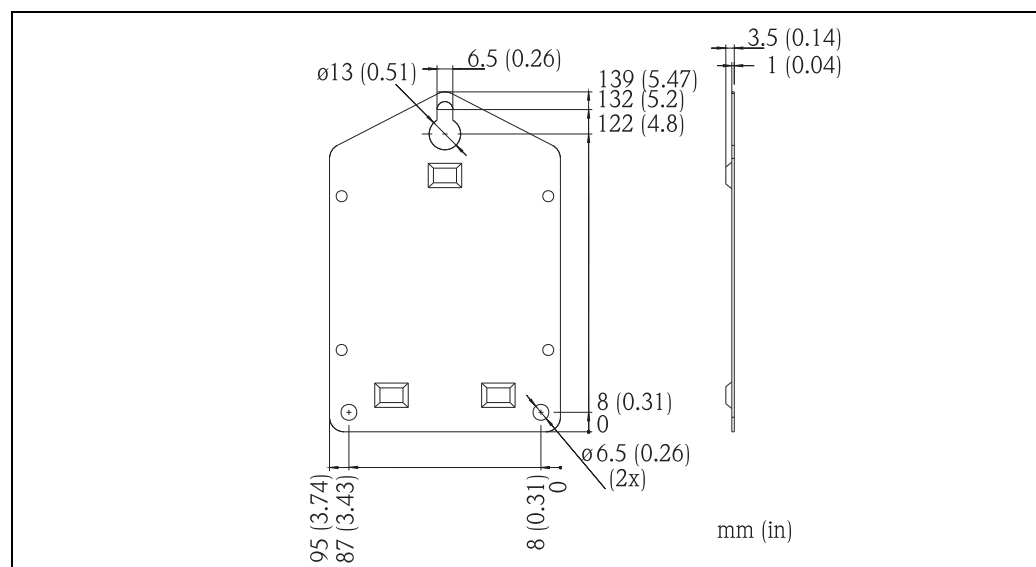| **Long-term drift**	Time drift ± 50 ppm (≤ 30 min/year)

Influence of ambient temperature	Temperature drift ± 0.25 % / 10 K (± 0.14 % / 10 °F)

Installation

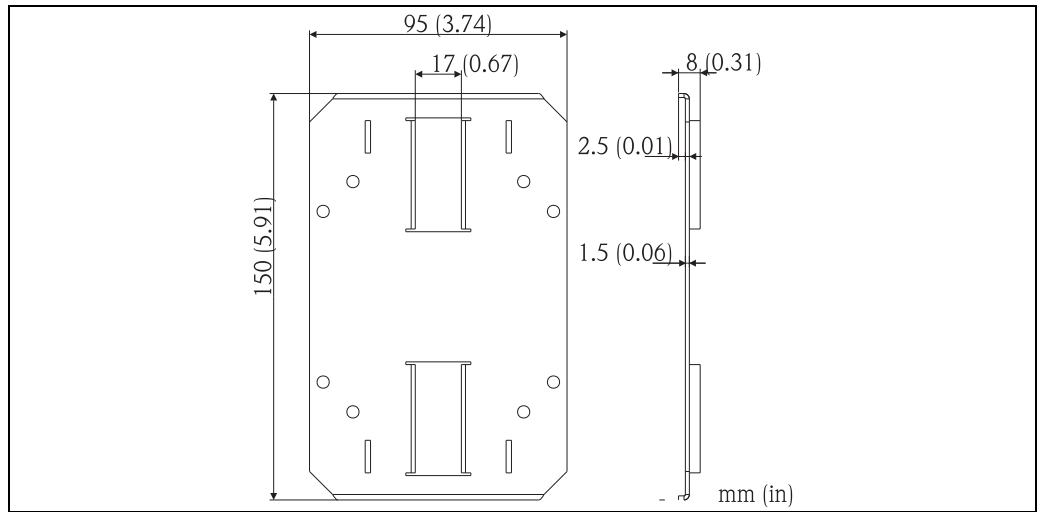| **Orientation**	The unit should be mounted vertically, for this a wall or stand pipe mounting kit can be ordered.

Mounting kit	**Wall mounting**

Dimensions of the wall mounting plate

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Stand pipe mounting

Dimensions of the stand pipe mounting plate

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Environment

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Ambient temperature range	–25 to +55 °C (–13 to 131 °F)
Storage temperature	–25 to +60 °C (–13 to 140 °F)
Climate class	IEC 654 Part 1 Class C1
Degree of protection	IP 65 / NEMA 4 with closed cover
Vibration resistance	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 cicuit)	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

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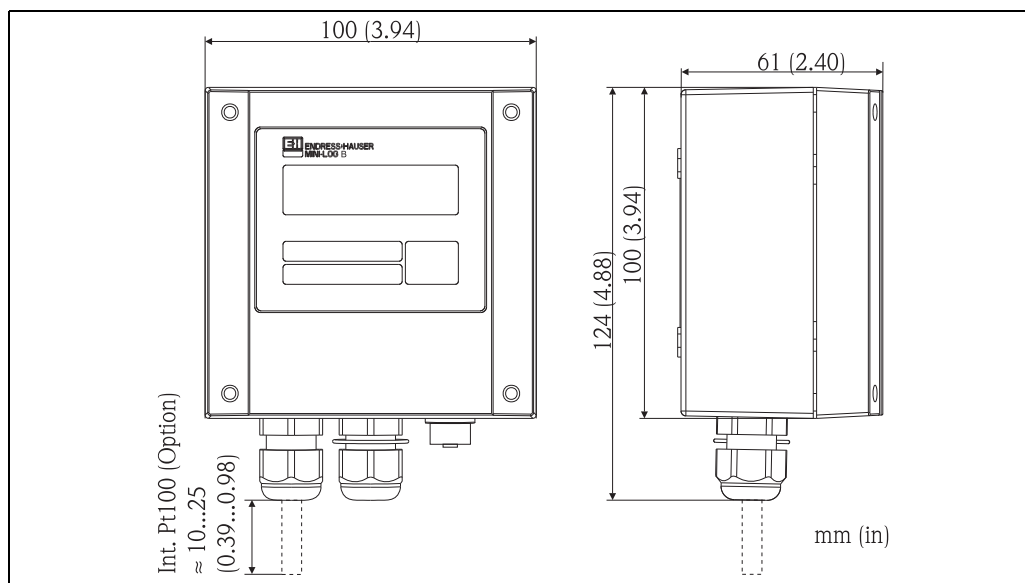
Dimensions of the data-logger

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)
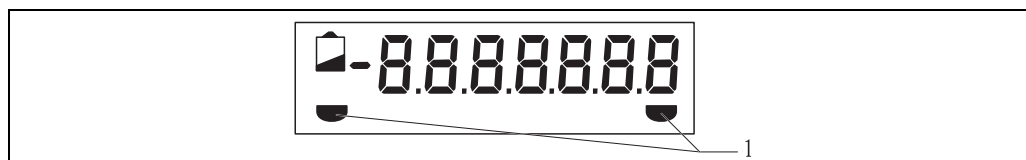Strap: 1.4301 (304 SS)

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

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Display of the data-logger
1   Limit symbol

Remote operation Readwin® 2000 software package for setting up, transmission and display of measured data. Download under www.readwin2000.com

Certificates and approvals

CE mark   Guide lines 2004/108/EG

Ordering information

Product structure

RDL10	Data-logger Minilog B, Version II						

	Power Supply:
R	Battery 3.6V 2.1Ah
T	7-30VDC, (w/o battery)
U	Prepared for battery 3.6V 7.2Ah (w/o battery)
Y	Special version, TSP-no. to be spec.

		Input; Software:
	1	0/4-20mA 0-1VDC Pt100; standard
	2	W/o E+H label, 0/4-20mA 0-1VDC Pt100, basic software
	3	0/4-20mA 0-1VDC Pt100; telealarm + GSM cable, w/o digital input, only 24VDC version
	4	W/o E+H label, telealarm + GSM cable, 0/4-20mA 0-1VDC Pt100 w/o digital input, only 24VDC version
	9	Special version, TSP-no. to be spec.

			Internal memory:
		B	32K, max 16000x meas. value
		C	128K max 64000x meas. value
		F	Works calib. certif., 32K
		G	Works calib. certif., 128K
		Y	Special version, TSP-no. to be spec.

				Temperature Sensor:
			1	Not selected
			2	Incl. Pt100, -25...+55oC, PG gland
			9	Special version, TSP-no. to be spec.

					Cable Entry:
				A	Gland PG9
				B	Gland PG9 + Lead seal option
				C	Thread NPT1/2
				D	Thread NPT1/2 + Lead seal option
				Y	Special version, TSP-no. to be spec.

						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
					9	Special version, TSP-no. to be spec.

							Customer requirements:
						L	Board varnished, mounted in ASP2000
						M	Board varnished
						Z	Special version, TSP-no. to be spec.

								Marking:
							A	Tagging (TAG), metal
							B	Tagging (TAG), on device
							C	Commissioning label, paper
							F	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: http://www.tadiranbat.com/index.php/ tadiran-international-distributors
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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