

PRO 111 / PRO 115 High-precision handheld meter/data logger

For Pt100 4-wire probes

- Reference class instruments for 4-wire Pt100 probes
- High class calibration and adjustment methods are supported: Callendar van Dusen CvD and "zero point" and "gradient"
- Fast and accurate
- High 0.01 °C resolution, Pt100 resistance value can be displayed
- Easy to use and read due to backlit **dot matrix/clear text** display
- multilingual
- Various measurement views available, including life chart
- Data logger with files read out via USB (only **PRO 115**)
- Statistical functions Min, Avg, Max
- Acoustic/optic alarm with high/low thresholds and optional hysteresis
- Favorite functions for quick access to the most used operations
- Built-in foldable stand and magnet for flexible operation
- Shock and impact proof, IP 67 waterproof
- Optionally available DAkkS/ACCREDIA certificates
- Long battery life and external power via USB



DESCRIPTION

PRO 111 and PRO 115 are high class professional handheld meters for 4-wire Pt100 probes with a rich set of features, high grade robustness and operating comfort for safe and reliable use.

PRO 115 also has data logging capability.

Probes

Any 4-wire Pt100 standard probe can be connected, provided it is equipped with an M12 connector.

The high-precision temperature-compensated analog front-end of the meter does not add any significant error to the measurement chain, making the instrument a low-cost high-class reference system.

The sophisticated polynomial sensor linearization gets the best out of your Pt100 temperature probe and provides all relevant possibilities for calibration and adjustment.



M12 connector

Display

The multilingual large dot matrix/clear text LCD has ergonomic wide-angle visibility from daylight to darkness, thanks to the backlight. It displays either large scale values, statistical data or the chart of a variable measurement history.

Product Datasheet

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The HOLD feature allows freezing the measurements on display, while the REL feature allows showing the measurement against the measured value.

°C, °F and K units of measurement are available.

On demand, the display of the corresponding resistance can also be switched on.

Data logging (only PRO 115)

Large storage capacity: up to 1 million data, file system based.

The logged data are stored in CSV files that can be easily viewed connecting the instrument to a PC via USB: the instrument is seen by the PC as a mass storage device, the data can be read out and evaluated without software necessarily needed.

Automatic log with configurable interval.

The instruments integrate a Real Time Clock: date and time of each logged sample are stored.

Application software

In addition to CSV files, the free user-friendly basic **ProXware** PC application software allows for examination of a large amount of logged data.

For a more in-depth data analysis, an optional advanced version of the **ProXware** software is available.

Alarm

Configurable alarm thresholds and optionally hysteresis can be set. LCD indication and buzzer activation when thresholds are exceeded.

Statistics

Detection of MIN, AVG (average) and MAX. The user can clear the statistical info to start a new statistical calculation.

PC connectivity

Via the USB C port, for viewing or downloading the files stored in the instrument internal memory (only PRO 115) or connecting to the application software **ProXware**.

Power supply

4 Powerful AA batteries, the low power design and the configurable auto-off feature are ensuring long operation.

For permanent operation the instrument can also be powered via its USB C port. Any standard 5 Vdc power adapter or a PC USB port can be used.

Configurable LCD backlight for more energy saving options.

Ergonomics

The construction allows for both one-handed use as well as bench-top use with the foldable back stand.

Side rubber protection offers a secure grip during the use in the field.

Calibration support

Calibration reports or DAkkS/ACCREDIA certificates are available upon request.

The last calibration date is stored.

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TECHNICAL SPECIFICATIONS

Measurement specifications

Measuring range	-200...+850 °C / -328...+1562 °F
Resolution	0.01 °C/°F (-199.99 °C/°F < t < +199.99 °C/°F) 0.1 °C/°F (remaining range)
Accuracy	0.01 resolution ±(0.03 °C + 0.06% of measured value) ± 1 digit 0.1 resolution ±(0.1 °C + 0.2% of measured value) ± 1 digit
Linearization	According to IEC 60751
Adjustment methods	CvD (R0, A, B, C) and "zero point" and "gradient"
Measurement rate	2 meas./s
Long-term drift	±0.02 °C/year
Max cable length	20 m

General specifications

Channels	1 for 4-wire Pt100 probes, 4-pole M12 connector
Storage capacity (only PRO 115)	Up to 1 million data sets, file system based Each data set includes date/time stamp and measurement Data are stored in CVS files
Logging type (only PRO 115)	Automatic with manual start/stop
Logging interval (only PRO 115)	1, 5, 10, 15, 30 s / 1, 2, 5, 10, 15, 20, 30 min / 1 hour
Clock	User settable RTC Max. drift 1 min/month @ 25 °C
Display	140 x 160 dot matrix backlit LCD / visible area 42 x 50 mm Multiple choice of measurement screens: <ul style="list-style-type: none"> • Large digit single value • Multi-row • Statistical info (Min/Avg/Max) • Chart view
User interface	Multilingual (de, en, it, fr, es)
PC connection	USB C Mass Storage Device (only PRO 115)
Power supply	4 x AA alkaline batteries External 5 Vdc via USB C (power adapter or PC USB port)
Power consumption	20 mA typ.
Battery autonomy	> 150 h typ. continuous operation
Auto power off	User configurable Automatically disabled if external power is connected
Operating conditions	-5...50 °C / 0...85 %RH non-condensing
Storage temperature	-25...65 °C (without batteries)

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Protection degree	IP 67 (except probe connection), IK 04
Dimensions	170 x 78 x 38 mm
Weight	340 g approx.
Housing material	ABS, TPE (side protection), Polyester (front panel)

ORDERING CODES

PRO 111 Handheld temperature meter for Pt100 probes. Supplied with 4 x AA alkaline batteries.
Art.No. 486650

PRO 115 Handheld temperature meter/data logger for Pt100 probes. Supplied with 4 AA alkaline batteries, USB cable and software downloadable from Senseca website.
Art.No. 486651

Probes must be ordered separately.

Pt100 temperature probes

AX111-D3-B-150-L01-P-M12 Pt100 Immersion probe, large handle, 4-wire thin film sensor, Ø3 mm, class B, (valid range -50...+250°C), Probe length: 150 mm, 1 m PVC cable, M12 connector, 4-pin
Art.No. 486727

AX111-I3-AA-150-L01-P-M12 Pt100 Insertion probe, large handle 4-wire thin film sensor, Ø3 mm, class AA, (valid range 0...+150°C), Probe length: 150 mm, 1 m PVC cable, M12 connector, 4-pin
Art.No. 486830

AX111-M3-B-300-L01-P-M12 Pt100 Immersion probe, large handle 4-wire mineral insulated thin film sensor, Ø3 mm, class B, (valid range -50...+250°C) Measuring range: -200 ... +600 °C, Probe length: 300 mm, 1 m PVC cable, M12 connector, 4-pin
Art.No. 486728

AX115-M3-01B-300-L01-P-M12 "Pt100 Immersion probe, large handle 4-wire mineral insulated wire wound sensor, Ø3 mm, class 1/10 DIN B wire wound (valid range -50...+100°C) Measuring range: -50 ... +250 °C, probe length: 300 mm, 1 m PVC cable, M12 connector, 4-pin
Art.No 486730

For further available Pt100 temperature probes, please visit Senseca website.