



# PRO 111

# PRO 115

## HIGH-PRECISION HANDHELD METER / DATA LOGGER FOR Pt100 4-WIRE PROBES

### INTRODUCTION

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.

High class calibration and adjustment methods are supported: Callendar van Dusen CvD and "zero point" and "gradient".

### FEATURES

#### 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.

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 store in CVS 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.

#### Alarm

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

### CONFIGURATION & MEASUREMENT

#### 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.

#### Connection to PC

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.

#### Statistics

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



[www.senseca.com](http://www.senseca.com)



### HIGHLIGHTS

- Reference class instruments for 4-wire Pt100 probes
- High class adjustment methods: Callendar van Dusen CvD and "zero point /gradient"
- Fast and accurate
- High 0.01 °C resolution, Pt100 resistance display
- Backlit dot matrix/clear text display, multilingual
- Life chart display
- Data logger with read out via USB (only PRO 115)
- Statistical functions Min, Avg, Max
- Acoustic/optic alarm
- Built-in foldable stand and magnet for flexible operation
- Shock and impact proof, IP 67 waterproof
- Optionally available DAkKS/ ACCREDIA certificate

## Measurement specifications

Measuring range	-200...+850 °C / -328...+1562 °F
Resolution	0.01 °C/°F
Accuracy	±0.05 °C or ±0.06% of measured value (whichever is higher) ± 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

## Pt100 temperature probes

AX111-D3-B-150-L01-P-M12 Art.No. 486727	Pt100 Immersion probe, large handle, 4-wire thin film sensor, Ø3 mm, class B, (valid range -50...+250°C). Measuring range: 50...+250 °C Probe length: 150 mm 1 m PVC cable, M12 connector, 4-pin
AX111-I3-AA-150-L01-P-M12 Art.No. 486830	Pt100 Insertion probe, large handle 4-wire thin film sensor, Ø3 mm, class AA, (valid range 0...+150°C) Measuring range: 50...+250 °C Probe length: 150 mm 1 m PVC cable, M12 connector, 4-pin
AX111-M3-B-300-L01-P-M12 Art.No. 486728	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
AX115-M3-01B-300-L01-P-M12 Art.No. 486730	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

## Ordering codes

<b>PRO 111</b> Art.No. 486650	Handheld temperature meter for Pt100 probes. Supplied with 4 x AA alkaline batteries.
<b>PRO 115</b> Art.No. 486651	Handheld temperature meter/data logger for Pt100 probes. Supplied with 4 AA alkaline batteries, USB cable and software downloadable from Senseca website.
Probes must be ordered separately.	

## 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"> <li>• Large digit single value</li> <li>• Multi-row</li> <li>• Statistical info (Min/Avg/Max)</li> <li>• Chart view</li> </ul>
User interface	Multilingual
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)
Protection degree	IP 67 (except probe connection) IK 04
Dimensions	170 x 78 x 38 mm
Weight	340 g ca.
Housing material	ABS, TPE (side protection) Polyester (front panel)



Input with M12 connector