PRO 111
PRO 115

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



www.senseca.com

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**.

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 oud 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.

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	10 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

PRO 111 *Art.No. 486650*	Handheld temperature meter for Pt100 probes. Supplied with 4 x AA alkaline batteries.
PRO 115 *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

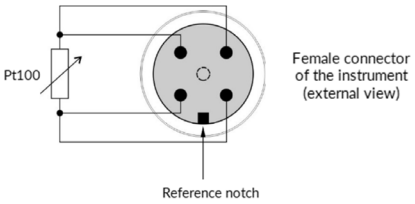
Channels	1 for 4-wire Pt100 probes 4-pole M12 connector
Storage capacity (only PRO 115)	Up to 1 million data sets, file system based Each data set includes date/time stamp and measurement Data are stored in CVS files.
Logging type (only PRO 115)	Automatic with manual start/stop
Logging interval (only PRO 115)	1, 2, 5, 10, 15, 30 s / 1, 2, 5, 10, 15, 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: • Large digit single value • Multi-row • Statistical info (Min/Avg/Max) • Chart view
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 06
Dimensions	170 x 78 x 38 mm
Weight	340 g ca.
Housing material	ABS, TPE (side protection) Polyester (front panel)

Accessories

CASE PRO-400 *Art.No. 486900*	Case for PRO Line. Recess for one instrument, space for accessories, carrying handle, zipper. Dimensions: 415 x 245 x 70 mm (W x H x D) 
CONN-M12 *Art.No. 486894*	Plug, configurable, 4-pin M12A, screw terminals



Input with M12 connector



Calibrated precision sets: Thermometer, Probe & certificate

PRO 111-DAkkS1_230 *Art.No. 490633*	Set incl. probe AX111-D3-AA-230, case PRO-400, with CvD adjustment and DAkkS calibration.	-20, 0, 70 °C: **±0.07 °C ***
PRO 115-DAkkS1_230 *Art.No. 490345*		
PRO 111-ISO3 *Art.No. 487737*	Set incl. probe AX111-D3-AA-150, case PRO-400, with ISO 9001 factory calibration (not DAkkS/ACCREDIA)	-20, 0, 70 °C: **±0.1 °C ***
PRO 115-ISO3 *Art.No. 487738*		
PRO 111-ISO3A *Art.No. 487736*		0, 100, 250 °C: **±0.3 °C ***
PRO 115-ISO3A *Art.No. 487414*		

*accuracy within optimized range, instrument at room temperature.
With our DAkkS/ACCREDIA calibration service any customer specific variation is possible, for futher informations, please refer to
www.senseca.com/en/calibration-service/temperature

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