

AR915

Temperature calibrator



The device for measuring and simulating temperature sensors designed for service work

- universal input/output (programmed from the keyboard):
 - thermoresistant...Pt100, Ni100, for measurement automatic detection of a 2- or 3-wire connection of the sensor with line resistance compensation
 - thermocouples...J, K, S, B, R, T, E, N, automatic or constant compensation of reference joint temperature
 - linear..... voltage (mV), resistance
- an ergonomic manual housing of small size and weight, with rubber anti-slip side grips
- simple and reliable laboratory banana connector
- a clearly visible LCD display and a functional keyboard
- battery (2 x 1.5 V) or rechargeable battery (2 x 1.2 V NiMH) power supply, AA type
- long operation on a fully charged set of batterie
- possibility to test measurement devices and temperature sensor
- diagnostic functions facilitating detections such defects in tested circuits as:
 - lack of excessive value of current polarizing a resistance sensor
 - short circuits in a voltage signal measurement circuit
 - short circuits or interruptions in sensor circuits
- quick and simple readout :
 - type of sensor set
 - working direction (input/output)
 - battery charging level
 - current polarizing a resistance senso (in simulation)
 - type of detected connection in a resistance sensros (2-, 3-wire)
 - reference joint temperature in a thermocouple sesor
- programmable range and step of output signal changes and other onfiguration parameters, such as: resolution of indications, calibration of the zero point and the gain of the measured or set signal, keyboard block, automatic device shutdown delay, etc.
- settings in °C ,Ω, mV
- programmable password protection of configuration parameters
- high resistance to interferences present in industrial environment

TECHNICAL DATA

Universal input/output (programmable), measuring and setting range :

- RTD :**
- Pt100 (3- or 2-wire).....-100 ÷ 850°C
 - Ni100 (3- or 2-wire)-50 ÷ 170°C
- Thermocouple :**
- thermocouple J-40 ÷ 800°C
 - thermocouple K-40 ÷ 1200°C
 - thermocouple S-40 ÷ 1600°C
 - thermocouple B300 ÷ 1800°C
 - thermocouple R-40 ÷ 1600°C
 - thermocouple T-25 ÷ 350°C
 - thermocouple E-50 ÷ 750°C
 - thermocouple N-80 ÷ 1300°C
 - temperature compensation of cold ends of thermocouples
- Linear :**
- voltage-5 ÷ 55mV
 - resistance :
 - measurement..... 10 ÷ 540Ω
 - setting (Ip-polarizing current). 0÷1000/Ip[Ω]≤3200Ω

Leads resistance for RTD.....Rd < 25Ω (for each line)

Resistance input current (RTD, Ω)..... ~250nA (for measurements)

Output polarizing current Ip RTD, Ω100 ÷ 1900nA (for simulation) (1)

Basic processing error (at ambient temperature equal to 25°C)

- measurement :-Pt100, -5÷55mV, 10÷540 Ω... ≤ 0,2% of sensor range ±1 digit
- Ni100, all thermocouples..... ≤ 0,3% of sensor range ±1 digit
- setting:- Pt100, Ni100..... ≤ 2 °C for Ip > 200 nA
- J, K, E, N, 55 mV, 0÷3,2 kΩ... ≤ 0,2% of sensor range ≤ 1,5Ω for 0÷3,2kΩ
- S, B, R, T..... ≤ 0,3% of sensor range

Additional error for setting Pt100,Ni100, 0÷3,2kΩ..... ≤ 2,5°C lub ≤1Ω (nonlinearity)

Additional error for thermocouple inputs ≤2°C (present only in automatic compensation of cold tip temperature)

Additional error from temperature changes..... ≤0,01% of the sensor range/°C

Resolution of indications..... 0,1°C lub 1°C (programmable)

Resolution of settings in simulations 0,5 ÷ 200,0 °C (programmable)

Response time for measurements (10÷90%)..... 0,7 ÷ 2,3 s (programmable)

LCD display (7-segment, 4 digits, weight 10 mm)

- range of indications-1999÷9999

Power supply (regular or rechargeable batteries)..2x1,5V (2 x1,2V NiMH),typ AA(R6)

Operation time.....300 ÷ 400 hours (2 x 1,2V/2500mAh)

Operating temperature range.....0 ÷ 50°C

Relative humidity range 0 ÷ 90% (non-condensing)

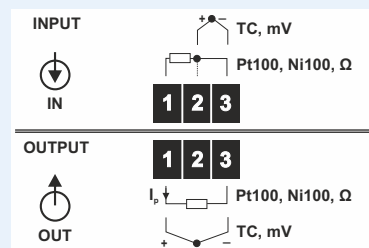
Weight..... ~130g (w/o batteries),
~165g (w/ batteries)

Electromagnetic compatibility (EMC)

- immunity: acc. to the PN-EN 61000-6-2
- emissivity: acc. to the PN-EN 61000-6-4

(1) - simulation of resistance (RTD,Ω) does not work for multiplexed inputs (pulse Ip current)

DESCRIPTION OF CONNECTION



View from the bottom of the device

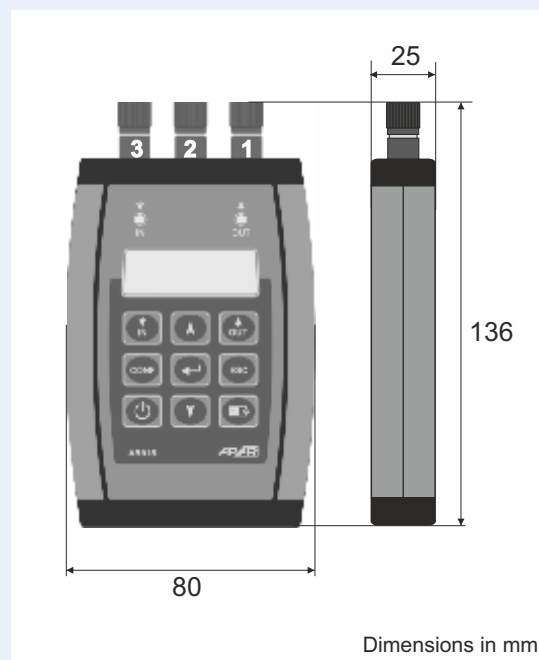
I_p-resistance output polarizing current in simulations

THE ENCLOSURE

Enclosure dimensions..... 136 x 80 x 25 mm

Material..... ABS

Protection rating..... IP43



Dimensions in mm

HOW TO ORDER

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Includes 2 1.5V AA batteries (R6)

Version 1.2.2

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