AR550 TEMPERATURE TRANSMITTER

- linear processing of the measured temperature to a current or voltage sign
- **AR550** - universal input thermoresistance Pt100, thermocouple J, K, S, N, E
- analogue input proportional to the measured temperature
  - current 4÷20mA or 20÷4mA (2-cable with current loop supply) or
  - voltage 0÷10Vdc (3-cable)
- without galvanic separation of input / output
- industrial housing IP65, 94x58x35mm
- processing range, input type and other parameters configured using the AR950 programmer or the AR956 programming set
- high accuracy and immunity to interferenc

Contents of set: transmitter, user manual
Accessories: AR950 programmer (with cable) or AR956 set (cable, software)
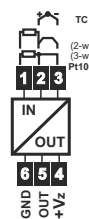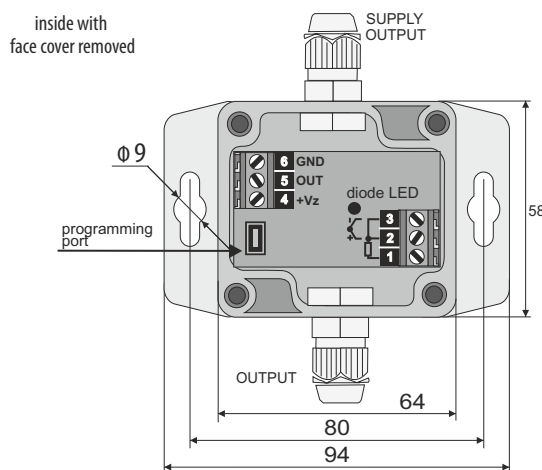
The AR956 programmer can be used to power the transmitter from the USB port during configuration.

TECHNICAL DATA

Universal inputs (programmable):	measurement ranges AR550
- Pt100 (RTD, 3- or 2-wire)	-100 ÷ 850 ℃
- thermocouple J (TC, Fe-CuNi)	-5 ÷ 800 ℃
- thermocouple K (TC, NiCr-NiAl)	-5 ÷ 1200 ℃
- thermocoupleS (TC, PtRh 10-Pt)	-5 ÷ 1600 ℃
- thermocouple E (TC, NiCr-CuNi)	-5 ÷ 700 ℃
- thermocouple N (TC, NiCrSi-NiSi)	-5 ÷ 1300 ℃
Cold ends temperature compensation	automatic or fixed
Lead resistance for Pt100	Rd<25 Ω (for each line)
Pt100 resistance input current	~0,3 mA
Processing range (programmable)	within the input measuring rang, factory setting 0÷100
- processing range minimum width	40℃
- measuring resolution	0,1℃
Current output (programmable)	4÷20 mA or 20÷4 mA, Robc < (Usup-10V) / 21mA < 1238 Ω
- output current resolutions	16000[µA] / (processing rang[℃], maximum 2µA
- nonlinearity	< 0,04%
Voltage output (programmable)	0÷10 or 10÷0 Vdc, Iobc < 4mA (Robc > 2500 Ω)
- output voltage resolutions	10000[mV] / (processing rang[℃], maximum 1,25mV
- nonlinearity	< 0,04%
Processing intrinsic error 25℃	< 0,2% (Pt100), < 0,3% (thermocouple) of the full measuring rang
- processing resolution error (%)	±0,1℃ x100 /processing range[℃]
Additional errors	
- thermocouple cold junction temp. comp.	< 2℃ (thermocouple inputs only)
- cables resistance compensation	< 0,1% Pt100 input measuring range
- environment temperature variation	< 0,01 % measuring range / ℃
Rated operating environmen	
- supply (+Vz) - current output	10÷36Vdc (>10[V]+Robc[Ω]x0.021[A])
- supply (+Vz) - voltage output	18÷36Vdc, Iobc < 4mA
- Working environment	air and neutral gases
- operating temperatur range	-30 ÷ 60 ℃
- z relative humidity rang	0 ÷ 100 %RH (non-condesing)
Response time (10÷90%)	programmable within range 350÷1600 ms, factory setting 900ms
Indication of detected error	current output signal 3,8 lub 21mA or voltage 10,6V, optical red LED
Housing	industrial IP65, 94x58x35mm, weight ~110g
Electromagnetic compatibility (EMC)	- immunity: acc. to PN-EN 61000-6-2
	- emission: acc. to PN-EN 61000-6-4

DIMENSIONS, TERMINAL STRIPS, ELECTRICAL CONNECTIONS

Enclosure dimensions	94x58x35mm
Mounting holes	2 holes Φ9 mm or na 2 clamps<5mm, span 80mm
Material	polycarbonate, IP65

inside with face cover removed

terminals	descriptions
1-2-3	Pt100 input, 2- i 3-wire
2-3	thermocouple TC (J, K, S, N, E)
4	supply input +Vz
5	4÷20mA current or 0÷10Vdc voltage output
6	voltage output ground

Ordering procedure

AR550 / ☐

	Analog output	Code
	0÷10 V, 3-wire	U
	4÷20 mA, 2-wire	I

The AR550 transmitter can be configured by the manufacturer, the order should specify:
input type / range of processing / output type / for thermocouples way junction temperature compensation
For example:
AR550 / J / 100÷500 ℃ / 20÷4 mA / auto
J type thermocouple input, processing range 100 ÷ 500 ° C, 2-wire output
20 ÷ 4 mA, automatic cold ends temperature compensation