

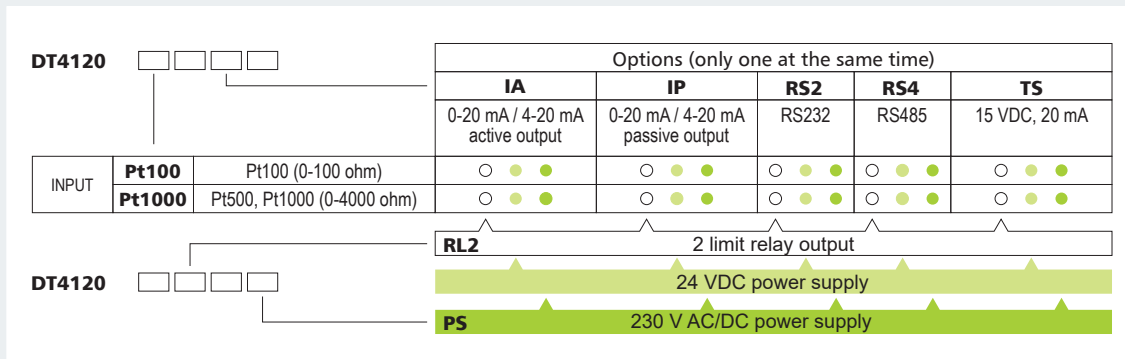
Resistance Thermometer

Product features

- Pt100 / Pt500 / Pt1000, resistance / potentiometer inputs
- 2 / 3 / 4 wire measurement
- 5 digit LED display, 14.2 mm character height
- 0.1 °C resolution
- 0-20 mA / 4-20 mA, galvanic isolated output (optional)
- 2 limit relay outputs (optional)
- RS232 / RS485 communication, MODBUS RTU protocol (optional)
- 96 × 48 mm panel instrument, < 50 mm built-in depth
- 24 VDC ±10%
- 230 V AC/DC ±10% power supply
- IP 65 (front) and IP 30 (rear) protection



Type designation



The **DT4120 ... Resistance Thermometer** enable process temperature or resistance value to be displayed on the control panel Pt100 / Pt500 / Pt1000 temperature sensor, resistor or potentiometer can be connected to the input of the instrument, either with 2, 3 or 4 wire.

Large 5 digit, 14.2 mm character height LED display make process value easily visible at a distance.

The instrument is available with the following output options:

- 2 normally open relay contacts (SPST) for limit switching or for simple control tasks
- 0-20 mA / 4-20 mA galvanic isolated scalable current output *
- RS232 / RS485 galvanic isolated communication output with MODBUS RTU slave protocol *
- transmitter supply galvanic isolated 15 VDC 20 mA*.

(* either analogue or communication or transmitter supply option can be implemented at the same time)

The functional parameters can be set by push-buttons on the front panel of the device, through a simple menu system: input selection, averaging of input signals, scaling, display frequency, limit values, limit operating modes, scaling the analogue output, etc. The settings are protected by a two-level password against unauthorised manipulation. The thermometer able to calculate with three sensor calibration point, to fit the real sensor curve to the instrument. The instruments has two power supply versions: 24 VDC ±10% (DT4120 ...) or 230 V AC/DC ±10% (DT4120 ... PS).

The **DT4120 ...** is housed in a DIN standard 96 × 48 mm ABS case with IP 65 protection from the front and IP 30 protection from the back side, for installation on the control panel.

Safety data:

The connection terminals of the supply voltages are isolated from each other, the isolation is in compliance with the standard EN 61010-1, taking into consideration the following:

Pollution level:	2
Measurement category:	II

Input parameters:

Input signal:	Pt100 / Pt500 / Pt1000, resistance, potentiometer
Measurement range:	-200 - +800 °C / 0-4000 Ohm
Connection:	2, 3 or 4 wire
Sampling:	12 measurement / sec.
Number of averaged samples:	1 / 2 / 4 / 8 / 16 / 32 / 64 (selectable)
Error of displayed value:	< 0.2 °C (Ta = 23 °C ± 2 °C)

Output parameters:

Analogue output (optional):

Output type:	1 active or passive DC current (scalable)
Range:	0-20 mA / 4-20 mA
Burden:	500 ohm (max.)
Error:	< 0.03% (Ta = 23 °C ± 2 °C)

Limit outputs (optional):

Outputs:	2 NO SPST relays
Contact rating:	30 VDC, 3 ADC / 240 VAC, 3 AAC

Transmitter supply (optional):

Output voltage:	15 VDC ±10% @ 30 mA, 16 VDC ±10% @ 4 mA
Output current:	30 mA max.
Isolation voltage:	0.5 kV

Communication interface (optional):

Type:	RS232 or RS485 (isolated)
Protocol:	MODBUS RTU slave
Baud rate:	300 / 600 / 1200 / 2400 / 4800 / 9600 Baud

Display:

Display:	5 digit (+ values), 4 digit (- values), negative sign, decimal point
Display unit:	5 digit LED, 14.2 mm character height

Manual controls:

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Power supply:

Power supply:	24 VDC ±10% (DT4120 ...) 230 V AC/DC ±10% (DT4120 ... PS)
Consumption:	3.5 W / 3 VA

Ambient conditions:

Operating temperature range:	0 - +60 °C (-20 - +60 °C for customer request)
Relative humidity:	90% (max., non-condensing)
Place of installation:	cabinet

Electromagnetic compatibility (EMC)

accordance with the standard EN 61326-1

Immunity:	industrial area
Noise emission:	Group 1, Class B

General data:

Housing:	panel instrument
Connection:	plug-in screw terminal / push-in direct connection
Connection cable:	0.25-1.5 mm ² (max.)
Dimensions / weight:	96 × 48 × 45 mm (width × height × depth) / 0.15 kg
Protection:	IP 65 (front), IP 30 (rear)

Detailed information see in operating instructions. The Manufacturer maintains the right to change the technical data!