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 (opcional)
- 2 limit relay output (optional)
- RS232 / RS485 communication, Modbus RTU protocol (optional)
- 96 x 48 mm panel instrument
- 18-40 V AC/DC or 180-250 V AC/DC power supply
- Protection IP 65 (front), IP 30 (rear)



Type Designation

DT4120 □□□□

			Options (only one at the same time)				
			IA	**IP**	**RS2**	**RS4**	**TS**
			0-20 mA / 4-20 mA active output	0-20 mA / 4-20 mA passive output	RS232	RS485	15 VDC, 20 mA
INPUT	**Pt100**	Pt100 (0-100 ohm)	○ ● ●	○ ● ●	○ ● ●	○ ● ●	○ ● ●
	Pt1000	Pt500, PT1000 (0-4000 ohm)	○ ● ●	○ ● ●	○ ● ●	○ ● ●	○ ● ●

RL2 2 limit relay output

DT4120 □□□□

18-40 V AC/DC power supply

PS 180-250 V AC/DC power supply

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 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: 18-40 V AC/DC (DT4120 ...) or 180-250 V AC/DC (DT4120 ...PS).
The DT4120 ... is housed in a DIN standard 96 x 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.

H-1148 Budapest, Fogarasi út 5., Hungary

Tel.: +(361) 460-1000 Fax: +(361) 460-1001 www.datcon.eu

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Technical specification

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 (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:	
Manual controls:	3 membrane push-buttons on the front cover
Power supply:	
Power supply:	18-40 V AC/DC (DT4120 ...) 180-250 V AC/DC (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 61326:2000:	
Immunity:	-B- criterion
Noise emission:	-A- class
General data:	
Housing:	panel instrument
Connection:	plug-in screw terminal / push-in direct connection
Connection cable:	0.25-1.5 mm²
Dimensions / weight:	96 x 48 x 50 mm (width x height x depth) / 0.15 kg
Protection:	IP 65 (front), IP 30 (rear)

Detailed information see in operating instuctions. The Manufacturer maintans the right to change the technical data!

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