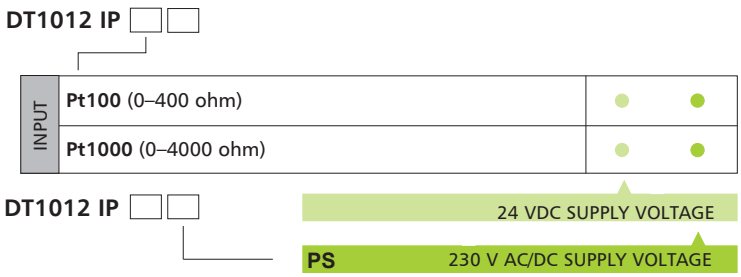
Temperature / Resistance / Potentiometer Transmitter

Product features

- Pt100 / Pt1000 sensors or resistance / potentiometer can be connected to the input
- 2 / 3 / 4 wire measurement
- -200 – +800 °C / 0-4000 ohm max. measurement ranges
- 4-20 mA passive current output
- 3 way isolation (input / output / power supply)
- High precision measurement
- Easy configuration via USB port
- 24 VDC ±10% or 230 V AC/DC ±10% supply voltage
- DIN rail housing, width: 12.5 mm

Type designation



PT100 / Pt1000 temperature sensors or linear resistance / potentiometer can be connected to the input of the **DT1012 IP ... Temperature / resistance / potentiometer transmitters.**
The transmitter feature complete 3-way isolation: the input the output and the power supply circuits are isolated of each other using state-of-the-art planar transformer design.
The DT1012 IP has passive 4-20 mA current output.
This is necessary in cases where the input of the signal processor is active.
In the case of a Pt 100 / Pt 1000 temperature sensor, the output signal is proportional to the measured temperature, in the case of resistance to the measured resistance, in the case of a potentiometer, with the position of the potentiometer.
Sensors can be connected to the input with 2 / 3 / 4 wires. In the case of a 3/4-wire connection, the connecting wires resistance does not affect the measurement.
The transmitter can be configured via the USB port.
The characteristics that can be specified are:
input signal source, 2 / 3 / 4 wire measurement mode, measurement range, input signal averaging, output selection, output signal range, etc.
If a calibrated Pt100 or Pt1000 sensor is used, the calibration values can be downloaded to the transmitter.
The configuration software and the USB cable are included with the device.
The configuration program can also be downloaded from the company's website (www.datcon.hu).
The transmission characteristics of the transducer are exceptionally good: the error of the output signal < ±0.1 °C, the temperature coefficient is < ±20 ppm / °C typically.
The device can be ordered in two power supply versions:

- DT1012.. types 24 VDC ±10%,
- DT1012.. PS types 230 V AC/DC ±10%

Design: DIN rail housing, plugable terminal blocks with screw connection, width: 12.5 mm.

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Technical specification

Safety data:	
The DT1012 ... connection terminals of the supply voltage 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 / Pt1000 sensor / resistance / potentiometer
Connection:	2 / 3 / 4 wire
Measuring current:	
Pt100, Pt1000:	-200 – +800 °C @ scalable
Linear resistance potentiometer:	0–400 ohm / 0–4000 ohm @ scalable
Measuring current:	600 µA (Pt100) / 200 µA (Pt1000)
Output parameters:	
Output signal:	4-20 mA passive curent
Ranges:	4-20 mA
Overdriving ability:	22.5 mA
Error of output @ 25 ºC ±2 ºC:	0.1 °C + 0.05% (max.)
Temperature coefficient:	< 20 ppm / °C (typ.); < 50 ppm / °C (max.)
Supply-voltage effect:	practically zero
Settling time:	100 ms
Galvanic isolation:	
Operating isolation voltage:	250 V_{eff} (between input, output and supply voltage terminals)
Test voltage:	2500 VDC (1 min.)
Power supply:	
Supply voltage:	DT1012 IP: 24 VDC ±10% • DT1012 IP PS: 230 V AC/DC ±10 %
Consumption:	DT1012 IP: ≤ 1.5 W • DT1012 IP PS: ≤ 1,6 W / 2,2 VA
Environmental conditions:	
Operating temperature range:	0 – 60 °C
Storage temperature range:	-20 – +70 °C
Relative humidity:	90 % max. (non-condensing)
Place of installation:	cabinet
Mounting position:	vertically (horizontal rail)
Electromagnetic compatibility (EMC):	
Emission (EN 55011):	group 1, class B
Immunity (EN IEC 61326-1):	industrial environment
General data:	
Design:	DIN rail housing, width: 12.5 mm, material: PA6.6
Electrical connection:	plugable terminal blocks with screw connection
Connecting wire cross-section:	0.25–2.5 mm (max.)
Dimensions:	12.5 × 108 × 115 mm (width × height × depth)
Weight:	0.1 kg
Protection:	IP 20

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

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