



## HD 688T MODULAR TEMPERATURE TRANSMITTER

HD 688T modular temperature transmitter, Pt100 sensor, with galvanic separation between input/output and power supply

Output analogue signal: 0÷20 mA / 4÷20 mA / 0÷10 Vdc.

The HD 688T transmitter is built in a 2 DIN mode container for asymmetric guide of 35 mm. The module converts the signal from a Pt100 in an analogue signal which can be chosen through a jumper between 0÷20 mA, 4÷20 mA and 0÷10 Vdc. The signal is galvanically separated between input/output and power supply. The 3-way isolation module allows to avoid mutual influences in the presence of various measuring circuits

The HD 688T transmitter is made up of the following stages:

- input stage including linearization of the curves and equalization of the resistance of the line cable (3 wires) of Pt100, conversion from voltage into frequency;
- universal output stage through jumper connection, conversion from frequency into voltage;
- power supply stage.

The configuration of the measuring range or the output signal can be modified at any time; an outstanding feature is that any variation does not require calibrating the transmitter again.

### SPECIFICATIONS

INPUT:	CONFIGURATION:
Input signal:	Pt100 (IEC 751)
Measuring range:	-50...+50°C / 0...+50°C / 0...+100°C 0...+200°C / 0...+400°C
Measuring current:	1 mA
OUTPUT:	
Output signals:	0÷10Vdc, 0÷20 mA, 4÷20 mA
Maximum load:	5 mA 500Ω
Output impedance:	0,1Ω, 1MΩ, 1MΩ

POWER SUPPLY:	
Input voltage:	12÷24 Vac/dc ± 10%, 65 mA
Linearity:	0,2%
Zero drift:	0,02%/°C referred to full scale
Full scale drift:	0,02%/°C referred to applied signal
Response time:	0,3 seconds at 63% of final value 1 second at 99,9% of final value
Insulation:	3kV at 50 Hz for 1 minute
Operating Temperature:	-10°C...+50°C (it is the maximum temperature electronics can operate in)

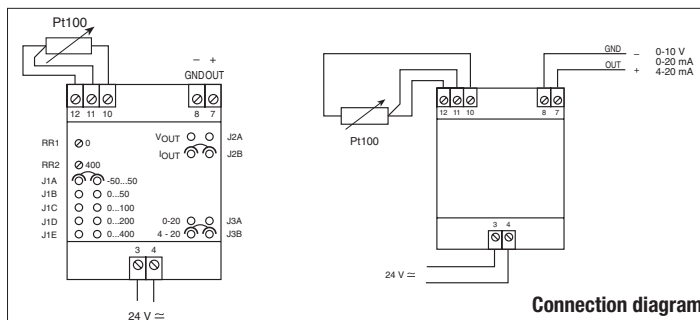
Variation of jumper connections according to the output measuring range, relative retouch trimmers for start of scale and full scale.

Measuring range	Output	Setup of jumper connections			TRIMMER*	
		J1	J2	J3	Start of scale	End of scale
1 -50 ÷ 50°C	0÷10Vcc	A	A	A	RR1	RR2
2 0 ÷ 50°C	0÷10Vcc	B	A	A	RR1	RR2
3 0 ÷ 100°C	0÷10Vcc	C	A	A	RR1	RR2
4 0 ÷ 200°C	0÷10Vcc	D	A	A	RR1	RR2
5 0 ÷ 400°C	0÷10Vcc	E	A	A	RR1	RR2
1 -50 ÷ 50°C	0÷20mA	A	B	A	RR1	RR2
2 0 ÷ 50°C	0÷20mA	B	B	A	RR1	RR2
3 0 ÷ 100°C	0÷20mA	C	B	A	RR1	RR2
4 0 ÷ 200°C	0÷20mA	D	B	A	RR1	RR2
5 0 ÷ 400°C	0÷20mA	E	B	A	RR1	RR2
1 -50 ÷ 50°C	4÷20mA	A	B	B	RR1	RR2
2 0 ÷ 50°C	4÷20mA	B	B	B	RR1	RR2
3 0 ÷ 100°C	4÷20mA	C	B	B	RR1	RR2
4 0 ÷ 200°C	4÷20mA	D	B	B	RR1	RR2
5 0 ÷ 400°C	4÷20mA	E	B	B	RR1	RR2

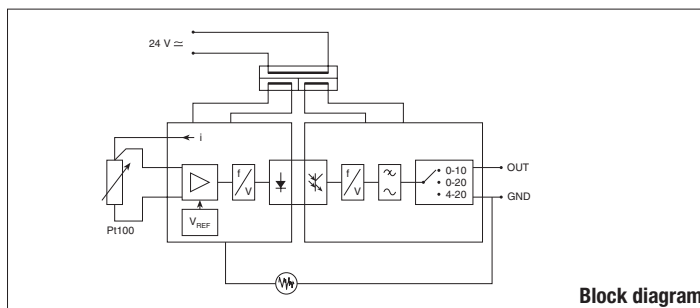
\* Multi-turn trimmers RR1 RR2 are needed for slight calibration adjustments of start of scale and full scale. If not strictly necessary it is advisable not to operate them, calibration being already carried out in the laboratory.

Setup of connection terminals, jumper connections of output and range configuration, retouch trimmers of scale beginning and full scale.

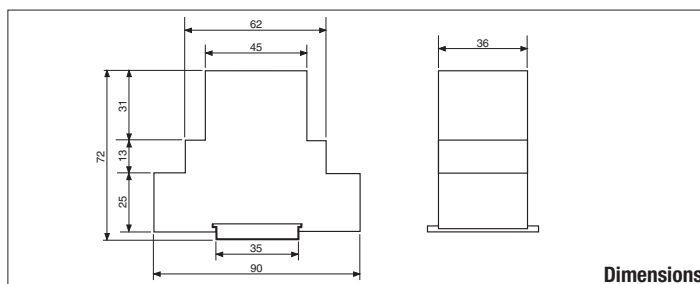
Industrial probes characteristics and dimensions at page TP-10.



Connection diagram



Block diagram



Dimensions