



THE HD 688T MODULAR TEMPERATURE TRANSMITTER

THE HD 688T MODULAR TEMPERATURE TRANSMITTER FOR SENSOR Pt100 WITH INPUT/OUTPUT AND POWER SUPPLY GALVANIC SEPARATION

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

The HD 688T transmitter is built inside a 2-module DIN box for 35 mm asymmetric guide. The module turns the signal coming from a Pt100 into an analogue signal that can be sorted out through a jumper connection between 0÷20 mA, 4÷20 mA, 0÷10 V. The signal is galvanically separated among input, output and power supply. The 3-way insulation of the module allows the prevention of reciprocal 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 being that any variation does not involve the need to calibrate the transmitter again.

FEATURES:

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 V ± 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 (the maximum temperature in which electronics can operate)

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*	
			start of scale	full scale
1 -50 ÷ 50°C	0÷10Vdc	A A A	RR1	RR2
2 0 ÷ 50°C	0÷10Vdc	B A A	RR1	RR2
3 0 ÷ 100°C	0÷10Vdc	C A A	RR1	RR2
4 0 ÷ 200°C	0÷10Vdc	D A A	RR1	RR2
5 0 ÷ 400°C	0÷10Vdc	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

* Multiturn 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 connecting terminals, jumper connections of output and range configuration, retouch trimmers of scale beginning and full scale.

