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Programmable transmitter for thermoresistance Pt100

E&OE

DAT 2065

FEATURES
Pt100 input
Input range programmable
Linearized 4 - 20 mA output
Configurable by means of DIP switches
Independent zero and full scale regulations
Good accuracy and performance stability
EMC compliant - CE mark
12,5mm only enclosure thickness
DIN rail mounting

APPLICATIONS
Control and monitoring of the temperature for:
- Process controls
- Automation systems
- Energy sources management

GENERAL INFORMATION

The DAT 2065 transmitter accepts at its input Pt100 sensor connected in two or three wire configuration. It provides to convert the Pt100 signal into a correspondent 4 - 20 mA output signal. The input signal range is programmable in a wide range of values (see table "Programmability"). They are selected by means of suitable DIP switches which are accessible after opening the door on the housing side. The fine adjustment of the programmed value is made by means of the proper trimmers for zero and span regulation. These adjustments are one independent from the other.
The DAT 2065 unit, developped, manufactured and tested in strict accordance with the quality assurance standard ISO 9001 / EN 29001, is in compliance with the directive 89/336/CEE on the electromagnetic compatibility. It is packaged into a strong plastic enclosure of only 12,5mm thickness, allowing an high density mounting capability on DIN rail.

TECHNICAL SPECIFICATIONS (Typical @25°C and in the normal conditions)

INPUT

Sensor type	Pt100 according to IEC 75 (other Rtd type available on request)
Zero	Programmable in the -50°C to +50°C range
Span	Programmable from 50°C to 650°C
Sensor current	0.6 mA typ.
Influence of line resistance	0.05% of f.s./Ohm for f.s. max.(100 Ohm max. balanced on each wire).

OUTPUT

Output signal	4 - 20 mA
Max output signal	30mAdc
Load resistance	see the "Load characteristic"
Reverse polarity protection	60 V reverse max.
Response time (from 10 % to 90% e.s.)	0.5 s.
Warm up time	3 min.

CHARACTERISTIC PERFORMANCES

Calibration error	± 0.1% of f. s. or ± 0,1°C
Transmission error	± 0.15% of f.s.
(inclusive of hysteresys, linearization error and power supply voltage variations)	
Electro Magnetic Compatibility (EMC)	In compliance with EN50081-2 and EN50082-2
Thermal drift	0.02% of f.s./°C
Power Supply Voltage	18 ÷ 30 Vdc
Current consumption	33 mA Max. on open input condition
Operating temperature	- 20 ÷ 70 °C
Storage temperature	- 40 ÷ 100 °C
Relative humidity (non condensing)	0 ÷ 90 %
Weight	approx. 80 g.

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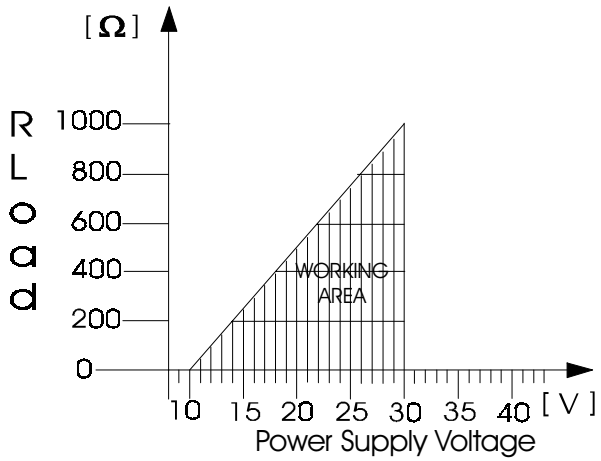
PROGRAMMABILITY'

INPUT SELECTION

SPAN	ZERO / DSI	1	2	3	4
< 80°C	-50 - -25°C		●		
< 80°C	-25 - 12°C		●		●
< 80°C	12 - 50°C		●	●	●
80 - 200°C	-50 - -25°C	●	●		
80 - 200°C	-25 - 12°C	●	●		●
80 - 200°C	12 - 50°C	●	●	●	●
200 - 250°C	-50 - 50°C				
250 - 650°C	-50 - 50°C	●			

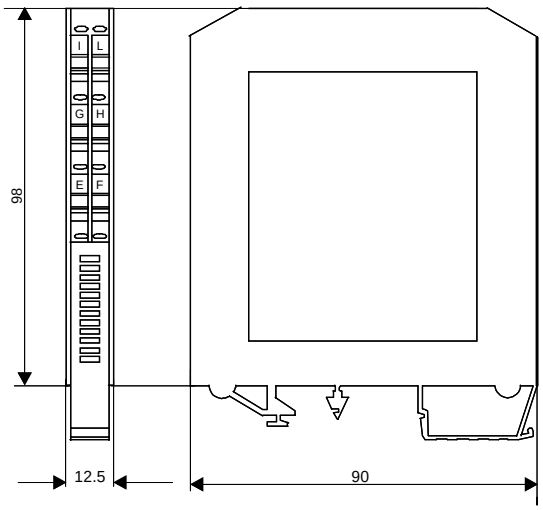
● : DIP SWITCHES ON



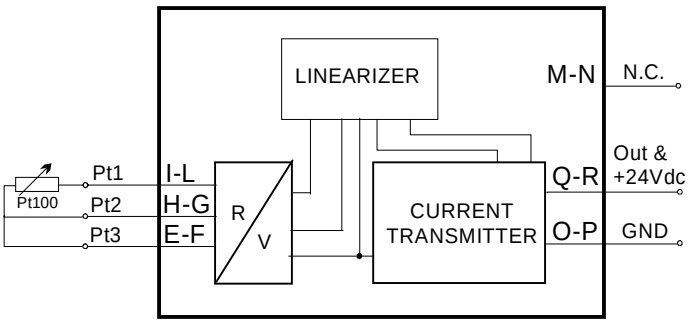
OPERATING INSTRUCTIONS

The DAT 2065 Transmitter must be powered with a suitable voltage between 10 and 30Vdc, which must be supplied to the terminal Q or R (+24Vdc & Vout), and the terminal O or P (GND). A too high value of the load (RLoad), which is constituted by the instrumentation serie connected to the loop, determines a non-correct running of the Transmitter. Therefore it is necessary that the value of RLoad, which is determined in function of the power supply, must be contained in the "Working Area" which is indicated in the "Load Characteristics" above shown. The Pt100 sensor must be connected between the terminals I or L and the terminals H or G, while the 3rd wire must be connected to the terminals E or F.
The output signal , is available between the terminals Q or R (Out & +24Vdc), and the terminals O or P (GND). The DIPswitches DSI carry the programming of the input. They are accessible only after the opening the suitable access on the side of the enclosure. The "Programming" guide shows the list of the possible input measuring range, and the indication of the positioning of the DIP switches to obtain the selected configuration. Once such operation is finished, it is necessary to proceed to the calibration of the Transmitter by means of the two settings ZERO and SPAN on the top of the enclosure. The DAT 2065 is supplied with the calibration requested by the Customer in his order. In case such calibration is not indicated, the device is supplied with the following standard configuration: IN=0-200°C: When it is necessary to calibrate the Transmitter, this can be done in a very simple and fast way, thanks to the complete independence of the zero and span settings.

DIMENSIONS (mm.)



BLOCK DIAGRAM



TERMINAL ASSIGNEMENT			
E	Pt3	M	N.C.
F	Pt3	N	N.C.
G	Pt2	O	GND
H	Pt2	P	GND
I	Pt1	Q	Out & +24Vdc
L	Pt1	R	Out & +24Vdc

HOW TO ORDER:

DAT 2065 0-200°C - 4/20mA
Input

RI06110

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