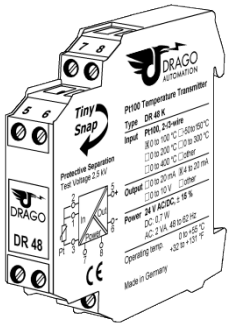
USER INSTRUCTIONS **ENGLISH**

Temperature Transmitter DR44 / DR48 / DR49



DRAGO AUTOMATION

Read these instructions before using the product and retain for future information.

DR 44 / DR 48 / DR 49

1. Before Startup

When operating the temperature transmitter, certain parts of the module can carry dangerous voltage! Ignoring the warnings can lead to serious injury and/or cause damage!

The temperature transmitter should only be installed and put into operation by qualified staff. The staff must have studied the warnings in these operating instructions thoroughly.

In applications with high working voltages sufficient distance and isolation as well as shock protection must be ensured.

Safe and trouble-free operation of this device can only be guaranteed if transport, storage and installation are carried out correctly and operation a maintenance are carried out with care.

Appropriate safety measures against electrostatic discharge (ESD) should be taken during range selection and assembly on the transmitter.

2. Short Description

The Temperature Transmitter DR44 / DR 48 / DR49 converts the Pt-sensor signal to current or voltage standard signals. The signal combination is selected by the Order No.

The 3-way isolation guarantees reliable decoupling of the sensor circuit from the processing circuit and power supply and prevents linked measurement circuits from influencing each other. The Protective Separation with high isolation level provides protection for personnel and downstream devices against impermissibly high voltage.

3. Functioning

The sensor signal is amplified, linearized, modulated and then electrically decoupled using a transformer. The isolated signal is then made available at the output, demodulated, filtered and amplified.

4. Mounting, Electrical Connection

The temperature transmitter is mounted on standard 35 mm DIN rail.

Terminal assignments

1	Input Pt	5	Output +
2	Input Pt	6	Output -
3	Input 3-wire	7	Power supply ≅
4	Input 4-wire	8	Power supply ≅

5. Order Information

Devices		Order No.		
Temperature-Transmitter	Pt100, 4-wire	DR 44 P -	X	X
	Pt100, 2/3-wire	DR 48 P -	X	X
	Pt1000, 2/3-wire	DR 49 P -	X	X
Input	0 ... + 50 °C		0	
	0 ... +100 °C		1	
	0 ... +200 °C		2	
	0 ... +300 °C		3	
	0 ... +400 °C		4	
	- 50 ... +150 °C		5	
	- 50 ... +100 °C		6	
	- 50 ... +50 °C		7	
	further see Measuring Range Table		?	
Output	0 ... 20 mA			2
	4 ... 20 mA			4
	0 ... 5 V			5
	1 ... 5 V			8
	0 ... 10 V			6
	2 ... 10 V			7
Cross connector (2 pcs.)	for looping through the power supply for up to 10 units, splittable		DZU 0801	

Measuring Range Table

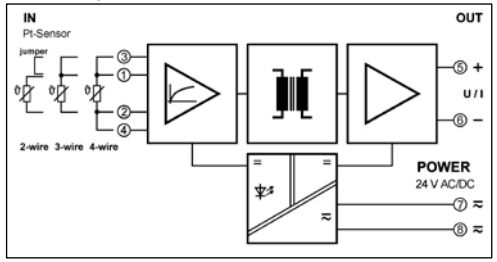
from \ to	-50	0	50	100	150	200	250	300	350	400	450 °C
-100 °C	Q	R	S	T	U	V	W	Y			
-50 °C		8	7	6	5	9	A	B	C		
0 °C			0	1	D	2	E	3	F	4	
+50 °C				G	H	J	K	L	M	N	P

6. Technical Data

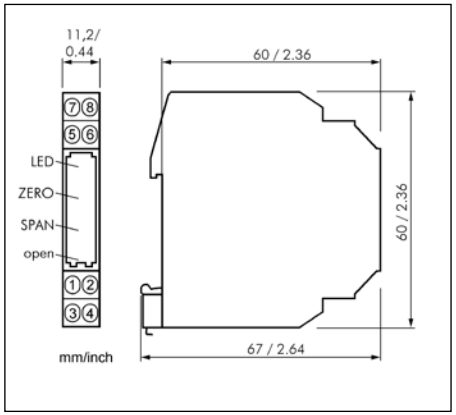
Input			
Sensor	Type	Connection	
	DR44 Pt100	4-wire	
	DR48 Pt100	3-wire, 2-wire with bridge terminal 1 to 3	
	DR49 Pt1000	3-wire, 2-wire with bridge terminal 1 to 3	
Measuring range	Fixed ranges within -100 to +450 °C (see order information)		
Input error max.	< 0.1 K / 0.1 % of span		
Sensor wire resistance	< 10 Ω / wire at 4- and 3-wire sensor connection		
Sensor current	1 mA	0,1 mA	
Output			
Output signal (see Order Information)	0 … 20 mA 4 … 20 mA	0 … 5 V 1 … 5 V	0 … 10 V 2 … 10 V
Load	Current output ≤ 500 Ω Voltage output ≥ 2 kΩ		
Ripple	< 10 mV_{rms}		
General data			
Transmission error	< 0.1 % + input error		
Temperature coefficient[1]	< 0.025 % / K		
Response time	< 10 ms		
Test voltage	3 kV, 50 Hz, 1 min. input against output against power supply		
Working voltage[2] (Basic insulation)	Up to 600 V AC/DC for overvoltage category II and pollution degree 2 acc. to EN 61010-1 between all circuits.		
Protection against electrical shock[3]	Protective separation according to EN 61140 by reinforced insulation in accordance with EN 61010-1 up to 300 V AC/DC for overvoltage category II and pollution degree 2 between all circuits.		
Ambient temperature	Operation Transport and storage	-20 to + 60 °C (-4 to +140 °F) -35 to + 85 °C (-31 to +185 °F)	
Power supply	24 V AC/DC ± 15 % AC 48 ... 62 Hz, approx. 2 VA DC approx. 0,7 W		
EMC[3]	EN 61326 -1		
Construction	11,2 mm (0.44'') housing, protection type: IP 20		
Connection	solid/stranded 0.05 to 2.5 mm^2, AWG 30 to 14 tightening torque 0.5 Nm, 4.5 lbf-in		
Weight	Approx. 50 g		

1) Average TC in specified operating temperature range
2) As far as relevant the standards and rules mentioned above are considered by development and production of our devices. In addition relevant assembly rules are to be considered by installation of our devices in other equipment's. For applications with high working voltages, take measures to prevent accidental contact and make sure that there is sufficient distance or insulation between adjacent situated devices.
3) Minor deviations possible during interference

7. Block Diagram



8. Dimensions



LIMITED WARRANTY

DRAGO Automation GmbH hereby warrants that the Product will be free from defects in materials or workmanship for a period of **five (5) years** from the date of delivery ("Limited Warranty"). This Limited Warranty is limited to repair or replacement at DRAGO's option and is effective only for the first end-user of the Product. This Limited Warranty applies only if the Product:

1. is installed according to the instructions furnished by DRAGO;
2. is connected to a proper power supply;
3. is not misused or abused; and
4. there is no evidence of tampering, mishandling, neglect, accidental damage, modification or repair without the approval of DRAGO or damage done to the Product by anyone other than DRAGO.

Delivery conditions are based upon the „GENERAL CONDITIONS FOR THE SUPPLY OF PRODUCTS AND SERVICES OF THE ELECTRICAL AND ELECTRONICS INDUSTRY" recommended by the Zentralverband Elektrotechnik- und Elektronikindustrie (ZVEI) e.V. .

Subject to change!

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