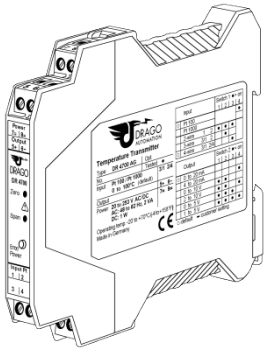
USER INSTRUCTIONS **English**

Temperature Transmitter DR 4700



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

DR 4700

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.

The transmitter may not be put into operation if the housing is open. The adjustment with the potentiometer on the front may only be carried out with a screwdriver which is securely insulated against the input voltage!

In applications with high operating 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 an 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 DR 4700 converts the Pt-sensor signal to 0/4...20 mA and 0...5/10 V standard signals. Input and output range can be set by using DIP switch. The Zero/Span Adjustment on the front allows a measuring range adjustment and the recalibration after a range selection.

The 3-way isolation guarantees reliable decoupling of the sensor circuit from the processing circuit 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.

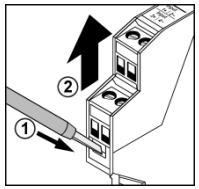
4. Configuration

4.1 Equipment

A screwdriver with a width of 2.5 mm is required to open and adjust the unit and to connect the wires to the screw clamp terminals.

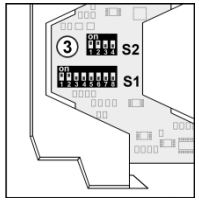
4.1 Opening The Unit

Using a screwdriver, release the snap fittings of the upper part of the housing on both sides (1). The upper part of the housing and the electronics can now be pulled out by approximately 3 cm (2).



4.3 Settings

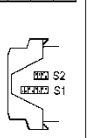
Set the input and output ranges with DIP switch (3) as indicated in the following table:



Input		Switch 1 ● = on 1	2	3	4
○	Pt 100				●
	Pt 1000				
	2-wire 1 2	●	●	●	
	3-wire 3/1 2		●		
○	4-wire 3/1 2/4			●	

	Poti Range	5	6	7	8
	Zero −100 to −50°C				
	−50 to 0°C	●			
○	0 to 50°C		●		
	50 to 100°C	●	●		
	Span 50 to 100 K			●	●
○	100 to 200 K			●	
	200 to 400 K				●
	300 to 600 K			●	●

Output	Switch 2 ● = on 1	2	3	4
○ 0 to 20 mA				
4 to 20 mA				●
0 to 10 V	●	●		
2 to 10 V	●	●		●
0 to 5 V	●	●	●	
1 to 5 V	●	●	●	●



○ : factory setting
● : customer setting

After each range selection a Zero/Span Adjustment must to be executed!

5. 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 ≅

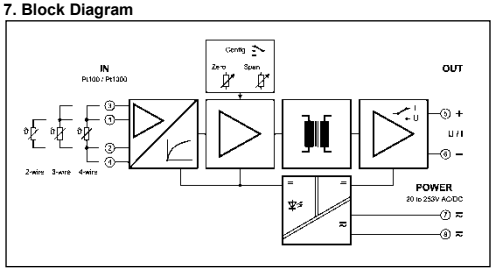
6. Technical Data

Input			
Input signal	**Pt100** / Pt1000 switch selectable		
Sensor connection	2-wire, 3-wire, **4-wire**		
Measuring zero	-100 °C, -50 °C, **0 °C**, 50 °C, switch selectable with Potentiometer ZERO 0 ... 50 °C adjustable		
Measuring span	50 K, **100 K**, 200 K, 300 K, switch selectable with Potentiometer SPAN 100 ... 200 % of span adjustable		
Sensor wire resistance	< 10 Ω / wire at 3 wire connection		
Sensor current	1 mA / 0.1 mA		
Sensor diagnostic	Sensor / wire break; Output ≥ 22 mA / 11 V		
Output	**Current**	**Voltage**	
Output signal (switch selectable)	**0 - 20 mA** 4 - 20 mA	0 -10 V 2 -10 V	0 - 5V 1 - 5 V
Load	≤ 12 V (600 Ω @ 20 mA)	≤ 5 mA (2 kΩ @ 10 V)	
Ripple	< 10 mV_{rms}		
Allgemeine Daten			
Linearity	< 0.2 % of measuring span		
Temperature coefficient[1]	< 0.01 °C/$K_{amb.}$ + 0.02 %/K of final value		
Calibration	Max. of ± 0.1 °C or 0,1 % of measuring span		
Response time	< 50 ms		
Test voltage	4 kV, 50 Hz Input against Output against Power supply		
Working voltage (Basic Insulation) 2)	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[2]	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 - 10 °C to + 60 °C (+14 to +140 °F) Transport and storage - 35 °C to + 85 °C (-4 to +176 °F)		
Power supply	20 ... 253 V AC/DC AC 48 ... 62 Hz, approx. 3 VA DC approx. 1,5 W		
EMV[3]	EN 61326 -1		
Construction	12.5 mm housing, protection type: IP 20		
Connection	pluggable screw connection solid/stranded 0.2 to 2.5 mm^2, AWG 24 to 12 tightening torque 0.5 to 0.6 Nm		
Weight	Approx. 100 g		

Bold: factory setting

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 equipments. 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

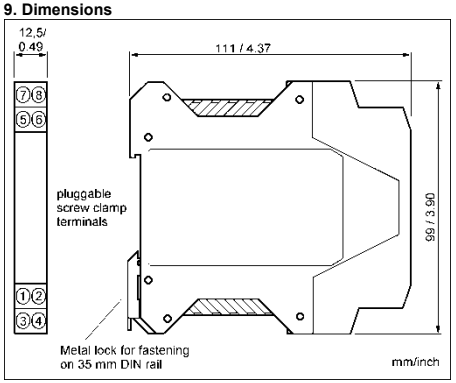
7. Block Diagram



8. Order Information

Product	*Input / Output*	*Part No.*
Temperature Transmitter	configurable	DR 4700 AG

9. 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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