

Resistance Transmitter DR 41

Measuring of Resistors with Fixed Setting

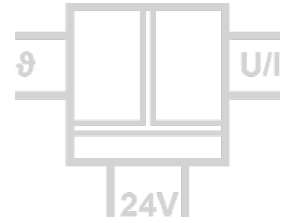
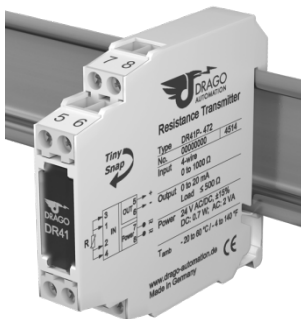
The Resistance Transmitter DR 41 converts the sensor resistance value to a standard signal and makes it galvanic isolated available on output.

For applications where one measuring range only is used, the Resistance Transmitters DR 41 offers a cost-effective alternative.

A cross-connector for the auxiliary power supply ensures fast and easy installation. The slim housing with 11.2 mm width saves significant space on the DIN-rail. If required a measuring range compensation can be performed at the Zero/Scan potentiometers behind the front cover.

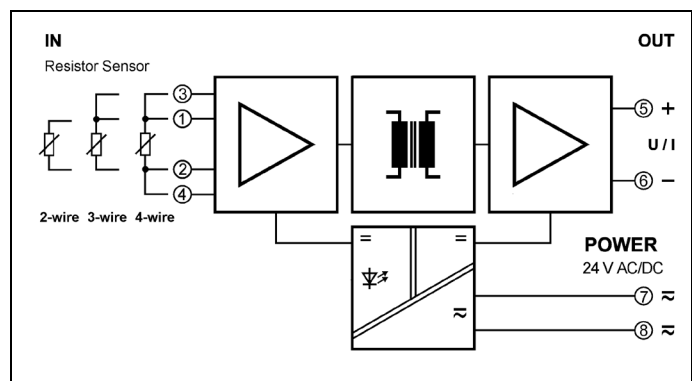
Analog signal processing guarantees precise measured values with short response times and outstanding signal reproduction at the output.

Protective Separation and the 24 V AC/DC power supply make the DR 41 universally applicable for all measurement and industrial applications, as well as for building automation.



- **Cost optimized resistance measuring**
in 2-, 3- and 4-wire sensor connection
- **Only 60 mm installation depth, 11.2 mm wide**
Can be installed in economical standard terminal boxes
- **Fixed ranges, easy to use**
Ready to use without any settings or adjustments
- **Zero/Span compensation on front panel**
for readjustment of sensor and measuring equipment or line compensation at 2-wire sensor connection
- **True 3-port separation**
Protection against erroneous measurements due to parasitic voltages or ground loops
- **Protective Separation acc. to EN 61140**
Protects service personnel and downstream devices against impermissibly high voltage
- **Unlimited use with 24 V AC/DC power supply**
Universally applicable for all measurement and industrial applications
- **5 Years Warranty**
Defects occurring within 5 years from delivery date shall be remedied free of charge at our plant (carriage and insurance paid by sender)

Block diagram





Technical Data

Input				
Measuring range	Fixed ranges within 20 Ω ... 1 MΩ			see product line
Sensor connection	2-wire, 3-wire, 4-wire sensor connection			see product line
Sensor wire resistance	< 25 Ω / wire, maximum 5 % of final value at 2-wire connection			
Sensor current	0.1 μA ... 5 mA, depends on measuring range			
Output				
Output signal	0 to 20 mA 4 to 20 mA	0 to 5 V 1 to 5 V	0 to 10 V 2 to 10 V	see product line
Load	Current output ≤ 500 Ω Voltage output ≥ 2 kΩ			
Residual ripple	< 10 mV _{rms}			
General Data				
Transmission error	< 0.2 % full scale			
Temperature coefficient ¹⁾	< 0.025 %/K			
Zero/Span compensation	± 5 %			
Response time T ₉₉	< 2 ms			
Test voltage	3 kV AC, 50 Hz, 1 min.			input against output against power supply
Working voltage ²⁾ (Basic Insulation)	600 V AC/DC for overvoltage category II and pollution degree 2 acc. to EN 61010-1			
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 - 20 to + 60 °C (- 4 to + 140 °F) Transport and storage - 35 to + 85 °C (- 31 to + 185 °F)			
Power supply	24 V AC/DC, ± 15 %		AC: 48 to 62 Hz, approx. 2 VA,	DC: approx. 0.7 W
EMC ³⁾	EN 61326-1			
Construction	11.2 mm (0.44") housing, protection class: IP 20, mounting on 35 mm DIN rail acc. to EN 60715			
Weight	Approx. 50 g			

1) Average TC related to full scale value in specified operating temperature range, reference temperature 23 °C

2) For applications with high working voltages, ensure there is sufficient spacing or isolation from neighboring devices and protection against electric shocks.

3) Minor deviations possible during interference

Product line

Device	Sensor connection	Order No.
Resistance	2-wire connection	DR 41 P - 2 X X
Transmitter	3-wire connection	DR 41 P - 3 X X
	4-wire connection	DR 41 P - 4 X X
		↓
Input	0 ... 20 Ω	2
	0 ... 50 Ω	3
	0 ... 100 Ω	4
	0 ... 200 Ω	5
	0 ... 500 Ω	6
	0 ... 1000 Ω	7
	0 ... 2000 Ω	8
	0 ... 5000 Ω	9
	0 ... 10 k Ω	A
	0 ... 20 k Ω	B
	0 ... 50 k Ω	C
	0 ... 100 k Ω	D
	0 ... 200 k Ω	E
	0 ... 500 k Ω	F
	0 ... 1 M Ω	G
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

Dimensions

