

# Potentiometer Transmitter DR 4310

## Isolation and Conversion of Potentiometer Position Signals

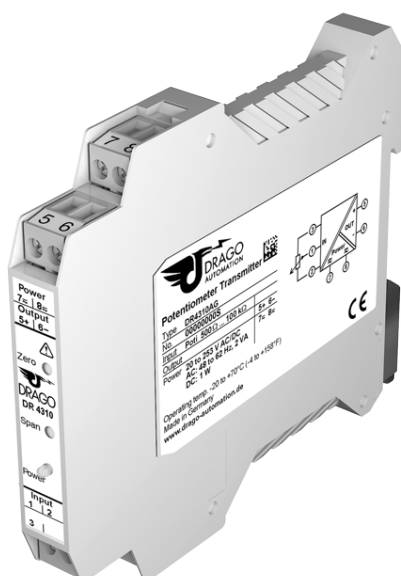
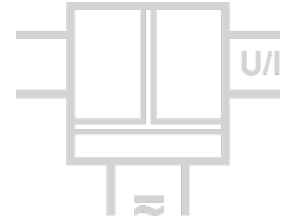
The Potentiometer Transmitter DR 4310 is used for isolation and conversion of potentiometer position signals.

Due to the easy selection of the input and output ranges, the new universal power supply and the ultra-small housing the Isolation Amplifier is suitable for flexible use. High reliability and Protective Separation are further characteristics that make the DR 4310 unrivaled.

The order key allows you to select the desired input and output ranges to which the unit will be adjusted at the factory before delivery. These can be easily reconfigured at any time by means of DIP switch settings. Subsequent readjustment or measured range compensation can then be performed at the zero/scan potentiometers on the front panel. Also the cut-off frequency can be adapted to the measurement task by using the DIP Switch.

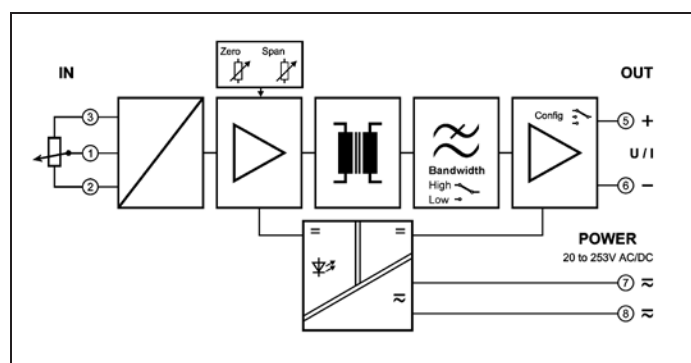
The small housing with 12.5 mm width saves space in your switch cabinet and facilitates by the practical plug-in screw terminal blocks the assembly. For range setting a simple housing unblocking is installed which makes it possible to reach easily all control elements on the mounting rail.

The new universal power pack for 20 ... 253 V AC/DC means the DR 4310 can be used anywhere in the world, with all mains power supplies. The unit's high efficiency contributes significantly to reducing the unit's own heat generation. This is reflected in extremely high reliability and long-term stability. A green LED on the front of the unit has been provided to monitor the power supply.



- **Easy selection of input and output range**  
Input and output range for unipolar and bipolar signals can be easily set by using DIP switch
- **Universal power supply for 20...253 V AC/DC**  
Applicable world-wide for all common supply voltages
- **3-port isolation**  
Protection against erroneous measurements due to parasitic voltages or ground loops
- **Ultra small sized housing**  
12.5 mm housing with plug-in screw terminal blocks
- **High bandwidth; high accuracy**  
No distortion; no falsification of measured signal
- **Protective Separation**  
Protects service personnel and downstream devices against impermissibly high voltage
- **Maximum reliability**  
No maintenance costs
- **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**

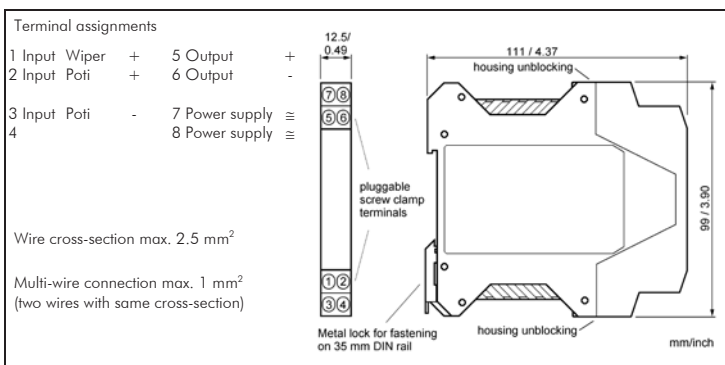


**Technical Data**

Input	
Input signals	Potentiometer 500 Ω ... 100 kΩ
Potentiometer connection	3 wire connection
Input resistance	Approx. 10 MΩ
Output	
	<b>Voltage</b> <span style="float:right"><b>Current</b></span>
Output signals	± 10 V    0 ... 10 V    2 ... 10 V    ± 20 mA    0 ... 20 mA    4 ... 20 mA
(switch selectable)	± 5 V    0 ... 5 V    1 ... 5 V    ± 10 mA    0 ... 10 mA    2 ... 10 mA
Load	≤ 10 mA (1 kΩ at 10 V)    ≤ 12 V (600 Ω at 20 mA)
Linear transmission range	Unipolar: - 2 ... + 110 %    bipolar: - 110 ... + 110 %
Residual ripple	< 10 mV <sub>rms</sub>
General Data	
Transmission error	< 0.1 % full scale
Temperature coefficient <sup>1)</sup>	< 100 ppm/K
Zero/Span compensation	Start value: 0 - 20 %; End value: 80 - 100 % Minimum span: 80 %
Cut-off frequency -3 dB (switchable)	10 kHz    30 Hz
Response time T <sub>99</sub>	80 μs    20 ms
Test voltage	4 kV AC, 50 Hz, 1 min.    Input against output against power supply
Working voltage <sup>2)</sup> (Basic Insulation)	600 V AC/DC for overvoltage category II and pollution degree 2 acc. to EN 61010-1
Protection against electrical shock <sup>2)</sup>	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 + 70 °C    (- 4 to + 158 °F) Transport and storage    - 35 to + 85 °C    (- 31 to + 185 °F)
Power supply	20 ... 253 V AC/DC    AC 48 ... 62 Hz, approx. 2 VA DC approx. 1.0 W
EMC <sup>3)</sup>	EN 61326-1
Construction	12.5 mm (0.49") housing, protection class IP 20, mounting on 35 mm DIN rail acc. to EN 60715
Weight	Approx. 100 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

**Dimensions**



Subject to change!

**Product line**

Devices	Order No.
Potentiometer Transmitter, configurable	DR 4310 AG