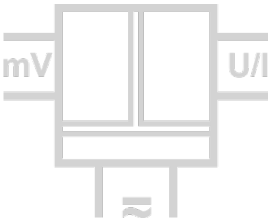
Shunt/mV Isolation Amplifier DS 7200

Isolation and Conversion of Bipolar and Unipolar mV-Signals



The Isolation Amplifier DS 7200 is used for separation and conversion of bipolar and unipolar mV-signals such as those frequently used for current measuring with shunt-resistors or other applications with low sensor voltages.

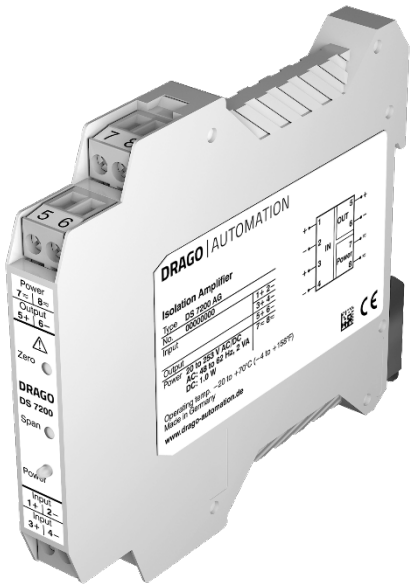
Due to the easy selection of the input and output ranges, the new universal power supply and the ultra-small housing the Isolation Amplifier is suitable for flexible use. High reliability and Protective Separation are further characteristics that make the DS 7200 unrivaled.

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.

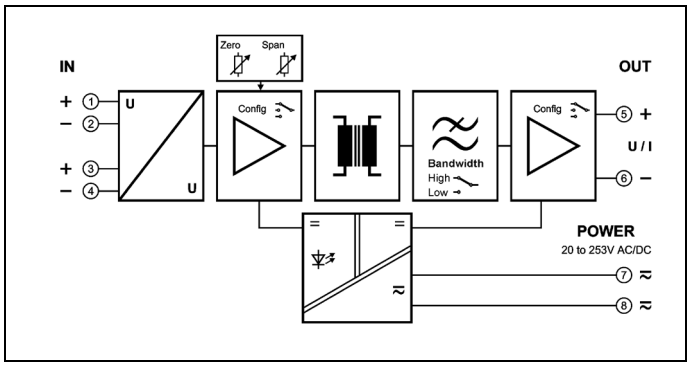
The slim housing with 12.5 mm width saves space in your switch cabinet and facilitates by the practical plug-in screw terminal blocks the assembly. For range setting a simple housing unblocking is installed which makes it possible to reach easily all control elements on the DIN-rail.

The new universal power pack for 20 ... 253 V AC/DC means the DS 7200 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, 5 kV Test Voltage**
  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



High Functionality

Technical data

Input						
Input signals (terminal/switch selectable)	± 60 mV 0 ... 60 mV	± 100 mV 0 ... 100 mV	± 150 mV 0 ... 150 mV	± 250 mV 0 ... 250 mV	± 300 mV 0 ... 300 mV	± 500 mV 0 ... 500 mV
Input resistance	> 100 kΩ					
Input capacitance	Approx. 1 nF					
Overload	< 30 V					
Output	Voltage			Current		
Output signals (switch selectable)	± 10 V ± 5 V	0 ... 10 V 0 ... 5 V	2 ... 10 V 1 ... 5 V	± 20 mA ± 10 mA	0 ... 20 mA 0 ... 10 mA	4 ... 20 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	< 20 mV_{rms}					
General data						
Transmission error	< 0.1 % full scale					
Temperature coefficient[1]	< 100 ppm/K					
Zero/Span compensation	± 10 %					
Cut-off frequency -3 dB (switchable)	10 kHz 30 Hz					
Response time T_{99}	80 µs 20 ms					
Test voltage	4 kV AC, 50 Hz, 1 min. Input against output against power supply					
	5 kV AC, 50 Hz, 1 min. Input against output/power supply (DS7200HV only)					
Working voltage[2] (Basic Insulation)	1000 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 600 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[3]	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

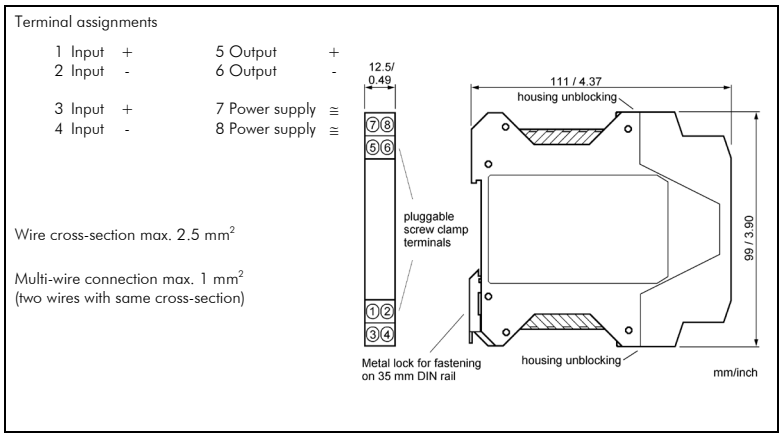
Ordering Table for Factory Setting

DS 7200 AG - XX - YY

Input	- XX	Output	- YY
± 60 mV	50	± 10 V	00
0 ... 60 mV	51	0 ... 10 V	01
± 100 mV	52	2 ... 10 V	02
0 ... 100 mV	53	± 5 V	03
± 150 mV	54	0 ... 5 V	04
0 ... 150 mV	55	1 ... 5 V	05
± 250 mV	56	± 20 mA	06
0 ... 250 mV	57	0 ... 20 mA	07
± 300 mV	58	4 ... 20 mA	08
0 ... 300 mV	59	± 10 mA	09
± 500 mV	60	0 ... 10 mA	10
0 ... 500 mV	61	2 ... 10 mA	11

Example: Input: ± 150 mV, Output: 4 ... 20 mA
Order No.: DS 7200 AG - 54 - 08

Dimensions



Product line

Device	Order No.
Shunt/mV Isolation Amplifier, configurable	DS 7200 AG - XX - YY
Shunt/mV Isolation Amplifier, config., 5 kV Test Voltage	DS 7200 HV - XX - YY

If no information is given by ordering, the devices are delivered with the standard configuration:
Input signal ± 60 mV, Output signal ± 10 V.

Subject to change!