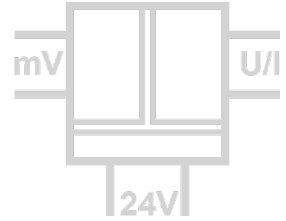


# Shunt/mV Isolation Amplifier DS 78

## Isolation and Conversion of mV-Shunt Signals



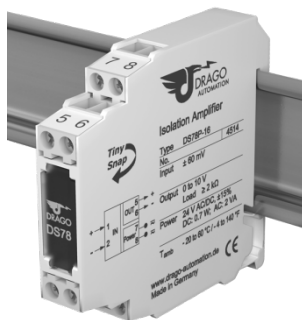
The Isolation Amplifier DS 78 is used for isolation and conversion of bipolar and unipolar mV-Signals such as those frequently used for current measuring with shunt-resistors or other applications with low sensor voltages.

For applications where one signal combination only is used, the Isolation Amplifier DS 78 offers a cost-effective alternative.

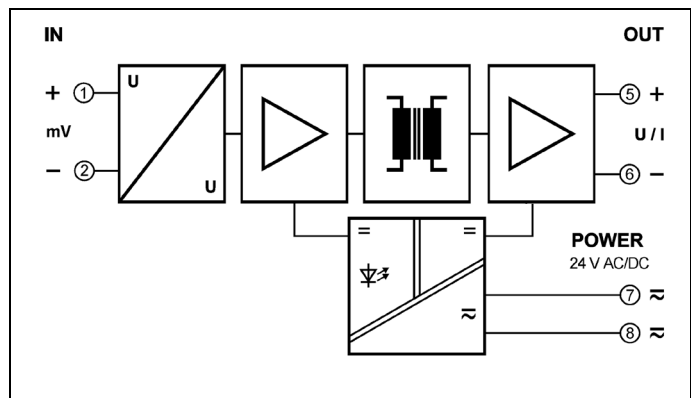
A cross-connector for the auxiliary power supply ensures fast and easy installation. The slim housing with 11.2 mm width saves significant space on the DIN-rail. If required a measuring range compensation can be performed at the Zero/Scan potentiometers behind the front cover.

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 DS 78 universally applicable for all measurement and industrial applications, as well as for building automation.

- **Cost optimized design**  
Economical separation for standard applications
- **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/Scan compensation on front panel**  
for readjustment of sensor signal or measuring equipment
- **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	
Input signal	0 ... 60 mV ± 60 mV    0 ... 100 mV ± 100 mV    0 ... 150 mV ± 150 mV    0 ... 300 mV ± 300 mV    see product line
Input resistance	> 100 kΩ
Overload	< 30 V
Output	
Output signal	0 ... 10 V    0 ... 5 V    0 ... 20 mA    see product line 2 ... 10 V    1 ... 5 V    4 ... 20 mA
Load	Voltage output ≥ 2 kΩ Current output ≤ 500 Ω
Residual ripple	< 10 mV <sub>rms</sub>
General Data	
Transmission error	< 0.2 % full scale
Temperature coefficient <sup>1)</sup>	< 0.02 % /K
Cut-off frequency -3 dB	500 Hz
Response time T <sub>99</sub>	2 ms
Test voltage	3 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 + 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 ... 62 Hz, approx. 2 VA DC approx. 0.7 W
EMC <sup>3)</sup>	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

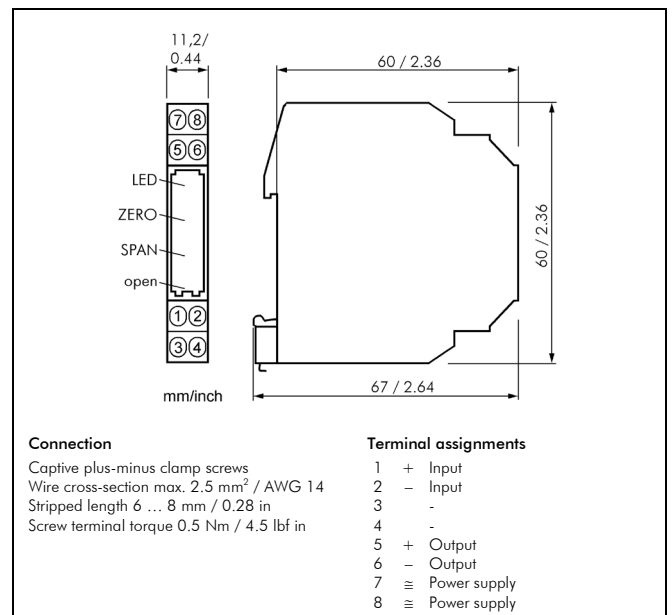
2) For applications with high working voltages, ensure there is sufficient spacing or isolation from neighboring devices and protection against electric shocks.

3) Minor deviations possible during interference

## Product line

Device	Order No.
Shunt/mV Isolation Amplifier	DS 78 P - X X
	↓
Input	
0 ... 60 mV	0
± 60 mV	1
0 ... 100 mV	2
± 100 mV	3
0 ... 150 mV	4
± 150 mV	5
0 ... 300 mV	6
± 300 mV	7
	↓
Output	
0 ... 10 V	6
2 ... 10 V	7
0 ... 5 V	5
1 ... 5 V	8
0 ... 20 mA	2
4 ... 20 mA	4
cross-connector (2 pcs.)	for looping through the power supply for up to 10 units, splittable    DZU 0801

## Dimensions



Subject to change!