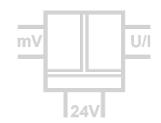
Shunt/mV Isolation Amplifier DS 78

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 shuntresistors 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/Span 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

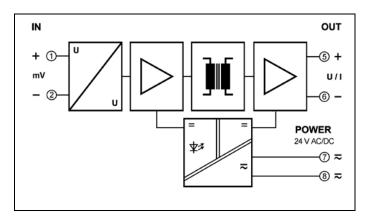
- Protective Separation acc. to EN 61140
 Protects service personnel and downstream devices against impermissibly high voltage
- Unlimited use with 24 V AC/DC power supply
 Universally applicable for all measurement and industrial applications

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







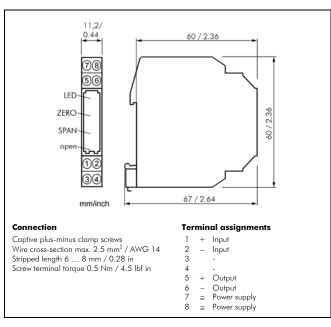
Technical Data

Input			
Input signal	0 60 mV 0 100 mV 0 150 mV 0 300 mV see product line \pm 60 mV \pm 100 mV \pm 150 mV \pm 300 mV		
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 $\geq 2 \text{ k}\Omega$ Current output $\leq 500 \Omega$		
Residual ripple	< 10 mV _{rms}		
General Data			
Transmission error	< 0.2 % full scale		
Temperature coefficient ¹⁾	< 0.02 % /K		
Cut-off frequency -3 dB	500 Hz		
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 $-20 \text{ to } +60 ^{\circ}\text{C}$ $\left(-4 \text{ to } +140 ^{\circ}\text{F}\right)$ Transport and storage $-35 \text{ to } +85 ^{\circ}\text{C}$ $\left(-31 \text{ to } +185 ^{\circ}\text{F}\right)$		
Power supply	24 V AC/DC, ± 15 % AC 48 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		

Product line

Device		Order No.	
Shunt/mV Isolation Amplifier		DS 78 P -	Х Х
			↓
Input	0 60 mV		Ô
	± 60 mV		1
	0 100 mV		2
	$\pm~100~\text{mV}$		3
	0 150 mV		4
	$\pm~150~\text{mV}$		5
	0 300 mV		6
	± 300 mV		7
0.1.1	0 101/		•
Output	0 10 V		0
	2 10 V		/
	0 5 V		5
1 5 V			8
	0 20 mA		2
	4 20 mA		4
cross-connector (2 pcs.)	for looping through th for up to 10 units, spli		DZU 0801

Dimensions



Subject to change!

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