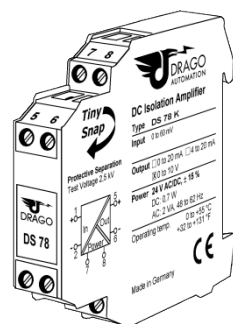


## mV- Shunt Isolation Amplifier DS 78



Read these instructions before using the product and retain for future information.

### DS 78

#### 1. Before Startup



When operating the isolating amplifier, certain parts of the module can carry dangerous voltage! Ignoring the warnings can lead to serious injury and/or cause damage!

The isolation amplifier should only be installed and put into operation by qualified staff. The staff must have studied the warnings in these operating instructions thoroughly.

In applications with high working voltages sufficient distance and isolation as well as shock protection must be ensured.

Safe and trouble-free operation of this device can only be guaranteed if transport, storage and installation are carried out correctly and operation and maintenance are carried out with care.

#### 2. Short Description

The 3-way mV Shunt Isolation Amplifier is used for electrical isolation and conversion of mV-signals such as those frequently used for current measuring with shunt resistors or other applications. The signal combination is selected by the Order No.

The 3-way isolation guarantees reliable decoupling of the sensor circuit from the processing circuit and prevents linked measurement circuits from influencing each other. The Protective Separation with high isolation level provides protection for personnel and downstream devices against impermissibly high voltage.

#### 3. Functioning

The input signal is modulated and then electrically decoupled using a transformer. The isolated signal is then made available at the output, demodulated, filtered and amplified.

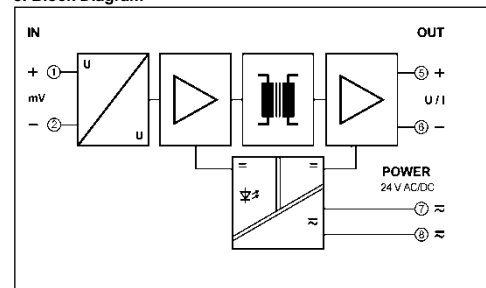
#### 4. Mounting, Electrical Connection

The isolation amplifier is mounted on standard 35 mm DIN rail.

##### Terminal assignments

1 Input +	5 Output +
2 Input -	6 Output -
3 -	7 Power supply +
4 -	8 Power supply -

#### 5. Block Diagram



#### 6. Technical Data

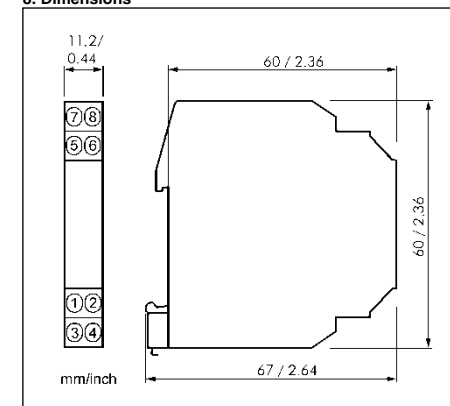
0 ... Technical data				
<b>Input</b>				
Input signal (see Product line)	0 ... 60 mV ± 60 mV	0 ... 100 mV ± 100 mV	0 ... 150 mV ± 150 mV	0 ... 300 mV ± 300 mV
Input resistance	> 100 kΩ			
Overload	< 30 V			
<b>Output</b>				
Output signal (see Product line)	0 ... 20 mA 4 ... 20 mA	0 ... 5 V 1 ... 5 V	0 ... 10 V 2 ... 10 V	
Load	Current output	≤ 500 Ω		
	Voltage output	≥ 2 kΩ		
Ripple	< 10 mV <sub>rms</sub>			
<b>General data</b>				
Transmission error	< 0.2 % full scale			
Temperature coefficient <sup>1)</sup>	< 0.02 % / K			
Response time	< 2 ms			
Test voltage	3 kV AC, 50 Hz, 1 min. input against output against power supply			
Working voltage <sup>2)</sup> (Basic insulation)	Up to 600 V AC/DC for overvoltage category II and pollution degree 2 acc. to EN 61010-1			
Protection against dangerous body currents <sup>3)</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 type: IP 20			
Connection	≤ 2.5 mm <sup>2</sup> , AWG 14			
Weight	Approx. 50 g			

- Average TC in specified operating temperature range
- As far as relevant the standards and rules mentioned above are considered by development and production of our devices. In addition relevant assembly rules are to be considered by installation of our devices in other equipments. For applications with high working voltages, take measures to prevent accidental contact and make sure that there is sufficient distance or insulation between adjacent situated devices.
- Minor deviations possible during interference

#### 7. Order Information

Device		Order No.
Isolation Amplifier	DS 78 P	- X X
Input	0 ... 60 mV ± 60 mV	0 1
	0 ... 100 mV ± 100 mV	2 3
	0 ... 150 mV ± 150 mV	4 5
	0 ... 300 mV ± 300 mV	6 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 Tiny Snap, splittable	DZU 0801

#### 8. Dimensions



#### LIMITED WARRANTY

DRAGO Automation GmbH hereby warrants that the Product will be free from defects in materials or workmanship for a period of **five (5) years** from the date of delivery ("Limited Warranty"). This Limited Warranty is limited to repair or replacement at DRAGO's option and is effective only for the first end-user of the Product. This Limited Warranty applies only if the Product:

- is installed according to the instructions furnished by DRAGO;
- is connected to a proper power supply;
- is not misused or abused; and
- there is no evidence of tampering, mishandling, neglect, accidental damage, modification or repair without the approval of DRAGO or damage done to the Product by anyone other than DRAGO.

Delivery conditions are based upon the „GENERAL CONDITIONS FOR THE SUPPLY OF PRODUCTS AND SERVICES OF THE ELECTRICAL AND ELECTRONICS INDUSTRY“ recommended by the Zentralverband Elektrotechnik- und Elektronikindustrie (ZVEI) e.V. .

Subject to change!

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Appropriate safety measures against electrostatic discharge (ESD) should be taken during range selection and assembly on the transmitter.