

Isolation Amplifier

D6B 64000



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

D6B 64000

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

The isolating amplifier may not be put into operation if the housing is open. The adjustment with the potentiometer on the front may only be carried out with a screwdriver which is securely insulated against the input voltage!

In applications with high operating 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.



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

2. Short description

The 3-way isolation amplifier is used for electrical isolation and conversion of bipolar and unipolar process signals. The input and output range can be set by using DIP switch and due to the calibrated range selection no further adjustment is necessary. The Zero/Span Adjustment on the front allows a fine-tuning of the measuring signal.

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. Settings

Set the input and output ranges with DIP switch (3) as indicated in the following table:

Input S1 1 2 3 4	Signal	Output S2 ● = on					
		1	2	3	4	5	6
●	± 10 V	●	●	●	●		
	0 to 10 V	●	●				
●	2 to 10 V	●	●	●	●	●	
●	± 5 V	●	●	●	●		
●	0 to 5 V	●	●	●	●		
●	1 to 5 V	●	●	●	●		
●	± 20 mA				●		
	0 to 20 mA						
●	4 to 20 mA				●		
●	± 10 mA			●	●		
●	0 to 10 mA			●	●		
●	2 to 10 mA		●	●			
	Bandwidth 5kHz						
	Bandwidth 100Hz					●	

5. Mounting, Electrical Connection

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

Terminal assignments

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

Warning!

Do not operate inputs for current and voltage simultaneously!

6. Technical Data

Input	Voltage	Current
Input signal ¹⁾ (terminal/switch selectable)	± 10 V 0 - 10 V 2 - 10 V	± 5 V 0 - 5 V 1 - 5 V
Input resistance	Approx. 1 MΩ	Approx. 50 Ω
Overload	Voltage limitation via 30 V Z-Diode, max. continuous current 30 mA	≤ 50 mA
Output	Voltage	Current
Output signal ¹⁾ (switch selectable)	± 10 V 0 - 10 V 2 - 10 V	± 5 V 0 - 20 mA 4 - 20 mA
Load	≤ 5 mA (2 kΩ @ 10 V)	≤ 12 V (600 Ω @ 20 mA)
Linear transmission range	Unipolar: -1 to + 110%	Bipolar: -110 to +110%
Ripple	< 10 mV _{rms}	
General data		
Transmission error	± 0,1 % of end value	
Temperature coefficient ²⁾	± 100 ppm/K of end value	
Zero/Span adjustment	± 5 % of end value	
Cut-off frequency (-3 dB)	> 5 kHz ³⁾	switchable to approx. 100 Hz
Test voltage	2,5 kV, 50 Hz	Input against output against power supply
Working voltage ³⁾ (Basic insulation)	600 V AC/DC for overvoltage category II and contamination class 2 acc. to EN 61010, part 1	
Protection against dangerous body currents ³⁾	Protective Separation by reinforced insulation acc. to EN 61010 part 1 up to 300 V AC/DC for overvoltage category II and contamination class 2 between input and output and power supply.	
Ambient temperature	Operation: - 25 °C to + 70 °C (-13 to 158 °F) Transport and storage: - 40 °C to + 85 °C (-40 to 185 °F)	
Power supply	24 V DC	16,8 V ... 31,2 V, approx. 0,8 W
EMC ⁴⁾	EN 61326 - 1	
Construction	6,0 mm housing, protection type: IP 20	
Connection	≤ 2,5 mm ² , AWG 14	
Weight	Approx. 50 g	

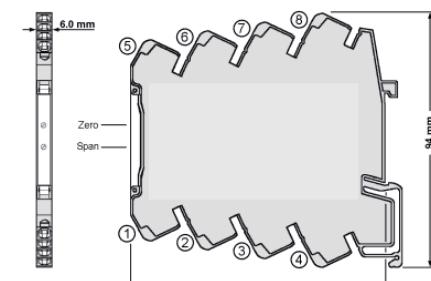
1) factory setting: Input: ± 10 V, Output: ± 10 V

2) Average TC in specified operating temperature range

3) 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.

4) Minor deviations possible during interference

9. Dimensions



LIMITED WARRANTY

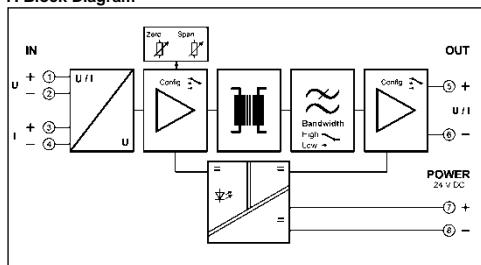
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1. is installed according to the instructions furnished by DRAGO;
2. is connected to a proper power supply;
3. is not misused or abused; and
4. there is no evidence of tampering, mishandling, neglect, accidental damage, modification or repair without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

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Subject to change!

7. Block Diagram



8. Order Information

Product	Input / Output	Part No.
Isolation Amplifier	configurable	D6B 64000

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