USER INSTRUCTIONS **English**

Bipolar Isolation Amplifier IsoPAQ-661

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

IsoPAQ-661

► Before Startup

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

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

The signal converter may not be put into operation if the housing is open.

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 an maintenance are carried out with care.

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

► Short description

The Bipolar Isolation Amplifier is used for electrical isolation and conversion of unipolar and bipolar 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.

A switchable compensation of the measuring range can be performed at the Zero/Span potentiometers on the front panel. Also the cut-off frequency can be adapted to the measurement task by using the DIP Switch.

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.

The auxiliary power can be supplied via the connection terminals or type-specific via the optional In-Rail-Bus connector (see accessories). A green LED on the front of the unit has been provided to monitor the power supply.

► 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.

► Settings

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

Input S1-						Range	Output S2-					
1	2	3	4	5	6		1	2	3	4	5	6
●						± 10 V	●	●		●		
						0 … 10 V	●	●				
		●				2 … 10 V	●	●			●	
●	●					± 5 V	●	●	●	●		
	●					0 … 5 V	●	●	●			
	●	●				1 … 5 V	●	●	●		●	
●						± 20 mA				●		
						0 … 20 mA						
		●				4 … 20 mA					●	
●	●					± 10 mA				●	●	
	●					0 … 10 mA				●		
	●	●				2 … 10 mA				●	●	
						Bandwidth 8 kHz						
						Bandwidth 100 Hz						●
				●		Zero potentiometer active						
					●	Span potentiometer active						

Factory settings: all switches in position OFF ● = on

► Mounting, Electrical Connection

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

Terminal assignments

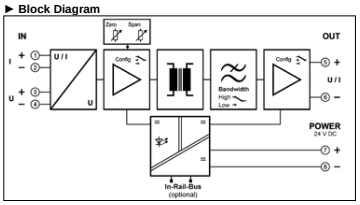
1	Input I +	5	Output +
2	Input I −	6	Output −
3	Input U +	7	Power supply +
4	Input U −	8	Power supply −

► Technical Data

Input	**Voltage**		**Current**	
Input signal (calibrated switchable)	± 10 V 0 … 10 V 2 … 10 V	± 5 V 0 … 5 V 1 … 5 V	± 20 mA 0 ... 20 mA 4 ... 20 mA	± 10 mA 0 ... 10 mA 2 ... 10 mA
Input resistance	≥ 1 MΩ		≤ 25 Ω	
Overload	≤ 30 V		≤ 50 mA	
Output	**Voltage**		**Current**	
Output signal (calibrated switchable)	± 10 V 0 … 10 V 2 … 10 V	± 5 V 0 … 5 V 1 … 5 V	± 20 mA 0 ... 20 mA 4 ... 20 mA	± 10 mA 0 ... 10 mA 2 ... 10 mA
Load	≤ 5 mA (2 kΩ at 10 V)		≤ 12 V (600 Ω at 20 mA)	
Linear transmission range	Unipolar: -1 to +110 %		Bipolar: -110 to +110 %	
Residual ripple	< 10 mV_{rms}			
General data				
Transmission error	< 0.1 % full scale			
Temperature coefficient[1]	< 100 ppm/K			
Zero/Span compensation (switchable)	± 5 % of measuring range			
Cut-off frequency -3 dB (switchable)	8 kHz, 100 Hz			
Response time T_{99}	100 µs, 7 ms			
Test voltage	3 kV, 50 Hz, 1 min. Input against output against power supply			
Working voltage[2] (Basic insulation)	600 V AC/DC for overvoltage category II and contamination class 2 acc. to EN 61010-1			
Protection against dangerous body currents[2]	Protective Separation by reinforced insulation acc. to EN 61010-1 up to 300 V AC/DC for overvoltage category II and contamination class 2 between input and output and power supply.			
Ambient temperature	Operation Transport and storage	-25 °C to +70 °C (-13 to +158 °F) -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[3]	EN 61326-1			
Construction	6.2 mm (0.244") housing, protection type: IP 20 mounting on 35 mm DIN rail acc. to EN 60715			
Connection (captive plus-minus clamp screws)	Solid: Fine-stranded: Stripped length: Screw terminal torque 0.8 Nm / 7 lbf in	0.5 mm^2 - 4 mm^2 / AWG 20-12 0.5 mm^2 - 2.5 mm^2 / AWG 20-14 6-8 mm / 0.28 in		
Weight	Approx. 70 g			

1) Average TC in specified operating temperature range
2) 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 equipment. 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.
3) Minor deviations possible during interference

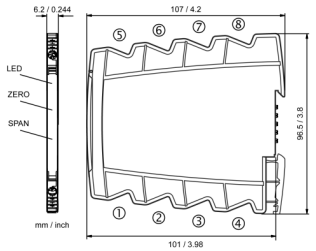
► Block Diagram



► Order Information

Product	Input / Output	Order No.
IsoPAQ-661	calibrated switchable	70ISP66100
In-Rail-Bus for power supply		

► Dimensions



LIMITED WARRANTY

INOR Process AB, or any other affiliated company within the Inor Group (hereinafter jointly referred to as "Inor"), 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 Inor's option and is effective only for the first end-user of the Product. This Limited Warranty applies only if the Product:

1. is installed according to the instructions furnished by Inor;
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 Inor or damage done to the Product by anyoneother than Inor.

Inor specifically disclaims any express warranty not provided herein and any implied warranty, guarantee or representation as to suitability for any particular purpose, performance, quality and absence of any hidden defects, and any remedy for breach of contract, which but for this provision, might arise by implication, operation of law, custom of trade or course of dealing, including implied warranties of merchantability and fitness for a particular purpose. Except as provided herein, Inor further disclaims any responsibility for losses, expenses, inconveniences, special, direct, secondary or consequential damages arising from ownership or use of the product.

Customer pays freight to Inor, and Inor will pay the return freight by post or other "normal" way of transport. If any other type of return freight is requested, customer pays the whole return cost.

06-2015 - 1000311499