

USER INSTRUCTIONS

English

Repeater Power Supply HART IsoPAQ-610



INOR

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

IsoPAQ-610

► 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 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.

► Short description

The HART Repeater Power Supply is used to supply and separate 2- and 3-wire SMART Transmitters and active sensor signals with HART communication. It supplies the transmitter with power and transmits measuring signal with high accuracy galvanic isolated to the output. Alternative the measuring input accepts active 0/4 ... 20 mA signals from 4-wire transmitters.

In addition to the analog signal, data protocols for HART communication will be transmitted. It allows bidirectional communication with the field device from every point of the cabling.

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.

► Mounting, Electrical Connection

The repeater power supply is mounted on standard 35 mm DIN rail.

Terminal assignments

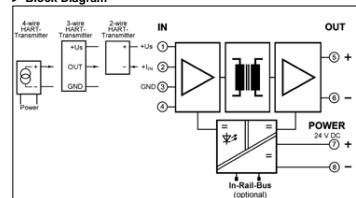
1 Transmitter Supply Tx +	5 Output +
2 Input 1+	6 Output -
3 Input GND	7 Power supply +
4	8 Power supply -

► Technical Data

Input
Input signal 0/4 ... 20 mA
Input resistance (DC) $\leq 50 \Omega$
Overload $\leq 50 \text{ mA} / 30 \text{ V}$
Transmitter supply (Tx) 16 V (open circuit / short circuit $< 22 \text{ V} / 35 \text{ mA}$)
Communication signal Bidirectional HART transmission, internal AC impedance - 250 Ohm
Output
Output signal 0/4 ... 20 mA
Load $\leq 12 \text{ V} (600 \Omega \text{ at } 20 \text{ mA})$
Linear transmission range $-12 \text{ V} \text{ to } +110 \%$
Residual ripple $< 10 \text{ mV}_{\text{rms}}$
General data
Transmission error $< 0.1 \% \text{ full scale}$
Temperature coefficient* $< 100 \text{ ppm/K}$
Cut-off frequency -3 dB 100 Hz, $> 2.5 \text{ kHz}$ HART signal
Response time T_{R} 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 ⁽³⁾
Protective Separation with 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 -25°C to $+70^{\circ}\text{C}$ (-13°C to $+158^{\circ}\text{F}$)
Transport -40°C to $+85^{\circ}\text{C}$ (-40°C to $+185^{\circ}\text{F}$)
Power supply
24 V DC 16.8 V ... 31.2 V, approx. 1.3 W
EMC
EN 61326-1
Construction
6.2 mm (0.24") housing, protection type: IP 20, mounting on 35 mm DIN rail acc. to EN 60715
Connection
Solid: 0.5 mm^2 - 4 mm^2 / AWG 20-12
Fine-stranded: 0.5 mm^2 - 2.5 mm^2 / AWG 20-14
Stripped length: 6.8 mm / 0.28"
Screw terminal torque 0.8 Nm / 7 lbf in
Weight Approx. 70 g

- 1) Average TC in specified operating temperature range
- 2) As far as possible the standards and rules mentioned above are considered by the equipment and module manufacturer 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

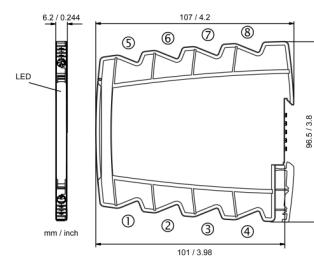
► Block Diagram



► Order Information

Product	Input / Output	Order No.
IsoPAQ-610	0/4 ... 20 mA	70ISR61000

► 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 any other person than INOR.

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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.