



INOR

USER INSTRUCTIONS

English

Loop Powered Isolator

ISO PAQ-21L ISO PAQ-22L

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The user instruction must be read prior to adjust and/or installation
All information subject to change without notice.

is product should not be mixed with other kind of scrap, after usage.
It should be handled as an electronic/electric device.

MEASURE OF SUCCESS

2. Short description

The loop powered isolator is used for electrical isolation and processing of 0(4) - 20 mA standard signals.

The galvanic 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 impermissible 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 and filtered.

When using loop-powered Isolators, ensure that the current-driving voltage of the power source U_S is sufficient for driving the maximum current of 20 mA over the isolator with voltage drop of $U_{drop} = 2\text{ V}$ and the load R_{load} .

$U_S \geq U_{in} = 2\text{ V} + 20\text{ mA} \times R_{load}$

Optional use:

$U_T = U_S - 2\text{ V} - 20\text{ mA} \times R$

4. Equipment

A screwdriver with a width of 2.5 mm is required connect the wires to the screw clamp terminals.

5. Mounting, electrical connection

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

Terminal assignments

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

6. Order information

Product	Input / Output	Part No.
ISO PAQ-21L	1-channel, 0(4) - 20 mA	70ISL21001
ISO PAQ-22L	2-channel, 0(4) - 20 mA	70ISL22001

7. Technical Data

Input	0(4) - 20 mA / max. 30 V
Input signal	< 20 μA
Operating current	< 2 V
Voltage drop	< 2 V
Overload	< 100 mA, $\leq 30\text{ V}$
Output	
Output signal	0(4) - 20 mA / max. 28 V
Response time	2 ms @ 250 Ω load / 6 ms 750 Ω load (10 to 90 % of end value)
Ripple	< 20 mV _{rms}
General data	
Transmission error	$\pm 0.1\%$ of end value
Load error	$\pm 0.03\%$ of measured value / 100 Ω load
Temperature coefficient ¹⁾	$\pm 0.015\%$ / K of measured value / 100 Ω load
Test voltage	4 kV, 50 Hz, Between all circuits
Working voltage ²⁾	600 V ACDC for overvoltage category II and 1000 V ACDC for overvoltage category III
Conformance	conformance class 2 acc. EN 61010-1
Protection against dangerous body currents ³⁾	Protective Separation by reinforced insulation acc. to EN 61010-1 up to 300 V ACDC for overvoltage category II and contamination class 2 between all circuits.
Ambient temperature	Operation -20 °C to +70 °C (-4 to +158 °F) Transport -35 °C to +85 °C (-31 to +185 °F) and storage
EMC ³⁾	EN 61326-1
Construction	12.5 mm (0.5") housing, protection type IP 20
Connection	$\leq 2.5\text{ mm}^2$, AWG 14
Weight	Approx. 100 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 instructions have to be followed by the user.

3) For applications with high working voltages, like 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

8. Block diagram

9. 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. Upon receipt of a warranty claim, Inor shall respond within a reasonable time period as to its decision concerning:

- Whether Inor acknowledges its responsibility for any asserted defect in materials or workmanship; and, if so,
- the appropriate cause of action to be taken (i.e. whether a defective product should be replaced or repaired by Inor).

This Limited Warranty applies only if the Product:

- is installed according to the instructions furnished by Inor;
- 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 Inor or damage done to the Product by anyone other than Inor.

This Limited Warranty is provided by Inor and contains the only express warranty provided.

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Products that are covered by the Limited Warranty will either be repaired or replaced at the option of Inor. 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.