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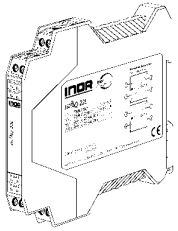
USER INSTRUCTIONS **English**

Loop Powered Isolator

IsoPAQ-21L IsoPAQ-22L



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

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

MEASURE OF SUCCESS

IsoPAQ-21L IsoPAQ-22L

. Before Startup

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

The isolator 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 connection and assembly on the isolator.

2. Short description

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

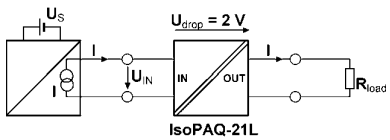
The galvanic isolation guarantees reliable decoupling of the sensor circuit from the processing circuit and prevents linked measurement circuits from influencing each other. The Protective Separation with high isolation level provides protection for personnel and downstream devices against impermissibly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

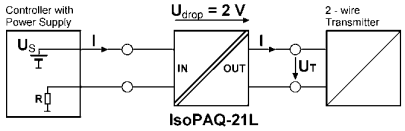
When using loop-powered Isolators, ensure that the current-driving voltage of the power source U_S is sufficient for driving the maximum current of 20 mA over the isolator with voltage drop of U_{drop} = 2 V and the load Rl_{oad} .

$U_S \geq U_{IN}$ = 2 V + 20 mA x R_{load}



Optional use:

$U_T = U_S$ - 2 V - 20 mA x 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

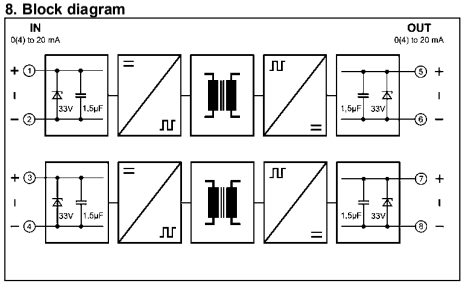
Product	*Input / Output*	*Part No.*
IsoPAQ-21L	1-channel, 0(4) - 20 mA	70ISL21001
IsoPAQ-22L	2-channel, 0(4) - 20 mA	70ISL22001

7. Technical Data

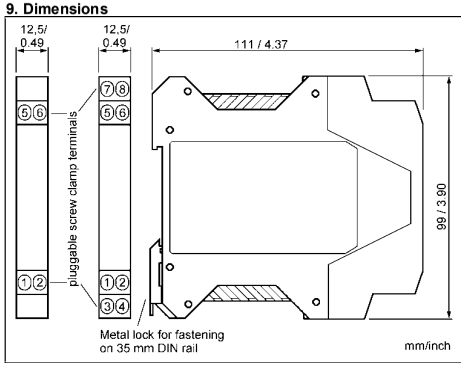
Input	
Input signal	0(4) - 20 mA / max. 30 V
Operating current	< 20 µA
Voltage drop	< 2 V
Overload	≤ 100 mA, ≤ 30 V
Output	
Output signal	0(4) - 20 mA / max. 28 V
Response time (10 to 90 % of end value)	2 ms @ 250 Ω load / 6 ms 750 Ω load
Ripple	< 20 mV_{rms}
General data	
Transmission error	± 0.1 % of end value
Load error	± 0.03 % of measured value / 100 Ω load
Temperature coefficient[1]	± 0.0015 %/K of measured value / 100 Ω load
Test voltage	4 kV, 50 Hz Between all circuits
Working voltage[2] (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[2]	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 all circuits..
Ambient temperature	Operation - 20 °C to + 70 °C (-4 to +158 °F) Transport and storage - 35 °C to + 85 °C (-31 to +185 °F)
EMC[3]	EN 61326 -1
Construction	12,5 mm (0.5'') housing, protection type: IP 20
Connection	≤ 2.5 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 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.
3) Minor deviations possible during interference

8. Block diagram



9. Dimensions



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1. Whether Inor acknowledges its responsibility for any asserted defect in materials or workmanship; and, if so,
2. 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:

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 anyone other than Inor.

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86BIS00024 2008-02