

# 1- & 2-channel Loop Powered Isolators for 0(4)-20 mA Signals with High Isolation and Protective Separation

IsoPAQ-21L and IsoPAQ-22L are 1- and 2-channel loop powered isolators used for electrical isolation of 0(4)-20 mA signals to avoid measurement errors due to different voltage potentials or ground loops in an instrument installation.

The isolators need no power supply, which contributes to reduced installation costs compared to isolation transmitters.

The high isolation level of 4 kV provides an effective protection for downstream devices.

The 2-channel version, IsoPAQ-22L offers a very cost effective alternative combined with a high-density mounting.

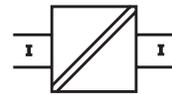
The high reliability and the Protective Separation are additional features that ensure a safe system operation.

- Input to output galvanic isolation**  
 Protection against erroneous measurements due to parasitic voltages or ground loops
- 1- and 2-channel versions**  
 Allows for optimal cost efficiency
- No power supply required**  
 Reduced wiring saves installation costs
- Low voltage drop**  
 Input voltage drop of less than 2 V reduces impact on the primary current loop
- Protective Separation acc. to EN 61140**  
 The design and high isolation level (4 kV) provides protection for service personnel and downstream devices against impermissibly high voltage
- High accuracy**  
 Negligible additional measurement errors in the loop
- High-density DIN-rail mounting**  
 12.5 mm (0.5") housing combined with very low self heating allows for high density mounting
- Plug-in screw terminals**  
 Simplifies installation and maintenance

IsoPAQ-21L



IsoPAQ-22L



Specifications: IsoPAQ-21L/-22L

Input

Input signal	0(4)-20 mA / max. 30 V
Operating current	< 20 $\mu$ A
Voltage drop	< 2 V
Overload	$\leq$ 100 mA, $\leq$ 30 V

Output

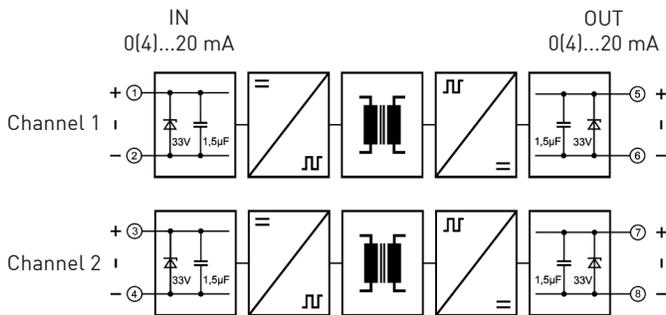
Output signal	0(4)-20 mA / max. 28 V
Response time (10 to 90 % of end value)	2 ms @ 250 $\Omega$ load / 6 ms @ 750 $\Omega$ load
Ripple	< 0.07 % of measured value, ~100 kHz

General data

Transmission error	$\pm$ 0.1 % of end value
Load error	$\pm$ 0.03 % of measured value / 100 $\Omega$ load
Temperature coefficient <sup>1)</sup>	$\pm$ 0.0015 %/K of measured value / 100 $\Omega$ load
Test voltage	4 kV, 50 Hz <span style="float:right">Between all circuits</span>
Working voltage <sup>2)</sup> (Basic Insulation)	600 VAC/DC for overvoltage category II and pollution degree 2 acc. to EN 61010 part 1 between all circuits.
Protection against electrical shock <sup>2)</sup>	Protective separation acc. to EN 61140 by reinforced insulation acc. to EN 61010 part 1 up to 300 VAC/DC for overvoltage category II and pollution degree 2 between all circuits.
Ambient temperature	Operation <span style="float:right">-20 to +70 <math>^{\circ}</math>C (-4 to +158 <math>^{\circ}</math>F)</span> Transport and storage <span style="float:right">-35 to +85 <math>^{\circ}</math>C (-31 to +185 <math>^{\circ}</math>F)</span>
EMC <sup>3)</sup>	EN 61326-1
Construction	12.5 mm (0.5") housing, protection class: IP20
Connection	$\leq$ 2.5 mm <sup>2</sup> , 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

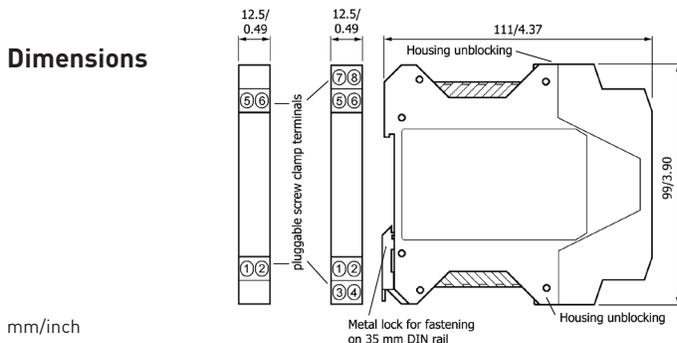
Block diagram/Connections



Ordering information

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

Dimensions



mm/inch