

# High-performance Isolation Transmitter for Bipolar and Unipolar mA/V Signals with Extensive Range Selection and Zero/Span Adjustment

The Isolation Transmitter IsoPAQ-60P is used for highprecision isolation and conversion of 0-20 mA, 4-20 mA and 0-10 V bipolar and unipolar signals.

Due to the extensive range selection with a choice of 144 input/output signal combinations, the selectable bandwidth and the universal power supply, IsoPAQ-60P is a true universal transmitter for any demanding isolation application.

The zero and span adjustments allow for a fine-tuning of the measurement loop.

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

- Extensive range selection**

Input and output range in mA or V can be set in 144 combinations by using DIP switches

- Zero/Span Adjustment**

Allow for additional fine-tuning of the measurement loop and recalibration after a range selection

- Extremely fast response**

Cut-off frequency higher than 10 kHz, switchable to 30 Hz

- 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

- Universal power supply for 20 to 253 VAC/DC**

Applicable world-wide for all common supply voltages

- 3-port isolation**

Protection against erroneous measurements due to parasitic voltages or ground loops

- High-density DIN-rail mounting**

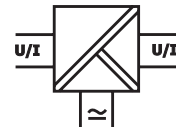
12.5 mm (0.5") housing combined with very low self heating allows for high density mounting

- Plug-in screw terminals**

Simplifies installation and maintenance

- Excellent reliability**

Low self heating thanks to patented high-efficiency power supply provides long-term reliability and stability



## Specifications: IsoPAQ-60P

| Input                                                | Voltage                                                                                                                                                                              |        |        | Current                                     |         |         |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|---------------------------------------------|---------|---------|
| Input signal<br>(terminal/switch selectable)         | ± 10 V <sup>1)</sup>                                                                                                                                                                 | 0-10 V | 2-10 V | ± 20 mA                                     | 0-20 mA | 4-20 mA |
|                                                      | ± 5 V                                                                                                                                                                                | 0-5 V  | 1-5 V  | ± 10 mA                                     | 0-10 mA | 2-10 mA |
| Input resistance                                     | Approx. 1 MΩ                                                                                                                                                                         |        |        | Approx. 25 Ω                                |         |         |
| Input capacitance                                    | Approx. 1 nF                                                                                                                                                                         |        |        | Approx. 1 nF                                |         |         |
| Overload                                             | Voltage limitation via 30 V Z-Diode,<br>max. continuous current 30 mA                                                                                                                |        |        | ≤ 200 mA                                    |         |         |
| Output                                               | Voltage                                                                                                                                                                              |        |        | Current                                     |         |         |
| Output signal<br>(switch selectable)                 | ± 10 V <sup>1)</sup>                                                                                                                                                                 | 0-10 V | 2-10 V | ± 20 mA                                     | 0-20 mA | 4-20 mA |
|                                                      | ± 5 V                                                                                                                                                                                | 0-5 V  | 1-5 V  | ± 10 mA                                     | 0-10 mA | 2-10 mA |
| Load                                                 | ≤ 10 mA (1 kΩ @ 10 V)                                                                                                                                                                |        |        | ≤ 12 V (600 Ω @ 20 mA)                      |         |         |
| Linear transmission range                            | Unipolar: -2 to +110 %, Bipolar: -110 to +110 %                                                                                                                                      |        |        |                                             |         |         |
| Ripple                                               | < 0.1 % of end value, ~150 kHz                                                                                                                                                       |        |        |                                             |         |         |
| General data                                         |                                                                                                                                                                                      |        |        |                                             |         |         |
| Transmission error                                   | ± 0.1 % of end value                                                                                                                                                                 |        |        |                                             |         |         |
| Temperature coefficient <sup>2)</sup>                | ± 0.01 % /K of end value                                                                                                                                                             |        |        |                                             |         |         |
| Zero/Span adjustment                                 | ± 10 % of end value                                                                                                                                                                  |        |        |                                             |         |         |
| Cut-off frequency (-3 dB)                            | > 10 kHz <sup>1)</sup>                                                                                                                                                               |        |        | Switchable to approx. 30 Hz                 |         |         |
| Test voltage                                         | 4 kV, 50 Hz                                                                                                                                                                          |        |        | Input against output against power supply   |         |         |
| Working voltage <sup>3)</sup> (Basic Insulation)     | 1000 VAC/DC for overvoltage category II and pollution degree 2<br>acc. to EN 61010 part 1 between all circuits.                                                                      |        |        |                                             |         |         |
| Protection against electrical<br>shock <sup>3)</sup> | Protective separation acc. to EN 61140 by reinforced insulation acc. to EN 61010 part 1<br>up to 600 VAC/DC for overvoltage category II and pollution degree 2 between all circuits. |        |        |                                             |         |         |
| Ambient temperature                                  | Operation                                                                                                                                                                            |        |        | -20 to +70 °C (+14 to +158 °F)              |         |         |
|                                                      | Transport and storage                                                                                                                                                                |        |        | -35 to +85 °C (-31 to +185 °F)              |         |         |
| Power supply                                         | 20 to 253 VAC/DC                                                                                                                                                                     |        |        | AC 48 to 62 Hz, approx. 2 VA DC approx. 1 W |         |         |
| EMC <sup>4)</sup>                                    | EN 61326-1                                                                                                                                                                           |        |        |                                             |         |         |
| Construction                                         | 12.5 mm (0.5") housing, protection class: IP20                                                                                                                                       |        |        |                                             |         |         |
| Connection                                           | ≤ 2.5 mm², AWG14                                                                                                                                                                     |        |        |                                             |         |         |
| Weight                                               | Approx. 100 g                                                                                                                                                                        |        |        |                                             |         |         |

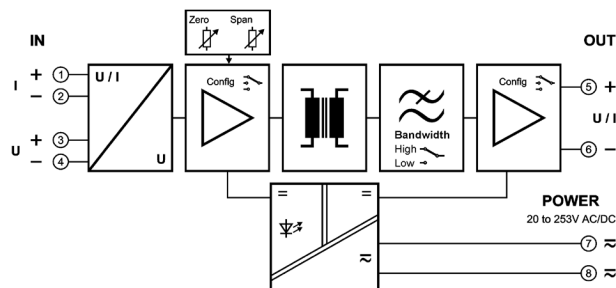
1) Factory settings

2) Average TC in specified operating temperature range

3) 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.

4) Minor deviations possible during interference

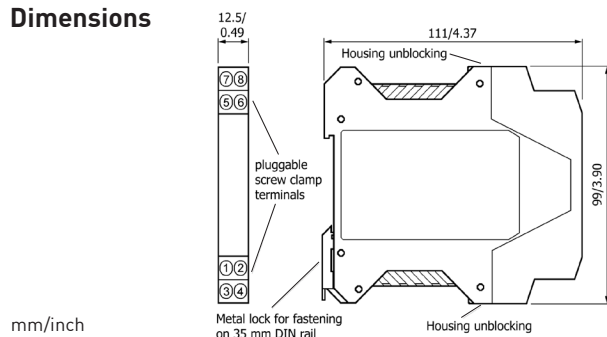
## Block diagram/Connections



## Ordering information:

| Product                     | Input / Output                  | Part No.   |
|-----------------------------|---------------------------------|------------|
| IsoPAQ-60P                  | $\pm 10\text{V}/\pm 10\text{V}$ | 70ISP60001 |
| Calibration for other range |                                 | 70CAL00001 |

## Dimensions



mm/inch