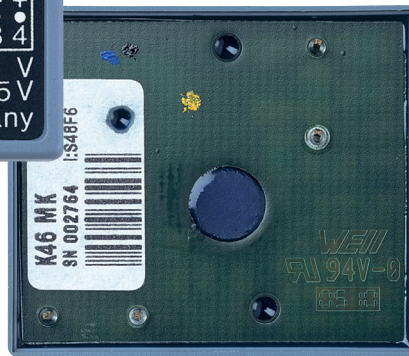
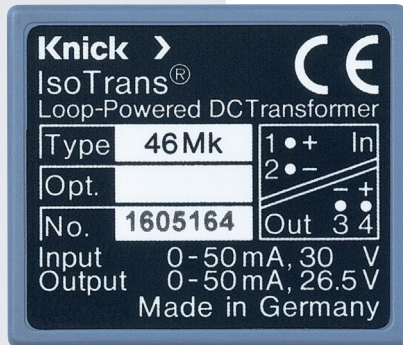


# Loop-Powered Isolators for Standard Signals

## IsoTrans 46

For isolation of standard 0 ... 20 mA signals.



Knick has expanded its range of loop-powered isolators with the IsoTrans 46, a competitively priced, compact model with a modular design.

### The Task

The IsoTrans 46 isolates 0 ... 20 mA standard current signals. It avoids parasitic voltages or currents and eliminates grounding problems. It is optionally available with protective separation according to EN 61140.

### The Technology

The IsoTrans 46 draws its power as voltage drop directly from the measurement signal. This saves on the costs for power supplies and cabling and increases reliability.

For up-to-date information, please visit [www.knick.de](http://www.knick.de)

**Knick** >

### Facts

– **Galvanic isolation between input and output signal**

Protection against measuring errors caused by grounding problems and parasitic interference voltages

– **Protective separation according to EN 61140**

Protection of the maintenance staff and subsequent devices against excessively high voltages

– **Module installation height of 11 mm**

Extremely low installation height, mounting on Eurocard with width of just 3 HP

– **No power supply required**

Cost savings due to lower wiring effort, no mains interference

– **Maximum reliability**

No maintenance work, therefore the related costs are not incurred

– **5-year warranty**

Warranty  
**5 years!**

Warranty  
*Defects occurring within 5 years from delivery date shall be remedied free of charge at our plant (carriage and insurance paid by sender).*



# Loop-Powered Isolators for Standard Signals

## IsoTrans 46

### Product Line

Devices	Order No.
IsoTrans 46, module	46 Mk

### Power supply

None, supply from input signal

### Options

Options	Order No.
Protective separation to EN 61010-1, test voltage 4 kV AC	453

### Specifications

#### Input data

Input	0 ... 20 mA <sup>1)</sup>
Operating current	< 20 $\mu$ A
Overload capacity	100 mA, 30 V
Voltage drop	approx. 2.5 V <sup>2)</sup>

#### Output data

Output	0 ... 20 mA, max. 27.5 V
Load error	< 0.02 % meas. val. per 100 ohms
Residual ripple	< 5 mV

#### Transmission behavior

Transmission error	< 0.1 % full scale
Rise and fall time	Approx. 5 ms at 500 ohm load
Temperature coefficient <sup>3)</sup>	< 0.002 %/K meas. val. per 100 ohm load

**Specifications** (continued)

**Isolation**

Test voltage	510 kV AC 4 kV AC with option 453
Working voltages (basic insulation)	150 V AC with overvoltage category I and pollution degree 4 according to EN 61010-1 Allowable working voltages for other overvoltage categories and pollution degrees and for reinforced insulation / protective separation upon request. For applications with high working voltages, ensure there is sufficient spacing or isolation from neighboring devices and protection against electric shocks.
Protection against electric shock (opt. 453)	Protective separation according to EN 61140 by reinforced insulation according to EN 61010-1. For applications with high working voltages, ensure there is sufficient spacing or isolation from neighboring devices and protection against electric shocks.

**Standards and approvals**

Surge withstand according to IEC 255-4	5 kV 1.2/50 $\mu$ s (only with option 453)
Surge withstand according to EN 61010-1	850 V > 6 kV with option 453
EMC <sup>4)</sup>	According to NAMUR NE 21, EMC directive 89/336/EC, EN 61326

**Further data**

MTBF <sup>5)</sup>	Approx. 1281 years
Ambient temperature	Operation: -10 ... +70 °C Transport and storage: -30 ... +80 °C
Design	Mk module, encapsulated
Weight	Approx. 13 g

<sup>1)</sup> linear transmission up to 50 mA

<sup>2)</sup> approx. 3.5 V at 50 mA

<sup>3)</sup> average TC, reference temperature 23 °C

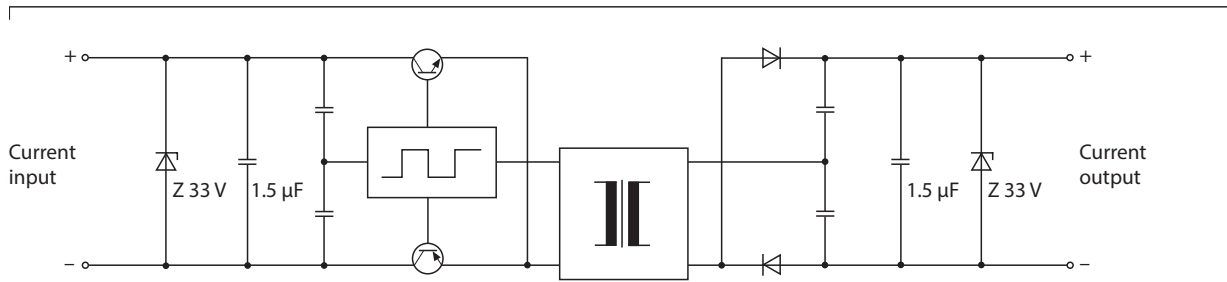
<sup>4)</sup> applies for 4 ... 20 mA, slight deviations are possible while there is interference

<sup>5)</sup> Mean Time Between Failures – MTBF – according to EN 61709 (SN 29500). Conditions: stationary operation in well-kept rooms, average ambient temperature 40 °C, no ventilation, continuous operation

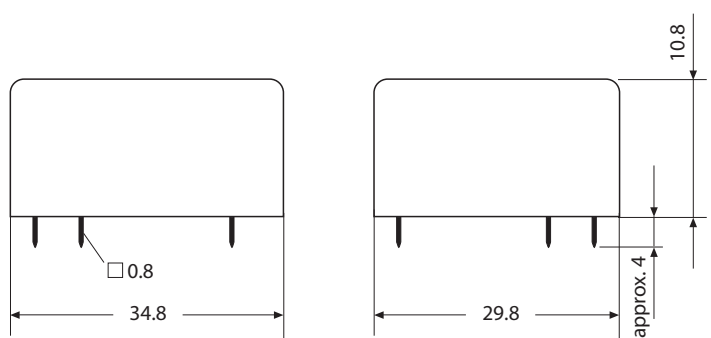
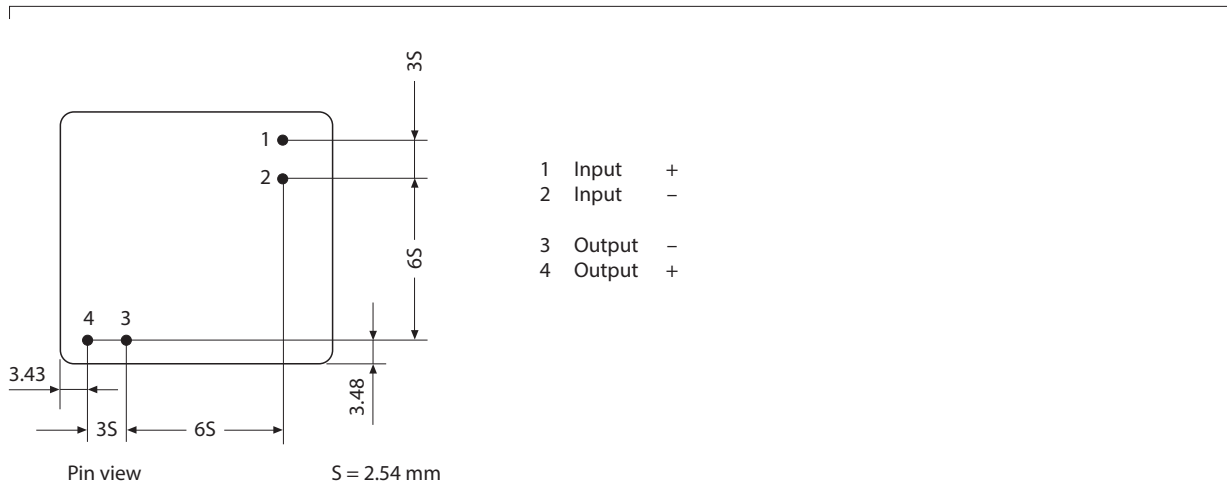
# Loop-Powered Isolators for Standard Signals

## IsoTrans 46

### Block Diagram



### Dimension Drawing and Pin Assignments



All dimensions in mm