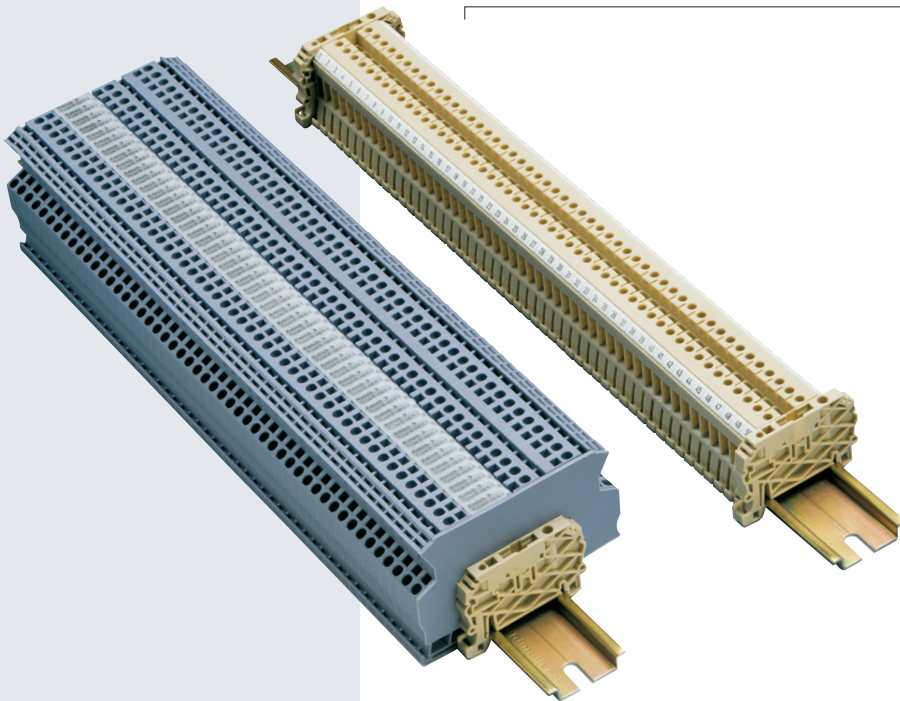


Loop-Powered Isolators for Standard Signals

IsoTrans B 48

Clamp on to simple isolation!
20 mA transmission with electrical isolation.



The Solution

is the 6-mm wide IsoTrans B 48 isolating terminal. It meets all requirements for a modern terminal and isolates 0(4) ... 20 mA signals safely and reliably without an external power supply, without falsifying the measurement signal itself.

The Connections

use Z-spring technology and allow for simple, fast and safe connection of the wires.

The Technology

The extremely narrow housing with a width of just 6 mm was achieved by constantly improving the circuit design of our tried-and-tested isolators, which draw their power as a voltage drop from the measurement signal, and the use of a specially developed flat-core transformer. This allows connecting up to 166 isolating terminals per meter of mounting rail.

The Task

Preventing measuring errors or even destruction of the system normally requires floating connection of the sensors and actuators to the sensitive MSR electronics.

The Problem

was solved up to now with additional devices for electrical isolation downstream from the routing and distributor level.

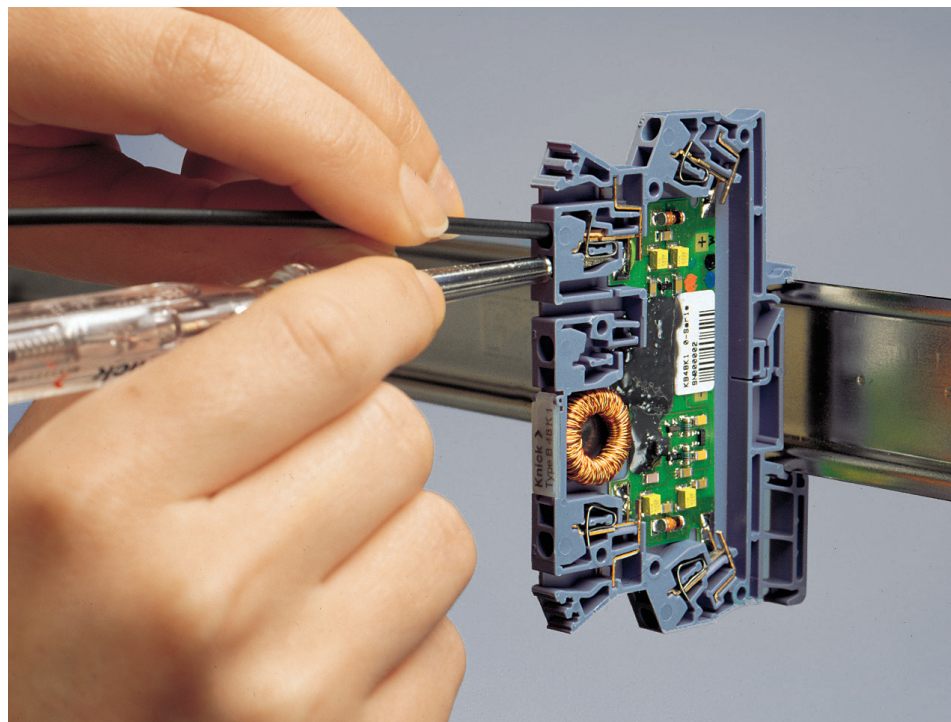
Knick >

The Facts

- **Substantial cost- and space-savings**
due to the elimination of a whole installation stage
- **Minimum wiring effort**
due to loop-powered isolation and the combination of terminal and isolator in one device
- **Fast, simple and safe wiring using Z-springs**
- **A high level of safety through proven circuit technology**
- **Galvanic isolation**
Protection against incorrect measurements or damage to the equipment due to parasitic voltages
- **Extremely compact design**
The slim 6-mm housing allows up to 166 channels per meter
- **Easy to use and service**
Simple and fast installation due to innovative Z-spring technology
- **No power supply required**
Cost savings due to lower wiring effort, no mains interference
- **High accuracy**
No distortion of the measurement signal
- **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 B 48

Product Line

Device	Input	Output	Order No.
IsoTrans B 48	0 ... 20 mA, 4 ... 20 mA	0 ... 20 mA, 4 ... 20 mA	B 48 K1

Power supply

None, supply from input signal

Accessories

		Order No.
End plate	as contact point for the last isolating terminal on the mounting rail, required 1x per application!	ZU 0286

Specifications

Input data

Input	0 ... 20 mA (linear transmission up to 22 mA)
Operating current	< 100 μ A
Voltage drop	Approx. 2.7 V at 20 mA
Overload capacity	50 mA, 15 V

Output data

Output	0 ... 20 mA, \leq 500 ohms
Residual ripple	< 10 mV _{rms}

Transmission behavior

Transmission error	< 0.1 % full scale
Load error	< 0.05 % meas. val. per 100 ohms
Response time (T ₉₉)	Approx. 5 ms at 500 ohm load
Temperature coefficient ¹⁾	< 0.005 %/K of meas. val. per 100 ohm load (reference temperature 23 °C)

Isolation

Test voltage	510 V AC
Working voltage	100 V with overvoltage category II and pollution degree 2 according to EN 61010-1

Specifications *(continued)*

Standards and approvals

EMC²⁾

89/336/EEC, EN 61326

Further data

Ambient temperature

Operation: -25 ... +60 °C also when mounted in row
Transport and storage: -40 ... +85 °C

Design

Terminal housing, 6 mm wide, Z-spring terminal
See dimension drawings for further measurements

Ingress protection

IP 20 when mounted in row or with end plate

Mounting

For 35-mm mounting rail according to EN 50022
See dimension drawings for conductor cross-section

Weight

12 g

¹⁾ Average TC in the specified operating temperature range -25 ... +60 °C

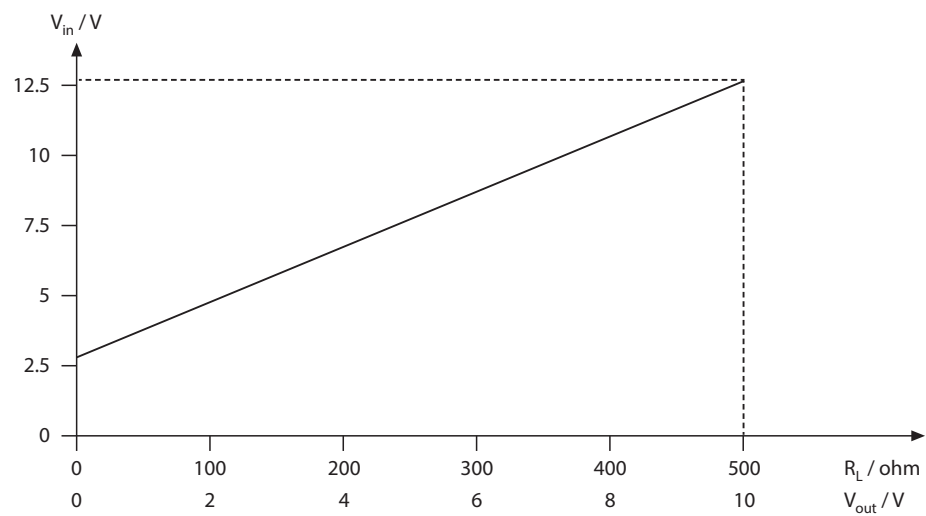
²⁾ Applies to 4 ... 20 mA, slight deviations are possible while there is interference

Loop-Powered Isolators for Standard Signals

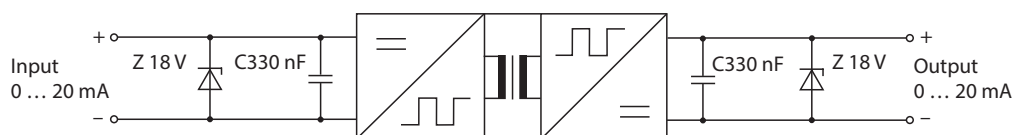
IsoTrans B 48

Input Voltage

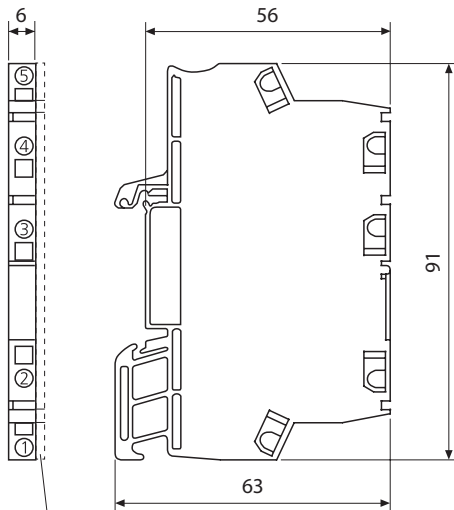
Depending on the load at $I_{out} = 20 \text{ mA}$



Block Diagram



Dimension Drawings and Terminal Assignments



End plate ZU 0286, 1.5 mm wide, for contact protection,
only required for the last isolator on the mounting rail

All dimensions in mm

Terminal assignments

- 1 Input +
- 2 Input -
- 3 Power supply AC/DC
- 4 Output -
- 5 Output +

Conductor cross-sections:

- single wire 0.5 ... 2.5 mm²
- stranded wire 0.5 ... 2.5 mm²
- with ferrule 0.5 ... 1.5 mm²