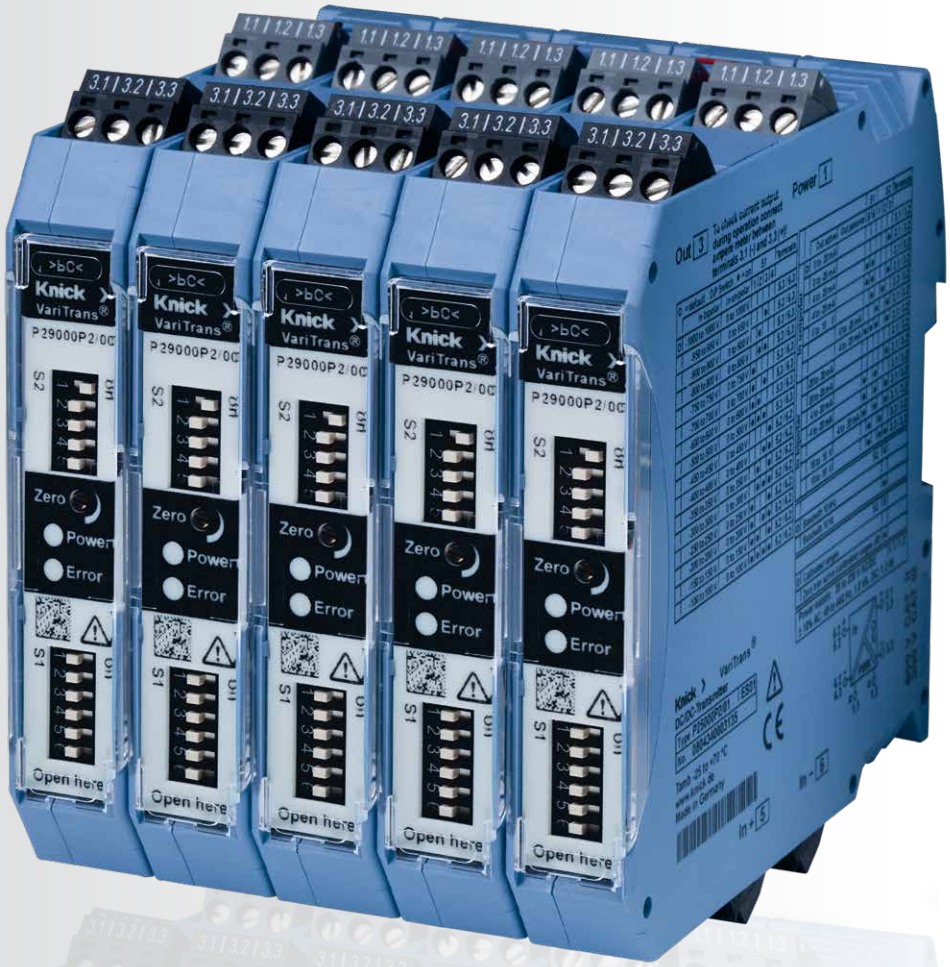
The Art of Measuring.

Knick

Interface Technology
Product Overview

ProLine

5-year warranty!



Isolation amplifiers and transmitters from Knick enjoy a unique reputation around the world. Extreme durability, reliability and outstanding precision make our interface components the number one choice when it's a question of finding a genuinely ideal solution to a task.

Precise measurements at high working voltages of up to 3600 V AC/DC are the domain of ProLine isolation amplifiers.

In future, you will be able to recognize our top product line at a glance, as it now universally features the ProLine name. Nothing else is changing – and that's another bit of good news.

Knick has been producing the world's best isolation amplifiers for many years. Now you'll be able to recognize all of them by their name – ProLine.

Discover ProLine

There are good reasons why Knick is now the market leader in industrial galvanic isolation: interface technology from Knick is designed to work reliably even under extreme conditions. When top quality is what matters, companies all over the world place their trust in our components. The ProLine name symbolizes our range of unparalleled isolation amplifiers and transmitters. The products remain unchanged and as technically perfect as ever – they just have a new, common name.

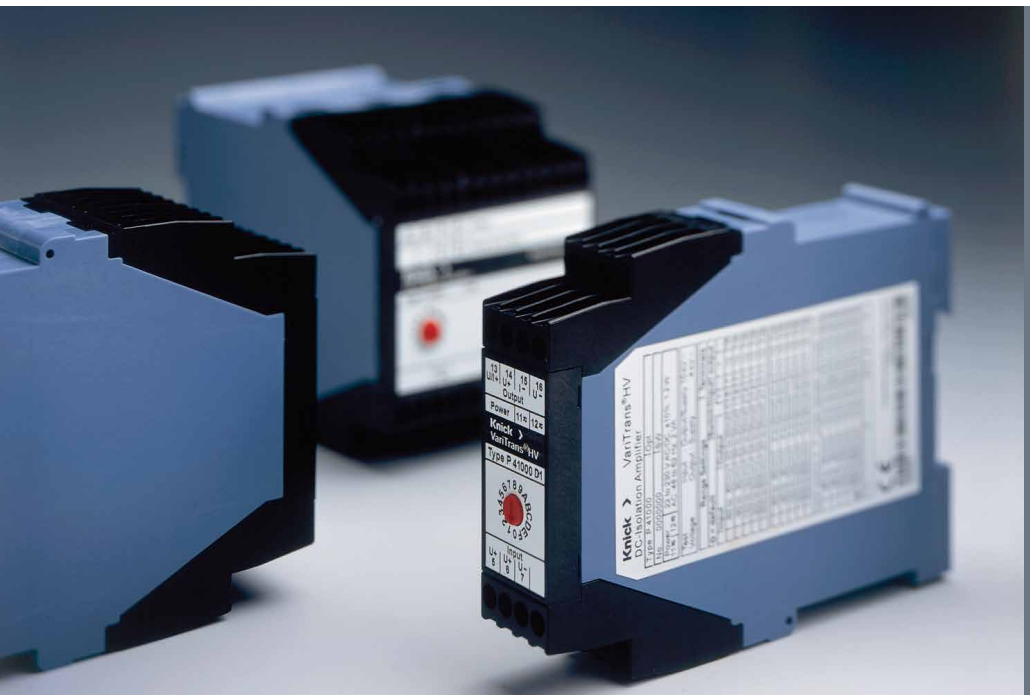
Unrivaled Quality

ProLine impresses in every respect and in all technical parameters. Whether it's the insulation level, transmission properties, flexibility, ease of use or energy efficiency, every component beats the competition – and in every detail. This is even true when space requirements are very tight, as the products in our 6-mm class offer enormous space-saving advantages without compromising on any of the core performance features. Comprehensive design verification and 100 % routine testing ensure the outstanding quality of ProLine.

Famous Reliability

On account of its recognized reliability, ProLine is widely used in industrial instrumentation and control around the world. Intelligent circuits frequently enable sensational reliability values with a minimal use of components. Five-year warranties are therefore standard on all products, the MTBF (mean time between failure) is up to 1030 years. Knick ensures safety – now and in the future.

www.knick-international.com/proline



Knick ProLine: Isolation Amplifiers, Transmitters, World-Class!

Monitor, control, regulate. ProLine products have proven their value for measuring temperatures, currents and voltages in major industrial facilities hundreds of thousands of times.

Universal Isolation Amplifiers

Reliable isolation and conversion of almost any input voltages and currents into selectable, standardized output signals.

High Voltage Isolation Amplifiers/ Shunt Isolators

For reliable current and voltage measurements with extremely high isolation requirements.

Isolators for Standard Signals/ Repeater Power Supplies

Robust galvanic isolation and conversion of standard signals, even with high voltages and high demands on the quality of signal conversion.

Loop-Powe for Standar

Galvanic isolation of cu
Product design for extre

	Universal Isolation Amplifiers	Universal Isolation Amplifiers	High Voltage Isolators	High Voltage Isolators	High Voltage Isolators	High Voltage Isolators	Isolators for Standard Signals	Isolators for Standard Signals	Signal Doublers	Repeater Power Supplies	Loop-Powered Isolators for Standard Signals
	VariTrans P 27000	**VariTrans A 26000**	**VariTrans P 29000**	**VariTrans P 41000**	**VariTrans P 42000**	**VariTrans P 43000**	**VariTrans P 15000**	**VariTrans A 21000**	**VariTrans A 20300**	**IsoAmp PWR A 20100**	**IsoTrans 41**
											
Input	0 ... ±0.1 mA to 0 ... ±100 mA 0 ... ±20 mV to 0 ... ±200 V 0 ... 20 mA 4 ... 20 mA 0 ... 10 V unipolar/bipolar	0 ... ±20 mA 0 ... ±10 V bipolar	±30 mV to ±1000 V unipolar/bipolar	±60 mV to ±100 V unipolar/bipolar	±100 V to ±3600 V unipolar/bipolar	±0.1 A to ±5 A unipolar/bipolar	0 ... 20 mA 4 ... 20 mA 0 ... 10 V	0 ... 20 mA 4 ... 20 mA 0 ... 10 V	0 ... 20 mA 4 ... 20 mA 0 ... 10 V	4 ... 20 mA	0 ... 20 mA 4 ... 20 mA 0 ... 50 mA
Fault class	0.08 %	0.1 %	0.2 %	0.1 %	0.3 %	0.3 %	0.08 %	0.2 %	0.2 %	0.1 %	0.02 %
Test voltage	5 kV AC	4 kV AC	5.4 kV AC	15 kV AC	15 kV AC	15 kV AC	4 kV AC	2.5 kV AC	1.5 kV AC	2.5 kV AC	2.5 kV AC
Protective separation	600 V AC/DC	1000 V AC/DC	1000 V AC/DC	3600 V AC/DC	3600 V AC/DC	3600 V AC/DC	1000 V AC/DC	300 V AC/DC	300 V AC/DC	600 V AC/DC	500 V AC/DC
Power supply	20 ... 253 V AC/DC broad-range power supply	20 ... 253 V AC/DC broad-range power supply	20 ... 253 V AC/DC broad-range power supply	20 ... 253 V AC/DC broad-range power supply	20 ... 253 V AC/DC broad-range power supply	20 ... 253 V AC/DC broad-range power supply	20 ... 253 V AC/DC broad-range power supply	24 V ... 110 V DC / 110 ... 230 V AC	24 V DC	24 V DC	Loop-powered
Width	12.5 mm	12.5 mm	17.5 mm	22.5 mm	67.5 mm	45 mm	12.5 mm	6 mm	6 mm	6 mm	17.5/22.5 mm
Special features	• Flexible and precise: 480 calibrated ranges • Rapid response for rapid control: 10 kHz cut-off frequency • Customized measuring ranges on request • For measuring DC currents via shunt resistor, battery voltages and many other currents and voltages	• Specifically for precise conversion and galvanic isolation of bipolar signals • Easy to configure via DIP switches • Even after range switching, the transmission ranges remain calibrated and there is no need for re-adjustment • Precise signal conversion and high cut-off frequency of 5 kHz (-3 dB)	• Universal voltage measurement up to 1000 V and current measurement via shunt resistor (mV ranges) • Calibrated range selection via DIP switches behind the front cover • Precise signal conversion and high cut-off frequency of 10 kHz (-3 dB) • Test jacks for measuring output current and voltage without disconnecting wires • RangeLimit: adjustable lower or higher limit at output	• For measuring high currents via shunt resistor or for universal measurement of high-potential currents and voltages • Precise signal conversion and high cut-off frequency of 5 kHz (-3 dB) • Calibrated switchable and custom-adjustable versions • High immunity to transient common-mode interference: T-CMR >115 dB • High accuracy without long-term drift • Extended ambient temperature range from -40 °C to +80 °C on request	• For direct measurement of high voltages • Up to 3600 V AC/DC operating voltage • Calibrated switchable and custom-adjustable versions • Precise signal conversion and high cut-off frequency of 5 kHz (-3 dB) • Extended ambient temperature range from -40 °C to +80 °C on request	• For direct measurement of currents up to 5 A • Up to 3600 V AC/DC operating voltage • Calibrated switchable and custom-adjustable versions • High accuracy without long-term drift • Precise signal conversion and high cut-off frequency of 5 kHz (-3 dB) • Extended ambient temperature range from -40 °C to +80 °C on request	The standard-signal pro with high isolation • Almost perfect signal conversion with analog signal processing and transmission • Calibrated, digitally-controlled range selection without re-adjustment after switching • High cut-off frequency of 10 kHz (-3 dB) • With broad-range power supply for universal, global use	The first signal isolator with protective separation and broad-range power supply in the 6-mm class • Extraordinary operating time and reliability with specially adapted design, MTBF (mean time between failures): 280 years	Signal doubler with calibrated, switchable inputs and outputs • 2 electrically isolated outputs, each with full load of 500 ohms • All channels galvanically decoupled (four-port isolation)	Repeater power supply for 2-wire transmitters in a compact 6-mm housing – with calibrated range selection of output signals and HART transmission	Transformer-based isolation of 0(4) ... 20 mA standard current signals on up to 3 channels • Extreme precision: 0.02 % meas.val. transmission error • Extreme efficiency: Low voltage drop of 1.2 V
				VariTrans P 41000 TRMS	**VariTrans P 42000 TRMS**	**VariTrans P 43000 TRMS**					
											
				As P 41000, but with true root-mean-square value conversion (true RMS) in the transmitter	As P 42000, but with true root-mean-square value conversion (true RMS) in the transmitter	As P 43000, but with true root-mean-square value conversion (true RMS) in the transmitter					

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rd Signals

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Loop-Powered Isolators for Standard Signals

ProLine P 22400

0 ... 20 mA
4 ... 20 mA
±20 mA (ProLine P22411P1)

0.08 %

7.4 kV AC

600 V AC/DC

Loop-powered

12.5 mm

Transformer-based isolation of 0(4) ... 20 mA standard current signals
- One or two channels per device
- Up to SIL 3/EN 61508 and PL e/EN 13849-1 for isolation of safety-related circuits
- Great reliability: MTBF 965 years
- Also available as a signal splitter with 2 electrically isolated outputs
- Also available with bipolar transmission (±20 mA)

Loop-Powered Isolators for Standard Signals

IsoTrans A 20400

0 ... 20 mA
4 ... 20 mA

0.1 %

2.5 kV AC

300 V AC/DC

Loop-powered

6 mm

The first decoupled passive isolator with load stop function (option)
- Extremely reliable: MTBF (mean time between failures) 1031 years
- Extremely high component density of 320 channels per meter of DIN rail
- Excellent price-performance ratio

Transmitters for Temperature, Strain Gauges, Resistance

Reliable detection of sensor signals for physical parameters such as temperature, path, angle, pressure or force, flexible and easy to adjust, for safety-related circuits up to SIL 3 and for general measuring tasks.

Universal Transmitters

PolyTrans P 32000

Resistance thermometers, strain gauges, thermocouples, potentiometers, resistors, voltage

0.1 %

2.5 kV AC

300 V AC/DC

24 V DC, 110 V ... 230 V AC

6 mm

Universal transmitter for temperature, strain gauges and potentiometers, in a 6-mm housing
- Interface for PC configuration
- Rotary and DIP switches for easy and intuitive configuration
- SIL approval for safety circuits up to SIL 3
- 24 V DC or AC mains supply for global use

Temperature Transmitters

ThermoTrans P 32100

Resistance thermometers, thermocouples, shunt voltages up to ±1000 mV

0.1 %

2.5 kV AC

300 V AC/DC

24 V DC, 110 V ... 230 V AC

6 mm

Transmitter for platinum temperature sensors and thermocouples or for measuring mV shunt voltages, in a 6-mm housing
- Interface for PC configuration
- Rotary and DIP switches for easy and intuitive configuration
- SIL approval for safety circuits up to SIL 3
- 24 V DC or AC mains supply for global use

ThermoTrans A 20210

As ThermoTrans P 32100, but with 24 V power supply and without PC interface

Strain Gauge Transmitters

SensoTrans DMS P 32200

Strain gauges, load cells

0.1 %

2.5 kV AC

300 V AC/DC

24 V DC, 110 V ... 230 V AC

6 mm

Transmitter for load cells and strain gauges (full bridges), in a 6-mm housing
- Interface for PC configuration
- Rotary and DIP switches for easy and intuitive configuration
- SIL approval for safety circuits up to SIL 3
- 24 V DC or AC mains supply for global use

SensoTrans DMS A 20220

As ThermoTrans P 32200, but with 24 V power supply and without PC interface

Resistance Transmitters

SensoTrans R P 32300

Potentiometers and resistors

0.1 %

2.5 kV AC

300 V AC/DC

24 V DC, 110 V ... 230 V AC

6 mm

Transmitter for resistors and potentiometers, in a 6-mm housing
- Interface for PC configuration
- Rotary and DIP switches for easy and intuitive configuration
- SIL approval for safety circuits up to SIL 3
- 24 V DC or AC mains supply for global use

SensoTrans R A 20230

As ThermoTrans P 32300, but with 24 V power supply and without PC interface

AC/DC Transmitters

Isolation and conversion of sinusoidal alternating currents and voltages into standard signals – for example to monitor mains supplies.

AC/DC Transmitters

IsoTrans 600

0 ... 5 A AC
0 ... 400 V AC
48 ... 63 Hz

0.5 %

6/4 kV AC

600 V AC/DC

Loop-powered

22.5 mm

Transmitter for isolation and conversion of sinusoidal alternating currents and voltages into standard signals

AC/DC Transmitters with High Isolation

VariTrans P 40000 TRMS

VariTrans P 41000 TRMS
VariTrans P 42000 TRMS
VariTrans P 43000 TRMS

See >
High-Voltage Isolation Amplifiers/Shunt Isolators

Isolators for Standard Signals / Repeater Power Supplies

Hazardous/safe area isolation of process signals and supply to 2-wire sensors in ATEX Zone 1.

Loop-Powered Isolators for Standard Signals

IsoTrans 36/37

0 ... 20 mA
4 ... 20 mA

0.2 %

10 kV AC

3600 V AC/DC

Loop-powered

22.5 mm

- Input and output isolator for hazardous/safe area isolation of 20 mA signals in process applications
- Precise signal transmission with outstanding pulse formation
- Extremely high isolation, test voltages up to 10 kV
- Transmission of HART signals
- Maximum reliability: no repair and failure costs

Repeater Power Supplies

WG 21

4 ... 20 mA

0.1 %

4 kV AC

1000 V AC/DC

24 V AC, 110/115 V AC, 220/230 V AC

22.5 mm

- Repeater power supply for 2-wire sensors in hazardous areas via the 4–20 mA signal
- Hazardous/safe area separation
- High-quality galvanic isolation between current loop and output signal to controller/process control system
- Precise transmission of the 20 mA signal
- Transmission of HART signals
- Maximum reliability: no repair and failure costs

WG 25

As WG 21, but as loop-powered repeater power supply

Temperature Transmitters

Temperature measurement with sensors in ATEX Zone 1/0 with high isolation.

Temperature Transmitters

ThermoTrans 205/206

Resistance thermometers, resistors

0.1 %

4 kV AC, 50 Hz

1000 V AC/DC

24 V AC, 24 V DC, 110/115 V AC, 220/230 V AC

22.5 mm

Temperature transmitter for platinum and nickel temperature sensors and for detecting resistors and potentiometers
- Protective separation and high electric strength between the input, output and power supply
- Maximum reliability: no repair and failure costs

Temperature Transmitters

ThermoTrans 210/211

Thermocouples

0.1 %

4 kV AC, 50 Hz

1000 V AC/DC

24 V AC, 24 V DC, 110/115 V AC, 220/230 V AC

22.5 mm

Temperature transmitter for commercial thermocouples and for mV voltage measurement
- Protective separation and high electric strength between the input, output and power supply
- Maximum reliability: no repair and failure costs

Knick

Interface Technology
Indicators
Process Analytics
Portables
Laboratory Meters
Sensors
Fittings

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