

Loop-Powered Isolators for Standard Signals



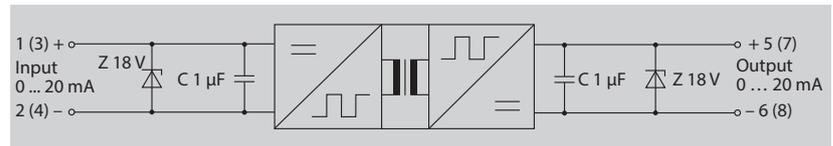
BasicLine BL 540

Extremely compact, accurate, reliable – the loop-powered isolators

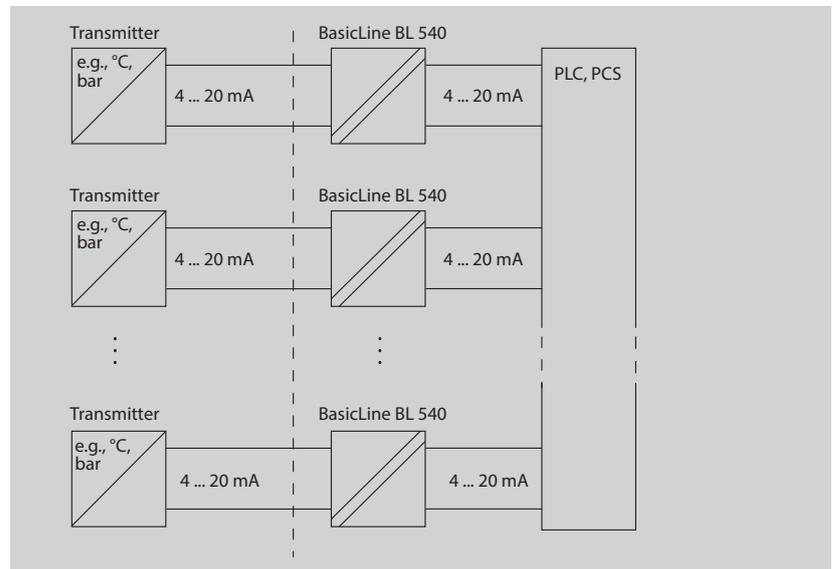
Facts

- Loop-powered: a separate power supply is not required
- Wiring effort reduced by 1/3
- Full-fledged, galvanically isolated 1:1 transmission of 20mA signals
- 2 channels on 6-mm mounting rail: it couldn't be more compact
- 1- and 2-channel versions available
- 0.2% full scale accuracy
- Low voltage drop of 1.7V
- CE compliant and UL approved
- 3-year warranty
- Perfect price-performance ratio

Block Diagram



Preventing System Malfunctions by Isolating Analog Interference Signals



Input ranges	Output	Power supply
0 ... 20 mA	0 ... 20 mA	Not necessary
4 ... 20 mA	4 ... 20 mA	Loop-powered

Product Line

Device		Order No.
BasicLine BL 541	1 channel	BL 541
BasicLine BL 542	2 channels	BL 542

Specifications

Input data

Range	0(4) ... 20 mA / max. 18 V
Operating current	Approx. 150 μ A
Voltage drop	Approx. 1.7 V at 20 mA
Overload capacity	Suppressor diode 18 V, max. 30 mA

Output data

Range	0(4) ... 20 mA / max. 12 V
Load	600 ohms at 20 mA
Residual ripple	< 10 mV _{rms}

Transmission behavior

Gain error	< 0.2 % full scale (DC)
Load error	< 0.05 % meas. val. per 100 ohms
Cutoff frequency	> 100 Hz
Temperature coefficient ¹⁾	< 0.002%/K of meas.val.

Power supply

Power supply	Not required, loop-powered
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Isolation

Galvanic isolation	Between input and output
Test voltage	1.5 kV AC
Working voltage	300 VAC/DC, CAT II, pollution degree 2, EN 61010-1

Standards and approvals

Conformity	CE compliant
EMC ²⁾	Product family standard: EN 61326
Approval	UL Recognized Components File-No. E220033, Standards: UL 508 and CAN/CSA 22.2 No. 14-95

Further data

Ambient conditions	Stationary operation, weatherproof, relative humidity 5 ... 95 %, no condensation, max. altitude 2000 m, water or wind-driven precipitation (rain, hail, snow) excluded
Ambient temperature	Operation: 0 ... +55 °C Transport, storage: -25 ... +85 °C
Housing	Modular housing, screw terminals, IP 20 protection
Mounting	35-mm mounting rail, EN 60715
Dimensions	6.1 mm x 101 mm x 93 mm
Wire cross-section	Max. 2.5 mm ² , 24-14 AWG
Weight	Approx. 50 g

1) Average TC in specified operating temperature range, reference temperature 23 °C

2) Slight deviations are possible while there is interference