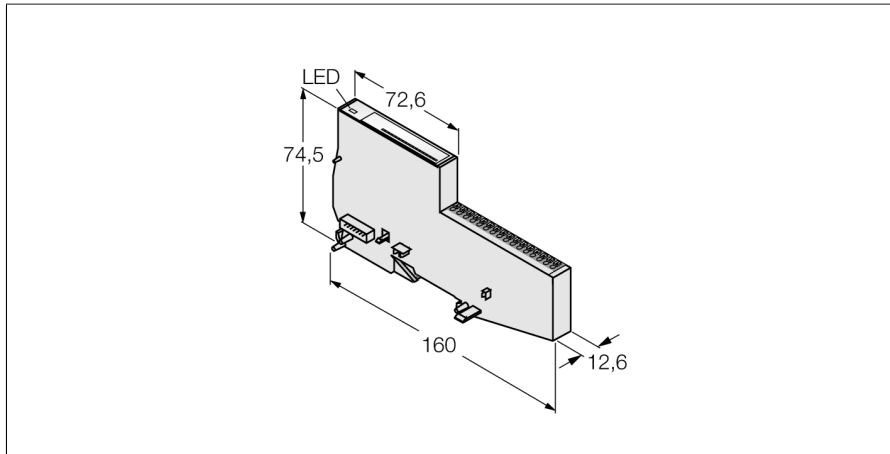


# BL20 Economy Module

## 8 Analog Inputs U/I resp. 4 PT/NI Inputs

### With Extended Temperature Range

#### BL20-E-8AI-U/I-4PT/NI/ET



- Fieldbus-independent
- Electronics and connection technology in one housing
- Tension spring connection
- Protection class IP20
- LEDs indicate status and diagnostic
- Electronics galvanically separated from the field level via optocouplers
- 8 analog inputs U/I, 2-wire
- Passive inputs – external power supply
- 0...20mA, 4...20mA, -10...+10VDC or 0...+10VDC, selectable per channel, resp.
- 4PT/NI inputs (always 2 analog inputs are combined to a PT/Ni 2/3-wire input)
- Extended temperature range: -25 °C...+60 °C
- Circuit boards with conformal coating

Type	BL20-E-8AI-U/I-4PT/NI/ET
ID	6827340

Number of channels	8
Rated voltage from the supply terminal	24 VDC
Admissible range	18...30 VDC
Nominal current from field supply	≤ 35 mA
Nominal current from module bus	≤ 35 mA
Power dissipation, typical	≤ 1 W

Inputs	
Input type	0/4...20 mA, -10/0...10 VDC or PT/NI
Input resistance	< 62 Ω (current) resp. > 98.5 kΩ (voltage)
Max. input current	current: 50 (externally supplied) mA
Max. input voltage	Voltage: -20 VDC < U < 20 VDC (externally supplied)
Electrical isolation	electronics for the field level
Output connectivity	Push-in

Basic fault limit at 23 °C	< 0.2 %
Temperature coefficient	< 200 ppm/°C of full scale
Resolution	16 Bit
Measured-value display	16 bit signed integer
	12 bit full range left justified
Conversion time	< (44 x [number of channels being activated during parameterization]) ms

Number of diagnostics bytes	8
Number of parameter bytes	8

#### Functional principle

Electronics and connection technology are integrated in the housing. A base module is not needed. Economy modules and modules with separate electronics and connection technology can be fitted into a station, provided the base modules feature tension spring connections.

The use of gateways makes economy modules completely independent from the higher level fieldbus.

Dimensions (W x L x H)	12.6 x 160 x 74.6 mm
Approvals	CE
Ambient temperature	-25...+60 °C
Storage temperature	-25...+85 °C
Relative humidity	15...95 %, no condensation allowed
Vibration test	Acc. to EN 61131
Shock test	Acc. to IEC 60068-2-27
Drop and topple	acc. to IEC 68-2-31 and free fall to IEC 68-2-32
Electromagnetic compatibility	Acc. to EN 50082-2
Protection class	IP20
MTTF	229 years acc. to SN 29500 (Ed. 99) 20 °C

## Terminal assignment

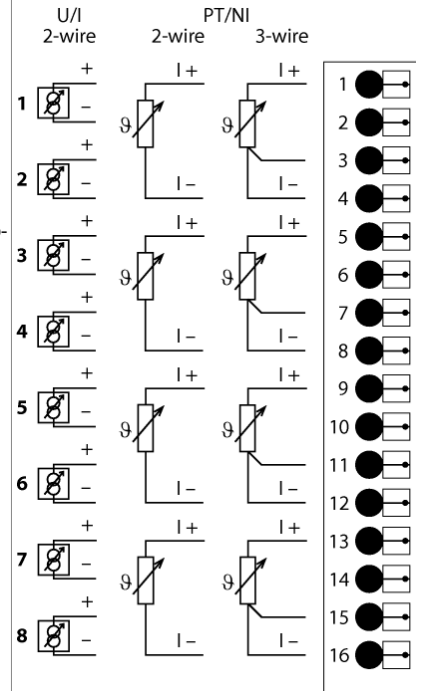


### Analog Inputs

The pin assignment is dependent on the sensor type. Examples of the most common 2- and 4-wire sensors with electric current or voltage signal are listed below.

**Note:** Open inputs and/or unused channels should not be programmed in the Pt/Ni or resistance (R) mode, because this may lead to minor measurement errors at adjacent channels. However, if this is necessary, the affected channels must be terminated with a resistance. Thereby the resistance value must be in the programmed measuring range.

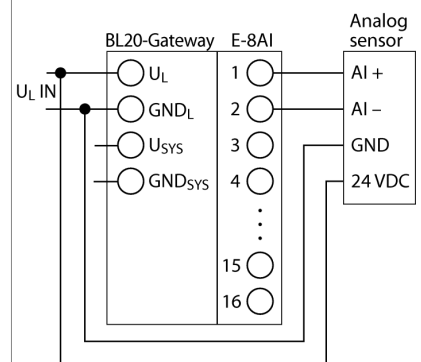
### Pin Assignment



### 4-wire sensor (U/I)

The sensor and the BL20  $U_L$  fuse are fed from a common source. The sensor and the BL20  $U_L$  fuse are automatically on the same GND potential.

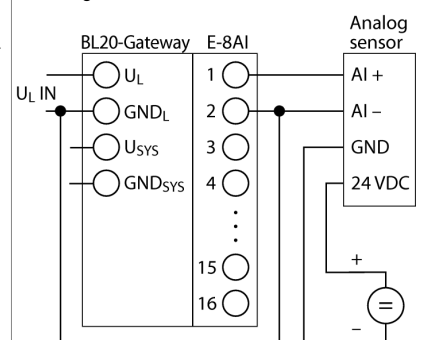
### Pin Assignment



### 4-wire sensor (U/I)

The sensor and the BL20  $U_L$  are fed from different sources.  $U_L$  of the BL20 system and AI of the sensor must be on the same GND-potential. For this,  $U_L$  and AI must be bridged.

### Pin Assignment



## 2-wire sensor (U/I)

The sensor and the BL20 U<sub>L</sub> fuse are fed from a common source.  
 The sensor and the BL20 U<sub>L</sub> fuse are automatically on the same GND potential.

## Pin Assignment

