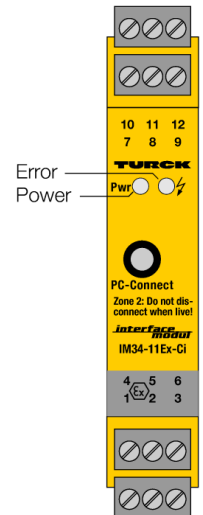
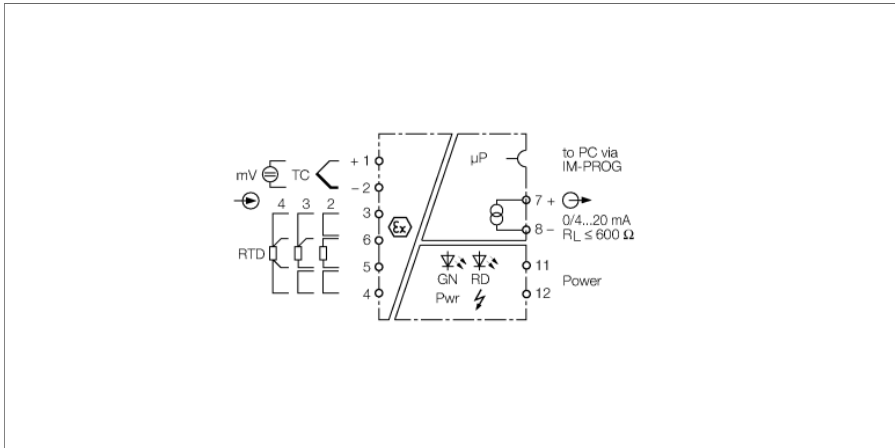


# Temperature measuring amplifier

## 1-channel

### IM34-11EX-CI/K70



The temperature measuring amplifier IM34-11EX-CI/K70 is designed to evaluate the temperature-dependent changes of Ni100/Pt100 RTDs, thermocouples types B, E, J, K, L, N, R, S and T or low voltages in a range of -160...+160 mV and to output them as temperature-linear current signals.

Alternatively, Ni100/Pt100 RTDs in 2, 3 or 4-wire technology can also be operated at the input circuit of the measuring amplifier. The Ni100/Pt100 input can either be used as external cold junction compensation for the thermocouple or as independent measuring input.

The devices are parametrized and configured via PC with the software tool "Device Type Manager" (DTM). For this, connect the temperature measuring amplifier to the PC with the 3.5 mm jack plug on the front. The ready-made transmission cable can be ordered from TURCK under the type name IM-PROG (ident no. 6890422).

The following settings can be made via DTM:

- Connection mode (2, 3 and 4-wire technology)
- Measuring range, start
- Measuring range, end
- Input circuit monitoring for wire-break
- Behaviour of the current output in case of errors in the input circuit: 0 or > 22 mA
- Fixed cold junction compensation 60 °C or external cold junction compensation
- Output current (0/4...20 mA)
- Temperature (°C or °F)
- Mode (resistor, thermocouple, low voltage, line compensation)

The signals are transformed according to ITS 90/IEC 584 for thermocouples and according to IEC 751 for Pt100 RTDs and provided temperature linear at the current output.

- Input for Pt100/ Ni100 resistors, thermocouples
- Millivolt signals in 2, 3 or 4-wire technology
- Parameterized via PACTware™
- Output: 0/4...20 mA
- Fixed cold junction temperature 60 °C or adjustable external cold junction temperature
- Complete galvanic isolation
- Input reverse-polarity protected
- ATEX, IECEx, cFM<sub>us</sub>, UL, TR CU, INMETRO, CCEO
- Installation in zone 2

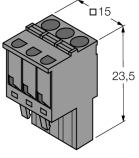
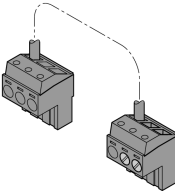
## Dimensions



Type	IM34-11EX-CI/K70
ID	7506688
Nominal voltage	Universal voltage supply unit
Operating voltage	20...250 VAC
Frequency	40...70 Hz
Operating voltage	20...125 VDC
Power consumption	≤ 3 W
Input circuits	Intrinsically safe acc. to EN 60079 Thermocouple Ni100 Pt100 mV signals
Pt100	(IEC 751), 2, 3 and 4-wire technology
Ni100	(DIN 43760), 2, 3 and 4-wire technology
Probe current	≤ 0.2 mA
Thermocouples	B, E, J, K, N, R, S, T (ITS 90/IEC 584), L (DIN 43710)
Voltage input	-0.160...+0.160 VDC
Output circuits	
Output current	0/4...20 mA
Load resistance current output	≤ 0.6 kΩ
Fault current	0 / 22 mA adjustable
Response characteristic	
Rise time (10...90 %)	≤ 1000 ms
Fall time (90...10 %)	≤ 1000 ms
Reference temperature	23 °C
Measuring accuracy current output (including linearity, hysteresis and repeatability)	± 5 μA
Temperature drift analog output	0.0025 %/K
Measuring accuracy RTD input (including linearity, hysteresis and repeatability)	± 50 mΩ
Temperature drift RTD input	± 3 mΩ/K
Measuring accuracy TC input (including linearity, hysteresis and repeatability)	± 15 μV
Temperature drift TC input	± 3.2 μV/K (of 320 mV)
Cold junction compensation error	2-wire < 100mΩ after line compensation 3-wire < 100mΩ with asymmetrical wiring 4-wire < 50mΩ with cold junction compensation < 2 K with IM-3-CJT < 1K
Galvanic isolation	
Test voltage	2.5 kV RMS
Important note	For Ex-applications the values specified in the corresponding Ex certificates (ATEX, IECEx, UL, etc.) apply.
Ex approval acc. to conformity certificate	TÜV 02 ATEX 1898
Application area	II (1) G, II (1) D
Ignition protection category	[Ex ia Ga] IIC ; [Ex ia Da] IIIC ;
Ex approval acc. to conformity certificate	TÜV 06 ATEX 552978 X
Application area	II 3 G
Ignition protection type	Ex nA [ic Gc] IIC T4
Characteristic	linear

Displays/Operating elements	
Operational readiness	Green
Error indication	red
Mechanical data	
Protection class	IP20
Flammability class acc. to UL 94	V-0
Ambient temperature	-25...+70 °C
	-25 ... +60 °C für UL, FM
Storage temperature	-40...+80 °C
Dimensions	104 x 18 x 110 mm
Weight	134 g
Mounting instructions	DIN rail (NS35) or panel
Housing material	Polycarbonate/ABS
Electrical connection	4 × 3-pin removable terminal blocks, reverse polarity protected, screw terminal
Terminal cross-section	1 × 2.5 mm <sup>2</sup> /2 × 1.5 mm <sup>2</sup>
Tightening torque	0.5 Nm

## Accessories

Type code	Ident no.		Dimension drawing
IM-CC-3X2BU/2BK	6900475	Cage clamp terminals for IM modules (Ex-devices with 18 mm overall width); includes: 2 pcs. 3-pin blue terminals and 2 pcs. 3-pin black terminals.	
IM-3-CJT	6900524	Cold junction compensation module for IM 34 temperature measuring amplifiers, width 18 mm	
IM-PROG III	7525111	USB-compatible programming adapter for the FDT/DTM-based parametrization of HART-capable Turck devices; galvanic separation between the device to be parametrized and the PC	