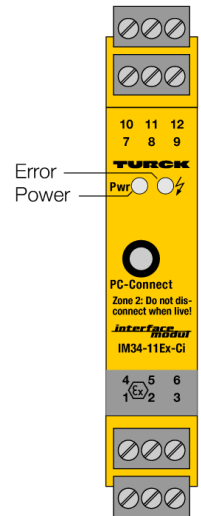
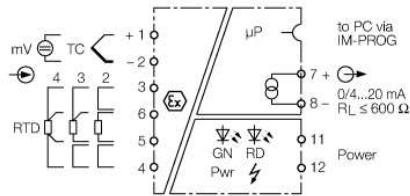


Temperature measuring amplifier 1-channel IM34-11Ex-Ci/K70



The temperature measuring amplifier IM34-11EX-CI/K70 is designed to evaluate the temperature-dependent variations of resistance thermo detectors (RTD) Ni100/Pt100, thermoelement 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 linear temperature current signals.

Resistance thermo detectors Ni100/Pt100 in 2, 3 or 4-wire-technology can be operated alternatively at the input circuit of the measuring amplifier. The Ni100/Pt100 input can either be used as external cold junction compensation for the thermoelement or as independent measuring input.

Parameterization and configuration are implemented with the software tool „Device Type Manager“ (DTM) via P.C. For this purpose the temperature measuring amplifier is connected to the PC with a 3.5 mm front panel jack. The premoulded transmission cable can be ordered from TURCK under the type name IM-PROG (ident no. 6890422).

The following settings can be made with the DTM:

- Connection mode (2, 3 and 4-wire technology)
- Lower measuring range
- Upper measuring range
- Input circuit monitoring for wire-break
- Current output adjustable with faults in the input circuit: 0 resp. > 22 mA
- Cold junction compensation 60°C or external cold junction compensation, selectable
- Output current (0/4...20 mA)
- Temperature unit (°C or °F)
- Mode (resistance, thermoelement, low voltage, line compensation)

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

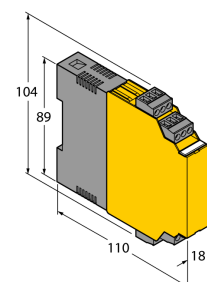
- Intrinsically safe input circuits Ex ia
- Application area acc. to ATEX: II (1) G; II (1) D
- Installation in zone 2
- Input for Pt100/ Ni100 resistors, thermocouples
- Millivolt signals in 2, 3 or 4-wire technology
- Parametrization via PACTware™
- Output: 0/4...20 mA
- Fixed cold junction temperature 60°C or adjustable external cold junction temperature
- HART®
- Removable terminal blocks
- Complete galvanic separation

Temperature measuring amplifier

1-channel

IM34-11Ex-Ci/K70

Dimensions



Type code	IM34-11Ex-Ci/K70									
Ident no.	7506688									
Nominal voltage	Universal voltage supply unit									
Operating voltage	20...250 VAC									
Frequency	40...70 Hz									
Operating voltage range	20...125 VDC									
Power consumption	≤ 3 W									
Pt100	(IEC 751), 2, 3 and 4-wire technology									
Ni100	(DIN 43760), 2, 3 and 4-wire technology									
Probe current	≤ 0.2 mA									
Thermoelements	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									
Rise time (10-90%)	≤ 1000 ms									
Dropout time (90...10%)	≤ 1000 ms									
Reference temperature	23 °C									
Accuracy current output	± 5 µA									
Temperature drift analogue output	0.0025 %/K									
Temperature drift RTD input	± 3 mΩ/K									
Temperature drift TC input	3.2 µV / K (of 320mV)									
Accuracy RTD input	± 50 mΩ									
Accuracy TC input	± 15 µV									
Cold junction compensation error	2-wire < 100mΩ after line compensation 3-wire < 100mΩ with asymmetrical wiring 4-wire < 50mΩ with cold junction compensation with IM-3-CJT < 1K									
Galvanic separation										
Test voltage	2.5 kV									
Ex approval acc. to conformity certificate	TÜV 02 ATEX 1898									
Application area	II (1) G, II (1) D									
Protection type	[Ex ia Ga] IIC ; [Ex ia Da] IIIC ;									
Max.output voltage U _o	≤ 5 V									
Max. output current I _o	≤ 2.5 mA									
Max. output power P _o	≤ 3 mW									
Rated voltage	250 V									
Characteristic	linear									
Internal inductance/capacitance L/C _i	negligibly small									
External inductance/capacitance L _e /C _e	<table><tr><td></td><td>EEx ia IIC</td><td>EEx ia IIB</td></tr><tr><td>Lo [mH]</td><td>1000</td><td>1000</td></tr><tr><td>Co [µF]</td><td>100</td><td>1000</td></tr></table>		EEx ia IIC	EEx ia IIB	Lo [mH]	1000	1000	Co [µF]	100	1000
	EEx ia IIC	EEx ia IIB								
Lo [mH]	1000	1000								
Co [µF]	100	1000								
Ex approval acc. to conformity certificate	TÜV 06 ATEX 552978 X									
Application area	II 3 G									
Protection class for belonging equipment	Ex nA [ic Gc] IIC T4									
Max.output voltage U _o	≤ 5 V									
Max. output current I _o	≤ 2.5 mA									
Max. output power P _o	≤ 3 mW									
Internal inductance/capacitance L/C _i	negligibly small									
External inductance/capacitance L _e /C _e	<table><tr><td>Ex ic</td><td>IIC</td><td>IIB</td></tr><tr><td>Lo [mH]</td><td>100</td><td>100</td></tr><tr><td>Co [µF]</td><td>3.6</td><td>18</td></tr></table>	Ex ic	IIC	IIB	Lo [mH]	100	100	Co [µF]	3.6	18
Ex ic	IIC	IIB								
Lo [mH]	100	100								
Co [µF]	3.6	18								
MTTF	150 years acc. to SN 29500 (Ed. 99) 40 °C									

Temperature measuring amplifier
1-channel
IM34-11Ex-Ci/K70

Indication

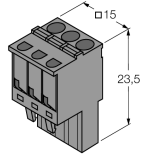
Operational readiness	green
Error indication	red

Protection class

Ambient temperature	-25...+70 °C
Storage temperature	-40...+80 °C
Dimensions	104x 18x 110 mm
Weight	134 g
Mounting instruction	For mounting on DIN rail or mounting panel
Housing material	Polycarbonate/ABS
Electrical connection	4 x 3-pole removable terminal blocks, reverse polarity protected, screw connection
Terminal cross-section	1 x 2.5 mm ² / 2 x 1.5 mm ²
Tightening torque	0.5 Nm

**Temperature measuring amplifier
1-channel
IM34-11Ex-Ci/K70**

Accessories

Type code	Ident no.	Description	Dimension drawing
IM-CC-3X2BU/2BK	6900475	Cage clamp terminals for IM modules (Ex devices; width 18 mm): 2 blue/2 black, 3-pin, included in delivery.	
IM-PROG III	7525111	The programming adapter IM-PROG III is used for parametrization of TURCK IM and IMB devices via FDT/DTM and for galvanic separation.	