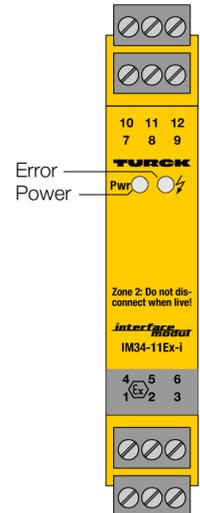
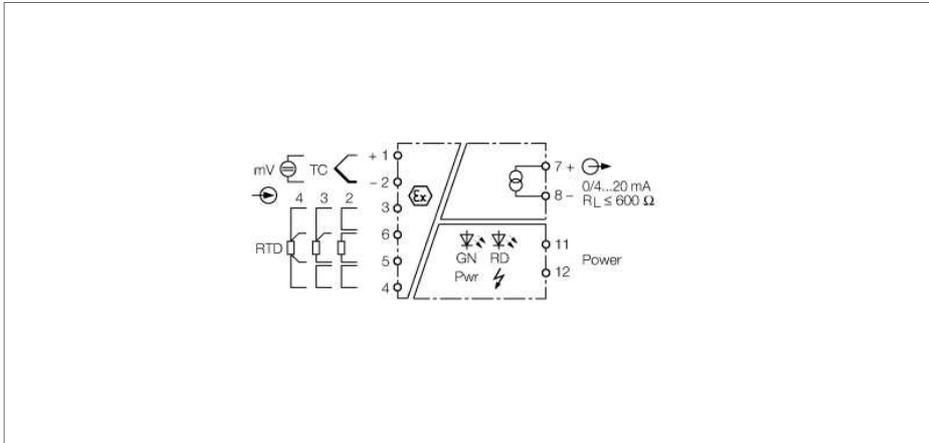


**Ex-Temperature measuring amplifier
1-channel
IM34-11EX-I**



The 1-channel Ex-temperature measuring amplifier IM34-11EX-I 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 -100...+160 mV and to output them as linear temperature current signals 0/4...20 mA.

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 thermocouples or as independent measuring input.

The measuring range and the device functions are set via coded rotary switches or slide switches (located on the right side of the device).

The following settings are available:

- Type of probe
- Connection of the Ni100/Pt100 resistor in 2, 3 or 4-wire technology
- Measuring range, lower limit -100...- 1 °C in 1-K steps, upper limit 0...990 °C in 10-K steps
- Measuring range upper limit 0...1990 °C in 10-K steps
- Input circuit monitoring for wire-break
- Current output adjustable in the event of input circuit errors: 0 resp. > 22 mA
- Internal or external cold junction 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.

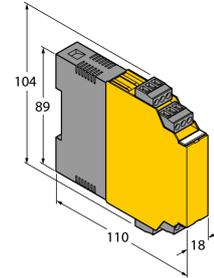
- **Intrinsically safe input circuits Ex ia**
- **Application area acc. to ATEX: II (1) G; II (1) D**
- **Installation in zone 2**
- **Input for Pt100/ Ni100 resistors, thermocouples and millivolt signals in 2, 3 or 4-wire technology**
- **Output circuit: 0/4...20 mA**
- **Upper and lower limit adjustable via rotary coding switch**
- **Removable terminal blocks**
- **Complete galvanic separation**

Ex-Temperature measuring amplifier

1-channel

IM34-11EX-I

Dimensions



Type code	IM34-11EX-I									
Ident no.	7506630									
Operating voltage	20...250 VAC									
Frequency	40...70 Hz									
Operating voltage range	20...125 VDC									
Power consumption	≤ 3 W									
Input circuits	thermocouple									
	Pt100									
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									
Output	adjustable output mode									
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,	negligibly small									
External inductance/capacitance L/C,										
	<table border="1"> <thead> <tr> <th></th> <th>EEx ia IIC</th> <th>EEx ia IIB</th> </tr> </thead> <tbody> <tr> <td>Lo [mH]</td> <td>1000</td> <td>1000</td> </tr> <tr> <td>Co [µF]</td> <td>100</td> <td>1000</td> </tr> </tbody> </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,	negligibly small									
External inductance/capacitance L/C,										
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Ex ic	IIC	IIB								
Lo [mH]	100	100								
Co [µF]	3.6	18								
Ex approval acc. to conformity certificate	IS-1.106									

MTTF 200 years acc. to SN 29500 (Ed. 99) 40 °C

Ex-Temperature measuring amplifier**1-channel****IM34-11EX-I**

Indication

Operational readiness	green
Error indication	red

Protection class

Ambient temperature	IP20
Storage temperature	-25...+70 °C
Storage temperature	-40...+80°C
Dimensions	104x 18x 110 mm
Weight	152 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

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.	