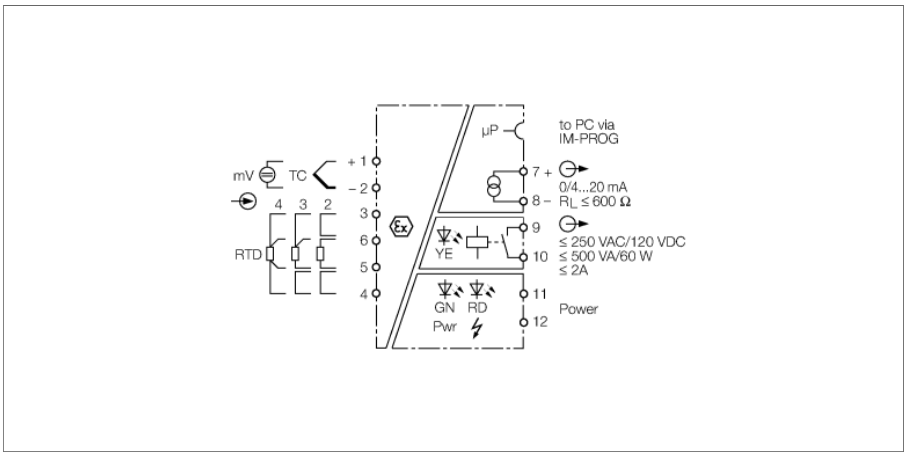
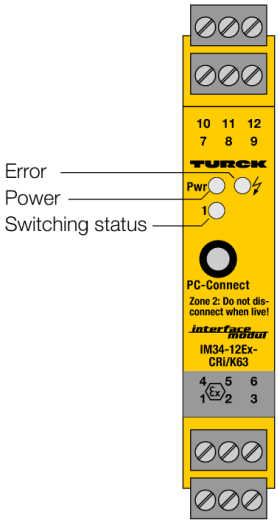
Temperature measuring amplifier
1-channel
IM34-12EX-CRI/K63





The temperature measuring amplifier IM34-12EX-CRI/K63 is designed to evaluate the temperature-dependent changes of RTDs, thermocouples or low voltages and to output them as temperature-linear current signals between 0/4…20 mA. The special device K63 analyzes standard Pt100/NI100 RTDs acc. to IEC 751, as well as Pt100 acc. to Gost, also CU50, CU53 CU100 and CuZn100 acc.to Gost.

Moreover, standard thermocouples B, E, J, K, L, N, R, S and T , also the types L, A1, A2, A3 and M acc. to Gost can be connected. The device has an additional relay output to monitor over or undershoot of a limit value.

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
- Limit value
- Input circuit monitoring for wire-break
- Behaviour of current output in the event of input circuit errors: (0 or > 22 mA)
- Internal or external cold junction compensation
- Output current (0/4…20 mA)
- Temperature (°C or °K)
- Mode (resistor, thermocouple, low voltage, line compensation)

- Connection of thermocouples acc. to IEC 751 and GOST
- Connection of thermocouples acc. to IEC 584 and GOST
- Parametrized via FDT / DTM
- Complete galvanic isolation
- Input reverse-polarity protected
- ATEX, IECEx, $_{c}FM_{us}$, UL, TR CU, INMETRO, CCOE
- Installation in zone 2

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Type	IM34-12EX-CRI/K63
ID	7506605

Nominal voltage	Universal voltage supply unit
Operating voltage	20…250 VAC
Frequency	40…70 Hz
Operating voltage U_B	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, acc. to Gost: Pt100, Cu50, Cu53, Cu100, CuZn100
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), acc. to Gost: L, A-1, A-2, A-3, M
Voltage input	-0.160…+0.160 VDC

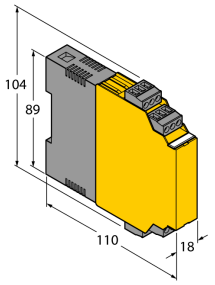
Output circuits	
Output current	0/4…20 mA
Load resistance current output	≤ 0.6 kΩ
Fault current	0 / 22 mA adjustable
Output circuits (digital)	1 x relay (NO)
Output switching voltage relay	≤ 30 VDC / ≤ 250 VAC
Switching current per output	≤ 2 A
Switching capacity per output	≤ 500 VA/60 W
Switching frequency	≤ 10 Hz

Output	Adjustable output mode

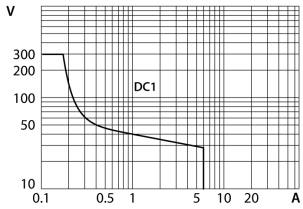
Response characteristic	
Rise time (10…90 %)	≤ 1000 ms
Fall time (90…10 %)	≤ 1000 ms
Reference temperature	23 °C
Measuring accuracy current output (including linearity, hysteresis and repeatability)	± 5 µA
Temperature drift analog output	0.0025 %/K
Measuring accuracy RTD input (including linearity, hysteresis 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

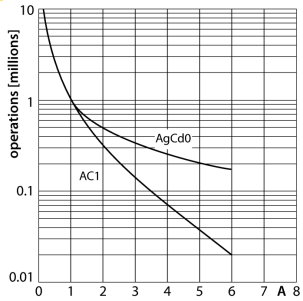
Dimensions



Output relay – Load curve



Output relay – Electrical lifetime



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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 nC [ic Gc] IIC T4
Characteristic	linear

Displays/Operating elements	
Operational readiness	Green
Switching state	Yellow
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	151 g
Mounting instructions	DIN rail (NS35) or panel
Housing material	Plastic, Polycarbonate/ABS
Electrical connection	4 × 3-pin removable terminal blocks, reverse polarity protected, screw terminal
Terminal cross-section	1 × 2.5 mm²/2 × 1.5 mm²
Tightening torque	0.5 Nm

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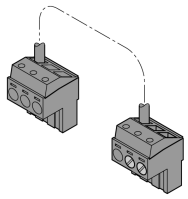
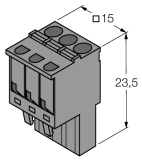
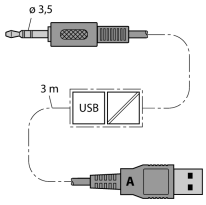
Accessories

Type code	Ident-No.		Dimension drawing
IM-3-CJT	6900524	Cold junction compensation module for IM 34 temperature measuring amplifiers, width 18 mm	
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-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	

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