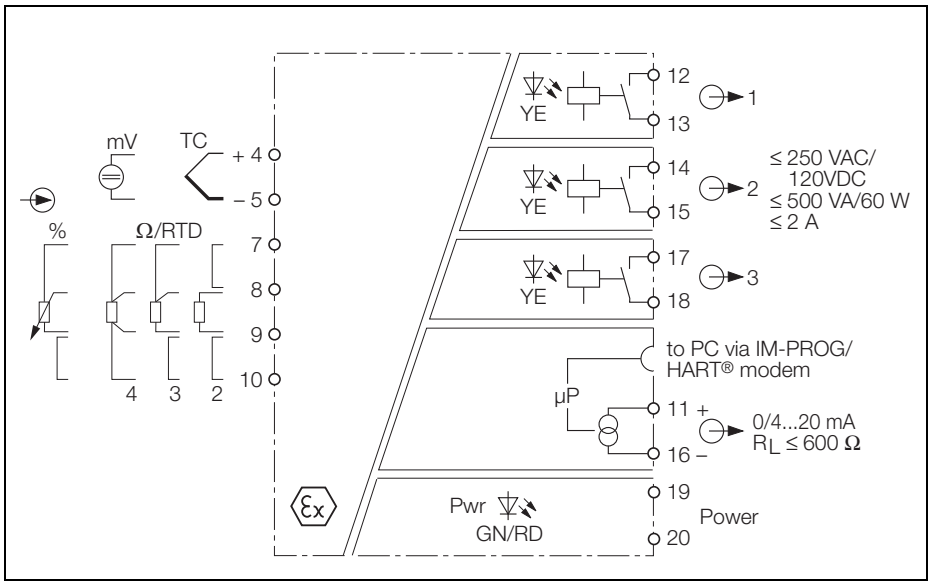
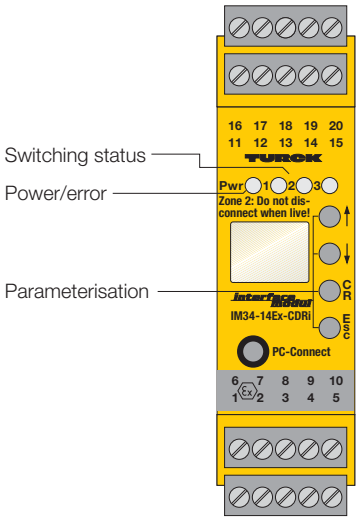
interface modul

temperature measuring amplifier
1-port
IM34-14EX-CDRI

TURCK
Industrial Automation





The 1-channel temperature measuring amplifier IM34-14EX-CDRI 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 currrent signals 0/4…20 mA.

Moreover temperature-dependent variations of resistors, potentiometers or low voltages are evaluated and reproduced as temperature linear current signals.

The device features three relay outputs and one 0/4…20 mA current output.

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.

Up to 8000 measuring points can be saved to a ring buffer. To stop the writing process a highly defined trigger event is needed, like for example the exceedance of a limit value. After that the stored signal sequence can be read out.

The cold junction compensation of thermoelements is either implemented with an externally connected resistance thermo detector Pt100/Ni100, with internal temperature measurement of the amplifier or via adjustable constant temperature.

Parameterization and configuration are implemented with the software tool „Device Type Manager“ (DTM) or via the analog current interface with a modem. A base parameterization with buttons and a display on the front panel are also possible.

If the DTM is used, all parameters are adjusted via PC. 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 with TURCK under the type name IM-PROG (ident no. 6890422).

The following adjustments are possible:

- Type of probe or resistance thermo detector (RTD)
- Internal, external or constant cold junction compensation of thermoelements
- Connection of the RTD in 2, 3 or 4-wire technology
- Lower measuring range in increments of: 1 K, 1 mV, 1 Ω i.e. 1 %
- Upper measuring range in increments of: 1 K, 1 mV, 1 Ω i.e. 1 %
- Relay operating modes: Overrange, underrange, window and alarm function
- Current output performance in case of errors in the input circuit: 0 or > 22 mA
- Parameterization of measured value memory with write cycle, definition of a trigger event etc.

- **Intrinsically safe input circuits EEx ia**
- **Application area according to ATEX : II (1) GD**
- **Input for Pt100/ Ni100 resistors in 2, 3 or 4 wire technology, variable resistors, thermoelements and millivolt signals**
- **Parameterization via PACT*ware*™**
- **Outputs: 0/4…20 mA, 3 limit value relay**
- **display indication of the measured value and parameters**
- **Line monitoring for wire-break/short-circuit (ON/OFF mode)**
- **HART**
- **Removable terminal blocks**
- **Universal operating voltage (20…250VAC/ 20…125VDC)**
- **Galvanic isolation of input circuits to output circuits and supply voltage**

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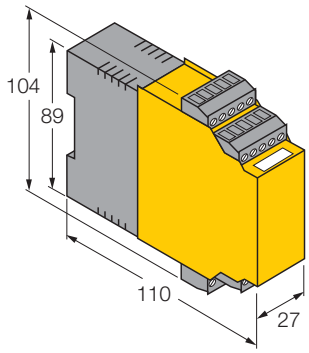
temperature measuring amplifier
1-port
IM34-14EX-CDRI

Industrielle Automation

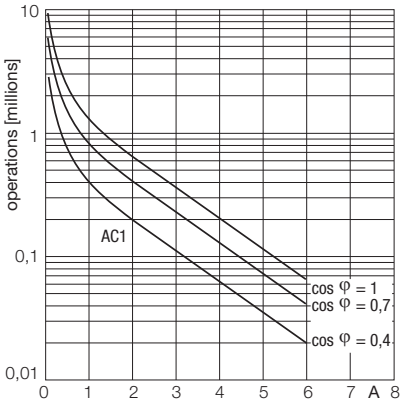
Type	IM34-14EX-CDRI
Ident-No.	7506634
Operational voltage range:	20 … 250 VAC
Frequency	≥ 40 … ≤ 70 Hz
Operational voltage range:	20 … 125 VDC
Input circuits	Thermoelement
Pt100	(IEC 751), 2, 3 and 4-wire technology
Ni100	(IEC 751), 2, 3 and 4-wire technology
Thermoelements	B, E, J, K, N, R, S, T (ITS 90/IEC 584), L (DIN 43710)
Potentiometer input	
Probe current	≤ 0.2mA
Nominal resistance	0…1,5kΩ
Voltage	-0,160...+0,160VDC
Output current	0/4...20 mA
Fault current	0 / 22 mA einstellbar
Output circuits (digital)	1 x relay (NO)
Relay switching voltage	≤ 250 VAC/120 VDC
Switching current per output	≤ 2 A
Switching capacity per output	≤ 500 VA/60 W
Switching frequency	≤ 10Hz
Contact quality	AgNi, 3µ Au
Output	adjustable output mode
Galvanic isolation	
Test voltage	2.5 kV
Exapproval acc. to conformity certificate	TÜV 05 ATEX 2877
Application area	II (1) GD
Protection type	[EEx ia] IIC
Max. output voltage U_o	≤ 5V
Max. output current I_o	≤ 9mA
Max. output power P_o	≤ 11mW
Rated voltage	250V
Characteristic	Trapezoidal
External inductance/capacitance L_o/C_o	

	EEx ia IIC	EEx ia IIB
Lo [mH]	5	10
Co [nF]	2,9	13

Application area	II 3 G
Application area	II 3 G
Protection type	EEx nA nC [nL] IIC/IIB T4
Innere Induktivität/Kapazität Li/Ci	Die wirksamen inneren Kapazitäten und Induktivitäten sind vernachlässigbar klein
Indication	
Operational readiness	green
Switching state	yellow
Error indication	red



Output relay
electrical lifetime



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Protection class	IP20
Ambient temperature	-25 …+ 60 °C
Housing length	104mm
Housing width	27mm
Housing height	110mm
Weight	209g
Mounting instruction	Mounting on DIN rail or mounting panel
Housing material	Polycarbonate/ABS
Electrical connection	4 x 5-pole removable terminal blocks, reverse polarity protected, screw connection
Terminal cross-section	1 x 2.5 mm^2 / 2 x 1.5 mm^2