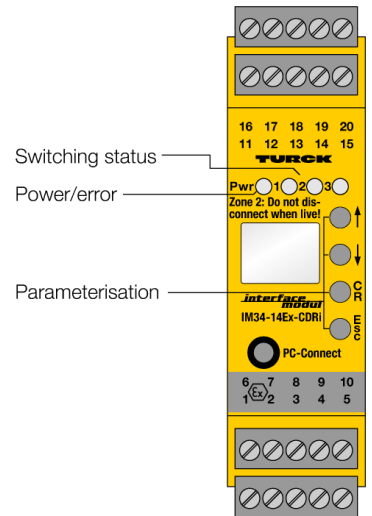
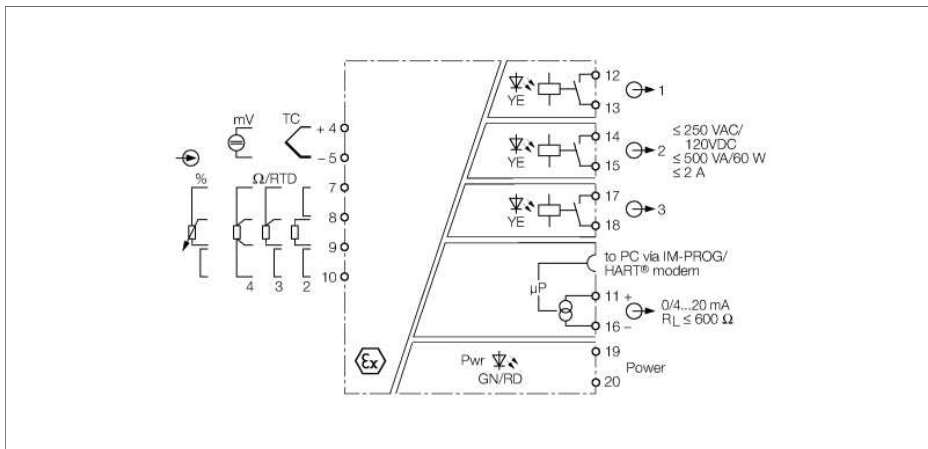


**Temperature measuring amplifier
1-channel
IM34-14EX-CDRI**



The 1-channel Ex-temperature measuring amplifier IM34-14Ex-CDRI is designed to evaluate the temperature-dependent changes of Ni100/Pt100 resistors and thermocouples types B, E, J, K, L, N, R, S, T and to output them as temperature-linear current signals 0/4...20 mA. Furthermore, resistors, potentiometers or low voltages can be mapped linearly as current signals in a range between -160...+160 mV.

The device features one output for analog signals 0/4...20 mA and three outputs for limit value relays. The measured value can be viewed on a 2-line display.

The measured value is permanently written to a ring memory with space for 8000 values. The writing process is stopped with a predefined trigger event, like for example "limit value exceeded". After that, the stored signal sequence can be read out.

The device can be parametrized and configured via PC (FDT/DTM). For this, connect the device to the PC via the 3.5 mm jack plug at the front (the matching transmission cable IM-PROG III can be ordered separately from TURCK). A basic scope of parameters can be set via buttons and display at the front or remotely via the current interface and HART®.

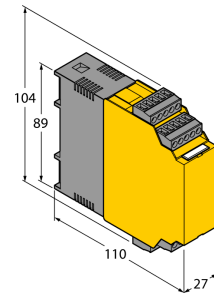
The signals are transformed acc. to ITS 90/IEC 584 for thermocouples and acc. to IEC 751 for Pt100 resistors and output as temperature-linear current signals.

Cold junction compensation of thermocouples is either realized via an externally connected Pt100/Ni100 resistor, via temperature measured inside the amplifier or via an individually adjustable constant temperature value.

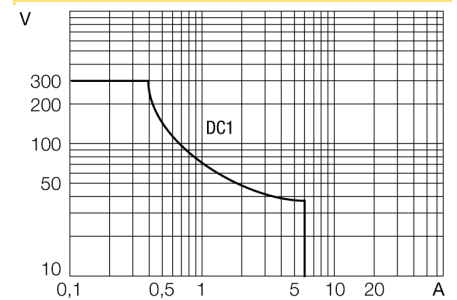
- Intrinsically safe input circuit Ex ia
- Application area acc. to ATEX: II (1) GD; II 3 G
- Installation in zone 2
- Input for Pt100/ Ni100 resistors, variable resistors, thermocouples and millivolt signals
- Output circuit: 0/4...20 mA
- 3 relay outputs
- Universal operating voltage
- Monitors over and underrange of analog values and window limits
- Line monitoring
- Parametrized via PC (FDT/DTM), front panel switch and HART®
- Ring memory for up to 8000 measured values
- Display
- Complete galvanic separation

**Temperature measuring amplifier
1-channel
IM34-14EX-CDRI**

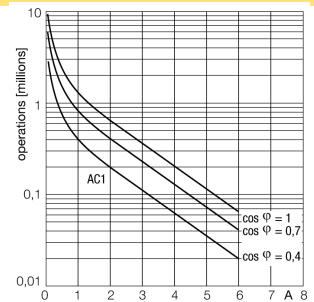
Dimensions



Load curve



Output relay electrical lifetime



Type code	IM34-14EX-CDRI
Ident no.	7506634
Operating voltage	20...250 VAC
Frequency	40...70 Hz
Operating voltage range	20...125 VDC
Power consumption	≤ 3 W
Input circuits	thermocouple
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)
Potentiometer input	
Nominal resistance	0...1.5 kΩ
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)	3 x relays (NO)
Relay switching voltage	≤ 250 VAC/120 VDC
Switching current per output	≤ 2 A
Switching capacity per output	≤ 500 VA/60 W
Switching frequency	≤ 10 Hz
Contact quality	AgNi, 3μ Au
Output	adjustable output mode
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
Galvanic separation	
Test voltage	2.5 kV

Temperature measuring amplifier
1-channel
IM34-14EX-CDRI

Ex approval acc. to conformity certificate	TÜV 05 ATEX 2877									
Application area	II (1) GD									
Protection type	[EEx ia] IIC									
Max. output voltage U_o	≤ 5 V									
Max. output current I_o	≤ 9 mA									
Max. output power P_o	≤ 11 mW									
Rated voltage	250 V									
Characteristic	linear									
Internal inductance/capacitance L/C_i	$L_i = 75 \mu\text{H}$, C_i negligibly small									
External inductance/capacitance L_o/C_o										
	<table border="1"> <tr> <td>EEx ia</td> <td>IIC</td> <td>IIB</td> </tr> <tr> <td>L_o [mH]</td> <td>5</td> <td>10</td> </tr> <tr> <td>C_o [μF]</td> <td>2.9</td> <td>13</td> </tr> </table>	EEx ia	IIC	IIB	L_o [mH]	5	10	C_o [μF]	2.9	13
EEx ia	IIC	IIB								
L_o [mH]	5	10								
C_o [μF]	2.9	13								

Ex approval acc. to conformity certificate	TÜV 05 ATEX 2889 X									
Application area	II 3 G									
Protection class for belonging equipment	EEx nA nC [nL]									
Max. output voltage U_o	≤ 5 V									
Max. output current I_o	≤ 9 mA									
Max. output power P_o	≤ 11 mW									
Characteristic	linear									
Internal inductance/capacitance L/C_i	$L_i = 75 \mu\text{H}$, C_i negligibly small									
External inductance/capacitance L_o/C_o										
	<table border="1"> <tr> <td>Ex ia</td> <td>IIC</td> <td>IIB</td> </tr> <tr> <td>L_o [mH]</td> <td>10</td> <td>20</td> </tr> <tr> <td>C_o [μF]</td> <td>4.4</td> <td>21</td> </tr> </table>	Ex ia	IIC	IIB	L_o [mH]	10	20	C_o [μF]	4.4	21
Ex ia	IIC	IIB								
L_o [mH]	10	20								
C_o [μF]	4.4	21								

MTTF	150 years acc. to SN 29500 (Ed. 99) 40 °C
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Indication	
Operational readiness	green
Switching state	yellow
Error indication	red

Protection class	IP20
Ambient temperature	-25...+70 °C
Storage temperature	-40...+80 °C
Relative humidity	≤ 95%
Dimensions	104x 27x 110 mm
Weight	250 g
Mounting instruction	For 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
Tightening torque	0.5 Nm

Accessories

Type code	Ident no.	Description	Dimension drawing
IM-CC-5X2BU/2BK	7504031	Cage clamp terminals for IM modules (Ex devices; width 27 mm); 2 blue/2 black, 5-pin	
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.	