

ACT20M ACT20M-RTCI-CO-OLP-S

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Product image, Similar to illustration



ACT20M: The slim solution

- Safe and space-saving (6 mm) isolation and conversion
- Quick installation of the power supply unit using the CH20M mounting rail bus
- Easy configuration via DIP switch or FDT/DTM software
- Extensive approvals such as ATEX, IECEX, GL, DNV
- High interference resistance

General ordering data

Type	ACT20M-RTCI-CO-OLP-S
Order No.	1435590000
Version	Temperature converter, 2-/3-/4- wire RTD, Thermocouple, Input : Temperature, Output : 4-20 mA, (loop powered)
GTIN (EAN)	4050118240641
Qty.	1 pc(s).

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Technical data
Dimensions and weights

Width	6.1 mm	Width (inches)	0.24 inch
Height	112.5 mm	Height (inches)	4.429 inch
Depth	114.3 mm	Depth (inches)	4.5 inch
Net weight	80 g		

Temperatures

Humidity	40 °C / 93 % rel. humidity, no condensation	Storage temperature, max.	85 °C
Storage temperature, min.	-40 °C	Ambient temperature	-25 °C...+70 °C
Storage temperature	-40 °C...85 °C		

Probability of failure

MTBF	207 Years
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Rated data UL

UL certificate	E337701.pdf
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Input

Number of inputs	1	Sensor	PT100 / 2-/3-/4-wire, Thermocouple acc. to IEC 584, type: J, Thermocouple acc. to IEC 584, type: K
Influence of the sensor cable resistance	< 0.002 Ω/Ω	Input measurement range	PT100 -200...+850 °C, Thermocouple type J -100...+1200°C, Thermocouple type K -200...+1370°C
Line resistance in measuring circuit	50 Ω@ RTD (Pt100), 10 kΩ @ TC (J, K)	Temperature input range	Configurable, min. measurement range 10°C (RTD), min. measurement range 50°C (TC)

Output

Number of outputs	1	Output current	configurable, 4...20 mA, 20...4 mA
Wire break detection	3.5 mA / 23 mA / none	cold junction compensation	configurable internal or external cold- junction compensation (thermocouple)
Supply voltage (output)	16,8 V...31,2 V		

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Technical data**General data**

Accuracy	absolute accuracy: $< \pm 0.05$ % of the measurement range, RTD (PT100) Basic accuracy: $< \pm 0.1$ °C of the measurement range, TC (J,K) Basic accuracy: $< \pm 0.5$ °C of the measurement range	Cold-junction compensation error	$\pm(2.0 \text{ °C} + 0.4 \text{ °C} \times \Delta t)$ Δt = inside temperature – ambient temperature
Configuration	DIP switch	Galvanic isolation	2-way isolator
Power consumption, max.	0.8 W	Power consumption, typ.	0.48 W
Rail	TS 35	Step response time	≤ 30 ms, < 300 ms
Temperature coefficient	RTD (PT100) ≤ 0.01 % of the measurement range/°C or 0.02 °C/°C, TC (J,K) 0.1 °C/°C	Voltage supply	Output loop powered, 6...35 V

Insulation coordination

EMC standards	IEC 61326-1, NE 21	Galvanic isolation	2-way isolator
Insulation voltage	2.5 kV _{eff} / 1 min.	Pollution severity	2
Rated voltage	300 V _{eff}	Surge voltage category	II

Data for Ex applications (ATEX)

Marking	II 3 G Ex nA IIC T4 Gc
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Connection data

Type of connection	Screw connection	Tightening torque, min.	0.4 Nm
Tightening torque, max.	0.6 Nm	Clamping range, rated connection	2.5 mm ²
Clamping range, min.	0.5 mm ²	Clamping range, max.	2.5 mm ²
Wire connection cross section AWG, min.	AWG 30	Wire connection cross section AWG, max.	AWG 14

Ratings IECEx/ATEX/cUL

Certificate No. (ATEX)	KEMA10ATEX0183X	Certificate No. (IECEX)	IECEXKEM10.0090X
Certificate no. (cULus)	E337701	IECEX - gas labelling	Ex nA IIC T4 Gc, Standard: IEC 60079-0-15

Classifications

ETIM 6.0	EC002919	ETIM 7.0	EC002919
eClass 9.0	27-21-01-29	eClass 9.1	27-21-01-29
eClass 10.0	27-21-01-29		

Product information

Product information	The ACT20M-RTCI-CO-OLP-S passive configurable temperature transducer isolates and converts analogue signals. An analogue RTD (Type Pt100) or TC (Type J, K) input signal is linearly converted into an analogue output signal and galvanically isolated. Power is supplied through the output measurement circuit (output-loop powered).
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Data sheet

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Technical data

Approvals

Approvals



ROHS Conform

Downloads

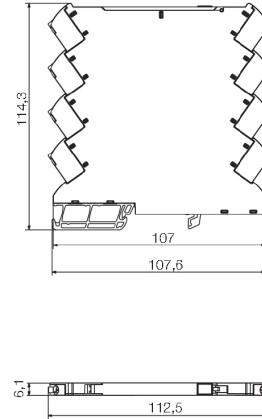
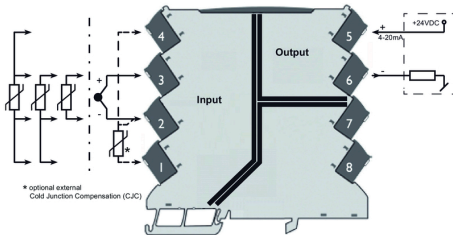
Approval/Certificate/Document of Conformity	DNV-GL certificate EAC certificate FM certificate IECEX certificate ATEX certificate Declaration of Conformity
Brochure/Catalogue	CAT 4.1 ELECTR 16/17 EN
Engineering Data	EPLAN, WSCAD, Zuken E3.S
Engineering Data	STEP
Software	DIP switch configuration tool
User Documentation	instruction sheet

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Drawings

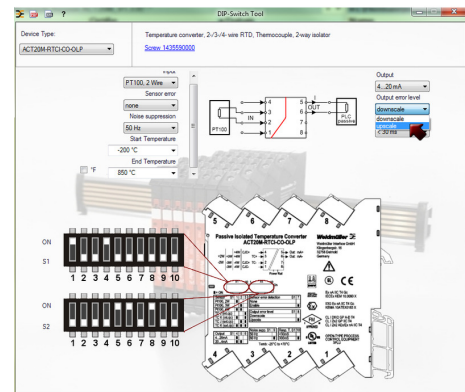
Connection diagram



DIP switch setting

	Temperature range [°C]											
	Pt100, -200...+850 °C				TC, J, -100...+200 °C				TC, K, -800...+1372 °C			
	Min.	S2	Max.	S2	Min.	S2	Max.	S2	Min.	S2	Max.	S2
RTD & TC sensor type	PT100	PT100	TC	TC	TC	TC	TC	TC	TC	TC	TC	TC
Pt100, 2 wire	200	1	850	1	100	1	200	1	100	1	1372	1
Pt100, 3 wire	150	1	850	1	100	1	200	1	100	1	1372	1
Pt100, 4 wire	150	1	850	1	100	1	200	1	100	1	1372	1
External CJC	1	1	1	1	1	1	1	1	1	1	1	1
External CJC II	1	1	1	1	1	1	1	1	1	1	1	1
External CJC III	1	1	1	1	1	1	1	1	1	1	1	1
External CJC IV	1	1	1	1	1	1	1	1	1	1	1	1
External CJC V	1	1	1	1	1	1	1	1	1	1	1	1
Output	4	1	20	1	4	1	20	1	4	1	20	1
4...20 mA	1	1	1	1	1	1	1	1	1	1	1	1
20...4 mA	1	1	1	1	1	1	1	1	1	1	1	1
Sensor error detection	1	1	1	1	1	1	1	1	1	1	1	1
enable	1	1	1	1	1	1	1	1	1	1	1	1
200	1	1	1	1	1	1	1	1	1	1	1	1
Output error level	1	1	1	1	1	1	1	1	1	1	1	1
open	1	1	1	1	1	1	1	1	1	1	1	1
noisep	1	1	1	1	1	1	1	1	1	1	1	1
Noise suppression	1	1	1	1	1	1	1	1	1	1	1	1
50 Hz	1	1	1	1	1	1	1	1	1	1	1	1
Response time	1	1	1	1	1	1	1	1	1	1	1	1
60 ms	1	1	1	1	1	1	1	1	1	1	1	1
300 ms	1	1	1	1	1	1	1	1	1	1	1	1

example for DIP switch setting (with ACT20M tool software)



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