

ACT20M ACT20M-RTI-AO-S

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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-RTI-AO-S
Order No.	1375510000
Version	Temperature converter, 2-/3-/4- wire RTD, Input : Temperature, Output : I / U
GTIN (EAN)	4050118259667
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	89 g		

Temperatures

Humidity	95 %, no condensation	Storage temperature, max.	85 °C
Storage temperature, min.	-40 °C	Operating temperature	
Ambient temperature	-25 °C...+70 °C	Storage temperature	-40 °C...85 °C

Probability of failure

MTBF	152 Years
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Input

Number of inputs	1	Sensor	PT100 / 2-/3-/4-wire
Influence of the sensor cable resistance	< 0.002 Ω/Ω (@ 3/4-wire)	Input measurement range	PT100 -200...+850 °C
Line resistance in measuring circuit	≤ 50 Ω	Temperature input range	Configurable, min. measurement range 10°C (RTD)

Output

Number of outputs	1	Output signal limit	< 4 mA (average), < 60 mA (pulse current), low duty cycle
Output voltage, note	configurable, 0(2)...10 V, 0(1)...5 V	Output current	configurable, 0...20 mA, 4...20 mA
Wire break detection	3.5 mA / 23 mA / none	load impedance voltage	≥ 10 kΩ
load impedance current	≤ 600 Ω		

General data

Accuracy	absolute accuracy: < ±0.05 % of the measurement range, Basic accuracy: < ±0.1°C	Configuration	DIP switch
Galvanic isolation	3-way isolator	Mounting rail	TS 35
Power consumption, max.	0.7 W	Power consumption, typ.	0.49 W
Step response time	≤ 30 ms, < 300 ms	Supply voltage	24 V DC ± 30 %
Temperature coefficient	≤ 0.01 % of the measurement range/°C or 0.02 °C/°C		

Insulation coordination

EMC standards	IEC 61326-1, NE 21	Galvanic isolation	3-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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Technical data**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

Rated data UL

UL certificate	E337701.pdf
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Ratings IECEx/ATEX/cUL

Certificate No. (ATEX)	KEMA10ATEX0183X	Certificate No. (IECEX)	IECEXKEM10.0090X
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Classifications

ETIM 5.0	EC002653	ETIM 6.0	EC002919
eClass 6.2	27-21-01-20	eClass 7.1	27-21-01-20
eClass 8.1	27-21-01-20	eClass 9.0	27-21-01-20
eClass 9.1	27-21-01-29		

Product information

Instructions for accessories	DIN mounting rail, see accessories
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Approvals

Approvals



ROHS	Conform
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Downloads

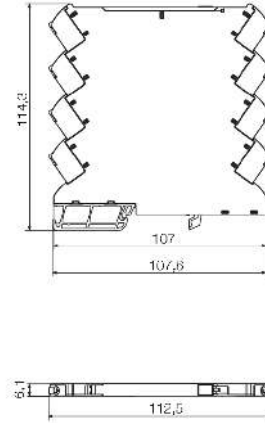
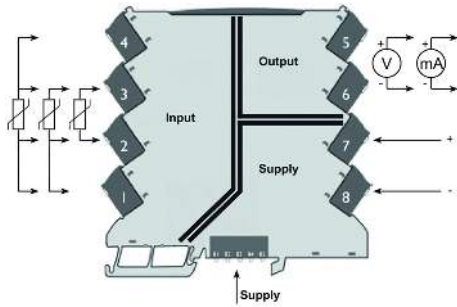
Approval/Certificate/Document of Conformity	Declaration of Conformity
Brochure/Catalogue	CAT 4.1 ELECTR 16/17 EN
Engineering Data	EPLAN, WSCAD, Zuken E3.S
Engineering Data	STEP
Software	DIP switch configuration tool
User Documentation	instruction sheet

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Drawings

Connection diagram



DIP switch setting

	S1		S2		S3		S4		S5		S6		S7		S8	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
RTD sensor type	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pt100 2-wire	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pt100 3-wire	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Output	4	10	4	10	4	10	4	10	4	10	4	10	4	10	4	10
0...32 mA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0...20 mA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0...15 V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0...9.5 V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1...5 V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Output sensor level	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0...20 mA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0...15 V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0...9.5 V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Water suppression	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
60 Hz	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Response time	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
0.33 ms	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
332 ms	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

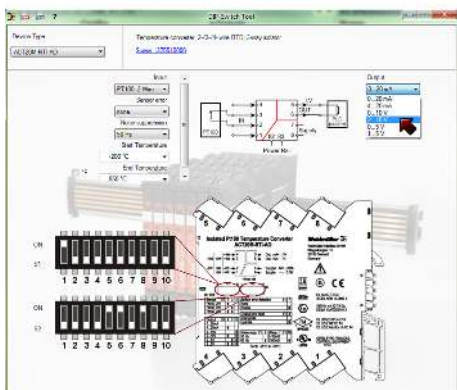
Temperature range [°C]
Pt100: 000...400 °C

RT = CPU

example for DIP switch setting (with ACT20M tool software)



Power supply via the rail bus



example for DIP switch setting (with ACT20 tool)