

ACT20M ACT20M-RTI-AO-E-S

Weidmüller Interface GmbH & Co. KG
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 www.weidmueller.com

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-RTI-AO-E-S
Order No.	1375520000
Version	Temperature converter, 2-/3-/4- wire RTD, Input : Temperature, Output : I / U
GTIN (EAN)	4050118259681
Qty.	1 pc(s).

Creation date May 3, 2020 7:53:05 AM CEST

Catalogue status 17.04.2020 / We reserve the right to make technical changes.

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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	86 g		

Temperatures

Humidity	95 %, 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	195 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
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: < ±0.1 % of the measurement range
Configuration	DIP switch

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Technical data

Delivery state	Setting parameters	Output
	Configuration	4...20 mA
	Setting parameters	Sensor error detection
	Configuration	enabled
	Setting parameters	Output error level
	Configuration	downscale
	Setting parameters	Noise suppression
	Configuration	50 Hz
	Setting parameters	Step response time
	Configuration	< 30 ms
	Setting parameters	Start temperature
	Configuration	-200 °C
	Setting parameters	End temperature
	Configuration	0 °C
Galvanic isolation	Without isolation	
Power consumption, max.	0.5 W	
Power consumption, typ.	0.37 W	
Rail	TS 35	
Step response time	≤ 30 ms	
Temperature coefficient	≤ 0.01 % of the measurement range/°C or 0.02 °C/°C	
Voltage supply	24 V DC ± 30 %	

Insulation coordination

EMC standards	IEC 61326-1, NE 21	Galvanic isolation	Without isolation
Pollution severity	2		

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

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	<p>The ACT20M-RTI-AO-S configurable temperature transducer isolates and converts analogue signals. An analogue RTD input signal (Type Pt100) is linearly converted into an analogue output signal and galvanically isolated. The power supply is galvanically isolated from the input and output (3-way isolation) and this is done with direct wiring or over the Weidmüller rail bus.</p> <p>The ACT20M-RTI-AO-E-S configurable temperature transducer offers the same functionality but does not provide galvanic isolation.</p>
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Data sheet

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Technical data

Approvals

Approvals



ROHS Conform

Downloads

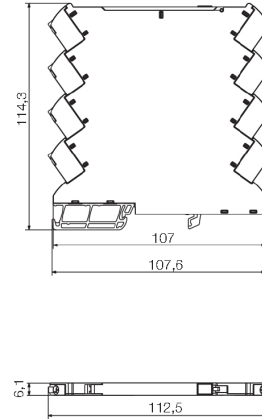
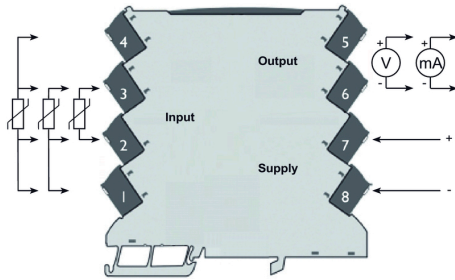
Approval/Certificate/Document of Conformity	DNV-GL certificate EAC certificate FM certificate IECEx certificate ATEX certificate Declaration of Conformity
Brochure/Catalogue	CAT 4.1 ELECTR 16/17 EN
Engineering Data	EPLAN, WSCAD
Engineering Data	STEP
Software	DIP switch configuration tool
User Documentation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

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Drawings

Connection diagram

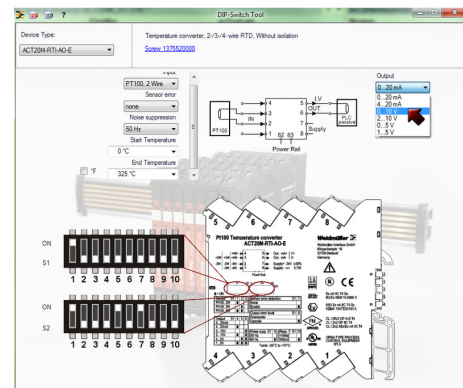


DIP switch setting

RTD sensor type	S1	Temperature range [°C]											
		Pt100, 2-wire		Pt100, 3-wire		Pt100, 4-wire		Pt100, 2-wire		Pt100, 3-wire		Pt100, 4-wire	
Temp. [°C]	Min.	S2	Max.	S2	Min.	S2	Max.	S2	Min.	S2	Max.	S2	
Pt100, 2-wire	-200		0		100		200		0		100		
Pt100, 3-wire	-180		0		110		200		0		100		
Pt100, 4-wire	-150		0		110		200		0		100		
Output													
0...20 mA	-50		25		100		200		0		100		
4...20 mA	-10		35		130		200		0		100		
0...10 V	-25		25		130		200		0		100		
2...10 V	-10		35		130		200		0		100		
0...3 V	0		40		145		200		0		100		
1...5 V	-5		45		150		200		0		100		
Sensor error detection													
none	20		60		100		170						
enabled	50		60		100		170						
Output error level													
diagnostic	70		75		200		200						
variable	80		85		275		275						
Noise suppression													
60 Hz	90		95		300		300						
60 Hz	100		100		300		300						

■ = ON

example for DIP switch setting
(with ACT20M tool software)



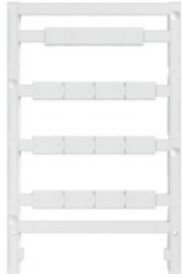
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Accessories

Accessories



Accessories for the analogue signal processing products:

- End plates: for components with terminal-block design
- Retaining clips: for mounting IP6X signal isolators and displays
- Calibration devices: for calibrating and setting analogue signal converters
- MICRO interface: for direct transmission to a controller thus minimizing the wiring overhead
- markers
- Programming adapter: for configuring PC-configurable modules
- Cross-connector
- Power supply modules / power supplies
- Optional connection terminals and cold-junction compensation terminals

General ordering data

Type	MF 5/7.5 MC NE WS	Version
Order No.	1877680000	MultiFit, Terminal marker, 5 x 7.5 mm, Pitch in mm (P): 7.50 Adels
GTIN (EAN)	4032248468270	RKW, Phoenix, white
Qty.	320 pc(s).	