

ACT20M-RTI-AO-E-S**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

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

Version	Temperature converter, 2-/3-/4- wire RTD, Without galvanic isolation, Input : Temperature, PT100, Output : I / U
Order No.	1375520000
Type	ACT20M-RTI-AO-E-S
GTIN (EAN)	4050118259681
Qty.	1 pc(s).

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Technical data**Dimensions and weights**

Depth	114.3 mm	Depth (inches)	4.5 inch
Height	112.5 mm	Height (inches)	4.429 inch
Net weight	86 g	Width	6.1 mm
Width (inches)	0.24 inch		

Temperatures

Storage temperature	-40 °C...85 °C	Humidity	95 %, no condensation
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Probability of failure

MTBF	195 Years
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Input

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	$\leq 50 \Omega$	Number of inputs	1
Sensor	PT100 / 2-/3-/4-wire	Temperature input range	Configurable, min. measurement range 10°C (RTD)

Output

Load impedance current	$\leq 600 \Omega$	Number of outputs	1
Output current	configurable, 0...20 mA, 4...20 mA	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	Wire break detection	3.5 mA / 23 mA / none
load impedance voltage	$\geq 10 \text{ k}\Omega$		

General data

Accuracy	absolute accuracy: $\leq \pm 0.1$ % of the measurement range		
Configuration	DIP switch		
Delivery state	Output: 4...20 mA // Sensor error detection: enabled // Output error level: downscale // Noise suppression: 50 Hz // Step response time: < 30 ms // Start temperature: -200 °C // End temperature: 0 °C		
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	

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Technical data

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
Type of connection	Screw connection
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	ECLASS 11.0	27-21-01-29

Important note

Product information	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. The ACT20M-RTI-AO-E-S configurable temperature transducer offers the same functionality but does not provide galvanic isolation.
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Approvals

Approvals



ROHS	Conform
UL File Number Search	E337701

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Technical data

Downloads

Approval/Certificate/Document of Conformity	DNV-GL certificate
	FM certificate
	IECEXx certificate
	ATEX certificate
	Declaration of Conformity
Engineering Data	STEP
Engineering Data	EPLAN, WSCAD
Software	DIP switch configuration tool
User Documentation	instruction sheet

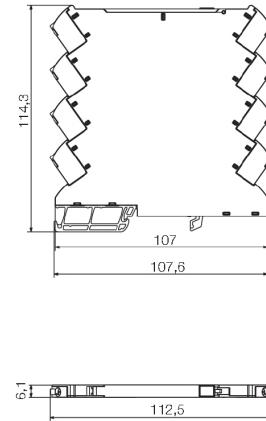
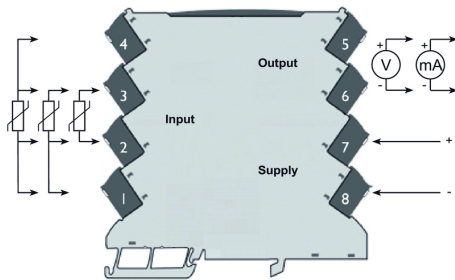
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Drawings

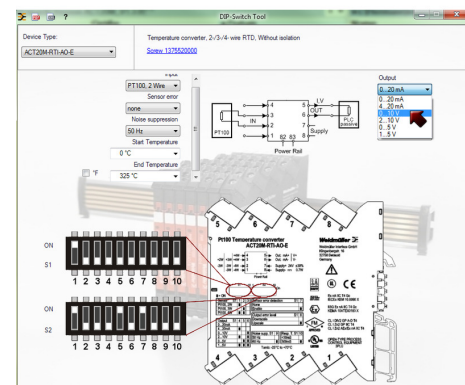
Connection diagram



DIP switch setting

		Temperature range [°C]															
		PT100, 2 wire				PT100, 3 wire				PT100, 4 wire				PT100, 5 wire			
RTD sensor type	S1	Min.	Max.	S2	Temp.	Min.	Max.	S2	Temp.	Min.	Max.	S2	Temp.	Min.	Max.	S2	Temp.
PT100, 2 wire	1	-200	0	1	0	-200	0	1	0	-200	0	1	0	-200	0	1	0
PT100, 3 wire	2	-200	0	2	0	-200	0	2	0	-200	0	2	0	-200	0	2	0
PT100, 4 wire	3	-200	0	3	0	-200	0	3	0	-200	0	3	0	-200	0	3	0
PT100, 5 wire	4	-200	0	4	0	-200	0	4	0	-200	0	4	0	-200	0	4	0
Output	5	-200	0	5	0	-200	0	5	0	-200	0	5	0	-200	0	5	0
0...20 mA	6	-200	0	6	0	-200	0	6	0	-200	0	6	0	-200	0	6	0
4...20 mA	7	-200	0	7	0	-200	0	7	0	-200	0	7	0	-200	0	7	0
0...10 V	8	-200	0	8	0	-200	0	8	0	-200	0	8	0	-200	0	8	0
2...10 V	9	-200	0	9	0	-200	0	9	0	-200	0	9	0	-200	0	9	0
0...5 V	10	-200	0	10	0	-200	0	10	0	-200	0	10	0	-200	0	10	0
1...5 V	11	-200	0	11	0	-200	0	11	0	-200	0	11	0	-200	0	11	0
Sensor error detection	12	-200	0	12	0	-200	0	12	0	-200	0	12	0	-200	0	12	0
none	13	-200	0	13	0	-200	0	13	0	-200	0	13	0	-200	0	13	0
enabled	14	-200	0	14	0	-200	0	14	0	-200	0	14	0	-200	0	14	0
Output error level	15	-200	0	15	0	-200	0	15	0	-200	0	15	0	-200	0	15	0
overvoltage	16	-200	0	16	0	-200	0	16	0	-200	0	16	0	-200	0	16	0
undervoltage	17	-200	0	17	0	-200	0	17	0	-200	0	17	0	-200	0	17	0
Noise suppression	18	-200	0	18	0	-200	0	18	0	-200	0	18	0	-200	0	18	0
50 Hz	19	-200	0	19	0	-200	0	19	0	-200	0	19	0	-200	0	19	0
60 Hz	20	-200	0	20	0	-200	0	20	0	-200	0	20	0	-200	0	20	0
Response time	21	-200	0	21	0	-200	0	21	0	-200	0	21	0	-200	0	21	0
< 30 ms	22	-200	0	22	0	-200	0	22	0	-200	0	22	0	-200	0	22	0
300 ms	23	-200	0	23	0	-200	0	23	0	-200	0	23	0	-200	0	23	0

example for DIP switch setting
 (with ACT20M tool software)



example for DIP switch setting
 (with ACT20M tool software)