

ACT20M-RTI-AO-E-S

Weidmüller Interfaces GmbH & Co. KG

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Product image



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, 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
Width	6.1 mm	Width (inches)	0.24 inch
Net weight	86 g		

Temperatures

Storage temperature	-40 °C...85 °C	Humidity	40 °C / 93 % rel. humidity, no condensation
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Probability of failure

SIL in compliance with IEC 61508	None	MTBF	195 Years
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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	≤ 50 Ω	Number of inputs	1
Sensor	PT100 (2-/3-/4- wire)	Temperature input range	Configurable, PT100: -200...+850 °C, min. measurement range 10°C (RTD)

Output

Load impedance current	≤ 600 Ω	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	Type	active, connected control must be passive
Wire break detection	Yes, Configurable, 3.5 mA/ 23 mA / none	load impedance voltage	≥ 10 kΩ

General data

Accuracy	absolute accuracy: < ±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	Configuration	Output
			4...20 mA
	Setting parameters	Configuration	Sensor error detection
			enabled
	Setting parameters	Configuration	Output error level
			downscale
	Setting parameters	Configuration	Noise suppression
			50 Hz
	Setting parameters	Configuration	Step response time
			< 30 ms
Setting parameters	Configuration	Start temperature	
		-200 °C	
Setting parameters	Configuration	End temperature	
		0 °C	
Galvanic isolation	Without isolation		

Creation date February 21, 2023 2:25:46 PM CET

Catalogue status 18.02.2023 / We reserve the right to make technical changes.

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Technical data

Long-term drift	0
Power consumption, max.	0.5 W
Power consumption, typ.	0.37 W
Rail	TS 35
Step response time	Configurable, ≤ 30 ms, < 300 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)

Installation location	Device installed in safe area, zone 2	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

EMC conformity and approvals

EMC standards	IEC 61326-1, NE 21	Standards	IEC 61010-1
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Classifications

ETIM 6.0	EC002919	ETIM 7.0	EC002919
ETIM 8.0	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	ECLASS 12.0	27-21-01-29

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924

Important note

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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Technical data

Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E337701

Downloads

Approval/Certificate/Document of Conformity	DNV-GL certificate FM certificate IECEx certificate ATEX certificate Declaration of Conformity
Engineering Data	CAD data – STEP
Engineering Data	WSCAD
Software	Runtime Software – DIP switch configuration tool
User Documentation	instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

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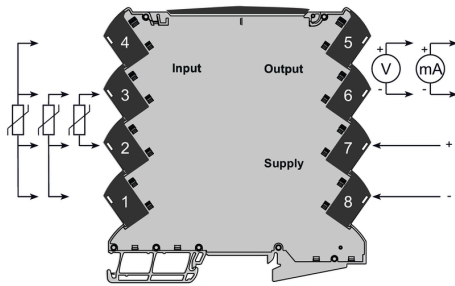
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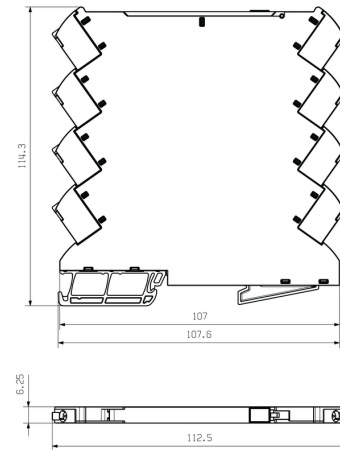
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Drawings

Connection diagram



Dimensional drawing info@weidmueller.com

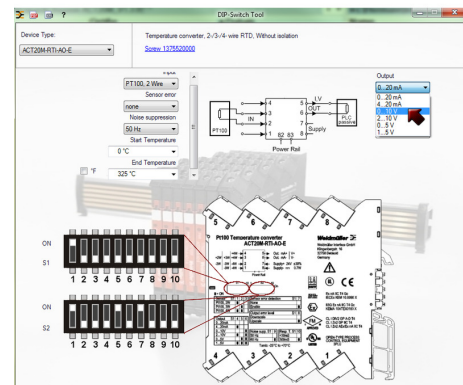


DIP switch setting

RTD sensor type	S1	Temperature range [°C]																			
		Pt100, 2-wire				Pt100, 3-wire				Pt100, 4-wire				Pt100, 5-wire							
Temp. [°C]	Min.	S2	Max.	S2	Temp. [°C]	Min.	S2	Max.	S2	Temp. [°C]	Min.	S2	Max.	S2	Temp. [°C]	Min.	S2	Max.	S2		
Pt100, 2-wire	■	-200	■	0	■	100	■	100	■	200	■	200	■	200	■	300	■	300	■	300	■
Pt100, 3-wire	■	-100	■	0	■	100	■	100	■	200	■	200	■	200	■	300	■	300	■	300	■
Pt100, 4-wire	■	-100	■	0	■	100	■	100	■	200	■	200	■	200	■	300	■	300	■	300	■
Output	■	0-20 mA	■	0-20 mA	■	0-20 mA	■	0-20 mA	■	0-20 mA	■	0-20 mA	■	0-20 mA	■	0-20 mA	■	0-20 mA	■	0-20 mA	■
4-20 mA	■	-20	■	20	■	100	■	100	■	200	■	200	■	200	■	300	■	300	■	300	■
0-10 V	■	-20	■	20	■	100	■	100	■	200	■	200	■	200	■	300	■	300	■	300	■
2-10 V	■	-20	■	20	■	100	■	100	■	200	■	200	■	200	■	300	■	300	■	300	■
0-3 V	■	-20	■	20	■	100	■	100	■	200	■	200	■	200	■	300	■	300	■	300	■
1.5 V	■	-20	■	20	■	100	■	100	■	200	■	200	■	200	■	300	■	300	■	300	■
Sensor error detection	■	20	■	60	■	100	■	100	■	200	■	200	■	200	■	300	■	300	■	300	■
none	■	20	■	60	■	100	■	100	■	200	■	200	■	200	■	300	■	300	■	300	■
enabled	■	100	■	70	■	200	■	200	■	300	■	300	■	300	■	300	■	300	■	300	■
200	■	100	■	70	■	200	■	200	■	300	■	300	■	300	■	300	■	300	■	300	■
Output error level	■	80	■	80	■	200	■	200	■	300	■	300	■	300	■	300	■	300	■	300	■
diagnostic	■	80	■	80	■	200	■	200	■	300	■	300	■	300	■	300	■	300	■	300	■
variable	■	80	■	80	■	200	■	200	■	300	■	300	■	300	■	300	■	300	■	300	■
Noise suppression	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■
60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■	60 Hz	■
Response time	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■
300 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■	<30 ms	■

■ = ON

example for DIP switch setting (with ACT20M tool software)



example for DIP switch setting (with ACT20M tool software)