

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

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

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, With galvanic isolation, Input : Temperature, PT100, Output : I / U
Order No.	1375510000
Type	ACT20M-RTI-AO-S
GTIN (EAN)	4050118259667
Qty.	1 pc(s).

Creation date September 16, 2022 4:32:54 AM CEST

Catalogue status 09.09.2022 / We reserve the right to make technical changes.

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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	89 g		

Temperatures

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

MTBF	152 Years
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1	SCIP	2f6dd957-421a-46db-a0c2-cf1609156924
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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: < ±0.05 % of the measurement range, Basic accuracy: < ±0.1°C
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
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	
Galvanic isolation	3-way isolator	
Included in delivery	Instruction sheet	
Power consumption, max.	0.7 W	
Power consumption, typ.	0.49 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 % at terminal or via CH20M rail bus	

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)

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

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3

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Technical data**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.

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

[EPLAN, WSCAD, Zuken E3.S](#)

Software

[Runtime Software – DIP switch configuration tool](#)

User Documentation

[instruction sheet](#)

Catalogues

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Brochures

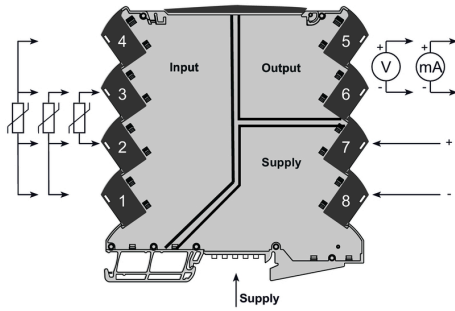
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Drawings

Connection diagram



Dimensional drawing



DIP switch setting

RTD sensor type	S1	Temperature range [°C]																			
		Pt100, 2-wire				Pt100, 3-wire				Pt100, 4-wire											
Min.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Temp.	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Max.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Temp.	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000

Output	S1	S2	S3	S4	S5	S6	S7	S8
0 - 20 mA	1	2	3	4	5	6	7	8
4 - 20 mA	1	2	3	4	5	6	7	8
0 - 10 V	1	2	3	4	5	6	7	8
2 - 10 V	1	2	3	4	5	6	7	8
0 - 3 V	1	2	3	4	5	6	7	8
1 - 5 V	1	2	3	4	5	6	7	8

Sensor error detection	S1	S2	S3	S4	S5	S6	S7	S8
none	1	2	3	4	5	6	7	8
enabled	1	2	3	4	5	6	7	8

Output error level	S1	S2	S3	S4	S5	S6	S7	S8
50mVscale	1	2	3	4	5	6	7	8
variable	1	2	3	4	5	6	7	8

Noise suppression	S1	S2	S3	S4	S5	S6	S7	S8
50 Hz	1	2	3	4	5	6	7	8
60 Hz	1	2	3	4	5	6	7	8

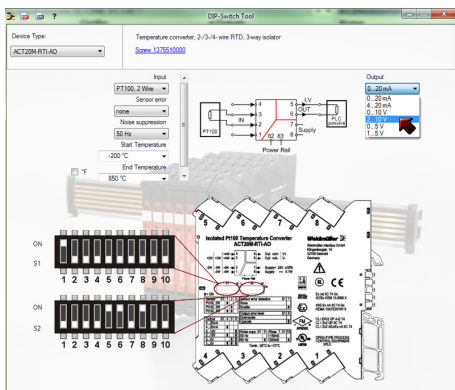
Response time	S1	S2	S3	S4	S5	S6	S7	S8
< 30 ms	1	2	3	4	5	6	7	8
300 ms	1	2	3	4	5	6	7	8

■ = ON

example for DIP switch setting
 (with ACT20M tool software)



Power supply via the rail bus



example for DIP switch setting (with ACT20 tool)

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