

## ACT20M ACT20M-RTI-AO-S

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 16  
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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.	<a href="#">1375510000</a>
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 <sub>eff</sub> / 1 min.	Pollution severity	2
Rated voltage	300 V <sub>eff</sub>	Surge voltage category	II

**Data for Ex applications (ATEX)**

Marking	II 3 G Ex nA IIC T4 Gc
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Creation date July 2, 2018 9:49:55 AM CEST

Catalogue status 29.06.2018 / We reserve the right to make technical changes.

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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 <sup>2</sup>
Clamping range, min.	0.5 mm <sup>2</sup>	Clamping range, max.	2.5 mm <sup>2</sup>
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**

Descriptive text accessories	DIN mounting rail, see accessories
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**Approvals**

Approvals



ROHS	Conform
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**Downloads**

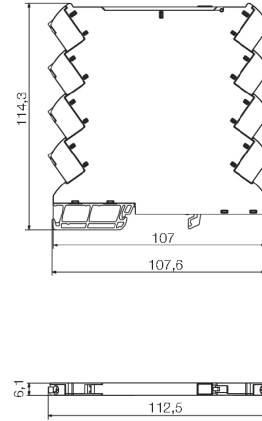
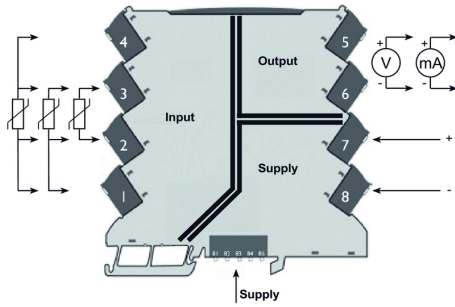
Approval/Certificate/Document of Conformity	<a href="#">Declaration of Conformity</a>
Brochure/Catalogue	<a href="#">CAT 4.1 ELECTR 16/17 EN</a>
Engineering Data	<a href="#">EPLAN, WSCAD, Zuken E3.S</a>
Software	<a href="#">DIP switch configuration tool</a>
User Documentation	<a href="#">instruction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

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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, 5-wire			
Temp. [°C]	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	S18
Min.	-200	0	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
Max.	0	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850

Output	S19	S20	S21	S22	S23	S24	S25	S26	S27	S28	S29	S30
0 - 20 mA	0	20	40	60	80	100	120	140	160	180	200	220
4 - 20 mA	0	20	40	60	80	100	120	140	160	180	200	220
0 - 10 V	0	20	40	60	80	100	120	140	160	180	200	220
2 - 10 V	0	20	40	60	80	100	120	140	160	180	200	220
0 - 3 V	0	20	40	60	80	100	120	140	160	180	200	220
1 - 5 V	0	20	40	60	80	100	120	140	160	180	200	220

Sensor error detection	S31	S32	S33	S34	S35	S36	S37	S38	S39	S40
none	0	100	200	300	400	500	600	700	800	900
enabled	0	100	200	300	400	500	600	700	800	900

Output error level	S41	S42	S43	S44	S45	S46	S47	S48	S49	S50
50mVscale	0	100	200	300	400	500	600	700	800	900
variable	0	100	200	300	400	500	600	700	800	900

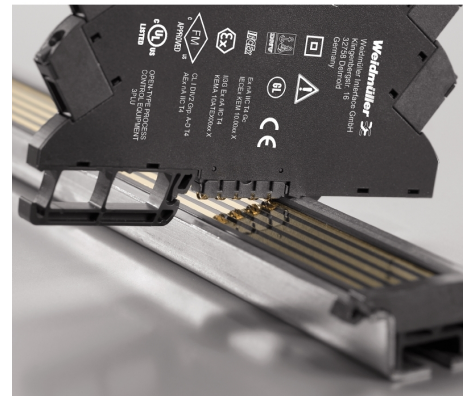
Noise suppression	S51	S52	S53	S54	S55	S56	S57	S58	S59	S60
50 Hz	0	100	200	300	400	500	600	700	800	900
60 Hz	0	100	200	300	400	500	600	700	800	900

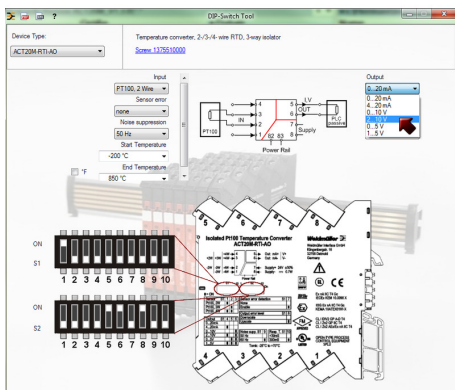
Response time	S61	S62	S63	S64	S65	S66	S67	S68	S69	S70
< 30 ms	0	100	200	300	400	500	600	700	800	900
300 ms	0	100	200	300	400	500	600	700	800	900

■ = ON

example for DIP switch setting  
(with ACT20M tool software)



Power supply via the rail bus



example for DIP switch setting (with ACT20 tool)