

## ACT20M ACT20M-RTI-AO-S

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
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### 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-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	Ambient temperature	-25 °C...+70 °C
Storage temperature	-40 °C...85 °C		

**Probability of failure**

MTBF	152 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: < ±0.05 % of the measurement range, Basic accuracy: < ±0.1°C	Configuration	DIP switch
Galvanic isolation	3-way isolator	Power consumption, max.	0.7 W
Power consumption, typ.	0.49 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 %		

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**Technical data**
**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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**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

**Ratings IECEx/ATEX/cUL**

Certificate No. (ATEX)	KEMA10ATEX0183X	Certificate No. (IECEX)	IECEXKEM10.0090X
Certificate no. (cULus)	E337701	IECEX - gas labelling	Ex nA IIC T4 Gc, Standard: IEC 60079-0-15

**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	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.
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**Approvals**

Approvals



ROHS	Conform
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**Data sheet****ACT20M  
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**Technical data****Downloads**

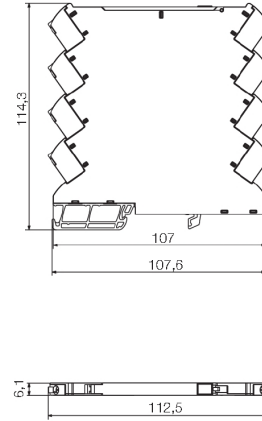
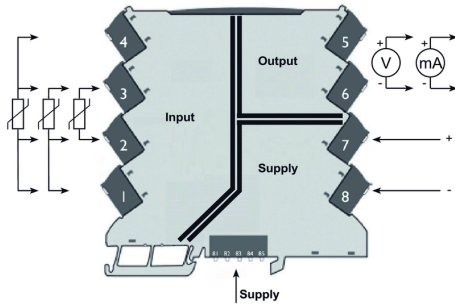
Approval/Certificate/Document of Conformity	<a href="#">DNV-GL certificate</a> <a href="#">EAC certificate</a> <a href="#">FM certificate</a> <a href="#">IECEX certificate</a> <a href="#">ATEX certificate</a> <a href="#">Declaration of Conformity</a>
Brochure/Catalogue	<a href="#">CAT 4.1 ELECTR 16/17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

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Drawings

Connection diagram

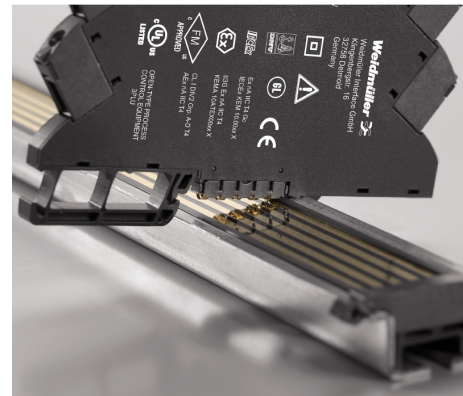


**DIP switch setting**

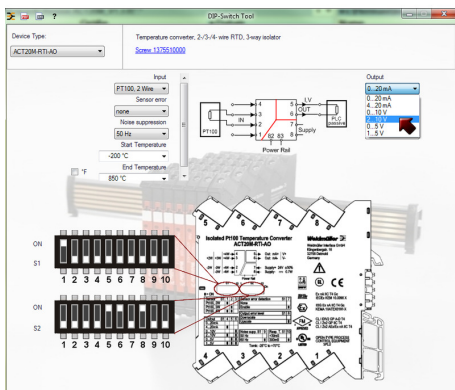
RTD sensor type	S1	Temperature range [°C]																		
		Pt100, 2-wire				Pt100, 3-wire				Pt100, 4-wire				Pt100, 5-wire						
Temp. [°C]	Min.	S2	Max.	S2	Temp. [°C]	Min.	S2	Max.	S2	Temp. [°C]	Min.	S2	Max.	S2	Temp. [°C]	Min.	S2	Max.	S2	
Pt100, 2-wire	1	0	100	1	100	0	100	1	100	0	100	1	100	1	100	0	100	1	100	1
Pt100, 3-wire	1	0	100	1	100	0	100	1	100	0	100	1	100	1	100	0	100	1	100	1
Pt100, 4-wire	1	0	100	1	100	0	100	1	100	0	100	1	100	1	100	0	100	1	100	1
Output	4	0	20 mA	1	20 mA	0	20 mA	1	20 mA	0	20 mA	1	20 mA	1	20 mA	0	20 mA	1	20 mA	1
4...20 mA	1	0	20 mA	1	20 mA	0	20 mA	1	20 mA	0	20 mA	1	20 mA	1	20 mA	0	20 mA	1	20 mA	1
0...10 V	1	0	10 V	1	10 V	0	10 V	1	10 V	0	10 V	1	10 V	1	10 V	0	10 V	1	10 V	1
2...10 V	1	0	10 V	1	10 V	0	10 V	1	10 V	0	10 V	1	10 V	1	10 V	0	10 V	1	10 V	1
0...3 V	1	0	3 V	1	3 V	0	3 V	1	3 V	0	3 V	1	3 V	1	3 V	0	3 V	1	3 V	1
1...5 V	1	0	5 V	1	5 V	0	5 V	1	5 V	0	5 V	1	5 V	1	5 V	0	5 V	1	5 V	1
Sensor error detection	7	0	200	1	200	0	200	1	200	0	200	1	200	1	200	0	200	1	200	1
none	1	0	200	1	200	0	200	1	200	0	200	1	200	1	200	0	200	1	200	1
enabled	1	0	200	1	200	0	200	1	200	0	200	1	200	1	200	0	200	1	200	1
Output error level	8	0	75	1	75	0	75	1	75	0	75	1	75	1	75	0	75	1	75	1
50mVscale	1	0	75	1	75	0	75	1	75	0	75	1	75	1	75	0	75	1	75	1
variable	1	0	75	1	75	0	75	1	75	0	75	1	75	1	75	0	75	1	75	1
Noise suppression	9	0	50 Hz	1	50 Hz	0	50 Hz	1	50 Hz	0	50 Hz	1	50 Hz	1	50 Hz	0	50 Hz	1	50 Hz	1
60 Hz	1	0	50 Hz	1	50 Hz	0	50 Hz	1	50 Hz	0	50 Hz	1	50 Hz	1	50 Hz	0	50 Hz	1	50 Hz	1
Response time	10	0	300 ms	1	300 ms	0	300 ms	1	300 ms	0	300 ms	1	300 ms	1	300 ms	0	300 ms	1	300 ms	1
<30 ms	1	0	300 ms	1	300 ms	0	300 ms	1	300 ms	0	300 ms	1	300 ms	1	300 ms	0	300 ms	1	300 ms	1
300 ms	1	0	300 ms	1	300 ms	0	300 ms	1	300 ms	0	300 ms	1	300 ms	1	300 ms	0	300 ms	1	300 ms	1

■ = ON

example for DIP switch setting  
(with ACT20M tool software)



Power supply via the rail bus



example for DIP switch setting (with ACT20 tool)