

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

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://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	Passive isolator, Without galvanic isolation, Input : Temperature, PT100, Output : 4-20 mA
Order No.	<a href="#">1435610000</a>
Type	ACT20M-RTI-CO-EOLP-S
GTIN (EAN)	4050118240528
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	80 g		

**Temperatures**

Storage temperature	-40 °C...85 °C	Operating temperature	-25 °C...70 °C
Humidity at operating temperature	0...95 % (no condensation)	Humidity	40 °C / 93 % rel. humidity, no condensation

**Probability of failure**

MTBF	227 a
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**Input**

Influence of the sensor cable resistance	<0.002 Ω/Ω	Line resistance in measuring circuit	50 Ω@ RTD (Pt100), 10 kΩ @ TC (J, K)
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	4...20 mA, loop-powered	Supply voltage (output)	16,8 V...31,2 V
Type	passive, connected control must be active	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, Basic accuracy: <±0.2°C	
Cold-junction compensation error	±(2.0 °C + 0.4 °C x Δt) Δt = inside temperature – ambient temperature	
Configuration	DIP switch	
Delivery state	Setting parameters	Input
	Configuration	0 °C
	Setting parameters	Bandwidth
	Configuration	100 Hz
	Setting parameters	Output
	Configuration	0...20 mA
	Setting parameters	Output 2
	Configuration	0...20 mA
	Setting parameters	Noise suppression
	Configuration	50 Hz
	Setting parameters	Start temperature
	Configuration	-200 °C
	Setting parameters	End temperature
	Configuration	0 °C
Delivery state	Input: 0 °C // Bandwidth: 100 Hz // Output: 0...20 mA // Output 2: 0...20 mA // Noise suppression: 50 Hz // Start temperature: -200 °C // End temperature: 0 °C	
Galvanic isolation	Without isolation	
Power consumption, max.	0.8 W	

Creation date August 24, 2024 10:48:41 PM CEST

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**Technical data**

Power consumption, typ.	0.48 W
Protection degree	IP20
Rail	TS 35
Step response time	Configurable, ≤ 30 ms, <300 ms
Temperature coefficient	RTD (PT100) ≤0.01 % of the measurement range/°C or 0.02 °C/°C
Voltage supply	Output loop powered, 6...35 V

**Insulation coordination**

EMC standards	IEC 61326-1	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 <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

**EMC conformity and approvals**

EMC standards	IEC 61326-1	Standards	IEC 61010-1
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**Classifications**

ETIM 6.0	EC002919	ETIM 7.0	EC002919
ETIM 8.0	EC002919	ETIM 9.0	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	ECLASS 13.0	27-21-01-29
ECLASS 14.0	27-21-01-29		

**Environmental Product Compliance**

REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924
RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl

**Important note**

Product information	<p>The ACT20M-RTCI-CO-OLP-S passive configurable temperature transducer isolates and converts analogue signals. An analogue RTD (Type Pt100) or TC (Type J, K) input signal is linearly converted into an analogue output signal and galvanically isolated. Power is supplied through the output measurement circuit (output-loop powered).</p> <p>The ACT20M-RTI-CO-EOLP-S passive configurable temperature transducer does not have any galvanic isolation and has no TC input.</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	<a href="#">DNV-GL certificate</a> <a href="#">FM certificate</a> <a href="#">IECEX certificate</a> <a href="#">ATEX certificate</a> <a href="#">Declaration of Conformity</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Software	<a href="#">DIP switch configuration tool</a>
User Documentation	<a href="#">instruction sheet</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	

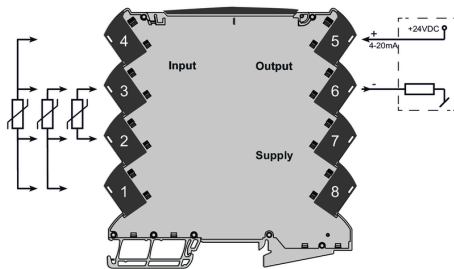
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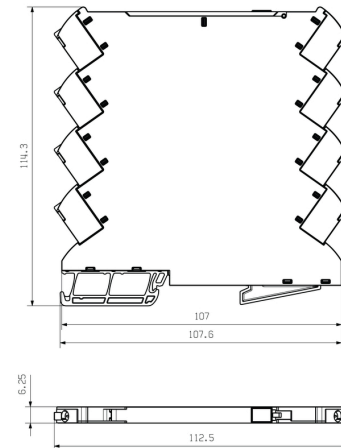
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## Drawings

### Connection diagram



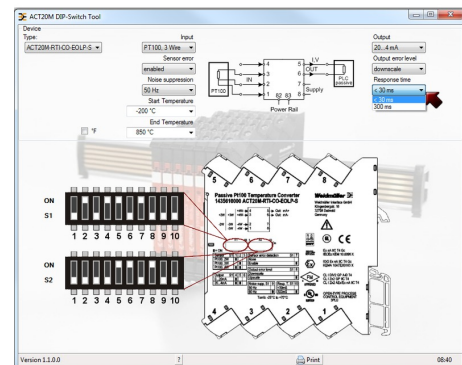
### Dimensional drawing



### DIP switch setting

		Temperature range [°C]											
		PT100: -200...+800 °C				TC-0...TC-2: -200...+200 °C				TC-K...TC-L: -100...+1372 °C			
		Min	S2	Max	S2	Min	S2	Max	S2	Min	S2	Max	S2
RTD & TC sensor type	S1												
PT100 2 wire	1	1	1	1	1	1	1	1	1	1	1	1	1
PT100 3 wire	2	1	1	1	1	1	1	1	1	1	1	1	1
PT100 4 wire	3	1	1	1	1	1	1	1	1	1	1	1	1
TC (external 4-wire)	4	1	1	1	1	1	1	1	1	1	1	1	1
TC (external 4-wire II)	5	1	1	1	1	1	1	1	1	1	1	1	1
TC (external 4-wire III)	6	1	1	1	1	1	1	1	1	1	1	1	1
TC (external 4-wire IV)	7	1	1	1	1	1	1	1	1	1	1	1	1
TC (external 4-wire V)	8	1	1	1	1	1	1	1	1	1	1	1	1
TC (external 4-wire VI)	9	1	1	1	1	1	1	1	1	1	1	1	1
TC (external 4-wire VII)	10	1	1	1	1	1	1	1	1	1	1	1	1
Output	S2												
4...20 mA	1	1	1	1	1	1	1	1	1	1	1	1	1
20...4 mA	2	1	1	1	1	1	1	1	1	1	1	1	1
Sensor error detection	S3												
enable	1	1	1	1	1	1	1	1	1	1	1	1	1
disable	2	1	1	1	1	1	1	1	1	1	1	1	1
Output error level	S4												
0V	1	1	1	1	1	1	1	1	1	1	1	1	1
1V	2	1	1	1	1	1	1	1	1	1	1	1	1
Noise suppression	S5												
50 Hz	1	1	1	1	1	1	1	1	1	1	1	1	1
60 Hz	2	1	1	1	1	1	1	1	1	1	1	1	1
Response time	S6												
50 ms	1	1	1	1	1	1	1	1	1	1	1	1	1
100 ms	2	1	1	1	1	1	1	1	1	1	1	1	1

example for DIP switch setting  
(with ACT20M tool software)



example for DIP switch setting  
(with ACT20M tool software)