

**ACT20M-RTCI-CO-OLP-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	Passive isolator, With galvanic isolation, Input : Temperature, PT100, thermocouple, Output : 4-20 mA
Order No.	<a href="#">1435590000</a>
Type	ACT20M-RTCI-CO-OLP-S
GTIN (EAN)	4050118240641
Qty.	1 Stück

Erstellungs-Datum May 25, 2023 10:57:14 AM CEST

Katalogstand 12.05.2023 / Technische Änderungen vorbehalten

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## Technische Daten

### 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	Humidity	40 °C / 93 % rel. humidity, no condensation
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### Probability of failure

MTBF	207 Years
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### Input

Influence of the sensor cable resistance	< 0.002 Ω/Ω	Input measurement range	PT100 -200...+850 °C, Thermocouple type J -100...+1200°C, Thermocouple type K -180&hellip;+1372 &deg;C
Line resistance in measuring circuit	50 Ω @ RTD (Pt100), 10 kΩ @ TC (J, K)	Number of inputs	1
Sensor	PT100 (2-/3-/4- wire), Thermocouples: J, K	Temperature input range	Configurable, PT100: -200...+850 °C, min. measurement range 10°C (RTD), J: (-100...+1200 °C), K: (-180...+1372 °C), min. measurement range 50°C (TC)

### Output

Load impedance current	≤ 600 Ω	Number of outputs	1
Output current	configurable, 4...20 mA, 20...4 mA	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
cold junction compensation	configurable internal or external cold-junction compensation (thermocouple)		

### General data

Accuracy	absolute accuracy: < ±0.05 % of the measurement range, RTD (PT100) Basic accuracy: < ±0.1 °C of the measurement range, TC (J,K) Basic accuracy: < ±0.5 °C of the measurement range
Cold-junction compensation error	±(2.0 °C + 0.4 °C x Δt) Δt = inside temperature - ambient temperature
Configuration	DIP switch
Delivery state	Output: 4...20 mA (loop) // 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

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## Technische Daten

Delivery state	Setting parameters	Output
	Configuration	4...20 mA (loop)
	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
Galvanic isolation	2-way isolator	
Power consumption, max.	0.8 W	
Power consumption, typ.	0.5 W	
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, TC (J,K) 0.1 °C/°C	
Voltage supply	Output loop powered, 6...35 V	

### Insulation coordination

EMC standards	IEC 61326-1, NE 21	Galvanic isolation	2-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)

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, 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

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## Technische Daten

### Important note

**Product information** 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).

### 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>
Engineering Data	<a href="#">WSCAD, Zuken E3.S, EPLAN</a>
Software	<a href="#">Runtime Software – DIP switch configuration tool</a>
User Documentation	<a href="#">instruction sheet</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	

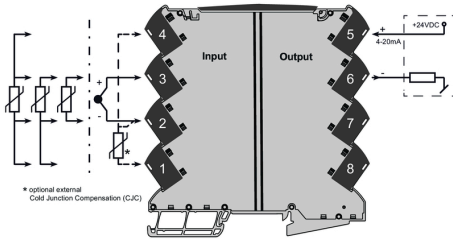
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**Zeichnungen**

**Connection diagram**



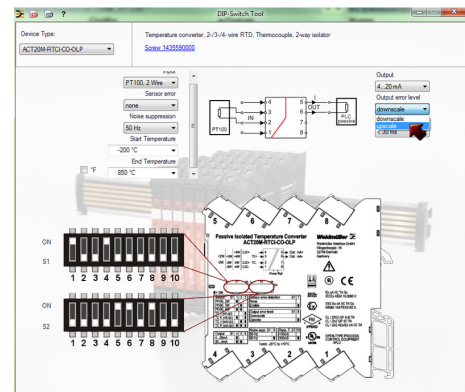
**Dimensional drawing**



**DIP switch setting**

	Pt100 -200...+850 °C		TC-1/100...+200 °C		TC-K-100...+1372 °C	
	Min.	Max.	Min.	Max.	Min.	Max.
RTD & TC sensor type	Pt100, 2 wire	Pt100, 3 wire	TC-1/100	TC-1/100	TC-K-100	TC-K-100
RTD 2 wire	-200	850	-100	200	100	1372
RTD 3 wire	-150	850	-100	200	100	1372
RTD 4 wire	-150	850	-100	200	100	1372
External CJC	-150	850	-100	200	100	1372
External CJC II	-150	850	-100	200	100	1372
External CJC III	-25	200	-100	200	100	1372
External CJC IV	-10	200	-100	200	100	1372
External CJC V	-10	200	-100	200	100	1372
Output	0	40	0	40	0	40
4...20 mA	0	40	0	40	0	40
20...4 mA	0	40	0	40	0	40
Sensor error detection	0	40	0	40	0	40
enable	0	40	0	40	0	40
100	0	40	0	40	0	40
200	0	40	0	40	0	40
Output error level	0	40	0	40	0	40
open	0	40	0	40	0	40
warning	0	40	0	40	0	40
Noise suppression	0	40	0	40	0	40
50 Hz	0	40	0	40	0	40
Response time	0	40	0	40	0	40
50 ms	0	40	0	40	0	40
300 ms	0	40	0	40	0	40

example for DIP switch setting (with ACT20M tool software)



example for DIP switch setting (with ACT20M tool software)