

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.	1435590000
Type	ACT20M-RTCI-CO-OLP-S
GTIN (EAN)	4050118240641
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	207 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), 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

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		

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Technical data

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

Insulation coordination

EMC standards	IEC 61326-1	Galvanic isolation	2-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	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		

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Technical data

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	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).
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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
Software	DIP switch configuration tool
User Documentation	instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

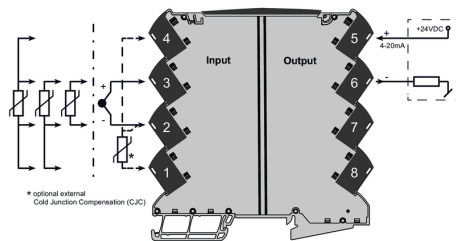
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Drawings

Connection diagram



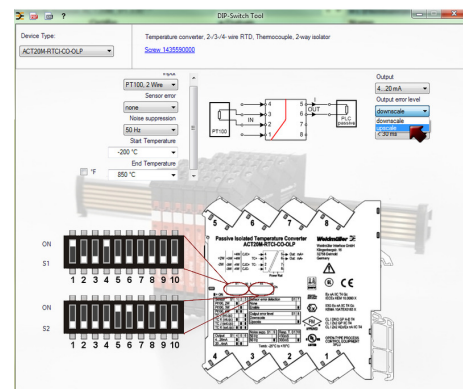
Dimensional drawing



DIP switch setting

		Temperature range [°C]											
		PT100: -200...+800 °C @ TC: -100...+200 °C				TC: K: -80...+1372 °C							
RTD & TC sensor type	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
PT100 2 wire	-200	800	-100	200	-80	1372	-100	200	-100	200	-100	200	-100
PT100 3 wire	-150	800	-100	200	-80	1372	-100	200	-100	200	-100	200	-100
PT100 4 wire	-150	800	-100	200	-80	1372	-100	200	-100	200	-100	200	-100
TC (external CJC) 1	-150	800	-100	200	-80	1372	-100	200	-100	200	-100	200	-100
TC (external CJC) 2	-150	800	-100	200	-80	1372	-100	200	-100	200	-100	200	-100
TC (external CJC) 3	-150	800	-100	200	-80	1372	-100	200	-100	200	-100	200	-100
TC (external CJC) 4	-150	800	-100	200	-80	1372	-100	200	-100	200	-100	200	-100
TC (external CJC) 5	-150	800	-100	200	-80	1372	-100	200	-100	200	-100	200	-100
TC (external CJC) 6	-150	800	-100	200	-80	1372	-100	200	-100	200	-100	200	-100
TC (external CJC) 7	-150	800	-100	200	-80	1372	-100	200	-100	200	-100	200	-100
TC (external CJC) 8	-150	800	-100	200	-80	1372	-100	200	-100	200	-100	200	-100
Output	0	40	0	40	0	40	0	40	0	40	0	40	0
4...20 mA	0	40	0	40	0	40	0	40	0	40	0	40	0
20...4 mA	0	40	0	40	0	40	0	40	0	40	0	40	0
Sensor error detection	0	40	0	40	0	40	0	40	0	40	0	40	0
enable	0	40	0	40	0	40	0	40	0	40	0	40	0
disable	0	40	0	40	0	40	0	40	0	40	0	40	0
Output error level	0	40	0	40	0	40	0	40	0	40	0	40	0
enable	0	40	0	40	0	40	0	40	0	40	0	40	0
disable	0	40	0	40	0	40	0	40	0	40	0	40	0
Noise suppression	0	40	0	40	0	40	0	40	0	40	0	40	0
50 Hz	0	40	0	40	0	40	0	40	0	40	0	40	0
60 Hz	0	40	0	40	0	40	0	40	0	40	0	40	0
Response time	0	40	0	40	0	40	0	40	0	40	0	40	0
50 ms	0	40	0	40	0	40	0	40	0	40	0	40	0
500 ms	0	40	0	40	0	40	0	40	0	40	0	40	0

example for DIP switch setting
 (with ACT20M tool software)



example for DIP switch setting
 (with ACT20M tool software)

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www.weidmueller.com**Accessories****Blank**

MultiFit is the Weidmüller marker system used for other makes of terminals. Similar to the Weidmüller Dekafix, the markers of the MultiFit family are available ready-for-use with standard printing.

We recommend to carry out a test with sample markers on the terminals used when using MultiFit for the first time.

- One marker, suitable for different makes of terminals.
- Ready-to-use markers with standard printing
- Blank markers for printing with the PrintJet CONNECT or Plotter
- Delivery of individually printed markers according to customer CAE data or specifications
- One marking system for all applications

For custom printing: Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

General ordering data

Type	MF 5/7.5 MC NE WS	Version
Order No.	1877680000	MultiFit, Terminal marker, 5 x 7.5 mm, Pitch in mm (P): 7.50 Adels
GTIN (EAN)	4032248468270	RKW, Phoenix, white
Qty.	320 pc(s).	