Data sheet

ACT20M-RTI-CO-EOLP-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, Without galvanic isolation, Output current loop powered, Input : Temperature, PT100, Output : 4-20 mA
Order No.	1435610000
Type	ACT20M-RTI-CO-EOLP-S
GTIN (EAN)	4050118240528
Qty.	1 items

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Technical data

Approvals

Approvals	
ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E337701

Dimensions and weights

Depth	114.3 mm	Depth (inches)	4.5 inch
Height	112.5 mm	Height (inches)	4.4291 inch
Width	6.1 mm	Width (inches)	0.2402 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

Environmental Product Compliance

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

Input

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

Output

Number of outputs	1	load impedance voltage	≥ 10 kΩ
Load impedance current	≤ 600 Ω	Wire break detection	Yes, Configurable, 3.5 mA / 23 mA / none
Type	passive, connected control must be active	Output current	4...20 mA, loop-powered
Supply voltage (output)	16,8 V...31,2 V		

General data

Accuracy	absolute accuracy: <±0.1 % of the measurement range, Basic accuracy: <±0.2°C
Protection degree	IP20
Supply voltage	Output loop powered, 6...35 V
Cold-junction compensation error	±(2.0 °C + 0.4 °C x Δt) Δt = inside temperature – ambient temperature

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Step response time	Configurable, ≤ 30 ms, <300 ms	
Mounting rail	TS 35	
Temperature coefficient	RTD (PT100) ≤0.01 % of the measurement range/°C or 0.02 °C/°C	
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
Nominal power consumption	0.5 VA	
Configuration	DIP switch	
Operating altitude	≤ 2000 m	
Power consumption, max.	0.8 W	
Power consumption, typ.	0.48 W	
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	

Insulation coordination

EMC standards	IEC 61326-1	Pollution severity	2
Galvanic isolation	Without isolation		

Data for Ex applications (ATEX)

Marking	II 3 G Ex nA IIC T4 Gc	IECEx - gas labelling	Ex nA IIC T4 Gc, Standard: IEC 60079-0-15
Installation location	Device installed in safe area, zone 2		

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 mm²
Clamping range, min.	0.5 mm²	Clamping range, max.	2.5 mm²
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

Part description

Product description	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). The ACT20M-RTI-CO-EOLP-S passive configurable temperature transducer does not have any galvanic isolation and has no TC input.

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Classifications

ETIM 8.0	EC002919	ETIM 9.0	EC002919
ETIM 10.0	EC002919	ECLASS 14.0	27-21-01-29
ECLASS 15.0	27-21-01-29		

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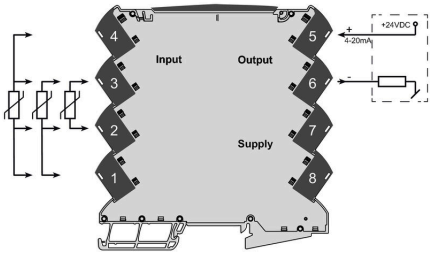
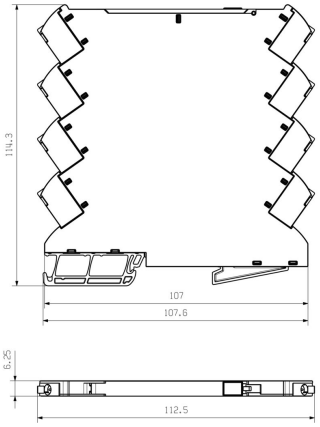
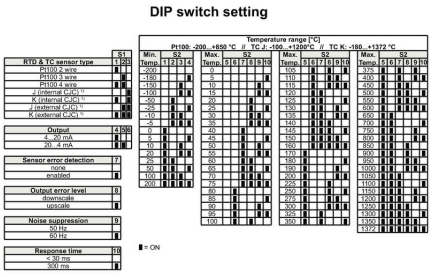
Drawings

Connection diagram

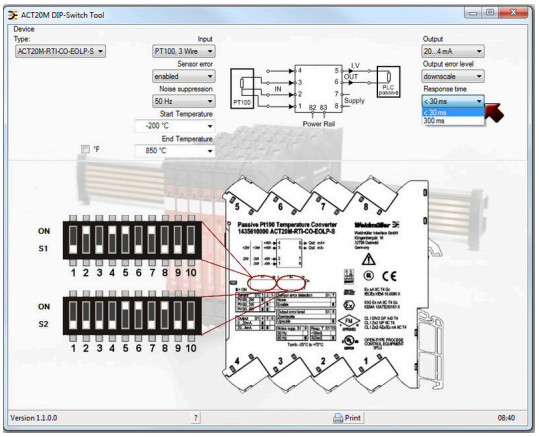


Dimensional drawing





example for DIP switch setting
(with ACT20M tool software)



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