ACT20M-RTI-AO-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	Temperature converter, With galvanic isolation, Input : Temperature, PT100, Output : I / U
Order No.	1375510000
Type	ACT20M-RTI-AO-S
GTIN (EAN)	4050118259667
Qty.	1 Stück

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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	89 g		

Temperatures

Storage temperature	-40 °C...85 °C	Humidity	40 °C / 95 % rel. humidity, no condensation

Probability of failure

MTBF	152 Years

Input

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	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	configurable, 0...20 mA, 4...20 mA	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	Type	active, connected control must be passive
Wire break detection	Yes, Configurable, 3.5 mA / 23 mA / none	load impedance voltage	≥ 10 kΩ

General data

Accuracy	absolute accuracy: < ±0.05 % of the measurement range, Basic accuracy: < ±0.1°C
Configuration	DIP switch
Delivery state	Output: 4...20 mA // 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

Delivery state		
	Setting parameters	Output
	Configuration	4...20 mA
	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	3-way isolator

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Included in delivery	Instruction sheet
Power consumption, max.	0.7 W
Power consumption, typ.	0.49 W
Rail	TS 35
Step response time	Configurable, ≤ 30 ms, < 300 ms
Temperature coefficient	≤0.01 % of the measurement range/°C or 0.02 °C/°C
Voltage supply	24 V DC ±30 % at terminal or via CH20M rail bus

Insulation coordination

EMC standards	IEC 61326-1, NE 21	Galvanic isolation	3-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

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, NE 21	Standards	IEC 61010-1

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

Important note

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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Technische Daten

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 IECEXx certificate ATEX certificate Declaration of Conformity
Engineering Data	CAD data – STEP
Engineering Data	WSCAD, Zuken E3.S, EPLAN
Software	Runtime Software – DIP switch configuration tool
User Documentation	instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

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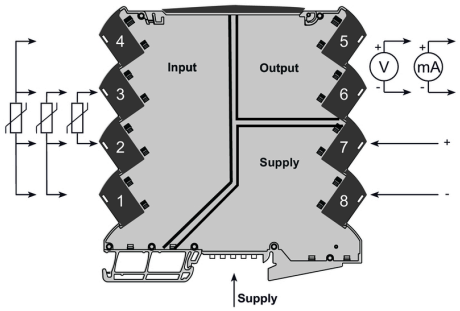
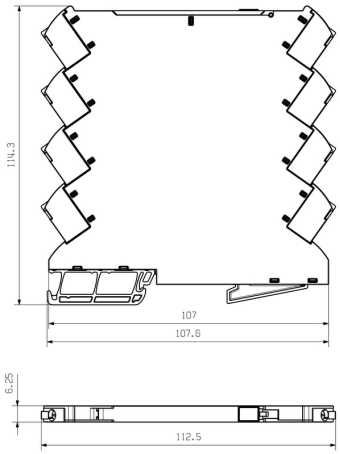
Zeichnungen

Connection diagram



Dimensional drawing



DIP switch setting

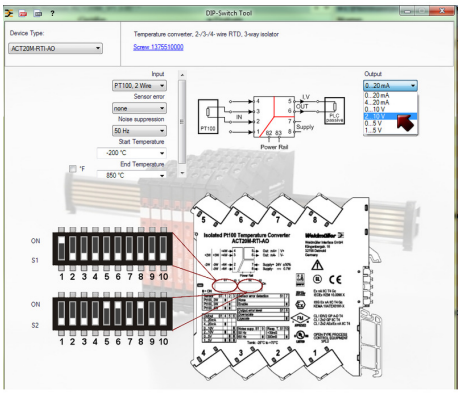
Temperature range [°C]
Pt100: -200...+850 °C

	S1	Min. Temp.	S2	Max. Temp.	S2	Max. Temp.	S2	Max. Temp.	S2
RTD sensor type	1 2 3		1 2 3 4		5 6 7 8 9 10		5 6 7 8 9 10		5 6 7 8 9 10
Pt100 2 wire	■	-200		0		105		375	
Pt100 3 wire	■	-180	■	5	■	110	■	400	■
Pt100 4 wire	■	-150		10	■	115	■	450	■
		-100	■	15	■	120	■	500	■
Output	4 5 6	-50		20		125	■	550	■
0...20 mA	■	-25	■	25	■	130	■	600	■
4...20 mA	■	-10	■	30	■	135	■	650	■
0...10 V	■	-5	■	35	■	140	■	700	■
2...10 V	■	0	■	40	■	145	■	750	■
0...5 V	■	5	■	45	■	150	■	800	■
1...5 V	■	10	■	50	■	160	■	850	■
		20	■	55	■	170	■		
Sensor error detection	7	25	■	60	■	180	■		
none	■	50	■	65	■	190	■		
enabled	■	100	■	70	■	200	■		
		200	■	75	■	225	■		
Output error level	8			80	■	250	■		
downscale	■			85	■	275	■		
upscale	■			90	■	300	■		
				95	■	325	■		
Noise suppression	9			100	■	350	■		
50 Hz	■								
60 Hz	■								
Response time	10								
< 30 ms	■								
300 ms	■								

■ = ON

example for DIP switch setting
(with ACT20M tool software)

Power supply via the rail bus



example for DIP switch setting (with ACT20 tool)