

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 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	89 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 / 95 % rel. humidity, no condensation

Probability of failure

MTBF	152 a
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Input

Influence of the sensor cable resistance	<0.002 Ω/Ω (@ 3/4-wire)	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	Setting parameters	Input
	Configuration	0 °C
	Setting parameters	Bandwidth
	Configuration	50 Hz
	Setting parameters	Output 1
	Configuration	0...20 mA
	Setting parameters	Output 2
	Configuration	0...20 mA
	Setting parameters	Sensor error detection
	Configuration	enabled
	Setting parameters	Step response time
	Configuration	< 30 ms
	Setting parameters	Noise suppression
	Configuration	enabled
Delivery state	Input: 0 °C // Bandwidth: 50 Hz // Output 1: 0...20 mA // Output 2: 0...20 mA // Sensor error detection: enabled // Step response time: < 30 ms // Noise suppression: enabled	
Included in delivery	Instruction sheet	

Creation date June 12, 2025 12:43:23 PM CEST

Catalogue status 07.06.2025 / We reserve the right to make technical changes.

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Technical data

Nominal power consumption	0.5 VA
Operating altitude	≤ 2000 m
Power consumption, max.	0.7 W
Power consumption, typ.	0.49 W
Protection degree	IP20
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	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
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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
ETIM 10.0	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
ECLASS 15.0	27-21-01-29		

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
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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Technical data**Approvals**

Approvals



Approvals MAMID	https://mdcop.weidmueller.com/mediadelivery/rendition/900_319228/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319234/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319237/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319240/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319243/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319260/-T1z1mm-S800/
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 UL certification for canada Declaration of Conformity
Engineering Data	CAD data – STEP
Software	DIP switch configuration tool
User Documentation	instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

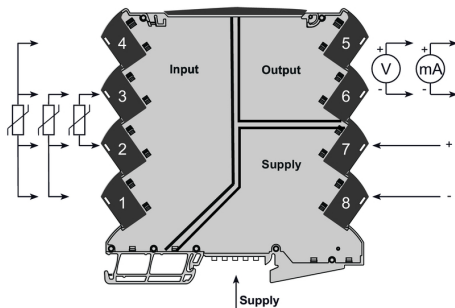
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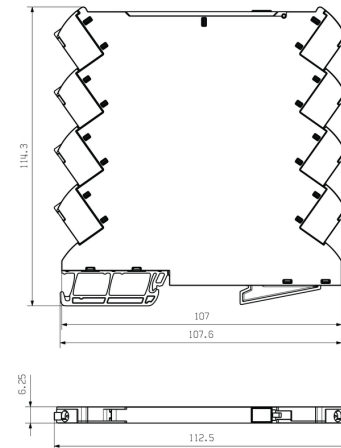
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Drawings

Connection diagram



Dimensional drawing



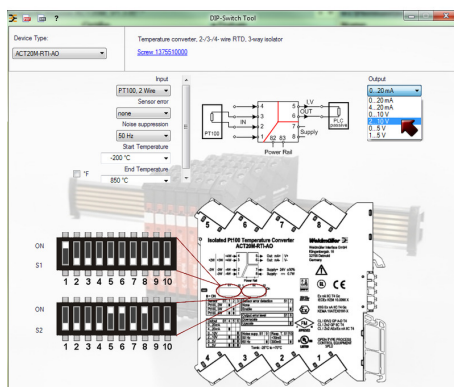
DIP switch setting

		Temperature range [°C]																		
		PT100, 2-wire				PT100, 3-wire				PT100, 4-wire				PT100, 5-wire						
RTD sensor type	S1	Min.	Max.	S2	S3	Temp. range	Min.	Max.	S2	S3	Temp. range	Min.	Max.	S2	S3	Temp. range	Min.	Max.	S2	S3
PT100 2-wire	1	-200	200	1	1	PT100 3-wire	-200	200	1	1	PT100 4-wire	-200	200	1	1	PT100 5-wire	-200	200	1	1
PT100 3-wire	2	-100	100	2	2	PT100 3-wire	-100	100	2	2	PT100 4-wire	-100	100	2	2	PT100 5-wire	-100	100	2	2
PT100 4-wire	3	-50	50	3	3	PT100 3-wire	-50	50	3	3	PT100 4-wire	-50	50	3	3	PT100 5-wire	-50	50	3	3
PT100 5-wire	4	0	0	4	4	PT100 3-wire	0	0	4	4	PT100 4-wire	0	0	4	4	PT100 5-wire	0	0	4	4
Output	5	-100	100	5	5	PT100 3-wire	-100	100	5	5	PT100 4-wire	-100	100	5	5	PT100 5-wire	-100	100	5	5
2.0 mA	6	-50	50	6	6	PT100 3-wire	-50	50	6	6	PT100 4-wire	-50	50	6	6	PT100 5-wire	-50	50	6	6
4.0 mA	7	0	0	7	7	PT100 3-wire	0	0	7	7	PT100 4-wire	0	0	7	7	PT100 5-wire	0	0	7	7
6.0 mA	8	50	50	8	8	PT100 3-wire	50	50	8	8	PT100 4-wire	50	50	8	8	PT100 5-wire	50	50	8	8
8.0 mA	9	100	100	9	9	PT100 3-wire	100	100	9	9	PT100 4-wire	100	100	9	9	PT100 5-wire	100	100	9	9
10.0 mA	10	150	150	10	10	PT100 3-wire	150	150	10	10	PT100 4-wire	150	150	10	10	PT100 5-wire	150	150	10	10
12.0 mA	11	200	200	11	11	PT100 3-wire	200	200	11	11	PT100 4-wire	200	200	11	11	PT100 5-wire	200	200	11	11
14.0 mA	12	250	250	12	12	PT100 3-wire	250	250	12	12	PT100 4-wire	250	250	12	12	PT100 5-wire	250	250	12	12
16.0 mA	13	300	300	13	13	PT100 3-wire	300	300	13	13	PT100 4-wire	300	300	13	13	PT100 5-wire	300	300	13	13
18.0 mA	14	350	350	14	14	PT100 3-wire	350	350	14	14	PT100 4-wire	350	350	14	14	PT100 5-wire	350	350	14	14
20.0 mA	15	400	400	15	15	PT100 3-wire	400	400	15	15	PT100 4-wire	400	400	15	15	PT100 5-wire	400	400	15	15
22.0 mA	16	450	450	16	16	PT100 3-wire	450	450	16	16	PT100 4-wire	450	450	16	16	PT100 5-wire	450	450	16	16
24.0 mA	17	500	500	17	17	PT100 3-wire	500	500	17	17	PT100 4-wire	500	500	17	17	PT100 5-wire	500	500	17	17
26.0 mA	18	550	550	18	18	PT100 3-wire	550	550	18	18	PT100 4-wire	550	550	18	18	PT100 5-wire	550	550	18	18
28.0 mA	19	600	600	19	19	PT100 3-wire	600	600	19	19	PT100 4-wire	600	600	19	19	PT100 5-wire	600	600	19	19
30.0 mA	20	650	650	20	20	PT100 3-wire	650	650	20	20	PT100 4-wire	650	650	20	20	PT100 5-wire	650	650	20	20
32.0 mA	21	700	700	21	21	PT100 3-wire	700	700	21	21	PT100 4-wire	700	700	21	21	PT100 5-wire	700	700	21	21
34.0 mA	22	750	750	22	22	PT100 3-wire	750	750	22	22	PT100 4-wire	750	750	22	22	PT100 5-wire	750	750	22	22
36.0 mA	23	800	800	23	23	PT100 3-wire	800	800	23	23	PT100 4-wire	800	800	23	23	PT100 5-wire	800	800	23	23
38.0 mA	24	850	850	24	24	PT100 3-wire	850	850	24	24	PT100 4-wire	850	850	24	24	PT100 5-wire	850	850	24	24
40.0 mA	25	900	900	25	25	PT100 3-wire	900	900	25	25	PT100 4-wire	900	900	25	25	PT100 5-wire	900	900	25	25
42.0 mA	26	950	950	26	26	PT100 3-wire	950	950	26	26	PT100 4-wire	950	950	26	26	PT100 5-wire	950	950	26	26
44.0 mA	27	1000	1000	27	27	PT100 3-wire	1000	1000	27	27	PT100 4-wire	1000	1000	27	27	PT100 5-wire	1000	1000	27	27
46.0 mA	28			28	28	PT100 3-wire			28	28	PT100 4-wire			28	28	PT100 5-wire			28	28
48.0 mA	29			29	29	PT100 3-wire			29	29	PT100 4-wire			29	29	PT100 5-wire			29	29
50.0 mA	30			30	30	PT100 3-wire			30	30	PT100 4-wire			30	30	PT100 5-wire			30	30
52.0 mA	31			31	31	PT100 3-wire			31	31	PT100 4-wire			31	31	PT100 5-wire			31	31
54.0 mA	32			32	32	PT100 3-wire			32	32	PT100 4-wire			32	32	PT100 5-wire			32	32
56.0 mA	33			33	33	PT100 3-wire			33	33	PT100 4-wire			33	33	PT100 5-wire			33	33
58.0 mA	34			34	34	PT100 3-wire			34	34	PT100 4-wire			34	34	PT100 5-wire			34	34
60.0 mA	35			35	35	PT100 3-wire			35	35	PT100 4-wire			35	35	PT100 5-wire			35	35
62.0 mA	36			36	36	PT100 3-wire			36	36	PT100 4-wire			36	36	PT100 5-wire			36	36
64.0 mA	37			37	37	PT100 3-wire			37	37	PT100 4-wire			37	37	PT100 5-wire			37	37
66.0 mA	38			38	38	PT100 3-wire			38	38	PT100 4-wire			38	38	PT100 5-wire			38	38
68.0 mA	39			39	39	PT100 3-wire			39	39	PT100 4-wire			39	39	PT100 5-wire			39	39
70.0 mA	40			40	40	PT100 3-wire			40	40	PT100 4-wire			40	40	PT100 5-wire			40	40
72.0 mA	41			41	41	PT100 3-wire			41	41	PT100 4-wire			41	41	PT100 5-wire			41	41
74.0 mA	42			42	42	PT100 3-wire			42	42	PT100 4-wire			42	42	PT100 5-wire			42	42
76.0 mA	43			43	43	PT100 3-wire			43	43	PT100 4-wire			43	43	PT100 5-wire			43	43
78.0 mA	44			44	44	PT100 3-wire			44	44	PT100 4-wire			44	44	PT100 5-wire			44	44
80.0 mA	45			45	45	PT100 3-wire			45	45	PT100 4-wire			45	45	PT100 5-wire			45	45
82.0 mA	46			46	46	PT100 3-wire			46	46	PT100 4-wire			46	46	PT100 5-wire			46	46
84.0 mA	47			47	47	PT100 3-wire			47	47	PT100 4-wire			47	47	PT100 5-wire			47	47
86.0 mA	48			48	48	PT100 3-wire			48	48	PT100 4-wire			48	48	PT100 5-wire			48	48
88.0 mA	49			49	49	PT100 3-wire			49	49	PT100 4-wire			49	49	PT100 5-wire			49	49
90.0 mA	50			50	50	PT100 3-wire			50	50	PT100 4-wire			50	50	PT100 5-wire			50	50
92.0 mA	51			51	51	PT100 3-wire			51	51	PT100 4-wire			51	51	PT100 5-wire			51	51
94.0 mA	52			52	52	PT100 3-wire			52	52	PT100 4-wire			52	52	PT100 5-wire			52	52
96.0 mA	53			53	53	PT100 3-wire			53	53	PT100 4-wire			53	53	PT100 5-wire			53	53
98.0 mA	54			54	54	PT100 3-wire			54	54	PT100 4-wire			54	54	PT100 5-wire			54	54
100.0 mA	55			55	55	PT100 3-wire			55	55	PT100 4-wire			55	55	PT100 5-wire			55	55
102.0 mA	56			56	56	PT100 3-wire			56	56	PT100 4-wire			56	56	PT100 5-wire			56	56
104.0 mA	57			57	57	PT100 3-wire			57	57	PT100 4-wire			57	57	PT100 5-wire			57	57
106.0 mA	58			58	58	PT100 3-wire			58	58	PT100 4-wire			58	58	PT100 5-wire			58	58
108.0 mA	59			59	59	PT100 3-wire			59	59	PT100 4-wire			59	59	PT100 5-wire			59	59
110.0 mA	60			60	60	PT100 3-wire			60	60	PT100 4-wire			60	60	PT100 5-wire			60	60
112.0 mA	61			61	61	PT100 3-wire			61	61	PT100 4-wire			61	61	PT100 5-wire			61	61
114.0 mA	62			62	62	PT100 3-wire			62	62	PT100 4-wire			62	62	PT100 5-wire			62	62
116.0 mA	63			63	63	PT100 3-wire			63	63	PT100 4-wire			63	63	PT100 5-wire			63	63
118.0 mA	64			64	64	PT100 3-wire			64	64	PT100 4-wire			64	64	PT100 5-wire			64	64
120.0 mA	65			65	65	PT100 3-wire			65	65	PT100 4-wire			65	65	PT100 5-wire			65	65
122.0 mA	66			66	66	PT100 3-wire			66	66	PT100 4-wire			66	66	PT100 5-wire			66	66
124.0 mA	67			67	67	PT100 3-wire			67	67	PT100 4-wire			67	67	PT100 5-wire			67	67
126.0 mA	68			68	68	PT100 3-wire			68	68	PT100 4-wire			68	68	PT100 5-wire			68	68
128.0 mA	69			69	69	PT100 3-wire			69	69	PT100 4-wire			69	69	PT100 5-wire			69	69
130.0 mA	70			70	70	PT100 3-wire			70	70	PT100 4-wire			70	70	PT100 5-wire			70	70
132.0 mA	71			71	71	PT100 3-wire			71	71	PT100 4-wire			71	71	PT100 5-wire			71	71
134.0 mA	72			72	72	PT100 3-wire			72	72	PT100 4-wire			72	72	PT100 5-wire			72	72
136.0 mA	73			73	73	PT100 3-wire			73	73	PT100 4-wire			73	73	PT100 5-wire			73	73
138.0 mA	74			74	74	PT100 3-wire			74	7										

example for DIP switch setting
 (with ACT20M tool software)



Additional power supply option via bus



example for DIP switch setting (with ACT20 tool)