

ACT20M
ACT20M-TCI-AO-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
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Product image, Similar to illustration**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

Type	ACT20M-TCI-AO-S
Order No.	1375480000
Version	Temperature converter, Thermocouple, Input : Temperature, Output : I / U
GTIN (EAN)	4050118259650
Qty.	1 pc(s).

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Technical data
Dimensions and weights

Width	6.1 mm	Width (inches)	0.24 inch
Height	112.5 mm	Height (inches)	4.429 inch
Depth	114.3 mm	Depth (inches)	4.5 inch
Net weight	84 g		

Temperatures

Humidity	40 °C / 93 % rel. humidity, no condensation	Storage temperature, max.	85 °C
Storage temperature, min.	-40 °C	Operating temperature	
Ambient temperature	-25 °C...+70 °C	Storage temperature	-40 °C...85 °C

Probability of failure

MTBF	147 Years
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Rated data UL

UL certificate	E337701.pdf
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Input

Number of inputs	1	Sensor	Thermocouple (type J, K)
Input measurement range	Thermocouple type J -100...+1200°C, Thermocouple type K -200...+1370°C	Temperature input range	Configurable, min. measurement range 50°C (TC)

Output

Number of outputs	1	Output voltage, note	configurable, 0(2)...10 V, 0(1)...5 V
Output current	configurable, 0...20 mA, 4...20 mA	Wire break detection	Configurable, 3.5 mA / 23 mA / none
cold junction compensation	configurable internal or external cold- junction compensation (thermocouple)	load impedance voltage	≥ 10 kΩ
load impedance current	≤ 600 Ω		

General data

Accuracy	absolute accuracy: < ±0.05 % of the measurement range, Basic accuracy: < ±0.5°	Configuration	DIP switch
Galvanic isolation	3-way isolator	Power consumption, max.	0.7 W
Power consumption, typ.	0.49 W	Rail	TS 35
Step response time	≤ 30 ms, < 300 ms, Configurable	Temperature coefficient	0,1 °C/°C, or, ≤0,01% des Messbereichs/°C
Voltage supply	24 V DC ± 30 %		

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Technical data

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)

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

Ratings IECEx/ATEX/cUL

Certificate No. (ATEX)	KEMA10ATEX0183X	Certificate No. (IECEX)	IECEXKEM10.0090X
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Classifications

ETIM 5.0	EC002653	ETIM 6.0	EC002919
eClass 6.2	27-21-01-20	eClass 7.1	27-21-01-20
eClass 8.1	27-21-01-20	eClass 9.0	27-21-01-29
eClass 9.1	27-21-01-29		

Product information

Product information	The ACT20M-TCI-AO-S configurable temperature transducer isolates and converts analogue signals. An analogue thermocouple input signal (Type J, K) is linearly converted into an analogue output signal and is 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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Approvals

Approvals



ROHS	Conform
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Technical data

Downloads

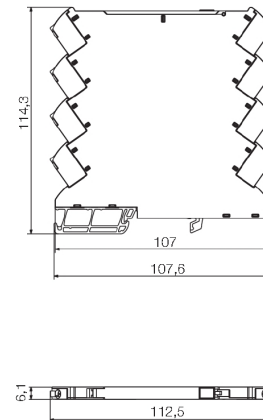
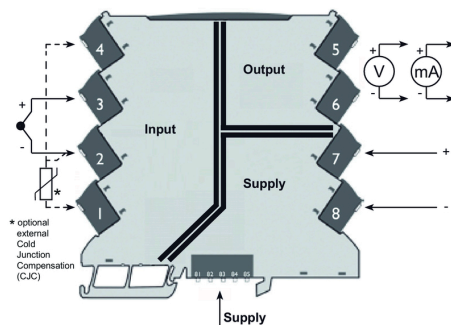
Approval/Certificate/Document of Conformity	DNV-GL certificate Declaration of Conformity
Brochure/Catalogue	CAT 4.1 ELECTR 16/17 EN
Engineering Data	EPLAN, WSCAD, Zuken E3.S
Engineering Data	STEP
Software	DIP switch configuration tool
User Documentation	instruction sheet

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Drawings

Connection diagram



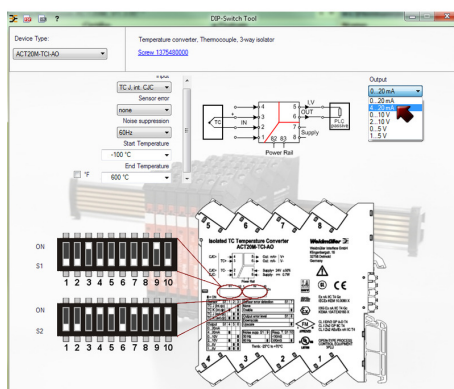
DIP switch configuration

		Temperature range [°C]									
		TC J ₁ -100...+1200 °C					TC K ₁ -189...+1372 °C				
TC sensor type	1 2 3 4	Min.	Max.	5	6	7	8	9	10	Min.	Max.
J (internal CJC)	1	-200	0	100	135	175	215	255	295	375	450
K (external CJC)	2	-150	5	110	150	190	230	270	310	350	390
J (external CJC)	3	-150	10	110	150	190	230	270	310	350	390
K (external CJC)	4	-100	15	120	160	200	240	280	320	360	400
Output	5 6 7 8 9 10	-50	20	120	160	200	240	280	320	360	400
0...20 mA	5	-20	20	120	160	200	240	280	320	360	400
4...20 mA	6	-10	30	130	170	210	250	290	330	370	410
0...10 V	7	-5	35	140	180	220	260	300	340	380	420
2...10 V	8	-5	40	150	190	230	270	310	350	390	430
0...5 V	9	-10	50	160	200	240	280	320	360	400	440
1...5 V	10	-20	60	170	210	250	290	330	370	410	450
Sensor error detection	1	60	100	140	180	220	260	300	340	380	420
done	2	100	140	180	220	260	300	340	380	420	460
enabled	3	140	180	220	260	300	340	380	420	460	500
Output error level	4	180	220	260	300	340	380	420	460	500	540
downscale	5	220	260	300	340	380	420	460	500	540	580
scale	6	260	300	340	380	420	460	500	540	580	620
Noise suppression	7	300	340	380	420	460	500	540	580	620	660
50 Hz	8	340	380	420	460	500	540	580	620	660	700
60 Hz	9	380	420	460	500	540	580	620	660	700	740
Response time	10	420	460	500	540	580	620	660	700	740	780
< 20 ms	1	460	500	540	580	620	660	700	740	780	820
300 ms	2	500	540	580	620	660	700	740	780	820	860

example for DIP switch setting
(with ACT20M tool software)



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