

## ACT20M ACT20M-TCI-AO-S

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
 www.weidmueller.com

### 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.	<a href="#">1375480000</a>
Version	Temperature converter, Thermocouple, Input : Temperature, Output : I / U
GTIN (EAN)	4050118259650
Qty.	1 pc(s).

Creation date May 3, 2020 7:52:10 AM CEST

Catalogue status 17.04.2020 / We reserve the right to make technical changes.

## Data sheet

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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	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

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**Technical data**

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	
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 %	

**Insulation coordination**

EMC standards	IEC 61326-1, NE 21	Galvanic isolation	3-way isolator
Insulation voltage	2.5 kV <sub>eff</sub> / 1 min.	Pollution severity	2
Rated voltage	300 V <sub>eff</sub>	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 <sup>2</sup>
Clamping range, min.	0.5 mm <sup>2</sup>	Clamping range, max.	2.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 30	Wire connection cross section AWG, max.	AWG 14

**Classifications**

ETIM 6.0	EC002919	ETIM 7.0	EC002919
eClass 9.0	27-21-01-29	eClass 9.1	27-21-01-29
eClass 10.0	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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**Technical data**

**Approvals**

Approvals



ROHS Conform

**Downloads**

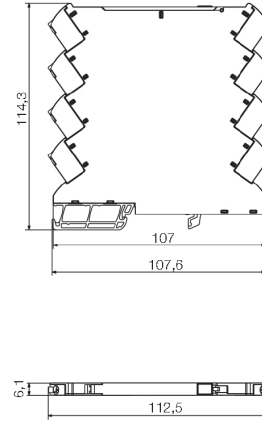
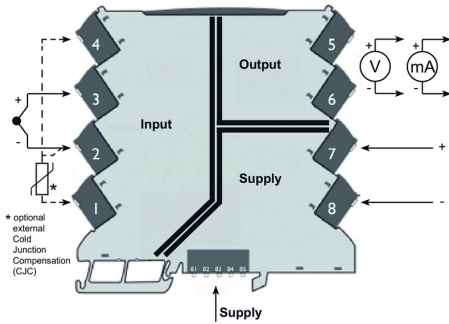
Approval/Certificate/Document of Conformity	<a href="#">DNV-GL certificate</a> <a href="#">EAC certificate</a> <a href="#">FM certificate</a> <a href="#">IECEX certificate</a> <a href="#">ATEX certificate</a> <a href="#">Declaration of Conformity</a>
Brochure/Catalogue	<a href="#">CAT 4.1 ELECTR 16/17 EN</a>
Engineering Data	<a href="#">EPLAN, WSCAD, Zuken E3.S</a>
Engineering Data	<a href="#">STEP</a>
Software	<a href="#">DIP switch configuration tool</a>
User Documentation	<a href="#">instruction sheet</a>

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**Drawings**

**Connection diagram**

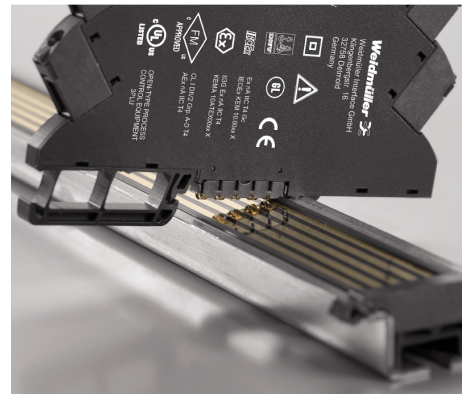


DIP switch configuration

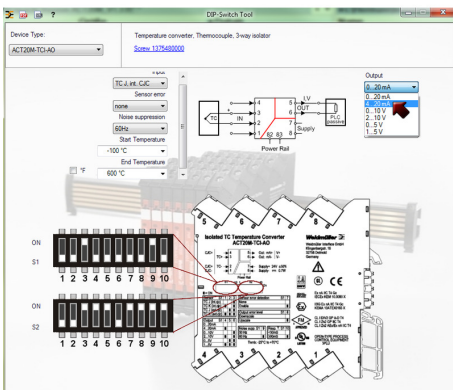
		Temperature range [°C]											
		TC J: -100...+1200 °C # TC K: -100...+1372 °C											
TC sensor type	S1	Min.	Temp.	Max.	S2	Min.	Temp.	Max.	S2	Min.	Temp.	Max.	S2
J (internal CJC)	1	-200	0	100	10	100	0	100	10	100	0	100	10
K (external CJC)	1	-100	0	100	10	100	0	100	10	100	0	100	10
J (external CJC)	1	-100	0	100	10	100	0	100	10	100	0	100	10
K (external CJC)	1	-100	0	100	10	100	0	100	10	100	0	100	10
Output	2	0	20	30	10	100	0	20	30	10	100	0	20
0...20 mA	1	-20	0	30	10	100	-20	0	30	10	100	-20	0
4...20 mA	1	-20	0	30	10	100	-20	0	30	10	100	-20	0
0...10 V	1	-20	0	30	10	100	-20	0	30	10	100	-20	0
2...10 V	1	-20	0	30	10	100	-20	0	30	10	100	-20	0
0...5 V	1	-20	0	30	10	100	-20	0	30	10	100	-20	0
1...5 V	1	-20	0	30	10	100	-20	0	30	10	100	-20	0
Sensor error detection	7	60	70	80	10	100	60	70	80	10	100	60	70
none	1	100	100	100	10	100	100	100	100	10	100	100	100
enable	1	200	200	200	10	200	200	200	200	10	200	200	200
Output error level	8	80	80	80	10	80	80	80	80	10	80	80	80
downscale	1	90	90	90	10	90	90	90	90	10	90	90	90
upscale	1	100	100	100	10	100	100	100	100	10	100	100	100
Noise suppression	9	20	20	20	10	20	20	20	20	10	20	20	20
50 Hz	1	50	50	50	10	50	50	50	50	10	50	50	50
60 Hz	1	60	60	60	10	60	60	60	60	10	60	60	60
Response time	10	20	20	20	10	20	20	20	20	10	20	20	20
300 ms	1	300	300	300	10	300	300	300	300	10	300	300	300

■ = ON  
 1) optional / optional / optionnel / optionale / optional

example for DIP switch setting  
(with ACT20M tool software)



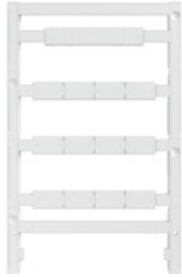
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**Accessories**
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Accessories for the analogue signal processing products:

- End plates: for components with terminal-block design
- Retaining clips: for mounting IP6X signal isolators and displays
- Calibration devices: for calibrating and setting analogue signal converters
- MICRO interface: for direct transmission to a controller thus minimizing the wiring overhead
- markers
- Programming adapter: for configuring PC-configurable modules
- Cross-connector
- Power supply modules / power supplies
- Optional connection terminals and cold-junction compensation terminals

**General ordering data**

Type	MF 5/7.5 MC NE WS	Version
Order No.	<a href="#">1877680000</a>	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).	
Type	ACT20-FEED-IN-BASIC-S	Version
Order No.	<a href="#">1282490000</a>	ACT20M, Supply module, Screw connection
GTIN (EAN)	4050118072730	
Qty.	1 pc(s).	
Type	SET CH20M BUS 250MM TS ...	Version
Order No.	<a href="#">1335140000</a>	OMNIMATE Housing - series CH20M, Length: 250 mm, Width: 25.1
GTIN (EAN)	4050118138375	mm
Qty.	1 pc(s).	