

ACT20M-TCI-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, Thermocouple, With galvanic isolation, Input : Temperature, thermocouple, Output : I / U
Order No.	1375480000
Type	ACT20M-TCI-AO-S
GTIN (EAN)	4050118259650
Qty.	1 items

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Technical data

Approvals

Approvals



IECEX



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	84 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 147 a

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

Input

Sensor	Thermocouples: J, K	Number inputs	1
Temperature input range	Configurable, J: (-100...+1200 °C), K: (-180...+1372 °C), min. measurement range 50°C (TC)		

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	active, connected control must be passive	Output voltage, note	configurable, 0(2)...10 V, 0(1)...5 V
Output current	configurable, 0...20 mA, 4...20 mA		

General data

Accuracy	absolute accuracy: <±0.05 % of the measurement range, Basic accuracy: <±0.5°
Protection degree	IP20
Supply voltage	24 V DC ±30 % at terminal or via CH20M rail bus

Creation date 26.02.2026 07:15:02 MEZ

Catalogue status / Drawings

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Step response time	Configurable, ≤ 30 ms, <300 ms	
Mounting rail	TS 35	
Temperature coefficient	0,1 °C/°C, or, ≤0,01% des Messbereichs°C	
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
Nominal power consumption	0.5 VA	
Configuration	DIP switch	
Operating altitude	≤ 2000 m	
Power consumption, max.	0.7 W	
Power consumption, typ.	0.49 W	
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	

Insulation coordination

EMC standards	IEC 61326-1	Surge voltage category	II
Pollution severity	2	Galvanic isolation	3-way isolator
Insulation voltage	2.5 kVeff / 1 min.	Rated voltage	300 Veff

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 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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Part description

Product description	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

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		

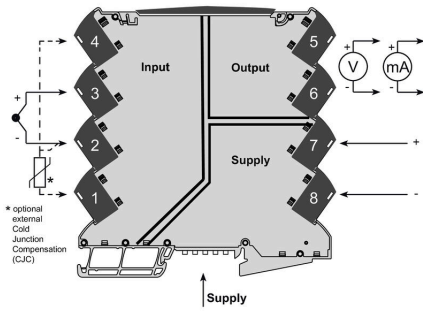
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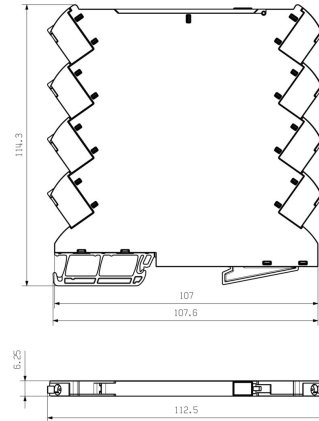
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Drawings

Connection diagram



Dimensional drawing



DIP switch configuration

DIP	Temperature range (°C)									
	TC J, -100...+1200 °C		TC K, -180...+1372 °C		TC J, -100...+1200 °C		TC K, -180...+1372 °C			
	Min.	50	Max.	50	Min.	50	Max.	50		
TC sensor type	1	2	3	4	5	6	7	8	9	10
J (external CJC)	0	0	0	0	100	100	375	375	1000	1000
K (external CJC)	0	0	0	0	100	100	450	450	1000	1000
J (external CJC) 1)	0	0	10	10	110	110	450	450	1000	1000
K (external CJC) 1)	0	0	10	10	120	120	500	500	1000	1000
Output	4	5	6	7	8	9	10	11	12	13
0...20 mA	0	0	0	0	100	100	100	100	100	100
0...20 mA	0	0	0	0	100	100	100	100	100	100
0...10 V	0	0	0	0	100	100	100	100	100	100
0...10 V	0	0	0	0	100	100	100	100	100	100
0...5 V	0	0	0	0	100	100	100	100	100	100
0...5 V	0	0	0	0	100	100	100	100	100	100
1...5 V	0	0	0	0	100	100	100	100	100	100
Sensor error detection	7	8	9	10	11	12	13	14	15	16
none	0	0	0	0	100	100	100	100	1000	1000
enabled	0	0	0	0	100	100	100	100	1000	1000
Output error level	9	10	11	12	13	14	15	16	17	18
downside	0	0	0	0	100	100	100	100	1000	1000
upside	0	0	0	0	100	100	100	100	1000	1000
Noise suppression	9	10	11	12	13	14	15	16	17	18
50 Hz	0	0	0	0	100	100	100	100	1000	1000
60 Hz	0	0	0	0	100	100	100	100	1000	1000
Response time	10	11	12	13	14	15	16	17	18	19
< 50 ms	0	0	0	0	100	100	100	100	1000	1000
300 ms	0	0	0	0	100	100	100	100	1000	1000

■ ON
 1) optional / optional / optionnel / opzionale / opcional

example for DIP switch setting
 (with ACT20M tool software)



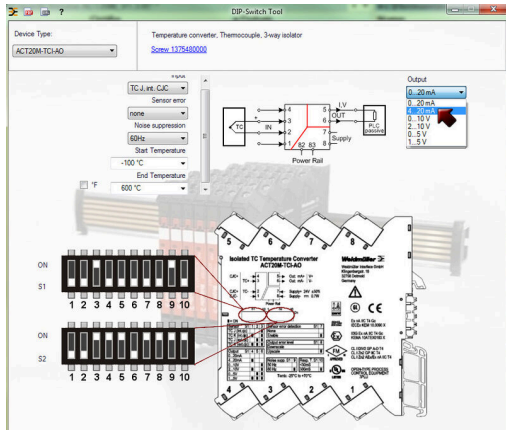
Additional power supply option via bus

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