

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 pc(s).

ACT20M-TCI-AO-S**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

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	84 g		

Temperatures

Storage temperature	-40 °C...85 °C	Humidity	40 °C / 93 % rel. humidity, no condensation
---------------------	----------------	----------	--

Probability of failure

SIL in compliance with IEC 61508	None	MTBF	147 Years
----------------------------------	------	------	-----------

Input

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

Output

Load impedance current	≤ 600 Ω	Number of outputs	1
Output current	configurable, 0...20 mA, 4...20 mA	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
cold junction compensation	configurable internal or external cold-junction compensation (thermocouple)	load impedance voltage	≥ 10 kΩ

General data

Accuracy	absolute accuracy: < ±0.05 % of the measurement range, Basic accuracy: < ±0.5°		
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	

ACT20M-TCI-AO-S

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Galvanic isolation	3-way isolator
Long-term drift	0
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	0,1 °C/°C, or, $\leq 0,01\%$ des Messbereichs/°C
Type of connection	Screw connection
Voltage supply	24 V DC $\pm 30\%$ 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 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, 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-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.
---------------------	---

ACT20M-TCI-AO-S**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

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

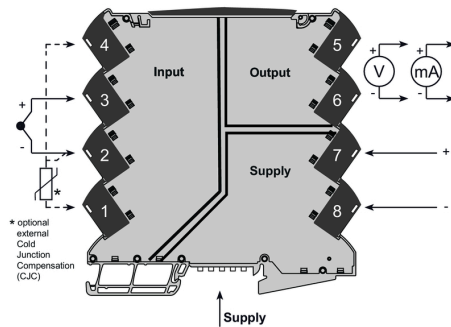
ACT20M-TCI-AO-S

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 26
 D-32758 Detmold
 Germany

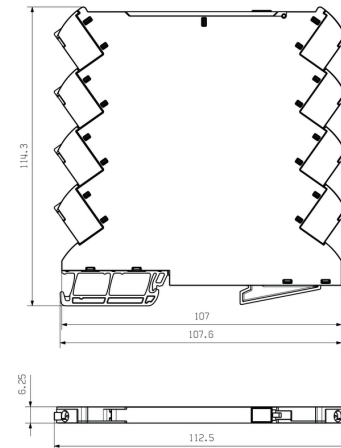
www.weidmueller.com

Drawings

Connection diagram



Dimensional drawing



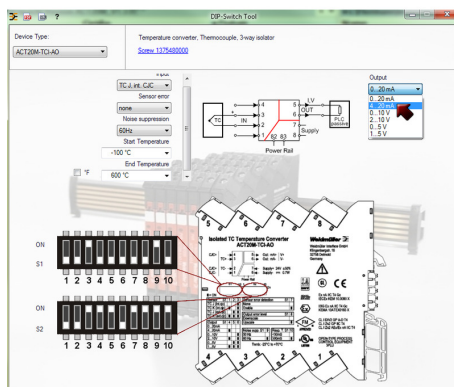
DIP switch configuration

		Temperature range [°C]									
		TC J ₁ -100...+1200 °C					TC K ₁ -189...+1372 °C				
TC sensor type	S1	Min.	Max.	S2	Temp.	S1	Min.	Max.	S2	Temp.	S1
J (internal CJC)	1	-200	0	1	135	1	135	1372	1	1372	1
J (external CJC)	2	-100	5	2	135	2	135	1372	2	1372	2
J (external CJC)	3	-100	10	3	135	3	135	1372	3	1372	3
K (external CJC)	4	-100	15	4	135	4	135	1372	4	1372	4
Output	5	-50	20	5	135	5	135	1372	5	1372	5
0...20 mA	6	-20	20	6	135	6	135	1372	6	1372	6
4...20 mA	7	-10	20	7	135	7	135	1372	7	1372	7
0...10 V	8	-5	20	8	135	8	135	1372	8	1372	8
0...10 V	9	-5	20	9	135	9	135	1372	9	1372	9
2...10 V	10	-5	20	10	135	10	135	1372	10	1372	10
0...5 V	11	-5	20	11	135	11	135	1372	11	1372	11
1...5 V	12	-5	20	12	135	12	135	1372	12	1372	12
Sensor error detection	13	60	60	13	135	13	135	1372	13	1372	13
none	14	100	70	14	135	14	135	1372	14	1372	14
enabled	15	200	70	15	135	15	135	1372	15	1372	15
Output error level	16	60	60	16	135	16	135	1372	16	1372	16
downscale	17	80	200	17	135	17	135	1372	17	1372	17
scale	18	80	200	18	135	18	135	1372	18	1372	18
Noise suppression	19	80	200	19	135	19	135	1372	19	1372	19
50 Hz	20	80	200	20	135	20	135	1372	20	1372	20
60 Hz	21	80	200	21	135	21	135	1372	21	1372	21
Response time	22	80	200	22	135	22	135	1372	22	1372	22
< 20 ms	23	80	200	23	135	23	135	1372	23	1372	23
300 ms	24	80	200	24	135	24	135	1372	24	1372	24

example for DIP switch setting
 (with ACT20M tool software)



example for DIP switch setting
 (with ACT20M tool software)



example for DIP switch setting
 (with ACT20M tool software)