

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).

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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	84 g		

Temperatures

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

MTBF	147 a
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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
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	
Galvanic isolation	3-way isolator	
Power consumption, max.	0.7 W	
Power consumption, typ.	0.49 W	
Rail	TS 35	

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Technical data

Step response time	Configurable, ≤ 30 ms, < 300 ms
Temperature coefficient	0,1 °C/°C, or, $\leq 0,01\%$ des Messbereichs/°C
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
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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, NE 21	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
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

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

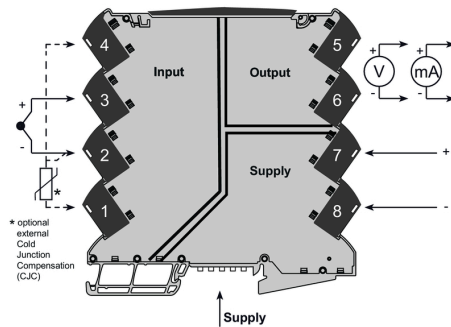
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Drawings

Connection diagram



Dimensional drawing

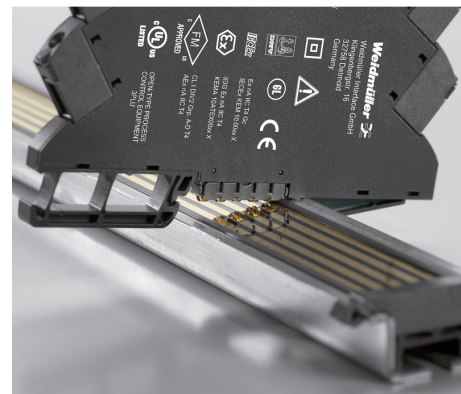


DIP switch configuration

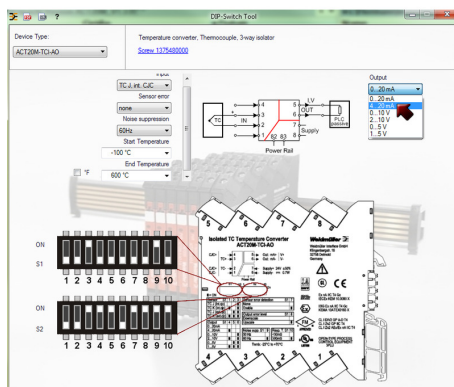
TC sensor type		Temp. range [°C]		Temp. range [°C]		Temp. range [°C]		Temp. range [°C]		Temp. range [°C]	
1	2	3	4	5	6	7	8	9	10	11	12
J (internal CJC)	0	-200	0	100	0	100	0	100	0	100	0
J (external CJC)	1	-100	0	100	0	100	0	100	0	100	0
J (external CJC)	2	-100	0	100	0	100	0	100	0	100	0
K (external CJC)	3	-100	0	100	0	100	0	100	0	100	0
Output	4	0 - 20 mA	0	100	0	100	0	100	0	100	0
4 - 20 mA	5	0	100	0	100	0	100	0	100	0	100
0 - 10 V	6	0	100	0	100	0	100	0	100	0	100
2 - 10 V	7	0	100	0	100	0	100	0	100	0	100
0 - 5 V	8	0	100	0	100	0	100	0	100	0	100
1 - 5 V	9	0	100	0	100	0	100	0	100	0	100
Sensor error detection	10	0	100	0	100	0	100	0	100	0	100
none	11	0	100	0	100	0	100	0	100	0	100
enable	12	0	100	0	100	0	100	0	100	0	100
Output error level	1	0	100	0	100	0	100	0	100	0	100
downscale	2	0	100	0	100	0	100	0	100	0	100
scale	3	0	100	0	100	0	100	0	100	0	100
Noise suppression	4	0	100	0	100	0	100	0	100	0	100
50 Hz	5	0	100	0	100	0	100	0	100	0	100
60 Hz	6	0	100	0	100	0	100	0	100	0	100
Response time	7	0	100	0	100	0	100	0	100	0	100
< 20 ms	8	0	100	0	100	0	100	0	100	0	100
300 ms	9	0	100	0	100	0	100	0	100	0	100

■ = ON
 1) optional / optional / optional / optional / optional

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)

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Accessories

ACT20 (incl. DIN rail bus & powersupplies)



Power supply adapter modules for separate supply and distribution of the supply voltage: for the ACT20 series/ MICROSERIES signal converters.

The 22.5/6.1 mm wide power-feed modules are mounted directly adjacent to the analogue signal converters. Then the 24 VDC supply voltage is optionally bridged via the CH20M (ACT20-series) rail bus or simply bridged over using the pluggable ZQV 4N (MICROSERIES) cross-connectors.

The ACT20-Feed-In-PRO-S can also detect faults coming from any of the devices mounted on the CH20 bus mounting profile.

In the event of an error or fault, the integrated status relay sends a common alarm to the external controller. In addition, two power supply units (as primary and backup supply) can be connected to the ACT20 Feed-In PRO-S.

Two feed-in modules mounted to the CH20 bus mounting profile guarantee a 100% redundant power supply.

Three LEDs are used to show the status of the power supply and error messages.

The ACT20M-Feed-In PRO can also be used in Ex zone2 / Division2 applications.

General ordering data

Type	SET CH20M BUS 250MM TS ...	Version
Order No.	1335140000	OMNIMATE Housing - series CH20M, Length: 250 mm, Width: 25.1
GTIN (EAN)	4050118138375	mm
Qty.	1 pc(s).	
Type	ACT20-FEED-IN-PRO-S	Version
Order No.	8965500000	Supply module, Distributes supply voltage to rail bus, Optional
GTIN (EAN)	4032248785117	connection of backup supply
Qty.	1 pc(s).	
Type	SET CH20M BUS 250MM TS ...	Version
Order No.	1335150000	OMNIMATE Housing - series CH20M, Length: 250 mm, Width: 25.1
GTIN (EAN)	4050118138382	mm
Qty.	1 pc(s).	

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MultiFit is the Weidmüller marker system used for other makes of terminals. Similar to the Weidmüller Dekafix, the markers of the MultiFit family are available ready-for-use with standard printing.

We recommend to carry out a test with sample markers on the terminals used when using MultiFit for the first time.

- One marker, suitable for different makes of terminals.
- Ready-to-use markers with standard printing
- Blank markers for printing with the PrintJet CONNECT or Plotter
- Delivery of individually printed markers according to customer CAE data or specifications
- One marking system for all applications

For custom printing: Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

General ordering data

Type	MF 5/7.5 MC NE WS	Version
Order No.	1877680000	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).	