Data sheet

ACT20M-TCI-AO-E-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, Without galvanic isolation, Input : Temperature, thermocouple, Output : I / U
Order No.	1375500000
Type	ACT20M-TCI-AO-E-S
GTIN (EAN)	4050118259674
Qty.	1 items

Data sheet

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Technical data

Approvals

Approvals	
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	70 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	189 a

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cI
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: <±0.1 % of the measurement range, Basic accuracy: <±1 °C
Protection degree	IP20
Supply voltage	24 V DC ± 30 %

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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	Output 1
	Configuration	0...20 mA
	Setting parameters	Output 2
	Configuration	0...20 mA
	Setting parameters	Noise suppression
	Configuration	100 Hz
	Setting parameters	Sensor error detection
	Configuration	enabled
	Setting parameters	Output error level
	Configuration	downscale
	Setting parameters	Step response time
	Configuration	< 30 ms
Nominal power consumption	0.5 VA	
Configuration	DIP switch	
Power consumption, max.	0.5 W	
Power consumption, typ.	0.37 W	
Delivery state	Input: 0 °C // Output 1: 0...20 mA // Output 2: 0...20 mA // Noise suppression: 100 Hz // Sensor error detection: enabled // Output error level: downscale // Step response time: < 30 ms	

Insulation coordination

EMC standards	IEC 61326-1	Pollution severity	2
Galvanic isolation	Without isolation		

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 mm²
Clamping range, min.	0.5 mm²	Clamping range, max.	2.5 mm²
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

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. The ACT20M-TCI-AO-E-S configurable temperature transducer offers the same functionality but does not have galvanic isolation.

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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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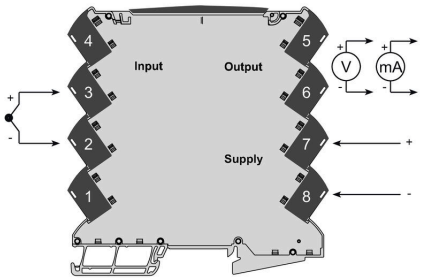
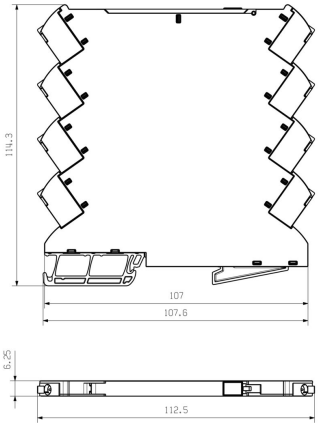
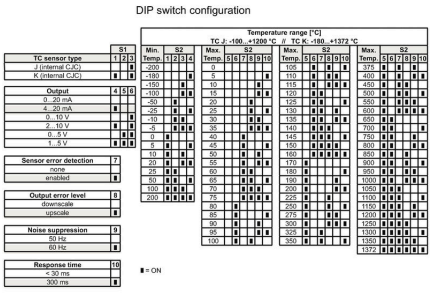
Drawings

Connection diagram

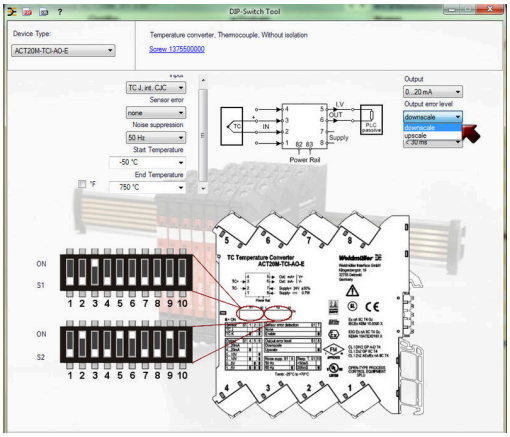


Dimensional drawing





example for DIP switch setting
(with ACT20M tool software)



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Drawings

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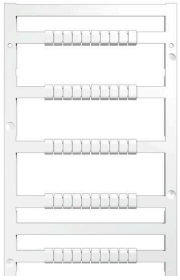
Accessories

Blank



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 ST	

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	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 ST	

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CH20M BUS SET - Kit

The integrated rail bus for the modular electronics housing system
When supplying, connecting or distributing within modular applications, the rail bus can replace the tedious individual wiring process with a flexible and uninterrupted system-wide solution.
The system bus is securely integrated within the 35-mm standard mounting rail. The SMD-bus contact block can be reflow-soldered so that it can be completely automatically processed during the component assembly. The resistant, gold-plated contact surfaces ensure a permanent and reliable contact for all housing widths.

- Unlimited scalability The integrated connection solution covers all system widths: from the 6-mm slice to the 67-mm large-area housing.
- Easy to service during installation It's easy to replace a module, even in existing modules groups – without any influence on the neighbouring modules.
- Universal integration The uninterrupted system bus is securely integrated within the 35-mm standard mounting rail.
- Maximum availability Five fully-galvanized and partially gold-plated twin-arched contacts are used to establish a permanent contact to the rail bus. THR solder flanges ensure that the connection to the circuit board is stable.

General ordering data

Type	SAMPLE CH20M BUS 250MM ...	Version
Order No.	1335150000	Mounting rail bus system, Sample set, OMNIMATE Housing - series
GTIN (EAN)	4050118138382	CH20M, Width: 25.1 mm
Qty.	1 ST	

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

General ordering data

Type	SAMPLE CH20M BUS 250MM ...	Version
Order No.	1335140000	Mounting rail bus system, Sample set, OMNIMATE Housing - series
GTIN (EAN)	4050118138375	CH20M, Width: 25.1 mm
Qty.	1 ST	