ACT20M-AI-AO-E-S

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

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

Version	Signal converter/insulator, Configurable, without sensor supply, Input : I / U, Output : I / U
Order No.	1176010000
Type	ACT20M-AI-AO-E-S
GTIN (EAN)	4032248970094
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	83.5 g		

Temperatures

Storage temperature	-40 °C...85 °C	Operating temperature	0 °C...70 °C
Humidity	40 °C / 93 % rel. humidity, no condensation		

Probability of failure

MTBF	249 a

Input

Input current	configurable, 0...20 mA, 4...20mA	Input frequency	100 Hz
Input resistance, current	70 Ω	Input resistance, voltage	>500 kΩ
Input voltage	configurable, 0(2)...10 V, 0(1)...5 V	Number of inputs	1
Sensor	Voltage source, Current source	Voltage drop, current input	<1,5 V

Output

Cut-off frequency (-3 dB)	100 Hz	Load impedance current	≤ 600 Ω, @ max 23mA
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
load impedance voltage	≥ 10 kΩ		

General data

Accuracy	<0.2 % of measuring range	
Configuration	DIP switch	
Delivery state	Input: 0...20 mA // Output: 0...20 mA	
Delivery state	Setting parameters	Input
	Configuration	0...20 mA
	Setting parameters	Output
	Configuration	0...20 mA
Galvanic isolation	3-way isolator	
Power consumption, max.	0.8 W	
Power consumption, typ.	0.56 W	
Rail	TS 35	
Step response time	≤ 7 ms	
Temperature coefficient	≤ 0.015 % / °C	
Voltage supply	24 V DC ±30 % at terminal or via CH20M rail bus	

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Technical data

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

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, NE 21	Standards	IEC 61010-1

Classifications

ETIM 6.0	EC002653	ETIM 7.0	EC002653
ETIM 8.0	EC002653	ETIM 9.0	EC002653
ECLASS 9.0	27-21-01-20	ECLASS 9.1	27-21-01-20
ECLASS 10.0	27-21-01-20	ECLASS 11.0	27-21-01-20
ECLASS 12.0	27-21-01-20	ECLASS 13.0	27-21-01-20

Tender specification sheets

Long specification	**Type** **ACT20M-AI-AO-E-S**	Short specification	**Universal standard signal isolating amplifier 1-channel signal isolating amplifier in 6.1 mm width with external power supply, for transmitting and isolating analogue DC current signals 0/4...20 mA and voltage signals 0/2...10V // 0/1...5 V. I/O signals are configured with DIP switches.**

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924

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Technical data

Important note

Product information	The configurable DC isolating amplifier ACT20M-AI-AO-E-S isolates and converts analogue signals. An analogue input signal is linearly converted into an analogue output signal and galvanically isolated. The power supply is galvanically isolated from the input and output (3-way isolation) by means of direct wiring or the Weidmüller rail bus.

Approvals

Approvals	
ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E337701

Downloads

Approval/Certificate/Document of Conformity	DNV-GL 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	

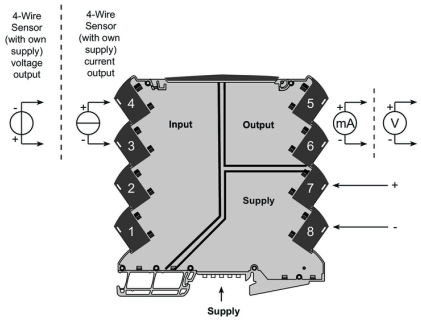
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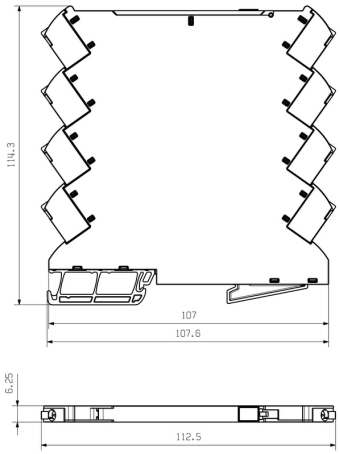
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Drawings

Connection diagram



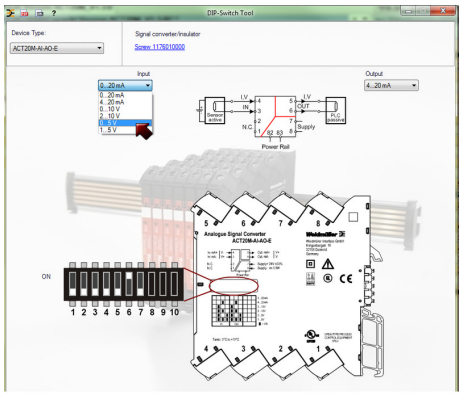
Dimensional drawing



DIP switch setting

Range	Input Setup				Output setup		
	1	2	3	4	5	6	7
0…20 mA							
4…20 mA			■			■	
0…10 V		■			■		
2…10 V		■	■		■	■	
0…5 V		■		■	■		■
1…5 V		■	■	■	■	■	■

■ = ON



Example of DIP switch setting with software tool



Power supply via the rail bus

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Accessories

Network-compatible current measuring transducers ACT20C



The ACT20C series was especially developed for applications with continuous processes. It enables the continuous monitoring of diagnostic, device and process information (“condition monitoring”).
Several ACT20C components form a station which consists of an ACT20C Ethernet gateway, communicative ACT20C signal converters and an ACT20C bus termination terminal.

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).	

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 pc(s).	

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Accessories

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).	

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 pc(s).	