

## ACT20M ACT20M-AI-AO-S

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 16  
 D-32758 Detmold  
 Germany  
 Fon: +49 5231 14-0  
 Fax: +49 5231 14-292083  
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### 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

Type	ACT20M-AI-AO-S
Order No.	<a href="#">1176000000</a>
Version	Signal converter/insulator, Configurable, with sensor supply, Input : I / U, Output : I / U
GTIN (EAN)	4032248970063
Qty.	1 pc(s).

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**Technical data****Dimensions and weights**

Width	6.1 mm	Width (inches)	0.24 inch
Height	112.5 mm	Height (inches)	4.429 inch
Depth	114.3 mm	Depth (inches)	4.5 inch
Net weight	80 g		

**Temperatures**

Humidity	40 °C / 93 % rel. humidity, no condensation	Operating temperature, max.	70 °C
Operating temperature, min.	-25 °C	Storage temperature, max.	85 °C
Storage temperature, min.	-40 °C	Operating temperature	-25 °C...70 °C
Ambient temperature	-25 °C...+70 °C	Storage temperature	-40 °C...85 °C

**Probability of failure**

MTBF	231 Years
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**Input**

Number of inputs	1	Sensor	Voltage source, Current source, 2-wire transmitter (without own power supply)
Sensor supply	17...28 V DC (@ 20 mA)	Input voltage	configurable, 0(2)...10 V, 0(1)...5 V
Input resistance, voltage	>500 kΩ	Input current	configurable, 0...20 mA, 4...20mA
Voltage drop, current input	<1,5 V	Input resistance, current	70 Ω
Voltage drop	<1,5 V		

**Output**

Number of outputs	1	Output voltage, note	configurable, 0(2)...10 V, 0(1)...5 V
Output current	configurable, 0...20 mA, 4...20 mA	Cut-off frequency (-3 dB)	100 Hz
load impedance voltage	≥ 10 kΩ	load impedance current	≤ 600 Ω, @ max 23mA

**General data**

Accuracy	< 0.05 % of measuring range	Configuration	DIP switch
Galvanic isolation	3-way isolator	Mounting rail	TS 35
Power consumption, max.	1.2 W	Power consumption, typ.	0.84 W
Step response time	≤ 7 ms	Supply voltage	24 V DC ± 30 %
Temperature coefficient	≤ 0.01 % / °C		

**Insulation coordination**

EMC standards	IEC 61326-1, NE 21	Galvanic isolation	3-way isolator
Insulation voltage	2.5 kV <sub>eff</sub> / 1 min.	Pollution severity	2
Rated voltage	300 V <sub>eff</sub>	Surge voltage category	II

**Data for Ex applications (ATEX)**

Marking	II 3 G Ex nA IIC T4 Gc
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# Data sheet

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# Technical data

### 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 <sup>2</sup>
Clamping range, min.	0.5 mm <sup>2</sup>	Clamping range, max.	2.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 30	Wire connection cross section AWG, max.	AWG 14

### Rated data UL

UL certificate	E337701.pdf
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### Ratings IECEx/ATEX/cUL

Certificate No. (ATEX)	KEMA10ATEX0183X	Certificate No. (IECEX)	IECEXKEM10.0090X
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### Classifications

ETIM 3.0	EC002479	ETIM 4.0	EC002653
ETIM 5.0	EC002653	ETIM 6.0	EC002653
eClass 6.2	27-21-01-20	eClass 7.1	27-21-01-20
eClass 8.1	27-21-01-20	eClass 9.0	27-21-01-20
eClass 9.1	27-21-01-20		

### Product information

Product information	<p>The configurable DC isolating amplifier ACT20M-AI-AO-S isolates and converts analogue standard signals. An analogue input signal is linearly converted into an analogue output signal and galvanically isolated. The input can also be operated as an active current loop (the loop current is supplied by the device). The power supply is galvanically isolated from the input and output (3-way isolation) by means of direct wiring or the Weidmüller rail bus.</p> <p>The configurable DC isolation amplifier ACT20M-AI-2AO-S offers the same functionality, but has 2 galvanically isolated outputs (4-way isolation).</p>
Descriptive text technical data	Power supply optionally over the DIN mounting rail CH20M
Instructions for accessories	DIN mounting rail, see Accessories

### Approvals

Approvals



ROHS	Conform
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**Technical data****Downloads**

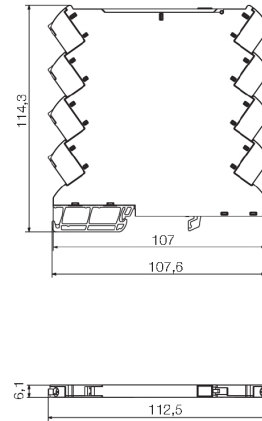
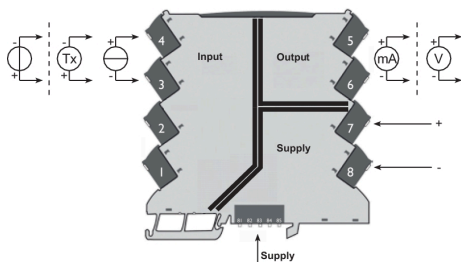
Approval/Certificate/Document of Conformity	<a href="#">Declaration of Conformity</a>
Brochure/Catalogue	<a href="#">CAT 4.1 ELECTR 16/17 EN</a>
Engineering Data	<a href="#">EPLAN, WSCAD, Zuken E3.S</a>
Engineering Data	<a href="#">STEP</a>
Software	<a href="#">DIP switch configuration tool</a>
User Documentation	<a href="#">Instruction sheet</a>

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**Drawings**

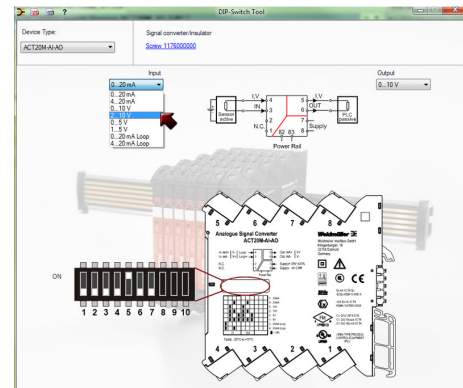
**Connection diagram**



**DIP switch setting**

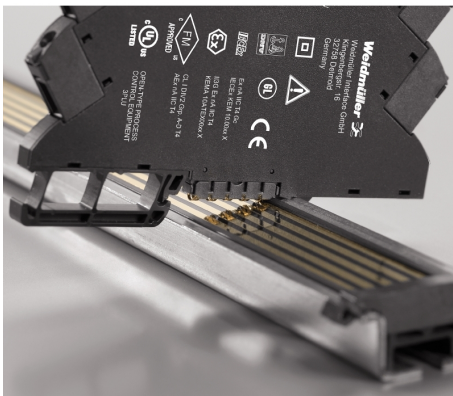
Range	Input Setup				Output setup		
	1	2	3	4	5	6	7
0...20 mA							
4...20 mA			■			■	
0...10 V							
2...10 V			■	■		■	
0...5 V			■				■
1...5 V			■	■			■
0...20 mA (Loop)	■						
4...20 mA (Loop)	■		■				

■ = ON



Power supply via the rail bus

Example of DIP switch setting with software tool



Power supply via the rail bus