

ACT20M ACT20M-AI-AO-S

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
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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.	1176000000
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 _{eff} / 1 min.	Pollution severity	2
Rated voltage	300 V _{eff}	Surge voltage category	II

Data for Ex applications (ATEX)

Marking	II 3 G Ex nA IIC T4 Gc
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Creation date October 8, 2018 7:22:59 PM CEST

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 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

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	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. The configurable DC isolation amplifier ACT20M-AI-2AO-S offers the same functionality, but has 2 galvanically isolated outputs (4-way isolation).
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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Data sheet**ACT20M
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Technical data**Downloads**

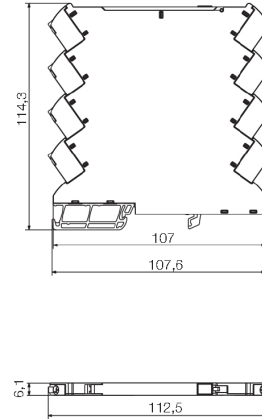
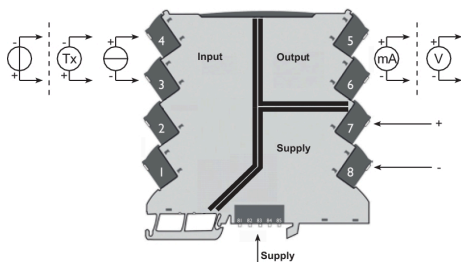
Approval/Certificate/Document of Conformity	Declaration of Conformity
Brochure/Catalogue	CAT 4.1 ELECTR 16/17 EN
Engineering Data	EPLAN, WSCAD, Zuken E3.S
Engineering Data	STEP
Software	DIP switch configuration tool
User Documentation	Instruction sheet

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Drawings

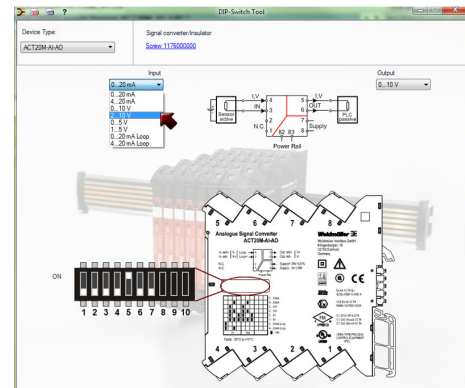
Connection diagram



DIP switch setting

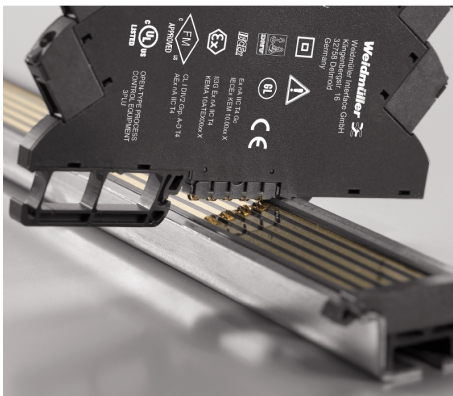
Range	Input Setup				Output setup		
	1	2	3	4	5	6	7
0...20 mA							
4...20 mA			■			■	
0...10 V							
2...10 V		■	■			■	
0...5 V		■					■
1...5 V		■		■			
0...20 mA (Loop)	■						
4...20 mA (Loop)	■		■				

■ = ON



Power supply via the rail bus

Example of DIP switch setting with software tool



Power supply via the rail bus