ACT20M
ACT20M-AI-AO-E-S

Weidmüller Interface GmbH & Co. KG
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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

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

Temperatures

Humidity	40 °C / 93 % rel. humidity, no condensation	Operating temperature, max.	70 °C
Operating temperature, min.	0 °C	Storage temperature, max.	85 °C
Storage temperature, min.	-40 °C	Operating temperature	0 °C...70 °C
Ambient temperature	-25 °C...+70 °C	Storage temperature	-40 °C...85 °C

Probability of failure

MTBF	249 Years

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1

Rated data UL

UL certificate	E337701.pdf

Input

Number of inputs	1	Sensor	Voltage source, Current source
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	Input frequency	100 Hz
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	< 0.2 % of measuring range	
Configuration	DIP switch	
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	

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Technical data

Rail	TS 35
Step response time	≤ 7 ms
Temperature coefficient	≤ 0.015 % / °C
Voltage supply	24 V DC ± 30 %

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

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

Classifications

ETIM 6.0	EC002653	ETIM 7.0	EC002653
eClass 9.0	27-21-01-20	eClass 9.1	27-21-01-20
eClass 10.0	27-21-01-20		

Product information

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

Downloads

Approval/Certificate/Document of Conformity	DNV-GL certificate EAC certificate FM certificate IECEXx certificate ATEX certificate 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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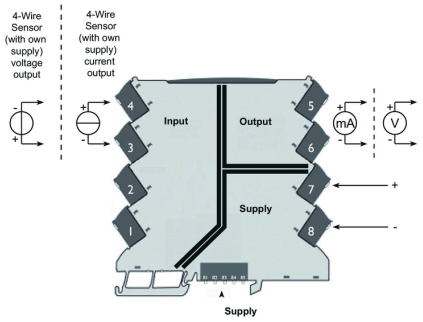
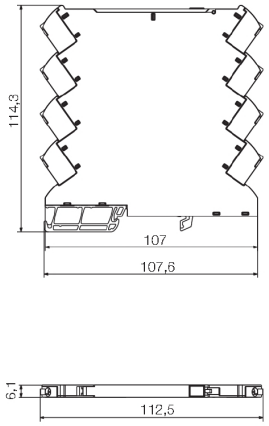
Drawings

Connection diagram

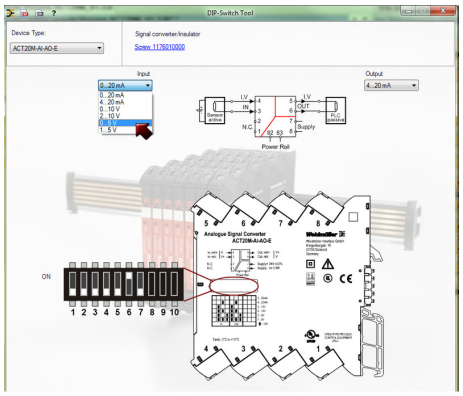




DIP switch setting

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		■	■	■	■	■	■

■ = ON



Example of DIP switch setting with software tool

Power supply via the rail bus