

ACT20M-AI-AO-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, with sensor supply, Input : I / U, Output : I / U
Order No.	1176000000
Type	ACT20M-AI-AO-S
GTIN (EAN)	4032248970063
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	80 g		

Temperatures

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

Probability of failure

SIL in compliance with IEC 61508	None	MTBF	231 Years
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Environmental Product Compliance

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

Input current	configurable, 0...20 mA, 4...20mA	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, 2-wire transmitter (without own power supply)
Sensor supply	> 17 V DC at 20 mA	Voltage drop	<1,5 V
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	< 0.05 % 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.	1.2 W	
Power consumption, typ.	0.84 W	
Rail	TS 35	
Step response time	≤ 7 ms	

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Technical data

Temperature coefficient	≤ 0.01 % / °C
Type of connection	Screw connection
Voltage supply	24 V DC ±30 % at terminal or via CH20M rail bus

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	Marking	II 3 G Ex nA IIC T4 Gc
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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

EMC conformity and approvals

EMC standards	IEC 61326-1, NE 21	Standards	IEC 61010-1
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Classifications

ETIM 6.0	EC002653	ETIM 7.0	EC002653
ETIM 8.0	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

Tender specification sheets

Long specification	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.
Type ACT20M-AI-AO-S		

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Technical data**Important note**

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).

Approvals

Approvals



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

Downloads

Approval/Certificate/Document of Conformity	DNV-GL certificate FM certificate IECEx certificate ATEX certificate Declaration of Conformity
Engineering Data	CAD data – STEP
Engineering Data	EPLAN, WSCAD, Zuken E3.S
Software	Runtime Software – DIP switch configuration tool
User Documentation	Instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

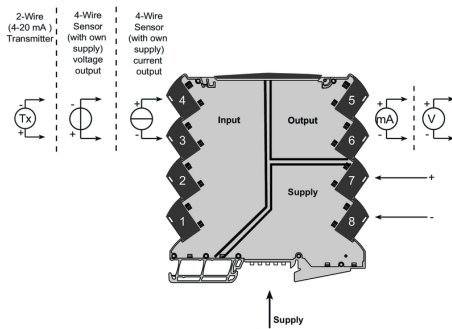
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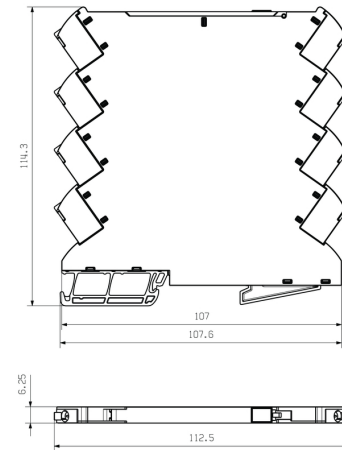
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Drawings

Connection diagram



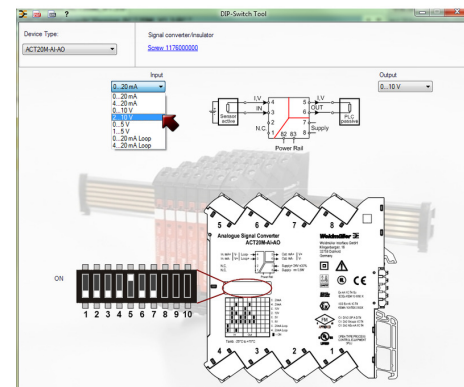
Dimensional drawing



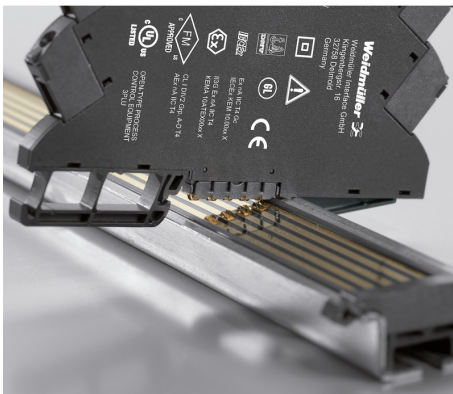
DIP switch setting

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							
0...20 mA (Loop)							
4...20 mA (Loop)							

■ = ON



Example of DIP switch setting with software tool



Power supply via the rail bus

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Weidmuller:](#)

[1176000000](#)