

**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.	<a href="#">1176000000</a>
Type	ACT20M-AI-AO-S
GTIN (EAN)	4032248970063
Qty.	1 pièce(s)

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**Caractéristiques techniques****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 at operating temperature	0...95 % (no condensation)	Humidity	40 °C / 93 % rel. humidity, no condensation

**Probability of failure**

SIL in compliance with IEC 61508	None	MTBF	78 572 a
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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, 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		
Protection degree	IP20		
Rail	TS 35		
Step response time	≤ 7 ms		
Temperature coefficient	≤ 0.01 % / °C		
Voltage supply	24 V DC ±30 % at terminal or via CH20M rail bus		

Date de création 26 novembre 2024 13:15:18 CET

Niveau du catalogue 26.11.2024 / Toutes modifications techniques réservées

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## Caractéristiques techniques

### Insulation coordination

EMC standards	EN 61326-1	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)

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 <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

### EMC conformity and approvals

EMC standards	EN 61326-1	Standards	IEC 61010-1
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### 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
ECLASS 14.0	27-21-01-20		

### Tender specification sheets

Long specification	Short specification	<p><b>Universal standard signal isolating amplifier</b> <b>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.</b></p>
<p><b>Type</b> <b>ACT20M-AI-AO-S</b></p>		

### Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924

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**Caractéristiques techniques****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	<a href="#">DNV-GL certificate</a> <a href="#">FM certificate</a> <a href="#">IECEX certificate</a> <a href="#">ATEX certificate</a> <a href="#">UL certification for canada</a> <a href="#">Declaration of Conformity</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Software	<a href="#">DIP switch configuration tool</a>
User Documentation	<a href="#">Instruction sheet</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>
Brochures	

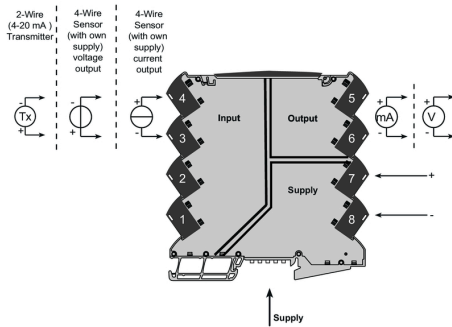
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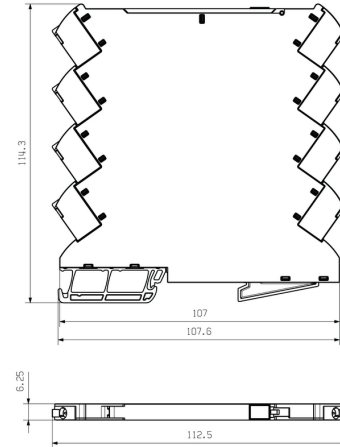
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**Dessins**

**Connection diagram**



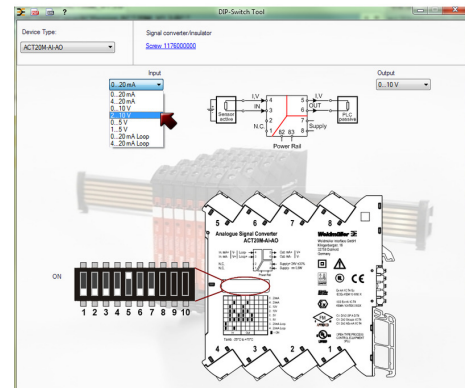
**Dimensional drawing**



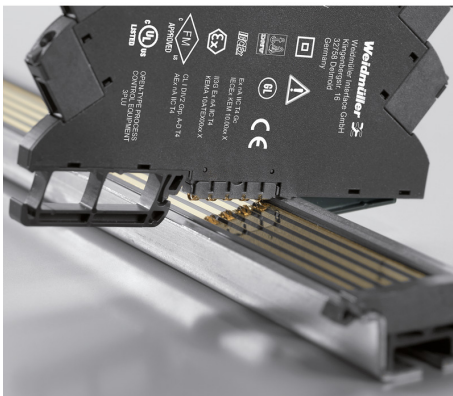
**DIP switch setting**

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



Additional power supply option via bus