

ACT20M-AI-AO-E-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, without sensor supply, Input : I / U, Output : I / U
Order No.	1176010000
Type	ACT20M-AI-AO-E-S
GTIN (EAN)	4032248970094
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	83.5 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	249 a
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Input

Input current	configurable, 0...20 mA, 4...20mA	Input frequency	100 Hz
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	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	<0.2 % 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.	0.8 W		
Power consumption, typ.	0.56 W		
Protection degree	IP20		
Rail	TS 35		
Step response time	≤ 7 ms		
Temperature coefficient	≤ 0.015 % / °C		
Voltage supply	24 V DC ±30 % at terminal or via CH20M rail bus		

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Insulation coordination

EMC standards	EN 61326-1	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
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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	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
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**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-E-S**

Environmental Product Compliance

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

Creation date July 23, 2024 10:37:53 AM CEST

Catalogue status 23.07.2024 / We reserve the right to make technical changes.

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Technical data**Important note**

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

Downloads

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

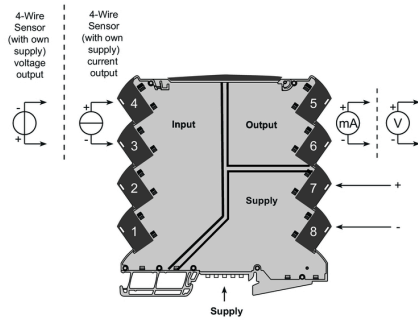
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Drawings

Connection diagram



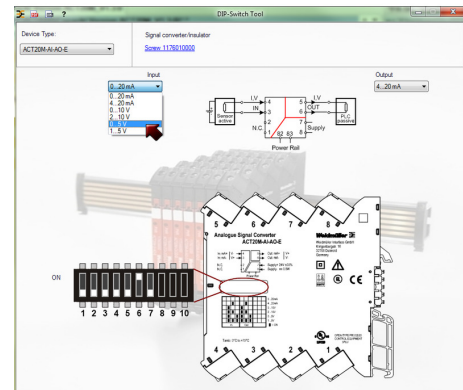
Dimensional drawing



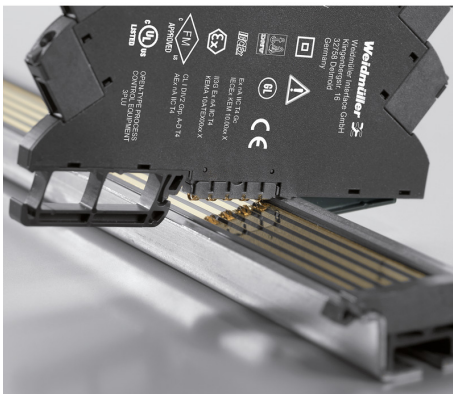
DIP switch setting

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							

■ = ON



Example of DIP switch setting with software tool



Additional power supply option via bus