ACT20M-AI-2AO-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 splitter, Configurable, with sensor supply, Input : I / U, Output : 2 x I/U
Order No.	1176020000
Type	ACT20M-AI-2AO-S
GTIN (EAN)	4032248970087
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 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	181 a

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...28 V DC (@ 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	<300 Ω, per channel, @ max 23mA
Number of outputs	2	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	Setting parameters	Input
	Configuration	0...20 mA (loop)
	Setting parameters	Output 1
	Configuration	0...20 mA
	Setting parameters	Output 2
	Configuration	0...20 mA
Delivery state	Input: 0...20 mA (loop) // Output 1: 0...20 mA // Output 2: 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	

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Voltage supply	24 V DC ±30 % at terminal or via CH20M rail bus

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	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

EMC conformity and approvals

EMC standards	EN 61326-1	Standards	IEC 61010-1

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
Type **ACT20M-AI-2AO-S**	**Universal standard signal splitter 1-channel signal splitter in 6.1 mm width with external power supply, to transmit, isolate and split 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.**

Environmental Product Compliance

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

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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 IECEXx certificate ATEX certificate Declaration of Conformity
Engineering Data	CAD data – STEP
Software	DIP switch configuration tool
User Documentation	Instruction sheet
Catalogues	Catalogues in PDF-format
Brochures	

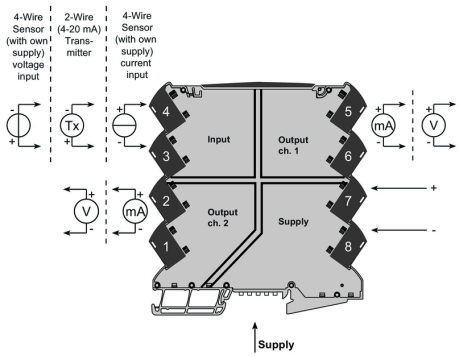
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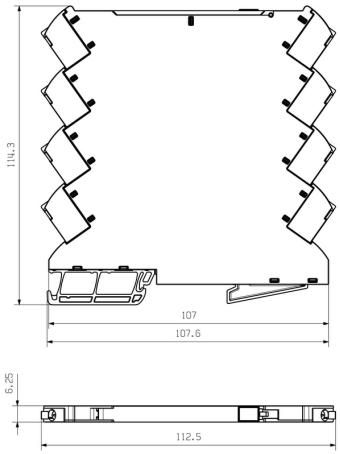
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Drawings

Connection diagram



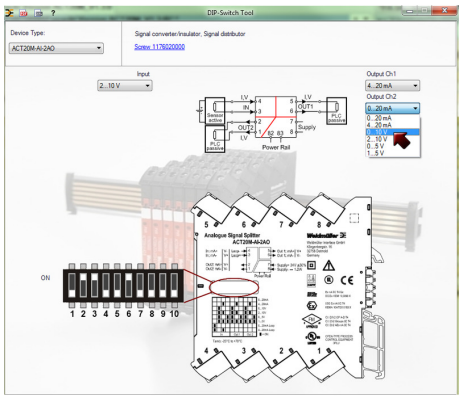
Dimensional drawing



DIP switch setting

Range	Input Setup				Output setup					
					Channel 1			Channel 2		
	1	2	3	4	5	6	7	8	9	10
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

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