ACT20M-AI-2AO-S

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 items

ACT20M-AI-2AO-S

Weidmüller

Technical data

Approvals

Approvals	CE, cULus LISTED, DNV, FM APPROVED, IECEx, ATEX - KEMA, UKCA
ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E337701

Dimensions and weights

Depth	114.3 mm	Depth (inches)	4.5 inch
Height	112.5 mm	Height (inches)	4.4291 inch
Width	6.1 mm	Width (inches)	0.2402 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

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

Input

Sensor	Voltage source, Current source, 2-wire transmitter (without own power supply)	Number inputs	1
Sensor supply	17...28 V DC (@ 20 mA)	Input voltage	configurable, 0(2)...10 V, 0(1)...5 V
Input current	configurable, 0...20 mA, 4...20mA	Input resistance, voltage	500 kΩ
Input resistance, current	70 Ω	Voltage drop	<1,5 V
Voltage drop, current input	<1.5 V		

Output

Number of outputs	2	load impedance voltage	≥ 10 kΩ
Load impedance current	<300 Ω, per channel, @ max 23mA	Type	active, connected control must be passive

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Catalogue status / Drawings

ACT20M-AI-2AO-S

Technical data

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		

General data

Accuracy	<0.05 % of measuring range		
Protection degree	IP20		
Supply voltage	24 V DC ±30 % at terminal or via CH20M rail bus		
Step response time	≤ 7 ms		
Mounting rail	TS 35		
Temperature coefficient	≤ 0.01 % / °C		
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	
Nominal power consumption	1.2 VA		
Configuration	DIP switch		
Operating altitude	≤ 2000 m		
Power consumption, max.	1.2 W		
Power consumption, typ.	0.84 W		
Delivery state	Input: 0...20 mA (loop) // Output 1: 0...20 mA // Output 2: 0...20 mA		

Insulation coordination

EMC standards	EN 61326-1	Surge voltage category	II
Pollution severity	2	Galvanic isolation	3-way isolator
Insulation voltage	2.5 kVeff /1 min.	Rated voltage	300 Veff

Data for Ex applications (ATEX)

Marking	II 3 G Ex nA IIC T4 Gc	Installation location	Device installed in safe area, zone 2

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

Part description

Product description	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).

Technical data

Classifications

ETIM 6.0	EC002653	ETIM 7.0	EC002653
ETIM 8.0	EC002653	ETIM 9.0	EC002653
ETIM 10.0	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
ECLASS 15.0	27-21-01-20		

Tender specification sheets

Long specification	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 to 20 mA and voltage signals 0/2 to 10 V // 0/1 to 5 V. Input and output signals can be configured with DIP switches. Add-on housing for TS35 rail mounting Dimensions: L/W/H 114.3/ 6.1/ 112.5 mm Screw connection / Nominal cross-section 2.5 mm2 Protection degree: IP 20 Input 0/4...20 mA 0/2...10 V or 0/1...10 V Output 0/4...20 mA 0/2...10 V or 0/1...5 V Load resistance < 300 Ohm (Current)/ channel // > 10 kOhm/ voltage Transmission error < 0,05 % v. E. Limit frequency 100 Hz Auxiliary power 24 VDC +/- 30 % Power loss approx. 1.2 W Ambient temperature range -25 °C... +70 °C Isolation EN 61010-1, 3-way isolation up to 2.5 kV AC/ DC of all circuits against each other Test voltage 2.5 kV input against output against auxiliary power Rated	Short specification	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.

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Technical data

voltage	300 V AC/DC at overvoltage category II and pollution degree 2
Approvals	cULus, FM Div2, ATEX Zone2, DNV, GL
Type	ACT20M-AI-2AO-S

ACT20M-AI-2AO-S

Drawings

Connection diagram
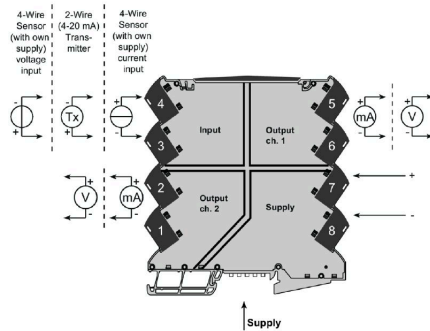
Dimensional drawing
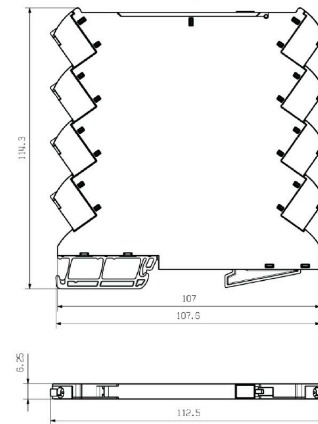
DIP switch setting

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
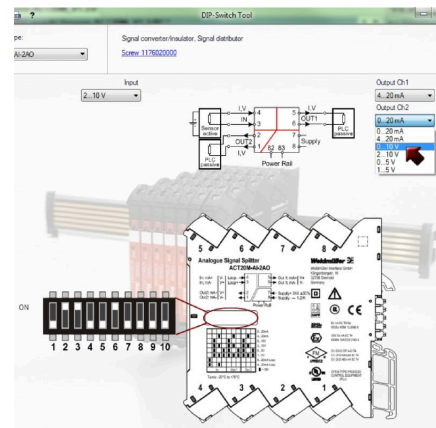
Example of DIP switch setting with software tool
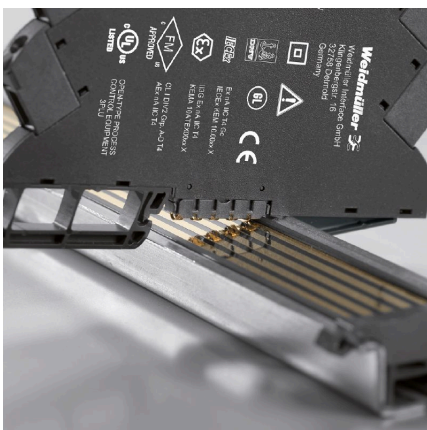
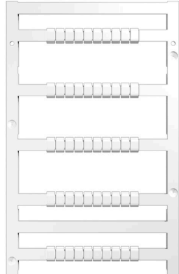Additional power supply option via bus

ACT20M-AI-2AO-S

Accessories

Blank

MultiFit is the Weidmüller marker system used for other makes of terminals. Similar to the Weidmüller Dekafix, the markers of the MultiFit family are available ready-for-use with standard printing.

We recommend to carry out a test with sample markers on the terminals used when using MultiFit for the first time.

• One marker, suitable for different makes of terminals.
• Ready-to-use markers with standard printing
• Blank markers for printing with the PrintJet CONNECT or Plotter
• Delivery of individually printed markers according to customer CAE data or specifications
• One marking system for all applications

For custom printing: Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

General ordering data

Type	MF 5/7.5 MC NE WS	Version
Order No.	1877680000	MultiFit, Terminal marker, 5 x 7.5 mm, Pitch in mm (P): 7.50 Adels
GTIN (EAN)	4032248468270	RKW, Phoenix, white
Qty.	320 ST	

ACT20 (incl. DIN rail bus & powersupplies)

Power supply adapter modules for separate supply and distribution of the supply voltage: for the ACT20 series/ MICROSERIES signal converters.

The 22.5/6.1 mm wide power-feed modules are mounted directly adjacent to the analogue signal converters. Then the 24 VDC supply voltage is optionally bridged via the CH20M (ACT20-series) rail bus or simply bridged over using the pluggable ZQV 4N (MICROSERIES) cross-connectors.

The ACT20-Feed-In-PRO-S can also detect faults coming from any of the devices mounted on the CH20 bus mounting profile.

In the event of an error or fault, the integrated status relay sends a common alarm to the external controller. In addition, two power supply units (as primary and backup supply) can be connected to the ACT20 Feed-In PRO-S. Two feed-in modules mounted to the CH20 bus mounting profile guarantee a 100% redundant power supply.

Three LEDs are used to show the status of the power supply and error messages.

The ACT20M-Feed-In PRO can also be used in Ex zone2 / Division2 applications.

General ordering data

Type	ACT20-FEED-IN-BASIC-S	Version
Order No.	1282490000	Supply module, Distributes supply voltage to rail bus
GTIN (EAN)	4050118072730	
Qty.	1 ST	

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Weidmüller ⧓

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Accessories

CH20M BUS SET - Kit

The integrated rail bus for the modular electronics housing system
When supplying, connecting or distributing within modular applications, the rail bus can replace the tedious individual wiring process with a flexible and uninterrupted system-wide solution.
The system bus is securely integrated within the 35-mm standard mounting rail. The SMD-bus contact block can be reflow-soldered so that it can be completely automatically processed during the component assembly. The resistant, gold-plated contact surfaces ensure a permanent and reliable contact for all housing widths.

- Unlimited scalability The integrated connection solution covers all system widths: from the 6-mm slice to the 67-mm large-area housing.
- Easy to service during installation It's easy to replace a module, even in existing modules groups – without any influence on the neighbouring modules.
- Universal integration The uninterrupted system bus is securely integrated within the 35-mm standard mounting rail.
- Maximum availability Five fully-galvanized and partially gold-plated twin-arched contacts are used to establish a permanent contact to the rail bus. THR solder flanges ensure that the connection to the circuit board is stable.

General ordering data

Type	SET CH20M BUS 250MM TS ...	Version
Order No.	1335150000	Mounting rail bus system, Sample set, OMNIMATE Housing - series
GTIN (EAN)	4050118138382	CH20M, Width: 25.1 mm
Qty.	1 ST	

Network-compatible current measuring transducers ACT20C

The ACT20C series was especially developed for applications with continuous processes. It enables the continuous monitoring of diagnostic, device and process information ("condition monitoring").
Several ACT20C components form a station which consists of an ACT20C Ethernet gateway, communicative ACT20C signal converters and an ACT20C bus termination terminal.

General ordering data

Type	SET CH20M BUS 250MM TS ...	Version
Order No.	1335140000	Mounting rail bus system, Sample set, OMNIMATE Housing - series
GTIN (EAN)	4050118138375	CH20M, Width: 25.1 mm
Qty.	1 ST	

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