

Reliable conversion and isolation of signals in confined spaces

With ACT20M signal converters with 6 mm wide design

The new dimension for converting and isolating – housed in a 6 mm width

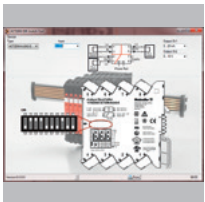
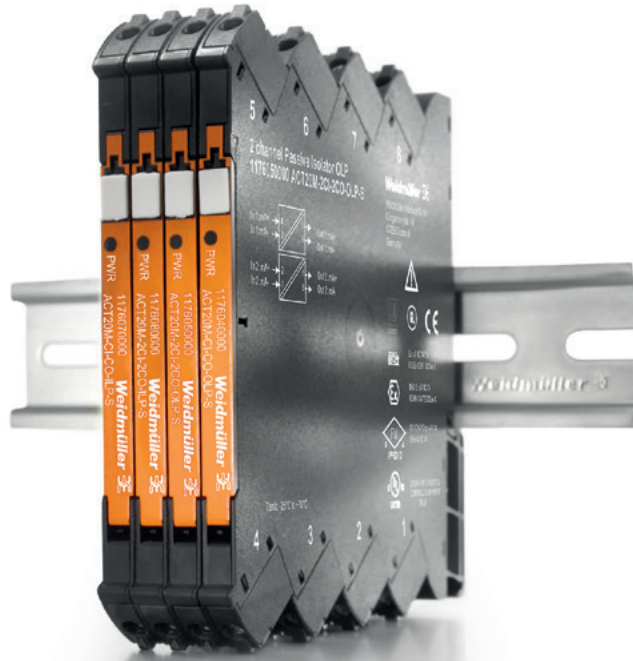
D The ACT20M series of products combines innovative technology with maximum functionality in an electronics housing measuring just 6 mm in width. The ACT20-FEED-IN-PRO-S power-feed unit eliminates the need to wire the power supply to the modules. This reduces the installation time by at least 30%. The ACT20-FEED-IN-PRO-S can supply and monitor up to 120 devices, which are mounted on the CH20 terminal rail bus.

The product line consists of Input Loop Powered, Output Loop Powered and Auxiliary Powered analog isolators and converters, including a universal input converter.

The eight-connection housing allows additional functionality such as 2 channel ILP, 2 channel OLP isolation and signal splitting with input powering option.

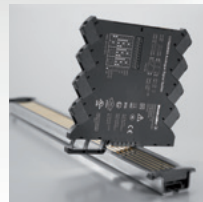
The configuration is carried out via DIP switches or the FDT/ DTM software. The ACT20M modules are supplied via direct wiring or a rail bus.





The DIP switch can be configured simply on the module

In the “ACT20M Tool” software, simply select the type of input and output, and set the DIP switch configuration as displayed.



Installation is simple and quick

The power supply is simply snapped onto the rail bus for fast and easy installation. The supply can be through any ACT20M unit module or a separate power-feed unit.



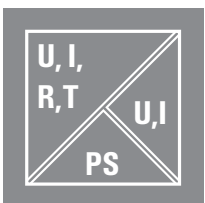
Easy configuration

DIP switches on the side are used to configure the input and output parameters, as well as the response time.



Approvals

Fulfills the strict standards and requirements of the process industry. Can be used worldwide due to international and local approvals ATEX, IECEx, CULUS, FM, GL and DNV.



High level of galvanic isolation

2.5 kV of electrical isolation (300 V rated voltage) ensures excellent process reliability.

Selection table



Selection table

Order No.	Product	Input										Miscellaneous	Sensor feed	Width
		Amount	0...20 mA	4...20 mA	0...10 V	0...5 V	TC	RTD	Frequency					
Space-saving signal converters – ACT20M														
Supply isolator														
117600000	ACT20M-AI-A0-S	1	X	X	X	X						2,4-wire sensor	X	6.1 mm
2825370000	ACT20M-AI-A0-P	1	X	X	X	X						2,4-wire sensor	X	6.1 mm
2825050000	ACT20M-AI-A0-X-S	1	X	X	X	X						2,4-wire sensor	X	6.1 mm
2825180000	ACT20M-AI-A0-X-P	1	X	X	X	X						2,4-wire sensor	X	6.1 mm
1176020000	ACT20M-AI-2A0-S	1	X	X	X	X						2,4-wire sensor	X	6.1 mm
2825350000	ACT20M-AI-2A0-P	1	X	X	X	X						2,4-wire sensor	X	6.1 mm
2825030000	ACT20M-AI-2A0-X-S	1	X	X	X	X						2,4-wire sensor	X	6.1 mm
2825160000	ACT20M-AI-2A0-X-P	1	X	X	X	X						2,4-wire sensor	X	6.1 mm
Isolation amplifier														
1175980000	ACT20M-CI-C0-S	1	X	X								4-wire sensor		6.1 mm
2825410000	ACT20M-CI-C0-P	1	X	X								4-wire sensor		6.1 mm
2825090000	ACT20M-CI-C0-X-S	1	X	X								4-wire sensor		6.1 mm
2825240000	ACT20M-CI-C0-X-P	1	X	X								4-wire sensor		6.1 mm
1175990000	ACT20M-CI-2C0-S	1	X	X								4-wire sensor		6.1 mm
2825400000	ACT20M-CI-2C0-P	1	X	X								4-wire sensor		6.1 mm
2825080000	ACT20M-CI-2C0-X-S	1	X	X								4-wire sensor		6.1 mm
2825210000	ACT20M-CI-2C0-X-P	1	X	X								4-wire sensor		6.1 mm
1176010000	ACT20M-AI-A0-E-S	1	X	X	X	X						4-wire sensor		6.1 mm
2825360000	ACT20M-AI-A0-E-P	1	X	X	X	X						4-wire sensor		6.1 mm
2825040000	ACT20M-AI-A0-E-X-S	1	X	X	X	X						4-wire sensor		6.1 mm
2825170000	ACT20M-AI-A0-E-X-P	1	X	X	X	X						4-wire sensor		6.1 mm
1375450000	ACT20M-BAI-A0-S	1										-10(20)...+10(20) mA, -5(10)...+5(10) V		6.1 mm
2825390000	ACT20M-BAI-A0-P	1										-10(20)...+10(20) mA, -5(10)...+5(10) V		6.1 mm
2825070000	ACT20M-BAI-A0-X-S	1										-10(20)...+10(20) mA, -5(10)...+5(10) V		6.1 mm
2825200000	ACT20M-BAI-A0-X-P	1										-10(20)...+10(20) mA, -5(10)...+5(10) V		6.1 mm
1375470000	ACT20M-BAI-2A0-S	1										-10(20)...+10(20) mA, -5(10)...+5(10) V		6.1 mm
2825380000	ACT20M-BAI-2A0-P	1										-10(20)...+10(20) mA, -5(10)...+5(10) V		6.1 mm
2825060000	ACT20M-BAI-2A0-X-S	1										-10(20)...+10(20) mA, -5(10)...+5(10) V		6.1 mm
2825190000	ACT20M-BAI-2A0-X-P	1										-10(20)...+10(20) mA, -5(10)...+5(10) V		6.1 mm

Amount	Output			Relay	Miscellaneous	Configuration	Auxiliary power	Rated voltage	Isolation	Connection system	Special characteristics
	0...20 mA	4...20 mA	0...10 V								
1	X	X	X			DIP switch	24 V DC	300 V	3-way	S	with mounting rail bus supply, ATEX approval Zone 2
1	X	X	X			DIP switch	24 V DC	300 V	3-way	P	with mounting rail bus supply, ATEX approval Zone 2
1	X	X	X			DIP switch	24 V DC	300 V	3-way	S	without mounting rail bus supply, ATEX approval Zone 2
1	X	X	X			DIP switch	24 V DC	300 V	3-way	P	without mounting rail bus supply, ATEX approval Zone 2
2	X	X	X			DIP switch	24 V DC	300 V	3-way	S	with mounting rail bus supply, ATEX approval Zone 2
2	X	X	X			DIP switch	24 V DC	300 V	3-way	P	with mounting rail bus supply, ATEX approval Zone 2
2	X	X	X			DIP switch	24 V DC	300 V	3-way	S	without mounting rail bus supply, ATEX approval Zone 2
2	X	X	X			DIP switch	24 V DC	300 V	3-way	P	without mounting rail bus supply, ATEX approval Zone 2
1	X	X					24 V DC	300 V	3-way	S	with mounting rail bus supply, ATEX approval Zone 2
1	X	X					24 V DC	300 V	3-way	P	with mounting rail bus supply, ATEX approval Zone 2
1	X	X					24 V DC	300 V	3-way	S	without mounting rail bus supply, ATEX approval Zone 2
1	X	X					24 V DC	300 V	3-way	P	without mounting rail bus supply, ATEX approval Zone 2
2	X	X				-	24 V DC	300 V	3-way	S	with mounting rail bus supply, ATEX approval Zone 2
2	X	X				-	24 V DC	300 V	3-way	P	with mounting rail bus supply, ATEX approval Zone 2
2	X	X				-	24 V DC	300 V	3-way	S	without mounting rail bus supply, ATEX approval Zone 2
2	X	X				-	24 V DC	300 V	3-way	P	without mounting rail bus supply, ATEX approval Zone 2
1	X	X	X			DIP switch	24 V DC	300 V	3-way	S	with mounting rail bus supply, ATEX approval Zone 2
1	X	X	X			DIP switch	24 V DC	300 V	3-way	P	with mounting rail bus supply, ATEX approval Zone 2
1	X	X	X			DIP switch	24 V DC	300 V	3-way	S	without mounting rail bus supply, ATEX approval Zone 2
1	X	X	X			DIP switch	24 V DC	300 V	3-way	P	without mounting rail bus supply, ATEX approval Zone 2
1	X	X	X			DIP switch	24 V DC	300 V	2-way	S	with mounting rail bus supply, ATEX approval Zone 2
1	X	X	X			DIP switch	24 V DC	300 V	2-way	P	with mounting rail bus supply, ATEX approval Zone 2
1	X	X	X			DIP switch	24 V DC	300 V	2-way	S	without mounting rail bus supply, ATEX approval Zone 2
1	X	X	X			DIP switch	24 V DC	300 V	2-way	P	without mounting rail bus supply, ATEX approval Zone 2
2	X	X	X		-10(20)...+10(20) mA	DIP switch	24 V DC	300 V	2-way	S	with mounting rail bus supply, ATEX approval Zone 2
2	X	X	X		-10(20)...+10(20) mA	DIP switch	24 V DC	300 V	3-way	P	with mounting rail bus supply, ATEX approval Zone 2
2	X	X	X		-10(20)...+10(20) mA	DIP switch	24 V DC	300 V	3-way	S	without mounting rail bus supply, ATEX approval Zone 2
2	X	X	X		-10(20)...+10(20) mA	DIP switch	24 V DC	300 V	3-way	P	without mounting rail bus supply, ATEX approval Zone 2

Anschluss technik: S = Schraube / Z = Zugfeder / P = Push In, ILP (Input Loop Powered) = Eingangsstromschleifengespeist, OLP (Output Loop Powered) = Ausgangsstromschleifengespeist

Selection table

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Order No.	Product	Input									Miscellaneous	Sensor feed	Width
		Amount	0...20 mA	4...20 mA	0...10 V	0...5 V	TC	RTD	Frequency				
Passive isolator													
1176070000	ACT20M-CI-CO-I-LP-S	1	X	X				X			4-wire sensor		6.1 mm
2825220000	ACT20M-CI-CO-I-LP-P	1	X	X				X			4-wire sensor		6.1 mm
1176080000	ACT20M-2CI-2CO-I-LP-S	2	X	X							4-wire sensor		6.1 mm
2825140000	ACT20M-2CI-2CO-I-LP-P	2	X	X							4-wire sensor		6.1 mm
2825000000	ACT20M-CI-CO-OLP2-S	1		X				X			4-wire sensor	X	6.1 mm
2825320000	ACT20M-CI-CO-OLP2-P	1		X				X			4-wire sensor	X	6.1 mm
2825010000	ACT20M-2CI-2CO-OLP2-S	2		X				X			4-wire sensor	X	6.1 mm
2825330000	ACT20M-2CI-2CO-OLP2-P	2		X				X			4-wire sensor	X	6.1 mm
1176040000	ACT20M-CI-CO-OLP-S	1		X				X			2-wire transmitter	X	6.1 mm
2825230000	ACT20M-CI-CO-OLP-P	1		X				X			2-wire transmitter	X	6.1 mm
1176050000	ACT20M-2CI-2CO-OLP-S	2		X							2-wire transmitter	X	6.1 mm
2825150000	ACT20M-2CI-2CO-OLP-P	2		X							2-wire transmitter	X	6.1 mm
Temperature transducer													
1435590000	ACT20M-RTCI-CO-OLP-S	1						X			PT100 Typ: J,K		6.1 mm
2825250000	ACT20M-RTCI-CO-OLP-P	1						X			PT100 Typ: J,K		6.1 mm
1435610000	ACT20M-RTI-CO-EOLP-S	1						X			PT100		6.1 mm
2825280000	ACT20M-RTI-CO-EOLP-P	1						X	X		PT100		6.1 mm
2830480000	ACT20M-RTCI-CO-H-S	1						X	X		PT100 Typ: J,K		6.1 mm
2830490000	ACT20M-RTCI-CO-H-P	1						X	X		PT100 Typ: J,K		6.1 mm
2830500000	ACT20M-RTCI-CO-H-X-S	1						X	X		PT100 Typ: J,K		6.1 mm
2830510000	ACT20M-RTCI-CO-H-X-P	1						X	X		PT100 Typ: J,K		6.1 mm
2830460000	ACT20M-RTCI-CO-HOLP-S	1						X	X		PT100 Typ: J,K		6.1 mm
2830470000	ACT20M-RTCI-CO-HOLP-P	1						X			PT100 Typ: J,K		6.1 mm
1375510000	ACT20M-RTI-AO-S	1						X			PT100		6.1 mm
2825420000	ACT20M-RTI-AO-P	1						X			PT100		6.1 mm
2825100000	ACT20M-RTI-AO-X-S	1						X			PT100		6.1 mm
2825270000	ACT20M-RTI-AO-X-P	1						X			PT100		6.1 mm
1375520000	ACT20M-RTI-AO-E-S	1						X			PT100		6.1 mm
2825260000	ACT20M-RTI-AO-E-P	1						X			PT100		6.1 mm
1375480000	ACT20M-TCI-AO-S	1									Typ J,K		6.1 mm
2825430000	ACT20M-TCI-AO-P	1									Typ J,K		6.1 mm
2825110000	ACT20M-TCI-AO-X-S	1									Typ J,K		6.1 mm
2825300000	ACT20M-TCI-AO-X-P	1									Typ J,K		6.1 mm
1375500000	ACT20M-TCI-AO-E-S	1									Typ J,K		6.1 mm
2825290000	ACT20M-TCI-AO-E-P	1									Typ J,K		6.1 mm
Universal measuring transducers													
1176030000	ACT20M-UI-AO-S	1	X	X	X	X	X	X			PT50/100/250/300/400/1000, Ni50/100/1000 Typ: B/C/E/J/K/L/N/R/S/T	X	6.1 mm
2825440000	ACT20M-UI-AO-P	1	X	X	X	X	X	X			PT50/100/250/300/400/1000, Ni50/100/1000 Typ: B/C/E/J/K/L/N/R/S/T	X	6.1 mm
2825120000	ACT20M-UI-AO-X-S	1	X	X	X	X	X	X			PT50/100/250/300/400/1000, Ni50/100/1000 Typ: B/C/E/J/K/L/N/R/S/T	X	6.1 mm
2825310000	ACT20M-UI-AO-X-P	1	X	X	X	X	X	X			PT50/100/250/300/400/1000, Ni50/100/1000 Typ: B/C/E/J/K/L/N/R/S/T	X	6.1 mm
Frequency transducers													
2825020000	ACT20M-FRQ-AO-S	1							X		Namur, trigger current / voltage, Transistor, contact, tacho, TTL	X	6.1 mm
2825450000	ACT20M-FRQ-AO-P	1							X		Namur, trigger current / voltage, Transistor, contact, tacho, TTL	X	6.1 mm
2825130000	ACT20M-FRQ-AO-X-S	1							X		Namur, trigger current / voltage, Transistor, contact, tacho, TTL	X	6.1 mm
2825340000	ACT20M-FRQ-AO-X-P	1							X		Namur, trigger current / voltage, Transistor, contact, tacho, TTL	X	6.1 mm

Amount	0...20 mA	4...20 mA	0...10 V	Relay	Output		Configuration	Auxiliary power	Rated voltage	Isolation	Connection system	Special characteristics
					Miscellaneous							
1	X	X						Input loop	300 V	2-way	S	ATEX approval Zone 2, Passive converter
1	X	X						Input loop	300 V	2-way	P	ATEX approval Zone 2, Passive converter
2	X	X						Input loop	300 V	2-way	S	ATEX approval Zone 2, Passive converter
2	X	X						Input loop	300 V	2-way	P	ATEX approval Zone 2, Passive converter
1		X						Output loop	300 V	2-way	S	ATEX approval Zone 2, Passive converter
1		X						Output loop	300 V	2-way	P	ATEX approval Zone 2, Passive converter
2		X						Output loop	300 V	2-way	S	ATEX approval Zone 2, Passive converter
2		X						Output loop	300 V	2-way	P	ATEX approval Zone 2, Passive converter
1		X						Output loop	300 V	2-way	S	ATEX approval Zone 2, Passive converter
1		X						Output loop	300 V	2-way	P	ATEX approval Zone 2, Passive converter
2		X						Output loop	300 V	2-way	S	ATEX approval Zone 2, Passive converter
2		X						Output loop	300 V	2-way	P	ATEX approval Zone 2, Passive converter
1		X			20...4 mA		DIP switch	Output loop	300 V	2-way	S	ATEX approval Zone 2, Passive converter
1		X			20...4 mA		DIP switch	Output loop	300 V	2-way	P	ATEX approval Zone 2, Passive converter
1		X			20...4 mA		DIP switch	Output loop	-	-	S	ATEX approval Zone 2, Passive converter
1		X			20...4 mA		DIP switch	Output loop	-	-	P	ATEX approval Zone 2, Passive converter
1		X					DIP switch / HART	24 V DC	300 V	3-way	S	with mounting rail bus supply, ATEX Zone 2 HART®
1		X					DIP switch / HART	24 V DC	300 V	3-way	P	with mounting rail bus supply, ATEX Zone 2 HART®
1		X					DIP switch / HART	24 V DC	300 V	3-way	S	without mounting rail bus supply, ATEX Zone 2 HART®
1		X					DIP switch / HART	24 V DC	300 V	3-way	P	without mounting rail bus supply, ATEX Zone 2 HART®
							DIP switch / HART	Output loop	300 V	2-way	S	ATEX Zone 2 HART®
							DIP switch / HART	Output loop	300 V	2-way	P	ATEX Zone 2 HART®
1	X	X	X		0(1)...5 V		DIP switch	24 V DC	300 V	2-way	S	with mounting rail bus supply, ATEX Zone 2
1	X	X	X		0(1)...5 V		DIP switch	24 V DC	300 V	2-way	P	with mounting rail bus supply, ATEX Zone 2
1	X	X	X		0(1)...5 V		DIP switch	24 V DC	300 V	2-way	S	without mounting rail bus supply, ATEX Zone 2
1	X	X	X		0(1)...5 V		DIP switch	24 V DC	300 V	2-way	P	without mounting rail bus supply, ATEX Zone 2
1	X	X	X		0(1)...5 V		DIP switch	24 V DC	-	-	S	ATEX approval Zone 2
1	X	X	X		0(1)...5 V		DIP switch	24 V DC	-	-	S	ATEX approval Zone 2
1	X	X	X		intern CJC, extern CJC		DIP switch	24 V DC	300 V	2-way	S	with mounting rail bus supply, ATEX Zone 2
1	X	X	X		intern CJC, extern CJC		DIP switch	24 V DC	300 V	2-way	P	with mounting rail bus supply, ATEX Zone 2
1	X	X	X		intern CJC, extern CJC		DIP switch	24 V DC	300 V	2-way	S	without mounting rail bus supply, ATEX Zone 2
1	X	X	X		intern CJC, extern CJC		DIP switch	24 V DC	300 V	2-way	P	without mounting rail bus supply, ATEX Zone 2
1	X	X	X		intern CJC, extern CJC		DIP switch	24 V DC	-	-	S	ATEX approval Zone 2
							DIP switch	24 V DC	-	-	P	ATEX approval Zone 2
1	X	X	X				Software	24 V DC	300 V	3-way	S	with mounting rail bus supply, ATEX Zone 2
1	X	X	X				Software	24 V DC	300 V	3-way	P	with mounting rail bus supply, ATEX Zone 2
1	X	X	X				Software	24 V DC	300 V	3-way	S	without mounting rail bus supply, ATEX Zone 2
1	X	X	X				Software	24 V DC	300 V	3-way	P	without mounting rail bus supply, ATEX Zone 2
1	X	X	X		filter possible		Software	24 V DC	300 V	2-way	S	with mounting rail bus supply, ATEX Zone 2
1	X	X	X		filter possible		Software	24 V DC	300 V	2-way	P	with mounting rail bus supply, ATEX Zone 2
1	X	X	X		filter possible		Software	24 V DC	300 V	2-way	S	without mounting rail bus supply, ATEX Zone 2
1	X	X	X		filter possible		Software	24 V DC	300 V	2-Wege	P	without mounting rail bus supply, ATEX- Zone 2

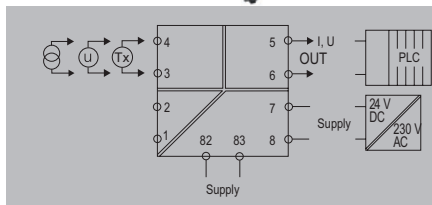
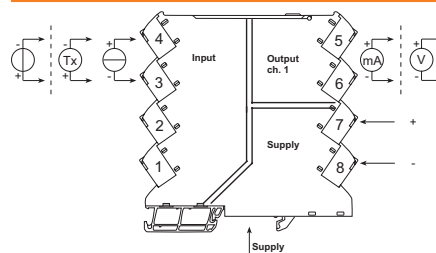
Connection system: S = screw / Z = tension clamp / P = Push In, ILP = Input Loop Powered, OLP = Output Loop Powered

Supply isolator

Supply isolator with standard signals

- Input for current/voltage source
- Sensor supply
- Output for current/voltage source
- 3-way isolation
- Configuration via DIP switches
- Power supply via the mounting rail bus

ACT20M-AI-A0



Technical data

Input	Sensor
Input current	configurable, 0...20 mA, 4...20mA
Input voltage	configurable, 0(2)...10 V, 0(1)...5 V
Sensor supply	> 17 V DC at 20 mA
Input resistance, voltage	>500 kΩ
Voltage drop, current input	<1,5 V
Output	
Output current	configurable, 0...20 mA, 4...20 mA
Output voltage	configurable, 0(2)...10 V, 0(1)...5 V
Load impedance current	≤ 600 Ω, @ max 23mA
load impedance voltage	≥ 10 kΩ
General data	
Configuration	DIP switch
Voltage supply	24 V DC ±30 % at terminal or via CH20M rail bus
Ambient temperature	-25 °C...70 °C
Accuracy	< 0.05 % of measuring range
Temperature coefficient	≤ 0.01 % / °C
Cut-off frequency (-3 dB)	100 Hz
Power consumption, typ.	0.84 W
Power consumption, max.	1.2 W
Step response time	≤ 7 ms
Insulation coordination	
Insulation voltage	2.5 kV _{eff} / 1 min.
Rated voltage	300 V _{eff}
EMC standards	IEC 61326-1, NE 21
Pollution degree	2
Overvoltage category	II
Approvals	CCCEX; CE; cULus; DETNORVER; EAC; FMEX; IECCEXKEM; KEMAATEX

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Ordering data

Screw connection without mounting rail bus supply	ACT20M-AI-A0-X-S	1	2825050000
PUSH IN connection without mounting rail bus supply	ACT20M-AI-A0-X-P	1	2825180000
Screw connection with mounting rail bus supply	ACT20M-AI-A0-S	1	1176000000
PUSH IN connection with mounting rail bus supply	ACT20M-AI-A0-P	1	2825370000

Note

Voltage source, Current source, 2-wire transmitter (without own power supply)	
Output	PLC
Supply	24 V DC / 230 V AC

Screw connection	PUSH IN
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5	114.3 / 6.1 / 112.5
Power supply optionally over the DIN mounting rail CH20M	

Type	Qty.	Order No.
ACT20M-AI-A0-X-S	1	2825050000
ACT20M-AI-A0-X-P	1	2825180000
ACT20M-AI-A0-S	1	1176000000
ACT20M-AI-A0-P	1	2825370000

Electrical connections

Terminal	ACT20M-AI-A0-S					
	Input			Power supply	Output 1	
	V	mA	mA Loop		V	mA
1						
2						
3	■	□	■			
4	□	■	□			
5					■	■
6					□	□
7				■		
8				□		

■ = +
□ = -

DIP switch settings

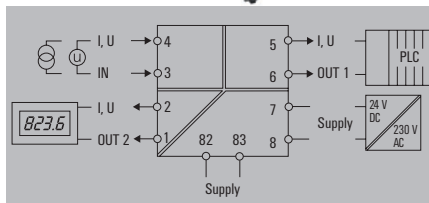
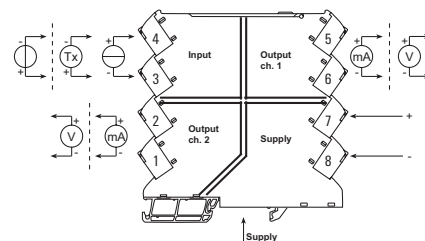
Range	Input				Output					
	1	2	3	4	5	6	7	8	9	10
0 ... 20 mA	□	□	□	□	□	□	□	□	□	□
4 ... 20 mA	□	■	□	□	□	■	□	□	□	□
0 ... 10 V	■	□	□	□	□	□	□	□	□	□
2 ... 10 V	■	■	□	□	■	■	□	□	□	□
0 ... 5 V	■	□	■	■	□	■	■	□	■	■
1 ... 5 V	■	■	■	■	■	■	■	■	■	■
0 ... 20 mA loop	■	□	□	□						
4 ... 20 mA loop	■	□	■	□						

■ = on
□ = off

Supply isolator with standard signals and splitter function

- Isolation, conversion and doubling of DC signals
- Configuration via DIP switches
- Supply possible via the mounting rail bus
- 4-way isolation

ACT20M-AI-2A0



Technical data

Input	
Sensor	
Number of inputs	1
Input current	configurable, 0...20 mA, 4...20mA
Input voltage	configurable, 0(2)...10 V, 0(1)...5 V
Sensor supply	17...28 V DC (@ 20 mA)
Input resistance, voltage	500 kΩ
Voltage drop, current input	< 1.5 V
Output	
Number of outputs	2
Output current	configurable, 0...20 mA, 4...20 mA
Output voltage	configurable, 0(2)...10 V, 0(1)...5 V
Load impedance current	< 300 Ω, per channel, @ max 23mA
load impedance voltage	≥ 10 kΩ
General data	
Configuration	DIP switch
Voltage supply	24 V DC ± 30 %
Ambient temperature	-25 °C...70 °C
Accuracy	< 0.05 % of measuring range
Temperature coefficient	≤ 0.01 % / °C
Cut-off frequency (-3 dB)	100 Hz
Power consumption, typ.	0.84 W
Power consumption, max.	1.2 W
Step response time	≤ 7 ms
Insulation coordination	
Insulation voltage	2.5 kV _{eff} / 1 min.
Rated voltage	300 V _{eff}
EMC standards	IEC 61326-1, NE 21
Pollution degree	2
Overtoltage category	II
Approvals	CE; cULus; DETNORVER; EAC; FMEX; IECEXKEM; KEMAATEX

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Ordering data

Screw connection without mounting rail bus supply	ACT20M-AI-2A0-X-S	1	2825030000
PUSH IN connection without mounting rail bus supply	ACT20M-AI-2A0-X-P	1	2825160000
Screw connection with mounting rail bus supply	ACT20M-AI-2A0-S	1	1176020000
PUSH IN connection with mounting rail bus supply	ACT20M-AI-2A0-P	1	2825350000

Note

Electrical connections	
Terminal	ACT20M-AI-2A0-S
	Input Power supply Output 1 Output 2
	V mA mA Loop V mA V mA
1	
2	
3	■ □ ■
4	□ ■ □
5	
6	
7	
8	
	■ = + □ = -
DIP switch settings	
Range	Input Output 1 Output 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 □ = off

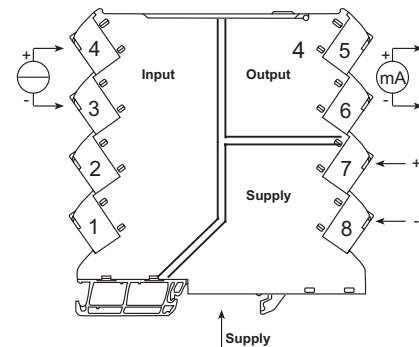
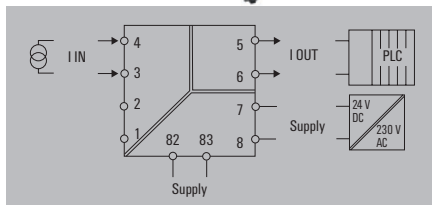
Screw connection	PUSH IN
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5	
Power supply optionally over the DIN mounting rail CH20M	

Isolation amplifier

Isolation amplifier

- Input for power source (active)
- Output current source (active)
- Supply possible via the mounting rail bus
- 3-way isolation

ACT20M-CI-CO



D

Technical data

Input	
Sensor	
Number of inputs	1
Input current	0...20 mA, 4...20mA
Voltage drop, current input	< 1.5 V
Output	
Number of outputs	1
Output current	0...20 mA, 4...20 mA
Load impedance current	≤ 600 Ω, @ max 23mA
General data	
Configuration	none
Voltage supply	24 V DC ±30 % at terminal or via CH20M rail bus
Ambient temperature	-25 °C...70 °C
Accuracy	< 0.05 % of measuring range
Temperature coefficient	≤ 0.01 % / °C
Cut-off frequency (-3 dB)	100 Hz
Power consumption, typ.	0.45 W
Power consumption, max.	0.8
Step response time	≤ 7 ms
Insulation coordination	
Insulation voltage	2.5 kV _{eff} / 1 min.
Rated voltage	300 V _{eff}
EMC standards	IEC 61326-1, NE 21
Pollution degree	2
Overvoltage category	II
Approvals	CCCEX; CE; cULus; DETNORVER; EAC; FMEX; IECCEXKEM; KEMAATEX

Electrical connections

Terminal	ACT20M-CI-CO-S		
	Input mA	Power Supply	Output 1 mA
1			
2			
3	□		
4	■		
5			■
6			□
7		■	
8		□	

■ = +
□ = -

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Screw connection	PUSH IN
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5	
Power supply optionally over the DIN mounting rail CH20M	

Ordering data

Screw connection without mounting rail bus supply	
PUSH IN connection without mounting rail bus supply	
Screw connection with mounting rail bus supply	
PUSH IN connection with mounting rail bus supply	

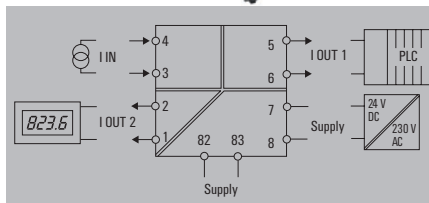
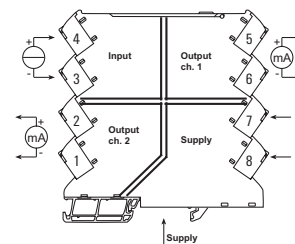
Type	Qty.	Order No.
ACT20M-CI-CO-X-S	1	2825090000
ACT20M-CI-CO-X-P	1	2825240000
ACT20M-CI-CO-S	1	1175980000
ACT20M-CI-CO-P	1	2825410000

Note

Isolation amplifier with splitter function

- Isolation and doubling of DC signals
- Supply possible via the mounting rail bus
- 4-way isolation

ACT20M-CI-2CO



Technical data

Input	
Sensor	Current source, Sensor with own supply, 4-wire sensor
Number of inputs	1
Input current	0...20 mA, 4...20 mA
Voltage drop, current input	< 1.5 V
Output	
Number of outputs	2
Output current	0...20 mA, 4...20 mA
Load impedance current	< 300 Ω, per channel, @ max 23mA
General data	
Configuration	none
Voltage supply	24 V DC ±30 % at terminal or via CH20M rail bus
Ambient temperature	-25 °C...70 °C
Accuracy	< 0.05 % of measuring range
Temperature coefficient	≤ 0.01 % / °C
Cut-off frequency (-3 dB)	100 Hz
Power consumption, typ.	0.45 W
Power consumption, max.	0.8 W
Step response time	≤ 7 ms
Insulation coordination	
Insulation voltage	2.5 kV _{eff} / 1 min.
Rated voltage	300 V _{eff}
EMC standards	IEC 61326-1, NE 21
Pollution degree	2
Overvoltage category	II
Approvals	CCCEX; CE; cULus; DETNORVER; EAC; FMEX; IECExKEM; KEMAATEX

Electrical connections

Terminal	ACT20M-CI-2CO-S			
	Input mA	Power Supply	Output 1 mA	Output 2 mA
1				□
2				■
3	□			
4	■			
5			■	
6			□	
7		■		
8		□		

■ = +
□ = -

Dimensions

Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm

Note

Screw connection PUSH IN

2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5	

Power supply optionally over the DIN mounting rail CH20M

Ordering data

- Screw connection without mounting rail bus supply
- PUSH IN connection without mounting rail bus supply
- Screw connection with mounting rail bus supply
- PUSH IN connection with mounting rail bus supply

Type	Qty.	Order No.
ACT20M-CI-2CO-X-S	1	2825080000
ACT20M-CI-2CO-X-P	1	2825210000
ACT20M-CI-2CO-S	1	1175990000
ACT20M-CI-2CO-P	1	2825400000

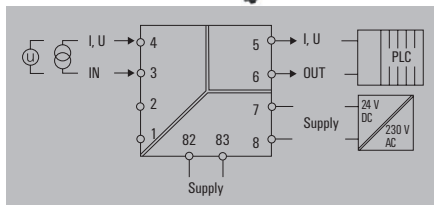
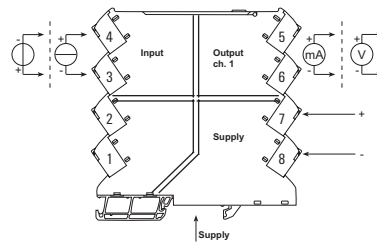
Note

Isolation amplifier

Isolating amplifier for standard signals

- Input for current/voltage source
- Sensor supply
- Output current/voltage source
- 3-way isolation
- Configuration via DIP switches
- Supply possible via the mounting rail bus

ACT20M-AI-AO-E



Technical data

Input	
Sensor	
Input current	
Input voltage	
Input resistance, voltage	
Voltage drop, current input	
Output	
Output current	
Output voltage	
Load impedance current	
load impedance voltage	
General data	
Configuration	
Voltage supply	
Ambient temperature	
Accuracy	
Temperature coefficient	
Cut-off frequency (-3 dB)	
Power consumption, typ.	
Power consumption, max.	
Step response time	
Insulation coordination	
Insulation voltage	
Rated voltage	
EMC standards	
Pollution degree	
Overtoltage category	
Approvals	

Voltage source, Current source	
configurable, 0(4)...20 mA	
configurable, 0(2)...10 V, 0(1)...5 V	
>500 kΩ	
<1,5 V	
configurable, 0...20 mA, 4...20 mA	
configurable, 0(2)...10 V, 0(1)...5 V	
≤ 600 Ω, @ max 23mA	
≥ 10 kΩ	
DIP switch	
24 V DC ± 30 %	
0 °C...70 °C	
< 0.2 % of measuring range	
≤ 0.015 % / °C	
100 Hz	
0.56 W	
0.8 W	
≤ 7 ms	
2.5 kV _{eff} / 1 min.	
300 V _{eff}	
IEC 61326-1, NE 21	
2	
II	

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Screw connection	PUSH IN
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5	114.3 / 6.1 / 112.5
Power supply optionally over the DIN mounting rail CH20M	

Ordering data

Screw connection without mounting rail bus supply	
PUSH IN connection without mounting rail bus supply	
Screw connection with mounting rail bus supply	
PUSH IN connection with mounting rail bus supply	

Type	Qty.	Order No.
ACT20M-AI-AO-E-X-S	1	2825040000
ACT20M-AI-AO-E-X-P		2825170000
ACT20M-AI-AO-E-S	1	1176010000
ACT20M-AI-AO-E-P	1	2825360000

Note

Electrical connections

Terminal	ACT20M-AI-AO-E-S				
	Input		Power supply	Output 1	
	V	mA		V	mA
1					
2					
3	■	□			
4	□	■			
5				■	■
6				□	□
7			■		
8			□		

■ = +
□ = -

DIP switch settings

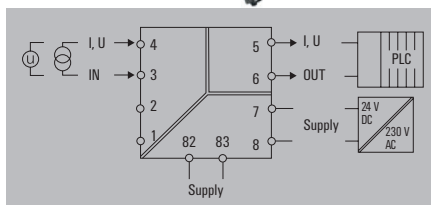
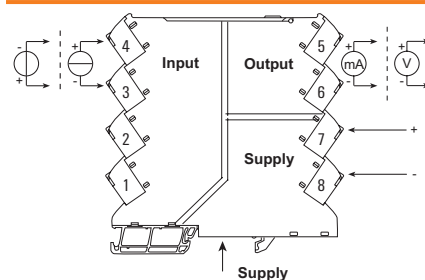
Range	Input				Output					
	1	2	3	4	5	6	7	8	9	10
0 ... 20 mA	□	□	□	□	□	□	□	□	□	□
4 ... 20 mA	□	■	□	□	□	■	□	□	□	□
0 ... 10 V	■	□	□	■	□	□	□	□	□	□
2 ... 10 V	■	□	□	■	■	□	■	□	□	□
0 ... 5 V	■	□	■	■	□	■	■	■	■	■
1 ... 5 V	■	■	■	■	■	■	■	■	■	■

■ = on
□ = off

Isolation amplifier, bipolar

- Input for bipolar current/voltage source
- Output current/voltage source
- 3-way isolation
- Configuration via DIP switches
- Supply possible via the mounting rail bus

ACT20M-BAI-AO



Technical data

Input	
Sensor	
Input current	
Input voltage	
Output	
Output current	
Output voltage	
Load impedance current	
load impedance voltage	
General data	
Configuration	
Voltage supply	
Ambient temperature	
Storage temperature	
Accuracy	
Temperature coefficient	
Cut-off frequency (-3 dB)	
Insulation coordination	
Insulation voltage	
Rated voltage	
EMC standards	
Pollution degree	
Overtoltage category	
Approvals	
Approvals	

Voltage source, Current source	
configurable, -10 mA...0...+10 mA, -20 mA...0...+20 mA	
configurable, -5 V...0...+5 V, -10 V...0...+10 V	
configurable, 0...20 mA, 4...20 mA	
configurable, 0(2)...10 V, 0(1)...5 V	
≤ 600 Ω	
≥ 10 kΩ	
DIP switch	
24 V DC ± 30 %	
-25 °C...70 °C	
-40 °C...85 °C	
< 0.05 % of measuring range	
< 0.01% of span/°C (TU)	
≥ 100 Hz, 10 Hz	
2.5 kV _{eff} /1 min.	
300 V _{eff}	
IEC 61326-1, NE 21	
2	
II	
CCCEX; cULus; DETNORVER; EAC; FMEX; IECEXKEM; KEMAATEX	

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Screw connection	PUSH IN
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5	
Power supply optionally via mounting rail bus CH20M	

Ordering data

Screw connection without mounting rail bus supply	
PUSH IN connection without mounting rail bus supply	
Screw connection with mounting rail bus supply	
PUSH IN connection with mounting rail bus supply	

Type	Qty.	Order No.
ACT20M-BAI-AO-X-S	1	2825070000
ACT20M-BAI-AO-X-P	1	2825200000
ACT20M-BAI-AO-S	1	1375450000
ACT20M-BAI-AO-P	1	2825390000

Note	
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Electrical connections

Terminal	ACT20M-BAI-AO-S				
	Input		Power supply	Output 1	
	V	mA		V	mA
1					
2					
3	■	□			
4	□	■			
5				■	■
6				□	□
7			■		
8			□		

■ = +
□ = -

DIP switch settings

Range	Bandwidth	Input				Output					
		1	2	3	4	5	6	7	8	9	10
10 Hz		■									
100 Hz		□									
-10...+10 mA			■	■	■						
-20...+20 mA			■	■	□						
-5...+5 V			□	□	■						
-10...+10 V			□	□	□						
0 ... 20 mA						□	□	□			
4 ... 20 mA							□	■	□		
0 ... 10 V							■	□	□		
2 ... 10 V								■	■	□	
0 ... 5 V									■	□	■
1 ... 5 V										■	■
±20 mA set-up											
±10 mA set-up											

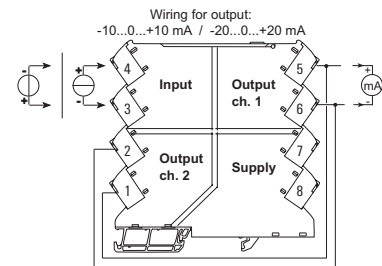
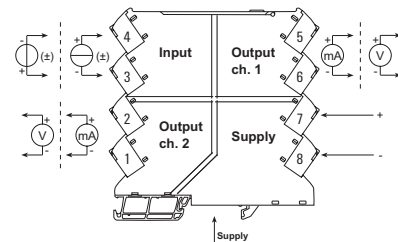
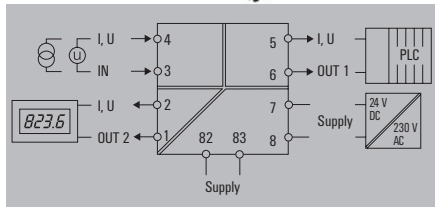
■ = on
□ = off

Isolation amplifier

Isolation amplifier, bipolar,

- Isolation and conversion of bipolar DC signals
- Splitting into standard signal or bipolar output
- Configuration via DIP switches
- Supply possible via the mounting rail bus
- 4-way isolation

ACT20M-BAI-2A0



Technical data

Input	
Sensor	
Number of inputs	1
Input current	configurable, -10 mA...+10 mA, -20 mA...+20 mA
Input voltage	configurable, -5 V...+5 V, -10 V...+10 V
Output	
Number of outputs	2
Output current	configurable, 0...20 mA, 4...20 mA, 1 channel -10...+10 mA, 1 channel -20...+20 mA
Output voltage	configurable, 0(2)...10 V, 0(1)...5 V
Load impedance current	< 300 Ω, per channel
load impedance voltage	≥ 10 kΩ
General data	
Voltage supply	24 V DC ± 30 %
Ambient temperature	-25 °C...70 °C
Storage temperature	-40 °C...85 °C
Accuracy	< 0.05 % of measuring range
Temperature coefficient	< 0.01% of span/°C (TU)
Cut-off frequency (-3 dB)	≥ 100 Hz, 10 Hz
Insulation coordination	
Insulation voltage	2.5 kV _{eff} / 1 min.
Rated voltage	300 V _{eff}
EMC standards	IEC 61326-1, NE 21
Pollution degree	2
Overvoltage category	II
Approvals	
Approvals	CCCEX; cULus; DETNORVER; EAC; FMEX; IECExKEM; KEMAATEX
Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Voltage source, Current source	
1	configurable, -10 mA...+10 mA, -20 mA...+20 mA
2	configurable, 0...20 mA, 4...20 mA, 1 channel -10...+10 mA, 1 channel -20...+20 mA
3	configurable, 0(2)...10 V, 0(1)...5 V
4	< 300 Ω, per channel
5	≥ 10 kΩ
Screw connection	
PUSH IN	2.5 / 0.5 / 2.5
	114.3 / 6.1 / 112.5

Electrical connections

Terminal	ACT20M-BAI-2A0-S							
	Input		Power supply	Output 1		Output 2		
	V	mA		V	mA	V	mA	
1								<input type="checkbox"/>
2								<input checked="" type="checkbox"/>
3	<input checked="" type="checkbox"/>	<input type="checkbox"/>						
4	<input type="checkbox"/>	<input checked="" type="checkbox"/>						
5				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
6				<input type="checkbox"/>	<input type="checkbox"/>			
7			<input checked="" type="checkbox"/>					
8			<input type="checkbox"/>					

= +
 = -

DIP switch settings

Range	Bandwidth	Input				Output 1				Output 2	
		1	2	3	4	5	6	7	8	9	10
10 Hz		<input checked="" type="checkbox"/>									
100 Hz		<input type="checkbox"/>									
-10...+10 mA		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							
-20...+20 mA		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>							
-5...+5 V		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
-10...+10 V		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
0...20 mA					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4...20 mA					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
0...10 V					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2...10 V					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0...5 V					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1...5 V					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
±20 mA set-up					<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
±10 mA set-up					<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

= on
 = off

Ordering data

Type	Qty.	Order No.
Screw connection without mounting rail bus supply	1	2825060000
PUSH IN connection without mounting rail bus supply	1	2825190000
Screw connection with mounting rail bus supply	1	1375470000
PUSH IN connection with mounting rail bus supply	1	2825380000

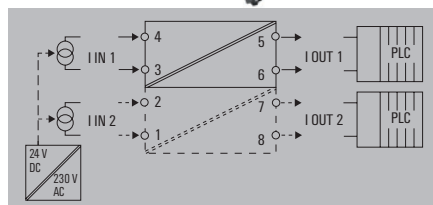
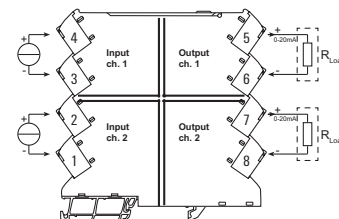
Type	Qty.	Order No.
ACT20M-BAI-2A0-X-S	1	2825060000
ACT20M-BAI-2A0-X-P	1	2825190000
ACT20M-BAI-2A0-S	1	1375470000
ACT20M-BAI-2A0-P	1	2825380000

Note

Passive isolator, input loop powered

- Isolation of DC signals without additional voltage supply
- Supply from the input measuring circuit
- Optionally available as a 1-channel / 2-channel version
- 2-way isolation

ACT20M-CI-CO-ILP



Technical data

Input	
Sensor	
Voltage drop, current input	
Input current	
Output	
Output current	
Load impedance current	
General data	
Configuration	none
Ambient temperature	-25 °C...70 °C
Accuracy	< 0.1 % of measuring range
Temperature coefficient	≤ 0.01 % / °C
Cut-off frequency (-3 dB)	100 Hz
Power consumption	30 mW
Voltage supply	Loop powered, via 4...20 mA input
Step response time	≤ 5 ms
Insulation coordination	
Insulation voltage	2.5 kV _{eff} / 1 min.
Rated voltage	300 V _{eff}
EMC standards	IEC 61326-1, NE 21
Pollution degree	2
Overvoltage category	II
Approvals	CCCEX; cULus; DETNORVER; EAC; FMEX; IECEXKEM; KEMAATEX

Current source	
1.25 V + 0.015 V _{reg} @25°C	
0...20 mA, 4...20mA	
Output	
0...20 mA, 4...20 mA	
≤ 600 Ω, @ max 23mA	

Electrical connections

Terminal	ACT20M-CI-2CO-S			
	Input 1	Output 1	Input 2	Output 2
	mA	mA	mA	mA
1			□	
2			■	
3	□			
4	■			
5		■		
6		□		
7				■
8				□

Electrical connections

Terminal	ACT20M-CI-CO-ILP-S	
	Input 1	Output 1
	mA	mA
1		
2		
3	□	
4	■	
5		■
6		□
7		
8		

■ = +
□ = -

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Screw connection	PUSH IN
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5	
Power supply optionally over the DIN mounting rail CH20M	

Ordering data

Screw connection, 1 channel	
PUSH IN connection, 1 channel	
Screw connection, 2 channel	
PUSH IN connection, 2 channel	

Type	Qty.	Order No.
ACT20M-CI-CO-ILP-S	1	1176070000
ACT20M-CI-CO-ILP-P	1	2825220000
ACT20M-2CI-2CO-ILP-S	1	1176080000
ACT20M-2CI-2CO-ILP-P	1	2825140000

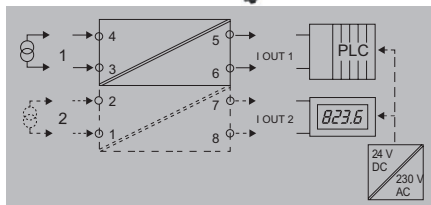
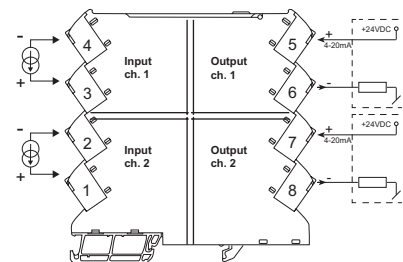
Note

Passive isolator

Passive isolator, output loop powered

- Disconnection of DC signals without additional power supply
- Supply from the output measuring circuit
- Optionally available as 1-channel / 2-channel version
- 2-way isolation
- For sensors with own power supply

ACT20M-CI-CO-OLP2



D

Technical data

Input	
Sensor	4-wire sensor (with own power supply)
Input current	4...20 mA
Output	
Output current	4...20 mA
General data	
Configuration	none
Accuracy	< 0.05 % of measuring range
Voltage supply	Output loop powered
Power consumption, typ.	50 mW
Galvanic isolation	2-way isolator
Step response time	≤ 5 ms
Insulation coordination	
Insulation voltage	2.5 kV _{eff} / 1 min.
Rated voltage	300 V _{eff}
EMC standards	IEC 61326-1, NE 21
Pollution degree	2
Overvoltage category	II
Approvals	
Approvals	

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth / Width / Height	mm
Note	

Screw connection	PUSH IN
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 61 / 112.5	114.3 / 61 / 112.5

Ordering data

	Screw connection, 1 channel
	PUSH IN connection, 1 channel
	Screw connection, 2 channel
	PUSH IN connection, 2 channel

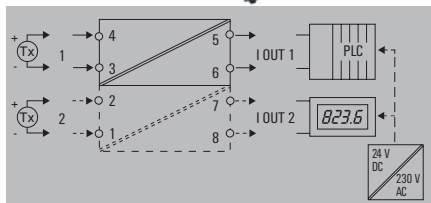
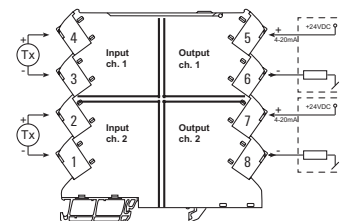
Type	Qty.	Order No.
ACT20M-CI-CO-OLP2-S	1	2825000000
ACT20M-CI-CO-OLP2-P	1	2825320000
ACT20M-2CI-2CO-OLP2-S	1	2825010000
ACT20M-2CI-2CO-OLP2-P	1	2825330000

Note	
-------------	--

Passive isolator with sensor supply, output loop powered

- Isolation of DC signals without additional voltage supply
- Supply from the output measurement circuit
- Optionally available as a 1-channel / 2-channel version
- 2-way isolation
- For sensors without own power supply
- 2-way separation

ACT20M-CI-CO-OLP



Technical data

Input	
Sensor	
Sensor supply	
Voltage drop, current input	
Input current	
Output	
Output current	
General data	
Configuration	
Ambient temperature	
Accuracy	
Temperature coefficient	
Cut-off frequency (-3 dB)	
Power consumption, max.	
Voltage supply	
Step response time	
Insulation coordination	
Insulation voltage	
Rated voltage	
EMC standards	
Pollution degree	
Overvoltage category	
Approvals	

2-wire transmitter (without own power supply)
6...35 V (@ 20 mA)
Typical 2.5 V
4...20mA
4...20 mA
none
-25 °C...70 °C
< 0.05 % of measuring range
≤±0.02 µA x (Δ °C x V _{supply}) @ Tamb > 25 °C
100 Hz
50 mW per channel
Output loop powered
≤ 5 ms
2.5 kV _{eff} /1 min.
300 V _{eff}
IEC 61326-1, NE 21
2
II
CCCEX; cULus; DETNORVER; EAC; FMEX; IECEXKEM; KEMAATEX

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Screw connection	PUSH IN
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5	114.3 / 6.1 / 112.5
Power supply optionally over the DIN mounting rail CH20M	

Ordering data

Screw connection, 1 channel
PUSH IN connection, 1 channel
Screw connection, 2 channel
PUSH IN connection, 2 channel

Type	Qty.	Order No.
ACT20M-CI-CO-OLP-S	1	1176040000
ACT20M-CI-CO-OLP-P	1	2825230000
ACT20M-2CI-2CO-OLP-S	1	1176050000
ACT20M-2CI-2CO-OLP-P	1	2825150000

Note

Electrical connections

Terminal	ACT20M-2CI-2CO-OLP-S			
	Input 1	Output 1	Input 2	Output 2
	mA	mA	mA	mA
1			□	
2			■	
3	□			
4	■			
5		■		
6		□		
7				■
8				□

Electrical connections

Terminal	ACT20M-CI-CO-OLP-S	
	Input 1	Output 1
	mA	mA
1		
2		
3	□	
4	■	
5		■
6		□
7		
8		

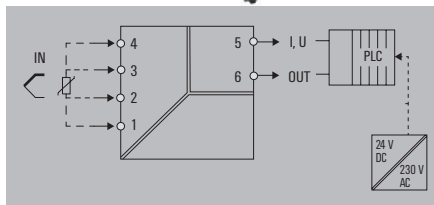
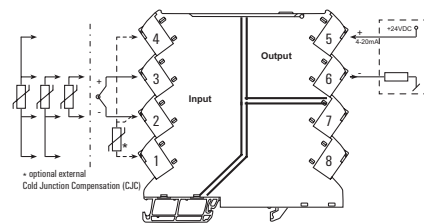
■ = +
□ = -

Temperature transducer

Temperature transducer, output loop powered

- Isolation and conversion of temperature signals, (RTD and thermocouple)
- Configuration via DIP switches
- Power supply via the output circuit
- 2-way isolation

ACT20M-RTCI-CO-OLP



Technical data

Input

Sensor
Input measurement range

Temperature input range

Output

Output current
Sensor error detection

General data

Configuration
Voltage supply
Power consumption, max.
Storage temperature
Accuracy

Galvanic isolation
Step response time
Ambient temperature

Insulation coordination

Insulation voltage
Rated voltage
EMC standards
Pollution degree
Overvoltage category

Approvals

Approvals

Dimensions

Clamping range (nominal / min. / max.) mm²
Depth x width x height mm

Note

Ordering data

Screw connection
PUSH IN connection

Note

Accessories

Note

PT100 (2-/3-/4- wire), Thermocouples: J, K

PT100 -200...+850 °C, Thermocouple type J -100...+1200°C, Thermocouple type K -180...+1372 °C
Configurable, PT100: -200...+850 °C, min. measurement range 10°C (RTD), J: (-100...+1200 °C), K: (-180...+1372 °C), min. measurement range 50°C (TC)

configurable, 4...20 mA, 20...4 mA
Yes, Configurable, 3.5 mA/23 mA/none

DIP switch
Output loop powered, 6...35 V
0.8 W
-40 °C...85 °C

absolute accuracy: < ±0.05 % of the measurement range, RTD (PT100) Basic accuracy: < ±0.1 °C of the measurement range, TC (J,K) Basic accuracy: < ±0.5 °C of the measurement range

2-way isolator
Configurable, ≤ 30 ms, < 300 ms
-25 °C...+70 °C

2.5 kV_{eff}/1 min.
300 V_{eff}
IEC 61326-1, NE 21
2
II

cULus; DETNORVER; EAC; FMEX; IECEXKEM; KEMAATEX

Screw connection PUSH IN

2.5 / 0.5 / 2.5 2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5 114.3 / 6.1 / 112.5

Type	Qty.	Order No.
ACT20M-RTCI-CO-OLP-S	1	1435590000
ACT20M-RTCI-CO-OLP-P	1	2825250000

DIN mounting rail, see accessories

Electrical connections

Terminal	ACT20M-RTCI-CO-OLP-S				
	Input				Output 1
	2 wire	3 wire	4 wire	TC	mA
1		Sense-	Sense-	CJC+*	
2	R	R-	R-	TC/CJC*	
3	R	R+	R+	TC+	
4			Sense+	CJC*	
5					■
6					□
7					
8					

* optional

■ = +

□ = -

Configuration

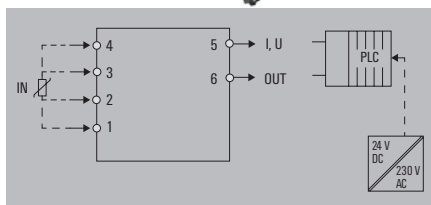
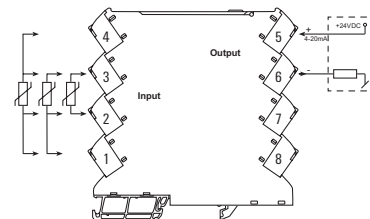
Temp.	Temperature range [°C]									
	Pt100: -200...+850 °C // TC J: -100...+1200°C // TC K: -180...+1372 °C									
	Min.	S2	Max.	S2	Max.	S2	Min.	S2	Max.	S2
-200			0				170			
-180	■		5		■		180	■		■
-150	■		10		■		190	■		■
-100	■		15		■		200	■		■
-50	■		20		■		225	■		■
-25	■		25		■		250	■		■
-10	■		30		■		275	■		■
-5	■		35		■		300	■		■
0	■		40		■		325	■		■
5	■		45		■		350	■		■
10	■		50		■		375	■		■
20	■		55		■		400	■		■
25	■		60		■		450	■		■
50	■		65		■		500	■		■
100	■		70		■		550	■		■
200	■		75		■		600	■		■
			80		■		650	■		■
			85		■		700	■		■
			90		■		750	■		■
			95		■		800	■		■
			100		■		850	■		■
			105		■		900	■		■
			110		■		950	■		■
			115		■		1000	■		■
			120		■		1050	■		■
			125		■		1100	■		■
			130		■		1150	■		■
			135		■		1200	■		■
			140		■		1250	■		■
			145		■		1300	■		■
			150		■		1350	■		■
			160		■		1372	■		■

■ = 0n

Temperature transducer, output loop powered

- Conversion of temperature signals, RTD
- Configuration via DIP switches
- Power supply via the output circuit
- Without galvanic isolation

ACT20M-RTI-CO-EOLP



Technical data

Input	
Sensor	PT100 (2-/3-/4-wire)
Temperature input range	Configurable, PT100: -200...+850 °C, min. measurement range 10°C (RTD)
Output	
Output current	4...20 mA, loop-powered
Sensor error detection	Yes, Configurable, 3.5 mA/23 mA/none
General data	
Configuration	DIP switch
Voltage supply	Output loop powered, 6...35 V
Power consumption, max.	0.8 W
Storage temperature	-40 °C...85 °C
Accuracy	absolute accuracy: $\lt; \pm 0.1\%$ of the measurement range, Basic accuracy: $\lt; \pm 0.2^\circ\text{C}$
Galvanic isolation	Without isolation
Step response time	Configurable, ≤ 30 ms, $\lt; 300$ ms
Ambient temperature	-25 °C...+70 °C
EMC standards	IEC 61326-1, NE 21
Approvals	
Approvals	cULus; DETNORVER; EAC; FMEX; IECEXKEM; KEMAATEX

Dimensions	
Screw connection	2.5 / 0.5 / 2.5
PUSH IN	2.5 / 0.5 / 2.5
Depth x width x height	114.3 / 6.1 / 112.5

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Ordering data

	Screw connection
	PUSH IN connection

Note

Accessories

Note

Dimensions	
Screw connection	2.5 / 0.5 / 2.5
PUSH IN	2.5 / 0.5 / 2.5
Depth x width x height	114.3 / 6.1 / 112.5

Type	Qty.	Order No.
ACT20M-RTI-CO-EOLP-S	1	1435610000
ACT20M-RTI-CO-EOLP-P	1	2825280000

Note

Note

Electrical connections

Terminal	ACT20M-RTCI-CO-OPLS			Output 1 mA
	Input RTD			
	2 wire	3 wire	4 wire	
1		Sense-	Sense-	
2	R	R-	R-	
3	R	R+	R+	
4			Sense+	
5				■
6				□
7				
8				

* optional
 ■ = +
 □ = -

Configuration

Temp.	Temperature range [°C]									
	Pt100: -200...+850 °C // TC J: -100...+1200 °C					TC K: -180...+1372 °C				
Min.	S2	Max.	S2	Max.	S2	Min.	S2	Max.	S2	Max.
-200		0		170	■					
-180	■	5		180	■					
-150	■	10		190	■					
-100	■	15		200	■					
-50	■	20		225	■					
-25	■	25		250	■					
-10	■	30		275	■					
-5	■	35		300	■					
0	■	40		325	■					
5	■	45		350	■					
10	■	50		375	■					
20	■	55		400	■					
25	■	60		450	■					
50	■	65		500	■					
100	■	70		550	■					
200	■	75		600	■					
		80		650	■					
		85		700	■					
		90		750	■					
		95		800	■					
		100		850	■					
		105								
		110								
		115								
		120								
		125								
		130								
		135								
		140								
		145								
		150								
		160								

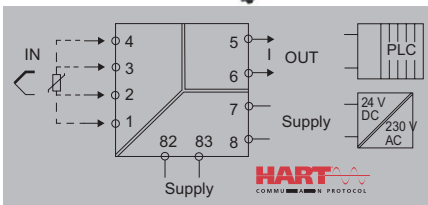
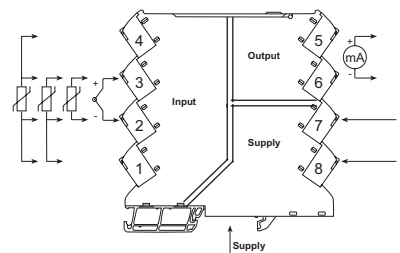
■ = 0n

Temperature transducer

Temperature transducer, with HART®-function

- Conversion of temperature signals
- Configuration via DIP switch or HART®
- HART® read/write capability
- Supply also possible via mounting rail bus
- 3-way isolation

ACT20M-RTCI-CO-H



Technical data

Input
Sensor
Temperature input range
Output
Output current
General data
Configuration
Accuracy
Voltage supply
Power consumption, typ.
Galvanic isolation
Step response time
Insulation coordination
Insulation voltage
Rated voltage
EMC standards
Pollution degree
Overvoltage category
Approvals
Approvals

PT100 (2-/3-/4- wire), Thermocouples: J, K
Configurable, PT100: -200...+850 °C, min. measurement range 10°C (RTD), J: (-100...+1200 °C), K: (-180...+1372 °C), min. measurement range 50°C (TC)
configurable, 4...20 mA, 20...4 mA
DIP switch, or with HART 7 protocol
< 0.05 % of measuring range
24 V DC ± 30 %
0.5 W
3-way isolator
Configurable, ≤ 30 ms, < 300 ms
2.5 kV _{eff} / 1 min.
300 V _{eff}
IEC 61326-1, NE 21
2
II

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth / Width / Height	mm
Note	

Screw connection	PUSH IN
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 6.1 /	114.3 / 6.1 /

Ordering data

Screw connection without mounting rail bus supply
PUSH IN connection without mounting rail bus supply
Screw connection with mounting rail bus supply
PUSH IN connection with mounting rail bus supply

Type	Qty.	Order No.
ACT20M-RTCI-CO-H-X-S	1	2830500000
ACT20M-RTCI-CO-H-X-P	1	2830510000
ACT20M-RTCI-CO-H-S	1	2830480000
ACT20M-RTCI-CO-H-P	1	2830490000

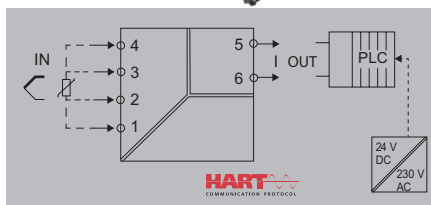
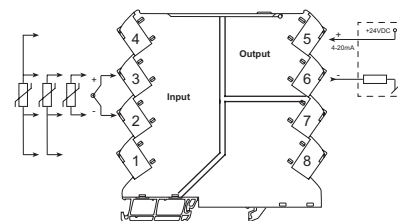
Note

CBX200 USB 8978580000 Mounting rail bus see accessories

Temperature transducer, with HART®-function, output loop powered

- Conversion of temperature signals, (RTD)
- Configuration via DIP switch or HART®
- HART® read / write capability
- Supply via output loop
- 2-way isolation

ACT20M-RTCI-CO-HOLP



Technical data

Input
Sensor
Temperature input range
Output
Output current
General data
Configuration
Accuracy
Voltage supply
Power consumption, typ.
Galvanic isolation
Step response time
Insulation coordination
Insulation voltage
Rated voltage
EMC standards
Pollution degree
Overvoltage category
Approvals
Approvals

PT100 (2-/3-/4- wire), Thermocouples: J, K
PT100: -200...+850 °C, J: (-100...+1200 °C), K: (-180...+1372 °C)
4...20 mA, loop-powered
DIP switch, or with HART 7 protocol
< 0.05 % of measuring range
Output loop powered, 6...35 V
0.8 W
2-way isolator
Configurable, ≤ 30 ms, < 300 ms
2.5 kV _{eff} / 1 min.
300 V _{eff}
IEC 61326-1, NE 21
2
II

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth / Width / Height	mm
Note	

Screw connection	PUSH IN
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5	114.3 / 6.1 / 112.5

Ordering data

	Screw connection
	PUSH IN connection
Note	

Type	Qty.	Order No.
ACT20M-RTCI-CO-HOLP-S	1	2830460000
ACT20M-RTCI-CO-HOLP-P	1	2830470000

Accessories

Note

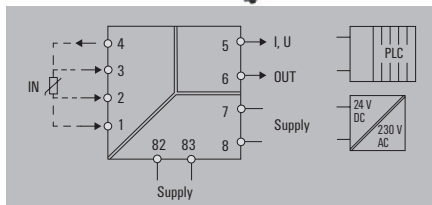
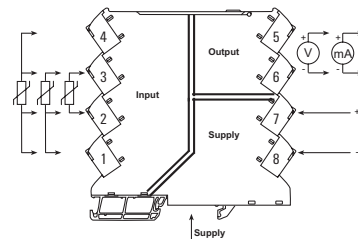
CBX200 USB 8978580000

Temperature transducer

Temperature transducer, RTD

- For resistance thermometers (RTD)
- Configuration via DIP switches
- Supply possible via the mounting rail bus
- 3-way isolation

ACT20M-RTI-AO



Technical data

Input	
Sensor	PT100 (2-/3-/4- wire)
Input measurement range	PT100 -200...+850 °C
Temperature input range	Configurable, PT100: -200...+850 °C, min. measurement range 10°C (RTD)
Output	
Output current	configurable, 0...20 mA, 4...20 mA
Output voltage	configurable, 0(2)...10 V, 0(1)...5 V
Load impedance current	≤ 600 Ω
load impedance voltage	≥ 10 kΩ
Sensor error detection	Yes, Configurable, 3.5 mA / 23 mA / none
General data	
Configuration	DIP switch
Voltage supply	24 V DC ±30 % at terminal or via CH20M rail bus
Power consumption, max.	0.7 W
Accuracy	absolute accuracy: < ±0.05 % of the measurement range, Basic accuracy: < ±0.1 °C
Galvanic isolation	3-way isolator
Temperature coefficient	≤0.01 % of the measurement range/°C or 0.02 °C/°C
Step response time	Configurable, ≤ 30 ms, < 300 ms
Ambient temperature	-20 °C...+70 °C
Insulation coordination	
Insulation voltage	2.5 kV _{eff} / 1 min.
Rated voltage	300 V _{eff}
EMC standards	IEC 61326-1, NE 21
Pollution degree	2
Overvoltage category	II
Approvals	
Approvals	cULus; DETNORVER; EAC; FMEX; IECEXKEM; KEMAATEX

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Ordering data

Screw connection without mounting rail bus supply	ACT20M-RTI-AO-X-S	1	2825100000
PUSH IN connection without mounting rail bus supply	ACT20M-RTI-AO-X-P	1	2825270000
Screw connection with mounting rail bus supply	ACT20M-RTI-AO-S	1	1375510000
PUSH IN connection with mounting rail bus supply	ACT20M-RTI-AO-P	1	2825420000

Note

Screw connection		PUSH IN	
2.5 / 0.5 / 2.5	114.3 / 6.1 / 112.5	2.5 / 0.5 / 2.5	114.3 / 6.1 / 112.5

Type	Qty.	Order No.
ACT20M-RTI-AO-X-S	1	2825100000
ACT20M-RTI-AO-X-P	1	2825270000
ACT20M-RTI-AO-S	1	1375510000
ACT20M-RTI-AO-P	1	2825420000

DIN mounting rail, see accessories

Electrical connections

Terminal	ACT20M-RTI-AO-S				
	Input		Power supply	Output 1	
	RTD			V	mA
	2 wire	3 wire	4 wire		
1		Sense-	Sense-		
2	R	R-	R-		
3	R	R+	R+		
4		Sense+			
5				■	■
6				□	□
7				■	
8				□	

■ = +
□ = -

Configuration

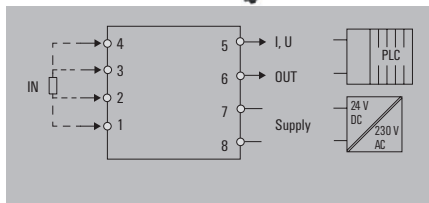
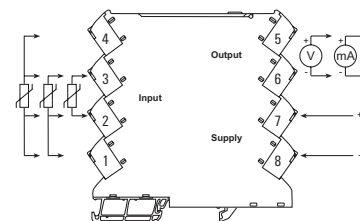
Temperature range [°C]																		
Pt100: -200...+850 °C																		
Min.	S2				Max.	S2				Max.	S2							
Temp.	1	2	3	4	Temp.	5	6	7	8	9	10	Temp.	5	6	7	8	9	10
-200					0							170						
-180				■	5							180						■
-150			■		10							190						■
-100			■	■	15							200						■
-50			■	■	20							225						■
-25			■	■	25							250						■
-10			■	■	30							275						■
-5			■	■	35							300						■
0		■			40							325						■
5		■			45							350						■
10		■			50							375						■
20		■			55							400						■
25		■			60							450						■
50		■			65							500						■
100		■			70							550						■
200		■			75							600						■
					80							650						■
					85							700						■
					90							750						■
					95							800						■
					100							850						■
					105													■
					110													■
					115													■
					120													■
					125													■
					130													■
					135													■
					140													■
					145													■
					150													■
					160													■

■ = On

Temperature transducer, RTD

- For resistance thermometers (RTD)
- Configuration via DIP switches
- No galvanic isolation

ACT-20M-RTI-A0-E



Technical data

Input	
Sensor	PT100 (2-/3-/4- wire)
Input measurement range	PT100 -200...+850 °C
Temperature input range	Configurable, PT100: -200...+850 °C, min. measurement range 10°C (RTD)
Output	
Output current	configurable, 0...20 mA, 4...20 mA
Output voltage	configurable, 0(2)...10 V, 0(1)...5 V
Load impedance current	≤ 600 Ω
load impedance voltage	≥ 10 kΩ
Sensor error detection	Yes, Configurable, 3.5 mA/23 mA/none
General data	
Configuration	DIP switch
Voltage supply	24 V DC ± 30 %
Power consumption, max.	0.5 W
Accuracy	absolute accuracy: < ±0.1 % of the measurement range
Galvanic isolation	Without isolation
Temperature coefficient	≤0.01 % of the measurement range/°C or 0.02 °C/°C
Step response time	Configurable, ≤ 30 ms, < 300 ms
Ambient temperature	-25 °C...+70 °C
EMC standards	IEC 61326-1, NE 21
Approvals	
Approvals	cULus; DETNORVER; EAC; FMEX; IECEXKEM; KEMAATEX

Screw connection		PUSH IN	
Clamping range (nominal / min. / max.)	mm ²	2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5	114.3 / 6.1 / 112.5

Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Ordering data

	Screw connection
	PUSH IN connection

Note	
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Accessories

Note	
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Type	Qty.	Order No.
ACT20M-RTI-A0-E-S	1	1375520000
ACT20M-RTI-A0-E-P	1	2825260000

Note	
DIN mounting rail, see accessories	

Electrical connections

Terminal	ACT20M-RTI-A0-E-S					
	Input			Power supply	Output 1	
	RTD				V	mA
	2 wire	3 wire	4 wire			
1		Sense-	Sense-			
2	R	R-	R-			
3	R	R+	R+			
4		Sense+				
5					■	■
6					□	□
7				■		
8					□	

■ = +
□ = -

Configuration

Temperature range [°C]																
Pt100: -200...+850 °C																
Min. Temp.	S2			Max. Temp.	S2			Max. Temp.	S2							
Temp.	1	2	3	Temp.	5	6	7	8	9	Temp.	5	6	7	8	9	10
-200				0						170						
-180			■	5						180						
-150			■	10						190						
-100			■	15						200						
-50		■		20						225						
-25		■		25						250						
-10		■		30						275						
-5		■		35						300						
0		■		40						325						
5		■		45						350						
10		■		50						375						
20		■		55						400						
25		■		60						450						
50		■		65						500						
100		■		70						550						
200		■		75						600						
				80						650						
				85						700						
				90						750						
				95						800						
				100						850						
				105												
				110												
				115												
				120												
				125												
				130												
				135												
				140												
				145												
				150												
				160												

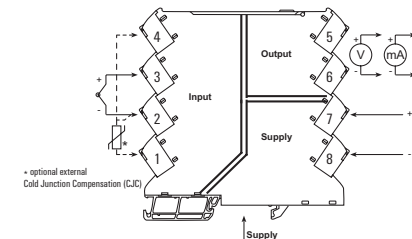
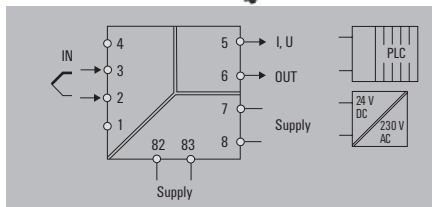
■ = On

Temperature transducer

Temperature transducer, TC

- For thermocouples (TC)
- Configuration via DIP switches
- Supply possible via the mounting rail bus
- 3-way isolation

ACT20M-TCI-AO



D

Technical data

Input	
Sensor	Temperature input range
Output	
Output current	Output voltage
Load impedance current	load impedance voltage
Sensor error detection	
General data	
Configuration	Voltage supply
Power consumption, max.	Accuracy
Galvanic isolation	Temperature coefficient
Step response time	Ambient temperature
Insulation coordination	
Insulation voltage	Rated voltage
EMC standards	Pollution degree
Overvoltage category	
Approvals	
Approvals	
Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Screw connection		PUSH IN	
2.5 / 0.5 / 2.5	114.3 / 6.1 / 112.5	2.5 / 0.5 / 2.5	114.3 / 6.1 / 112.5
Type		Qty.	Order No.
ACT20M-TCI-AO-X-S		1	2825110000
ACT20M-TCI-AO-X-P		1	2825300000
ACT20M-TCI-AO-S		1	1375480000
ACT20M-TCI-AO-P		1	2825430000

Ordering data

Screw connection without mounting rail bus supply	
PUSH IN connection without mounting rail bus supply	
Screw connection with mounting rail bus supply	
PUSH IN connection with mounting rail bus supply	
Note	

Electrical connections

Terminal	ACT20M-TCI-AO-S		
	Input TC	Power supply	Output 1 V mA
1	CJC+ ^{1,2)}		
2	TC/CJC ^{1,2)}		
3	TC+		
4	CJC ^{1,2)}		
5		■	■
6		□	□
7		■	
8		□	

1) only 2) optional
 ■ = +
 □ = -

Configuration

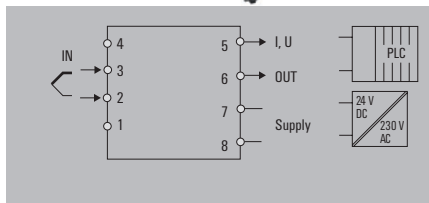
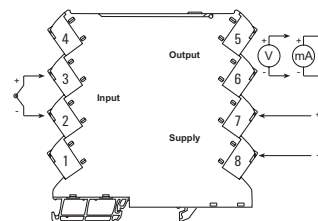
		Temperature range [°C]									
		TC J: -100...+1200 °C					TC K: -180...+1372 °C				
Min.	S2	Max.	S2	Max.	S2	Min.	S2	Max.	S2	Max.	S2
Temp.	1	2	3	4	Temp.	5	6	7	8	9	10
-200				0						170	■
-180			■	5						180	■
-150		■		10						190	■
-100		■	■	15						200	■
-50		■	■	20						225	■
-25		■	■	25						250	■
-10		■	■	30						275	■
-5		■	■	35						300	■
0	■			40						325	■
5	■			45						350	■
10	■	■		50						375	■
20	■	■	■	55						400	■
25	■	■	■	60						450	■
50	■	■	■	65						500	■
100	■	■	■	70						550	■
200	■	■	■	75						600	■
				80	■					650	■
				85	■					700	■
				90	■	■				750	■
				95	■	■				800	■
				100	■	■				850	■
				105	■	■				900	■
				110	■	■	■			950	■
				115	■	■	■			1000	■
				120	■	■	■			1050	■
				125	■	■	■			1100	■
				130	■	■	■			1150	■
				135	■	■	■			1200	■
				140	■	■	■			1250	■
				145	■	■	■			1300	■
				150	■	■	■			1350	■
				160	■	■	■			1372	■

■ = On

Temperature transducer, TC

- For thermocouples (TC)
- Configuration via DIP switches
- Without galvanic isolation

ACT20M-TCI-A0-E



Technical data

Input

Sensor
Temperature input range

Output

Output current
Output voltage
Load impedance current
load impedance voltage
Sensor error detection

General data

Configuration
Voltage supply
Power consumption, max.
Accuracy

Galvanic isolation
Temperature coefficient
Step response time
Ambient temperature
EMC standards

Approvals

Approvals

Thermocouples: J, K

Configurable, J: (-100...+1200 °C), K: (-180...+1372 °C), min. measurement range 50°C (TC)

configurable, 0...20 mA, 4...20 mA

configurable, 0(2)...10 V, 0(1)...5 V

≤ 600 Ω

≥ 10 kΩ

Yes, Configurable, 3.5 mA / 23 mA / none

DIP switch

24 V DC ± 30 %

0.5 W

absolute accuracy: < ±0.1 % of the measurement range, Basic accuracy: < ±1 °C

Without isolation

0,1 °C/°C, or, ≤0,01% des Messbereichs°C

Configurable, ≤ 30 ms, < 300 ms

-25 °C...+70 °C

IEC 61326-1, NE 21

cULus; DETNORVER; EAC; FMEX; IECEKEM; KEMAATEX

Dimensions

Clamping range (nominal / min. / max.) mm²
Depth x width x height mm

Note

Ordering data

Screw connection
PUSH IN connection

Note

Accessories

Note

Screw connection PUSH IN

2.5 / 0.5 / 2.5 2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5 114.3 / 6.1 / 112.5

Type Qty. Order No.

ACT20M-TCI-A0-E-S 1 1375500000
ACT20M-TCI-A0-E-P 1 2825290000

DIN mounting rail, see accessories

Electrical connections

Terminal	ACT20M-TCI-A0-E-S		
	Input TC	Power supply	Output 1 V mA
1	CJC+ ^{1,2)}		
2	TC-/CJC- ^{1,2)}		
3	TC+		
4	CJC- ^{1,2)}		
5		■	■
6		□	□
7		■	
8		□	

1) only 2) optional

■ = +

□ = -

Configuration

Temp.	Temperature range [°C]									
	TC J: -100...+1200 °C // TC K: -180...+1372 °C									
Min.	S2	Max.	S2	Max.	S2	Min.	S2	Max.	S2	Max.
-200		0				170				
-180	■	5				180	■			■
-150	■	10				190	■			■
-100	■	15				200	■			■
-50	■	20				225	■			■
-25	■	25				250	■			■
-10	■	30				275	■			■
-5	■	35				300	■			■
0	■	40				325	■			■
5	■	45				350	■			■
10	■	50				375	■			■
20	■	55				400	■			■
25	■	60				450	■			■
50	■	65				500	■			■
100	■	70				550	■			■
200	■	75				600	■			■
		80				650	■			■
		85				700	■			■
		90				750	■			■
		95				800	■			■
		100				850	■			■
		105				900	■			■
		110				950	■			■
		115				1000	■			■
		120				1050	■			■
		125				1100	■			■
		130				1150	■			■
		135				1200	■			■
		140				1250	■			■
		145				1300	■			■
		150				1350	■			■
		160				1372	■			■

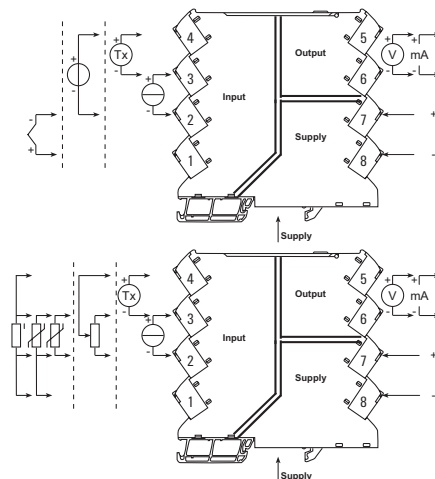
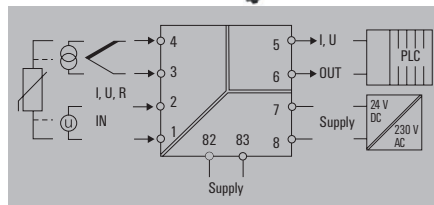
■ = On

Universal measuring transducers

Universal measuring transducers

- Isolation and conversion of temperature signals and DC signals
- Configuration using FDT/DTM software
- Supply possible via the mounting rail bus
- 3-way isolation

ACT20M-UI-AO



Technical data

Input	
Sensor	
Potentiometer	
Resistance	
Input current	
Input voltage	
Input resistance, voltage	
Voltage drop, current input	
Sensor supply	
Output	
Output current	
Output voltage	
Load impedance current	
load impedance voltage	
General data	
Configuration	
Voltage supply	
Ambient temperature	
Accuracy	
Temperature coefficient	
Power consumption, typ.	
Power consumption, max.	
Step response time	
Insulation coordination	
Insulation voltage	
Rated voltage	
EMC standards	
Pollution degree	
Overvoltage category	
Approvals	
Dimensions	
Clamping range (nominal / min. / max.)	mm ²
Depth x width x height	mm
Note	

Thermocouples: B / C / E / J / K / L / N / R / S / T / W3 / W5 - 200...+ 2300 °C depending on thermocouple, RTD: PT10, PT20, PT50, PT100, PT250, PT300, PT400, PT500, PT1000, Ni50, Ni100, Ni120, Ni1000, 2-/3-/4-wire	
10...100 kΩ	
0...10 kΩ	
configurable, 0...20 mA, 4...20mA	
configurable, 0(2)...10 V, 0(1)...5 V, 0...1 V DC, 0,2...1 V DC	
< 3 V	
> 15 V DC at 20 mA	
configurable, 0...20 mA, 4...20 mA, 20...0 mA, 20...4 mA, downscale (3,5 mA), upscale (23 mA), in case of sensor error	
configurable, 0(2)...10 V, 0(1)...5 V, 0(0,2)...1 V, 1...(0,2)0 V, 5...(1)0 V, 10...(2)0 V, downscale (0 V), upscale (11 V), in case of sensor error	
≤ 600 Ω, @ max 28mA	
≥ 10 kΩ	
With FDT/DTM software	
24 V DC ±30 % at terminal or via CH20M rail bus	
-25 °C...70 °C	
< 0.1 % of measuring range	
≤ 0.01 % / °C	
0.84 W	
1.2 W	
400 ms (10...90%) @ U/I, 1 s @ temp	
2.5 kV _{eff} / 1 min.	
300 V _{eff}	
IEC 61326-1, NE 21	
2	
II	
CCCEX; cULus; DETNORVER; EAC; FMEX; IECEXKEM; KEMAATEX	
Screw connection	PUSH IN
2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
114.3 / 6.1 / 112.5	
Power supply optionally over the DIN mounting rail CH20M	

Electrical connections

Terminal	ACT20M-UI-AO-S						Power supply	Output
	V	mA	mA Loop	RTD 2 wire	RTD 3 wire	RTD 4 wire		
1				Sense- Sense-				<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>		R	R-	R-	R	<input type="checkbox"/>
3		<input checked="" type="checkbox"/>		R	R+	R+	R	
4	<input checked="" type="checkbox"/>			Sense+ R				
5								<input checked="" type="checkbox"/>
6								<input type="checkbox"/>
7							<input checked="" type="checkbox"/>	
8								<input type="checkbox"/>

= +
 = -

Ordering data

Screw connection without mounting rail bus supply	
PUSH IN connection without mounting rail bus supply	
Screw connection with mounting rail bus supply	
PUSH IN connection with mounting rail bus supply	

Type	Qty.	Order No.
ACT20M-UI-AO-X-S	1	2825120000
ACT20M-UI-AO-X-P	1	2825310000
ACT20M-UI-AO-S	1	1176030000
ACT20M-UI-AO-P	1	2825440000

Note