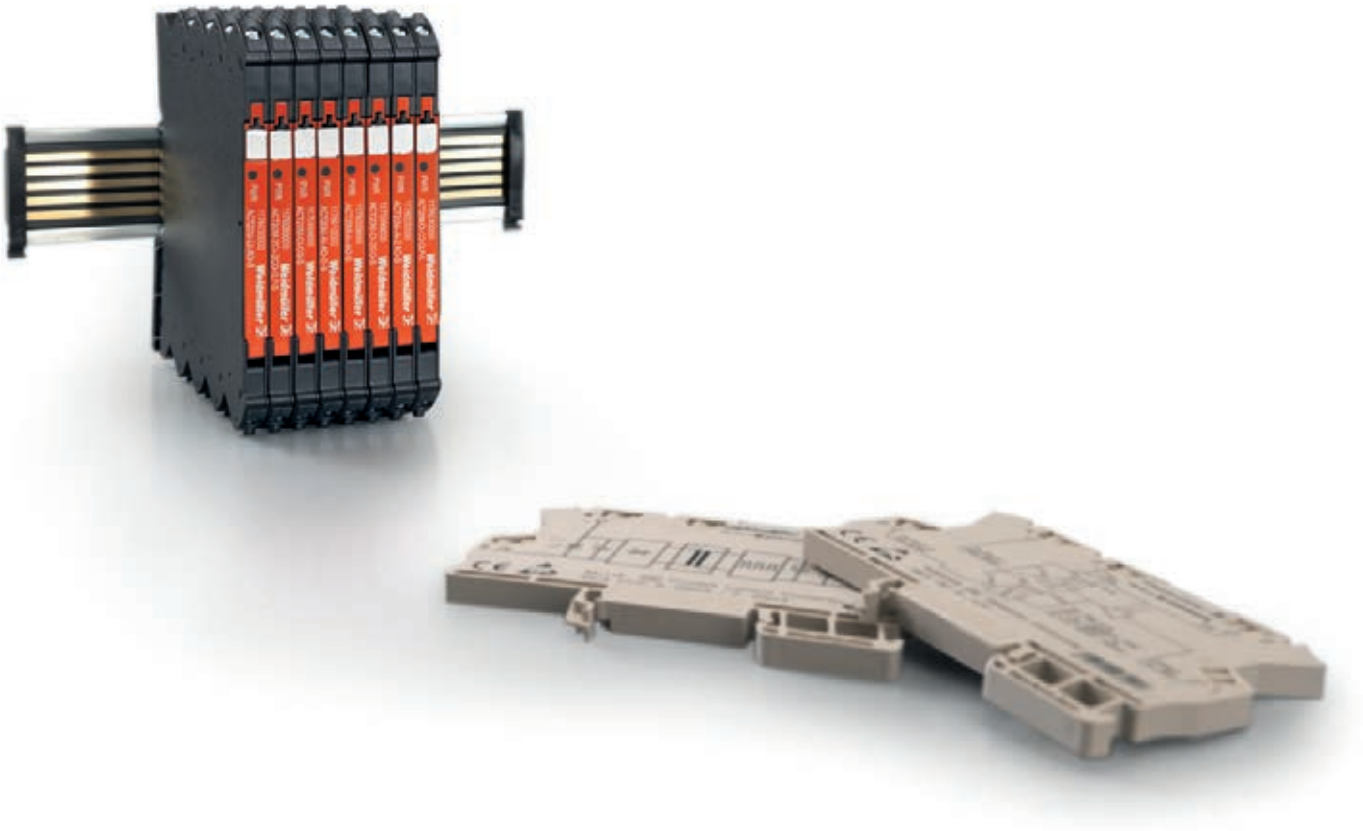
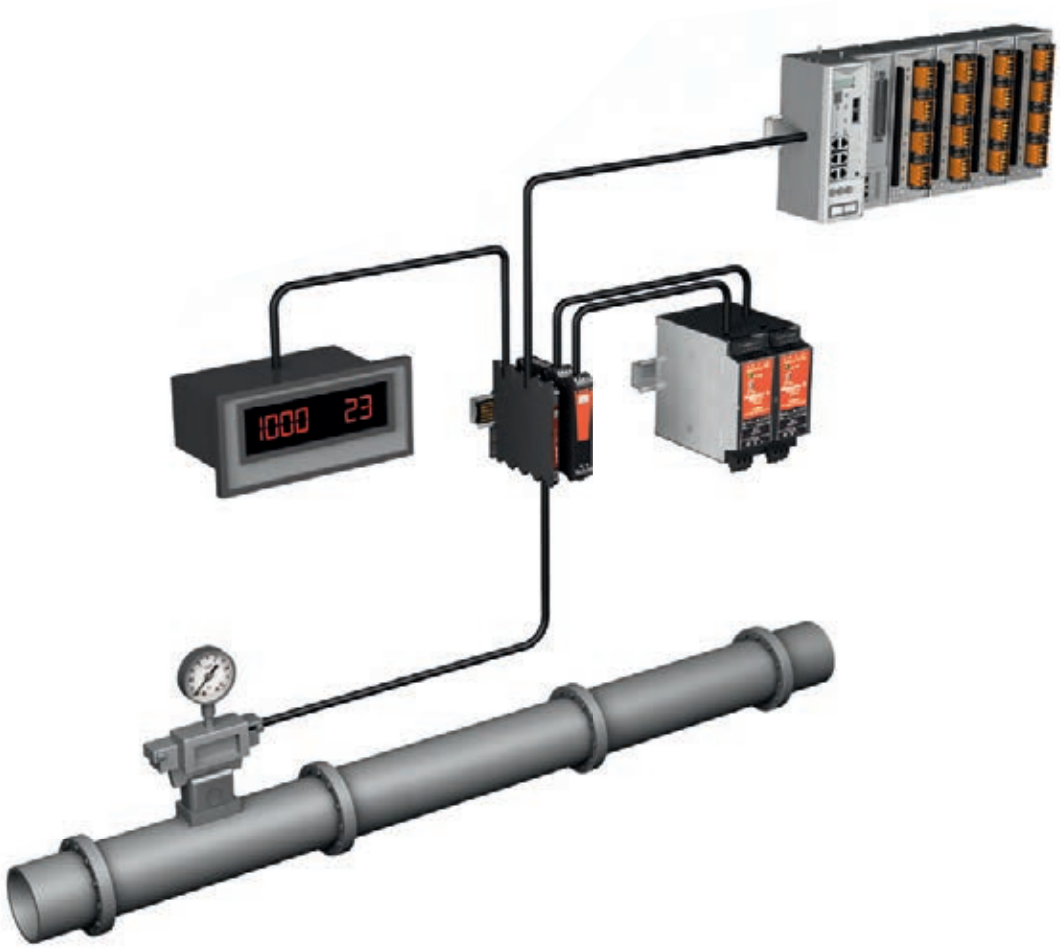
Signal converters in 6 mm width

Analogue signal converter in 6 mm width

The thinnest signal converter for isolating, converting and monitoring analogue signals

The signal converters and the signal separators in the product family ACT20M, MICROSERIES and the MCZ enables the user to integrate many signal channels within a compact space. In addition to galvanic separation, these products offer the conversion and conditioning of DC and temperature signals (TC and RTD) to standard norm signals (e.g. 4...20 mA, 0...10 V). The pluggable cross-connections option for MAS/MAZ and MCZ ranges, or the Weidmüller rail bus option for the ACT20M ensure a quick installation.





ACT20M

MCZ-SERIES

ACT20M – a narrow 6 mm signal converter

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

The new ACT20M range combines innovative technologies with the highest levels of functionality in an electronics housing measuring just 6 mm in width. Up to two channels per module result in space savings in the electrical cabinet. The high electrical isolation of 2.5 kV and an accuracy of up to 0.05 % both help to ensure a high degree of process reliability.

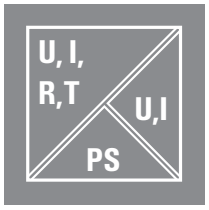
The product line consists of Input Loop Powered, Output Loop Powered and Auxiliary Powered analog isolators and converters, including a universal input converter.
The eight-connection housing allows additional functionality such as 2 channel ILP, 2 channel OLP isolation and signal splitting with input 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.

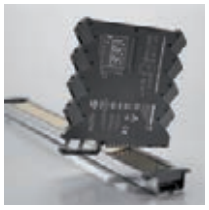
Easy configuration

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



High level of galvanic isolation

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



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 module or a separate power-feed unit.

Signal splitter

Signal converter

Universal measurement and signal converter

Passive isolator

Temperature transducer

CH20M rail bus

Power-feed modules

ACT20M – Selection table

								Current	
			Power supply	Function	0 ... 20 mA 1-channel	4 ... 20 mA 1-channel	2 x 0 ... 20 mA 2-channel / splitter	2 x 4 ... 20 mA 2-channel / splitter
Input	Current	0 ... 20 mA	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
				U/I			ACT20M-AI-2AO-S	ACT20M-AI-2AO-S
				Current			ACT20M-CI-2CO-S	ACT20M-CI-2CO-S
				U/I	ACT20M-AI-AO-E-S	ACT20M-AI-AO-E-S		
				U/I	ACT20M-AI-AO-S	ACT20M-AI-AO-S		
				Current	ACT20M-CI-CO-S	ACT20M-CI-CO-S		
				U/I				
			Input Loop Powered	Current				
			Output Loop Powered	Current		ACT20M-CI-CO-OLP-S		
				Current				
		2 x 0 ... 20 mA	Output Loop Powered	Current				ACT20M-2CI-2CO-OLP-S
			Input Loop Powered	Current				
			24 V DC	Current				
		4 ... 20 mA	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
				U/I			ACT20M-AI-2AO-S	ACT20M-AI-2AO-S
				Current			ACT20M-CI-2CO-S	ACT20M-CI-2CO-S
				U/I	ACT20M-AI-AO-E-S	ACT20M-AI-AO-E-S		
				U/I	ACT20M-AI-AO-S	ACT20M-AI-AO-S		
				Current	ACT20M-CI-CO-S	ACT20M-CI-CO-S		
				U/I				
		1 x 4 ... 20 mA	Output Loop Powered	Current		ACT20M-CI-CO-OLP-S		
				Current				
		2 x 4 ... 20 mA	Output Loop Powered	Current				ACT20M-2CI-2CO-OLP-S
			24 V DC	Current				
			Input Loop Powered	Current				
				Current			ACT20M-2CI-2CO-ILP-S	ACT20M-2CI-2CO-ILP-S
		1 x 4 ... 20 mA	Input Loop Powered	Current				
				Current	ACT20M-CI-CO-ILP-S	ACT20M-CI-CO-ILP-S		
		–10 mA...0...10 mA	24 V DC and rail bus	bipolar	ACT20M-BAI-AO-S	ACT20M-BAI-AO-S	ACT20M-BAI-2AO-S	ACT20M-BAI-2AO-S
		–20 mA...0...20 mA	24 V DC and rail bus	bipolar	ACT20M-BAI-AO-S	ACT20M-BAI-AO-S	ACT20M-BAI-2AO-S	ACT20M-BAI-2AO-S
		with sensor power supply	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
				U/I	ACT20M-AI-AO-S	ACT20M-AI-AO-S		
	Voltage	0 ... 5 V 1 ... 5 V	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
				U/I	ACT20M-AI-AO-E-S	ACT20M-AI-AO-E-S		
				U/I	ACT20M-AI-AO-S	ACT20M-AI-AO-S		
				U/I				
			Output Loop Powered	U/I				
		0 ...10 V 2 ... 10 V	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
				U/I	ACT20M-AI-AO-E-S	ACT20M-AI-AO-E-S		
				U/I	ACT20M-AI-AO-S	ACT20M-AI-AO-S		
				U/I				
			Output Loop Powered	U/I				
		–5 V ... 0 ... 5 V	24 V DC and rail bus	bipolar	ACT20M-BAI-AO-S	ACT20M-BAI-AO-S	ACT20M-BAI-2AO-S	ACT20M-BAI-2AO-S
		–10 V... 0 ...10 V	24 V DC and rail bus	bipolar	ACT20M-BAI-AO-S	ACT20M-BAI-AO-S	ACT20M-BAI-2AO-S	ACT20M-BAI-2AO-S
				bipolar				

Note: *) available from July 2013

Output							
			Voltage				
	–10 mA ... 0 ... 10 mA 1-channel bipolar	–20 mA ... 0 ... 20 mA 1-channel bipolar	0 ... 5 V / 1 ... 5 V 1-channel	0 ... 10 V / 2 ... 10 V 1-channel	2 x 0 ... 5 V / 2 x 1 ... 5 V 2-channel / splitter	2 x 0 ... 10 V / 2 x 2 ... 10 V 2-channel / splitter	-10 V... 0 ... 10 V 1-channel
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
					ACT20M-AI-2AO-S	ACT20M-AI-2AO-S	
			ACT20M-AI-AO-E-S	ACT20M-AI-AO-E-S			
			ACT20M-AI-AO-S	ACT20M-AI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
					ACT20M-AI-2AO-S	ACT20M-AI-2AO-S	
			ACT20M-AI-AO-E-S	ACT20M-AI-AO-E-S			
			ACT20M-AI-AO-S	ACT20M-AI-AO-S			
	ACT20M-BAI-2AO-S	ACT20M-BAI-2AO-S	ACT20M-BAI-AO-S	ACT20M-BAI-AO-S	ACT20M-BAI-2AO-S	ACT20M-BAI-2AO-S	
	ACT20M-BAI-2AO-S	ACT20M-BAI-2AO-S	ACT20M-BAI-AO-S	ACT20M-BAI-AO-S	ACT20M-BAI-2AO-S	ACT20M-BAI-2AO-S	
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-AI-AO-S	ACT20M-AI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-AI-AO-E-S	ACT20M-AI-AO-E-S			
			ACT20M-AI-AO-S	ACT20M-AI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-AI-AO-E-S	ACT20M-AI-AO-E-S			
			ACT20M-AI-AO-S	ACT20M-AI-AO-S			
			ACT20M-BAI-AO-S	ACT20M-BAI-AO-S	ACT20M-BAI-2AO-S	ACT20M-BAI-2AO-S	
			ACT20M-BAI-AO-S	ACT20M-BAI-AO-S	ACT20M-BAI-2AO-S	ACT20M-BAI-2AO-S	

ACT20M – Selection table

					Current			
			Power supply	Function	0 ... 20 mA 1-channel	4 ... 20 mA 1-channel	2 x 0 ... 20 mA 2-channel / splitter	2 x 4 ... 20 mA 2-channel / splitter
Input	2-, 3-, 4-conductor	PT100	Output Loop Powered	Temp.		ACT20M-RTCI-CO-OLP-S		
				Temp.		ACT20M-RTI-CO-EOLP-S		
			24 V DC	Temp.	ACT20M-RTI-AO-E-S	ACT20M-RTI-AO-E-S		
				Temp.				
			24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
				Temp.	ACT20M-RTI-AO-S	ACT20M-RTI-AO-S		
				Temp.	ACT20M-RTCI-AO-S	ACT20M-RTCI-AO-S		
		PT1000	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		Ni100	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		NI1000	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
	TC	B	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		E	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		J	Output Loop Powered	Temp.		ACT20M-RTCI-CO-OLP-S		
			24 V DC	Temp.	ACT20M-TCI-AO-E-S	ACT20M-TCI-AO-E-S		
			24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
				Temp.	ACT20M-TCI-AO-S	ACT20M-TCI-AO-S		
			24 V DC	Temp.				
				Temp.	ACT20M-RTI-AO-S	ACT20M-RTI-AO-S		
		K	Output Loop Powered	Temp.		ACT20M-RTCI-CO-OLP-S		
			24 V DC and rail bus	Temp.	ACT20M-TCI-AO-E-S	ACT20M-TCI-AO-E-S		
				universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
				Temp.				
				Temp.	ACT20M-TCI-AO-S	ACT20M-TCI-AO-S		
				Temp.	ACT20M-RTI-AO-S	ACT20M-RTI-AO-S		
		L	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		LR	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		N	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		R	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		S	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		T	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		U	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		W3	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
		W5	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
	Poti	10R ...100k	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		
	R	10R ...100k	24 V DC and rail bus	universal	ACT20M-UI-AO-S	ACT20M-UI-AO-S		

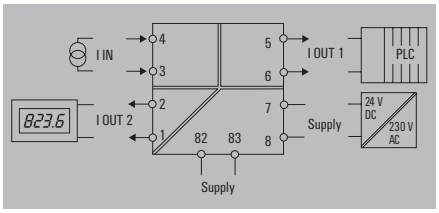
Note: *) available from July 2013

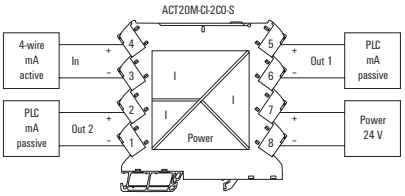
Output							
			Voltage				
	–10 mA … 0 … 10 mA 1-channel bipolar	–20 mA … 0 … 20 mA 1-channel bipolar	0 … 5 V / 1 … 5 V 1-channel	0 … 10 V / 2 … 10 V 1-channel	2 x 0 … 5 V / 2 x 1 … 5 V 2-channel / splitter	2 x 0 … 10 V / 2 x 2 … 10 V 2-channel / splitter	-10 V… 0 … 10 V 1-channel
			ACT20M-RTI-AO-E-S	ACT20M-RTI-AO-E-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-RTI-AO-S	ACT20M-RTI-AO-S			
			ACT20M-RTCI-AO-S	ACT20M-RTCI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-TCI-AO-E-S	ACT20M-TCI-AO-E-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-TCI-AO-S	ACT20M-TCI-AO-S			
			ACT20M-RTI-AO-S	ACT20M-RTI-AO-S			
			ACT20M-TCI-AO-E-S	ACT20M-TCI-AO-E-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-TCI-AO-S	ACT20M-TCI-AO-S			
			ACT20M-RTI-AO-S	ACT20M-RTI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			
			ACT20M-UI-AO-S	ACT20M-UI-AO-S			

Signal splitter

- Isolation and doubling of DC signals
- Power supply via the mounting rail bus
- 4-way isolation

ACT20M-CI-2CO-S





Technical data

Input	
Input current	0...20 mA, 4...20mA
Voltage drop, current input	< 1.5 V
Output	
Output current	0...20 mA, 4...20 mA
Load impedance current	< 300 Ω, per channel, @ max 23mA
General data	
Configuration	none
Supply voltage	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.	400 mW
Power consumption, max.	0.8 W
Step response time	≤ 7 ms
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	CE; cULus; DETNORVER; FMEX; GL; GOSTME25; IECEXKEM; KEMAATEX

Dimensions		**Screw connection**
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		Power supply optionally over the DIN mounting rail CH20M

Ordering data

	Type	**Qty.**	**Order No.**
Screw connection	ACT20M-CI-2CO-S	1	**1175990000**

Note

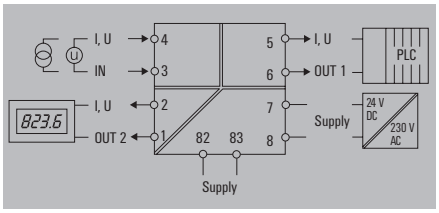
Accessories

Note — DIN mounting rail, see Accessories

Signal splitter

- Isolation, conversion and doubling of DC signals
- Configuration via DIP switches
- Power supply via the mounting rail bus
- 4-way isolation
- Support for adjustment by ACT20M Tool software, download link at www.weidmueller.com

ACT20M-AI-2AO-S



Technical data

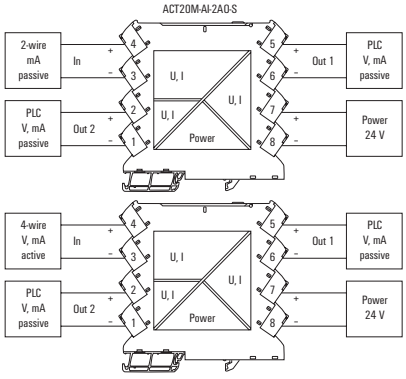
Input	
Input current	0...20 mA, 4...20mA
Input voltage	0(2)...10 V, 0(1)...5 V
Sensor supply	> 17 V DC at 20 mA
Input resistance, voltage	500 kΩ
Voltage drop, current input	< 1.5 V
Output	
Output current	0...20 mA
Output voltage	adjustable, 0(2)...10 V, 0(1)...5 V
Load impedance current	< 300 Ω, per channel, @ max 23mA
Load impedance voltage	≥ 10 kΩ
General data	
Configuration	DIP switch
Supply voltage	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.	400 mW
Power consumption, max.	1.2 W
Step response time	≤ 7 ms
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	CE; cULus; DETNORVER; FMEX; GL; GOSTME25; IECEXKEM; KEMAATEX

Input	Switch			
	1	2	3	4
0 ... 20 mA	□	□	□	□
4 ... 20 m	□	□	■	□
0 ... 10 V	□	■	□	□
2 ... 10 V	□	■	■	□
0 ... 5 V	□	■	□	■
1 ...5 V	□	■	■	■
0 ... 20 mA loop	■	□	□	□
4 ... 20 mA loop	■	□	■	□

Output 1	Switch		
	5	6	7
0 ... 20 mA	□	□	□
4 ... 20 m	□	■	□
0 ... 10 V	■	□	□
2 ... 10 V	■	■	□
0 ... 5 V	■	□	■
1 ...5 V	■	■	■

Output 2	Switch		
	8	9	10
0 ... 20 mA	□	□	□
4 ... 20 m	□	■	□
0 ... 10 V	■	□	□
2 ... 10 V	■	■	□
0 ... 5 V	■	□	■
1 ...5 V	■	■	■

■ = on
□ = off



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

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

Ordering data

	Type	Qty.	Order No.
Screw connection	ACT20M-AI-2AO-S	1	1176020000

Note

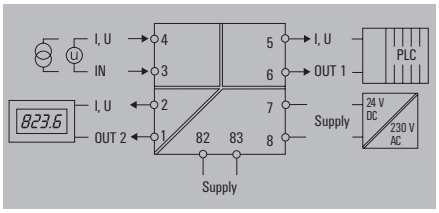
Accessories

Note
DIN mounting rail, see Accessories

Signal splitter

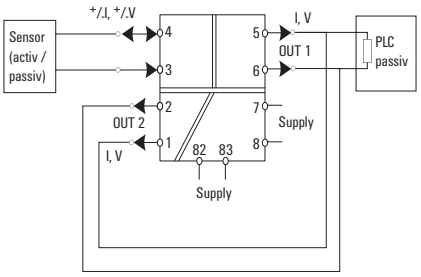
- Isolation and conversion of bipolar DC signals
- Splitting into standard signal or bipolar output
- Configuration via DIP switches
- Power supply via the mounting rail bus
- 4-way isolation
- Support for adjustment by ACT20M Tool software, download link at www.weidmueller.com

ACT20M-BAI-2AO-S



Technical data

Input	
Input current	-10 mA...0...+10 mA, -20 mA...0...+20 mA
Input voltage	-5 V...0...+5 V, -10 V...0...+10 V
Output	
Output current	adjustable, 0...20 mA, 4...20 mA, ± 10mA, ± 20mA
Output voltage	adjustable, 0(2)...10 V, 0(1)...5 V
Load impedance current	< 300 Ω, per channel
Load impedance voltage	≥ 10 kΩ
General data	
Supply voltage	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}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	
Approvals	cULus; DETNORVER; FMEX; GL; IECEXKEM; KEMAATEX



Usage as bipolar output

Dimensions		
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		

Ordering data

Type	Qty.	Order No.
ACT20M-BAI-2AO-S	1	1375470000

Note

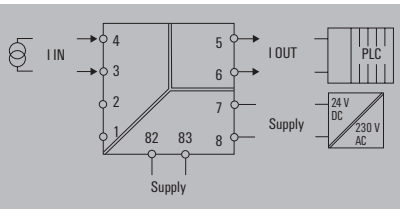
Accessories

Note	DIN mounting rail, see Accessories

Signal isolator

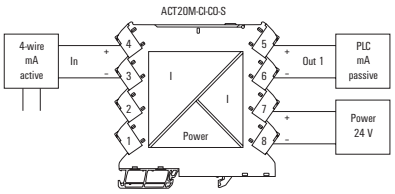
- Isolation of DC signals
- Power supply via the mounting rail bus
- 3-way isolation

ACT20M-CI-CO-S



Technical data

Input	
Input current	0...20 mA, 4...20mA
Voltage drop, current input	< 1.5 V
Output	
Output current	0...20 mA, 4...20 mA
Load impedance current	≤ 600 Ω, @ max 23mA
General data	
Configuration	none
Supply voltage	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.	400 mW
Power consumption, max.	0.8
Step response time	≤ 7 ms
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	CE; cULus; DETNORVER; FMEX; GL; GOSTME25; IECEXKEM; KEMAATEX



Dimensions		**Screw connection**
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		Power supply optionally over the DIN mounting rail CH20M

Ordering data

		Type	Qty.	Order No.
	Screw connection	ACT20M-CI-CO-S	1	1175980000

Note	

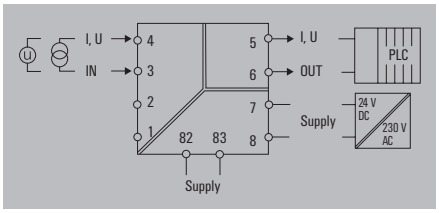
Accessories

Note	DIN mounting rail, see Accessories

Signal converter

- Isolation and conversion of DC signals
- Configuration via DIP switches
- Power supply via the mounting rail bus
- 3-way isolation
- Support for adjustment by ACT20M Tool software, download link at www.weidmueller.com

ACT20M-AI-AO-S



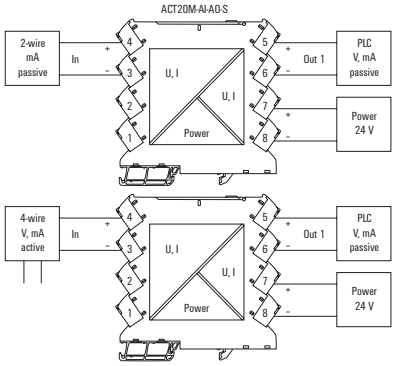
Technical data

Input	
Input current	0...20 mA, 4...20mA
Input voltage	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	adjustable, 0...20 mA, 4...20 mA
Output voltage	adjustable, 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
Supply voltage	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.	400 mW
Power consumption, max.	1.2 W
Step response time	≤ 7 ms
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	CE; cULus; DETNORVER; FMEX; GL; GOSTME25; IECEXKEM; KEMAATEX

Input	Switch			
	1	2	3	4
0 ... 20 mA	□	□	□	□
4 ... 20 m	□	□	■	□
0 ... 10 V	□	■	□	□
2 ... 10 V	□	■	■	□
0 ... 5 V	□	■	□	■
1 ...5 V	□	■	■	■
0 ... 20 mA loop	■	□	□	□
4 ... 20 mA loop	■	□	■	□

Output 1	Switch		
	5	6	7
0 ... 20 mA	□	□	□
4 ... 20 m	□	■	□
0 ... 10 V	■	□	□
2 ... 10 V	■	■	□
0 ... 5 V	■	□	■
1 ...5 V	■	■	■

■ = on
□ = off



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

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

Ordering data

	Type	Qty.	Order No.
Screw connection	ACT20M-AI-AO-S	1	1176000000

Note

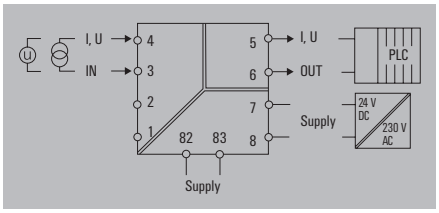
Accessories

Note
DIN mounting rail, see Accessories

Signal converter

- Isolation and conversion of DC signals
- Configuration via DIP switches
- Power supply via the mounting rail bus
- 3-way isolation
- Support for adjustment by ACT20M Tool software, download link at www.weidmueller.com

ACT20M-AI-AO-E-S



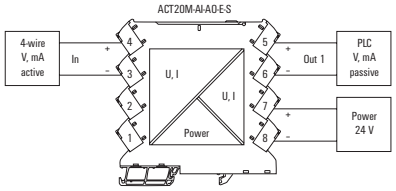
Technical data

Input	
Input current	0...20 mA, 4...20mA
Input voltage	0(2)...10 V, 0(1)...5 V
Input resistance, voltage	>500 kΩ
Voltage drop, current input	<1,5 V
Output	
Output current	adjustable, 0...20 mA, 4...20 mA
Output voltage	adjustable, 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
Supply voltage	24 V DC ± 30 %
Ambient temperature	0 °C...+70 °C
Accuracy	< 0.2 % of measuring range
Temperature coefficient	≤ 0.015 % / °C
Cut-off frequency (-3 dB)	100 Hz
Power consumption, typ.	400 mW
Power consumption, max.	1.2 W
Step response time	≤ 7 ms
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	CE; cULus; DETNORVER; GL; GOSTME25

Input	Switch			
	1	2	3	4
0 ... 20 mA	□	□	□	□
4 ... 20 m	□	□	■	□
0 ... 10 V	□	■	□	□
2 ... 10 V	□	■	■	□
0 ... 5 V	□	■	□	■
1 ...5 V	□	■	■	■

Output 1	Switch		
	5	6	7
0 ... 20 mA	□	□	□
4 ... 20 m	□	■	□
0 ... 10 V	■	□	□
2 ... 10 V	■	■	□
0 ... 5 V	■	□	■
1 ...5 V	■	■	■

■ = on
□ = off



Dimensions		Screw connection
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		Power supply optionally over the DIN mounting rail CH20M

Ordering data

	Type	Qty.	Order No.
Screw connection	ACT20M-AI-AO-E-S	1	1176010000

Note

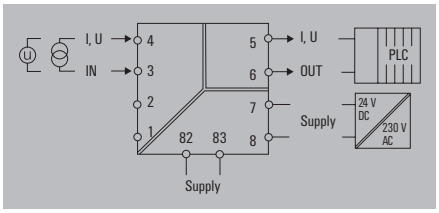
Accessories

Note	
	DIN mounting rail, see Accessories

Signal converter

- Isolation and conversion of bipolar DC signals into standard signals
- Configuration via DIP switches
- Power supply via the mounting rail bus
- 3-way isolation
- Support for adjustment by ACT20M Tool software, download link at www.weidmueller.com

ACT20M-BAI-AO-S



Technical data

Input	
Input current	-10 mA...0...+10 mA, -20 mA...0...+20 mA
Input voltage	-5 V...0...+5 V, -10 V...0...+10 V
Output	
Output current	0...20 mA, 4...20 mA
Output voltage	adjustable, 0(2)...10 V, 0(1)...5 V
Load impedance current	≤ 600 Ω
Load impedance voltage	≥ 10 kΩ
General data	
Configuration	DIP switch
Supply voltage	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}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	
Approvals	cULus; DETNORVER; FMEX; GL; IECEXKEM; KEMAATEX

Dimensions		
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		Power supply optionally via mounting rail bus CH20M

Ordering data

Type	Qty.	Order No.
ACT20M-BAI-AO-S	1	1375450000

Note

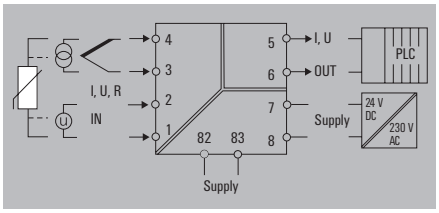
Accessories

Note	Mounting rail bus, see Accessories

Universal measurement and signal converter

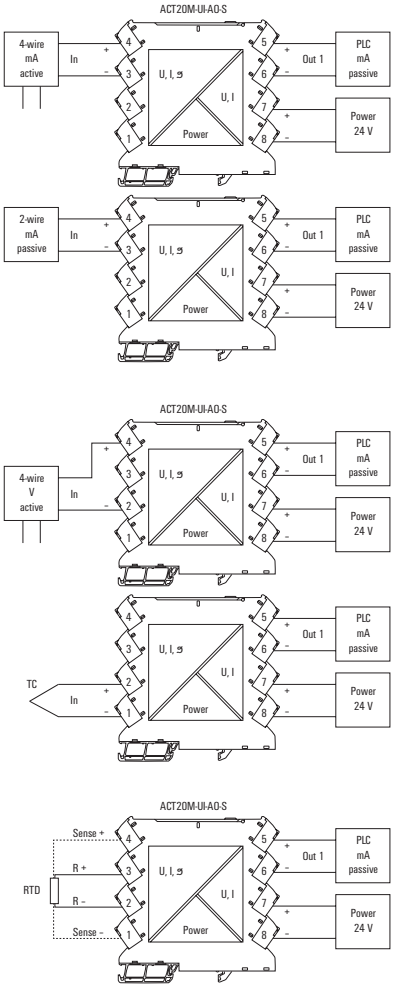
- Isolation and conversion of temperature signals and DC signals
- Configuration using FDT/DTM software
- Power supply via the mounting rail bus
- 3-way isolation

ACT20M-UI-AO-S



Technical data

Input	
Sensor	Thermocouples: B, E, J, K, L, LR, N, R, N, R, S, T, U, W3, W5, RTD: PT100, PT1000, Ni100, Ni1000, 2-/3-/4-wire
Potentiometer	10 Ω...10 kΩ
Resistance	10 Ω...10 kΩ
Input current	0...20 mA, 4...20mA
Input voltage	0(2)...10 V, 0(1)...5 V
Input resistance, voltage	> 10 MΩ
Voltage drop, current input	< 3 V
Sensor supply	> 15 V DC at 20 mA
Output	
Output current	adjustable, 0...20 mA, 4...20 mA
Output voltage	adjustable, 0(2)...10 V, 0(1)...5 V
Load impedance current	≤ 600 Ω, @ max 28mA
Load impedance voltage	≥ 10 kΩ
General data	
Configuration	With FDT/DTM software
Supply voltage	24 V DC ± 30 %
Ambient temperature	-25 °C...+70 °C
Accuracy	< 0.1 % of measuring range
Temperature coefficient	≤ 0.01 % / °C
Power consumption, typ.	400 mW
Power consumption, max.	1.2 W
Step response time	400 ms (10...90%) @ U/I, 1 s @ temp
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	cULus; DETNORVER; FMEX; GL; GOSTME25; IECEXKEM; KEMAATEX



Dimensions		
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		Power supply optionally over the DIN mounting rail CH20M

Screw connection

Ordering data

	Type	Qty.	Order No.
Screw connection	ACT20M-UI-AO-S	1	**1176030000**

Note	

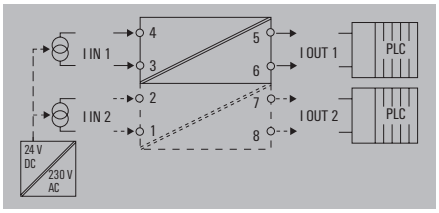
Accessories

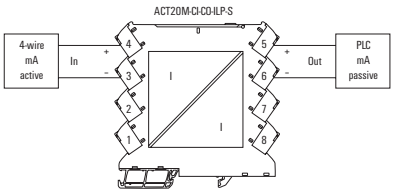
Note	
	CBX200 USB configuration adapter - 8978580000 DIN mounting rail, see Accessories

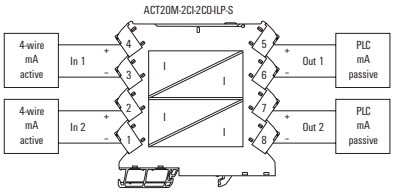
Passive isolator

- 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-S







Technical data

Input	
Voltage drop, current input	1.25 V + 0.015 V_{out} @25°C
Input current	0...20 mA, 4...20mA
Output	
Output current	0...20 mA, 4...20 mA
Load impedance current	≤ 600 Ω, @ max 23mA
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, max.	30 mW per channel
Step response time	≤ 5 ms
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	cULus; DETNORVER; FMEX; GL; GOSTME25; IECEXKEM; KEMAATEX

Dimensions		**1-channel version**
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		Power supply optionally over the DIN mounting rail CH20M

Ordering data

	Type	Qty.	Order No.
1-channel version	ACT20M-CI-CO-ILP-S	1	**1176070000**
2-channel version	ACT20M-2CI-2CO-ILP-S	1	**1176080000**

Note

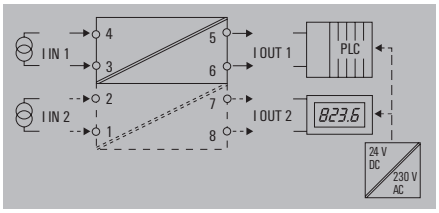
Accessories

Note	DIN mounting rail, see Accessories

Passive isolator

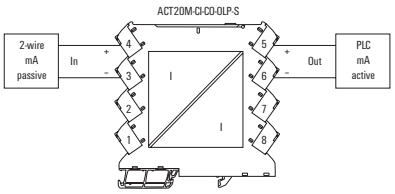
- Isolation of DC signals without additional voltage supply
- Supply from the output measurement circuit
- Optionally available as a 1-channel / 2-channel version
- 2-way isolation

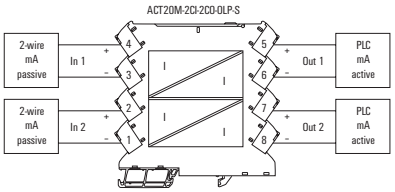
ACT20M-CI-CO-OLP-S



Technical data

Input	
Voltage drop, current input	Typical 2.5 V
Input current	4...20 mA
Output	
Output current	4...20 mA
Supply voltage	6...35 V
General data	
Configuration	none
Ambient temperature	-25 °C...+70 °C
Accuracy	< 0.05 % of measuring range
Temperature coefficient	≤± 0.07 µA x (Δ °C x V_{supply}) @ Tamb < 25 °C ≤±0.02 µA x (Δ °C x V_{supply}) @ Tamb > 25 °C
Cut-off frequency (-3 dB)	100 Hz
Power consumption, max.	30 mW per channel
Step response time	≤ 5 ms
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	cULus; DETNORVER; FMEX; GL; GOSTME25; IECEXKEM; KEMAATEX





Dimensions		1-channel version
Clamping range (nominal / min. / max.)	mm²	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		Power supply optionally over the DIN mounting rail CH20M

Ordering data

	Type	Qty.	Order No.
1-channel version	ACT20M-CI-CO-OLP-S	1	1176040000
2-channel version	ACT20M-2CI-2CO-OLP-S	1	1176050000

Note

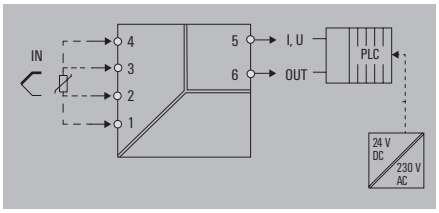
Accessories

Note	DIN mounting rail, see Accessories

Temperature transducer

- 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-S



Technical data

Input	
Sensor	PT100 / 2-/3-/4-wire, Thermocouple acc. to IEC 584, type: J, Thermocouple acc. to IEC 584, type: K
Input measurement range	PT100 -200...+850 °C, Thermocouple type J -100...+1200°C, Thermocouple type K -200...+1370°C
Temperature input range	Configurable
Output	
Output current	4...20 mA, 20...4 mA
Sensor error detection	3.5 mA / 23 mA / none
General data	
Configuration	DIP switch
Supply voltage	Output loop powered
Power consumption	ca. 1 W
Storage temperature	-40 °C...+85 °C
Accuracy	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
Galvanic isolation	2-way isolator
Step response time	≤ 30 ms, < 300 ms
Ambient temperature	-25 °C...+70 °C
Insulation coordination	
Insulation voltage	1.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	
Approvals	cULus; DETNORVER; FMEX; GL; IECEXKEM; KEMAATEX

Dimensions		
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		

Ordering data

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

Note

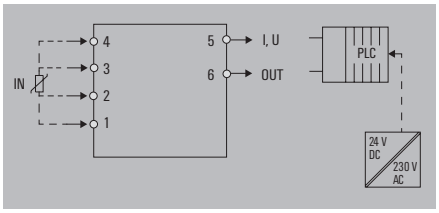
Accessories

Note	DIN mounting rail, see Accessories

Temperature transducer

- Conversion of temperature signals, RTD
- Configuration via DIP switches
- Power supply via the output circuit

ACT20M-RTI-CO-EOLP-S



Technical data

Input	
Sensor	PT100 / 2-/3-/4-wire
Input measurement range	PT100 -200...+850 °C
Temperature input range	Configurable
Output	
Output current	adjustable, 4...20 mA, 20...4 mA
Sensor error detection	3.5 mA / 23 mA / none
General data	
Configuration	DIP switch
Supply voltage	Output loop powered
Power consumption	ca. 1 W
Storage temperature	-40 °C...+85 °C
Accuracy	Absolute accuracy: < ±0.1 % of the measurement range, Basic accuracy: < ±0.2°C
Galvanic isolation	Without isolation
Step response time	≤ 30 ms, < 300 ms
Ambient temperature	-25 °C...+70°C
Insulation coordination	
Insulation voltage	1.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	
Approvals	cULus; DETNORVER; FMEX; GL; IECEXKEM; KEMAATEX

Dimensions		
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		

Ordering data

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

Note	

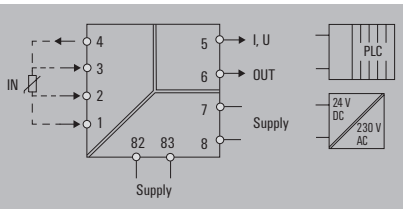
Accessories

Note	DIN mounting rail, see Accessories

Temperature transducer

- Isolation and conversion of temperature signals, RTD (PT100)
- Configuration via DIP switches
- Power supply via the mounting rail bus
- 3-way isolation

ACT20M-RTI-AO-S



Technical data

Input	
Sensor	PT100 / 2-/3-/4-wire
Input measurement range	PT100 -200...+850 °C
Temperature input range	Configurable
Output	
Output current	adjustable, 0...20 mA, 4...20 mA
Output voltage	adjustable, 0(1)...5 V, 0(2)...10 V
Load impedance current	≤ 600 Ω
Load impedance voltage	≥ 10 kΩ
Sensor error detection	3.5 mA / 23 mA / none
General data	
Configuration	DIP switch
Supply voltage	24 V DC ± 30 %
Power consumption	ca. 1 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	≤ 30 ms, < 300 ms
Ambient temperature	-25 °C +70 °C
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	
Approvals	cULus; DETNORVER; FMEX; GL; IECEXKEM; KEMAATEX

Dimensions		
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		

Ordering data

Type	Qty.	Order No.
ACT20M-RTI-AO-S	1	**1375510000**

Note

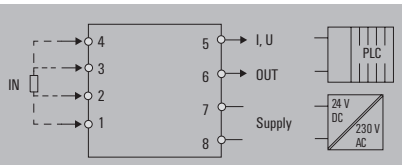
Accessories

Note	DIN mounting rail, see Accessories

Temperature transducer

- Conversion of temperature signals, RTD (PT100)
- Configuration via DIP switches

ACT-20M-RTI-AO-E-S



Technical data

Input	
Sensor	PT100 / 2-/3-/4-wire
Input measurement range	PT100 -200...+850 °C
Temperature input range	Configurable
Output	
Output current	adjustable, 0...20 mA, 4...20 mA
Output voltage	adjustable, 0(1)...5 V, 0(2)...10 V
Load impedance current	≤ 600 Ω
Load impedance voltage	≥ 10 kΩ
Sensor error detection	3.5 mA / 23 mA / none
General data	
Configuration	DIP switch
Supply voltage	24 V DC ± 30 %
Power consumption	ca. 1 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	≤ 30 ms, < 300 ms
Ambient temperature	-25 °C +70 °C
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	
Approvals	cULus; DETNORVER; FMEX; GL; IECEXKEM; KEMAATEX

Dimensions		
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		

Ordering data

Type	Qty.	Order No.
ACT20M-RTI-AO-E-S	1	1375520000

Note

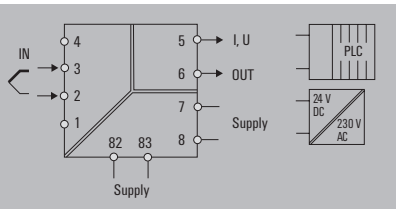
Accessories

Note	DIN mounting rail, see Accessories

Temperature transducer

- Isolation and conversion of temperature signals, (thermocouple)
- Configuration via DIP switches
- Power supply via the mounting rail bus
- 3-way isolation

ACT20M-TCI-AO-S



Technical data

Input	
Sensor	Thermocouple (type J, K)
Input measurement range	Thermocouple type J -100...+1200°C, Thermocouple type K -200...+1370°C
Temperature input range	Configurable
Output	
Output current	adjustable, 0...20 mA, 4...20 mA
Output voltage	adjustable, 0(1)...5 V, 0(2)...10 V
Load impedance current	≤ 600 Ω
Load impedance voltage	≥ 10 kΩ
Sensor error detection	3.5 mA / 23 mA / none
General data	
Configuration	DIP switch
Supply voltage	24 V DC ± 30 %
Power consumption	ca. 1 W
Accuracy	Absolute accuracy: < ±0.05 % of the measurement range, Basic accuracy: < ±0.5°
Galvanic isolation	3-way isolator
Temperature coefficient	< 0.1 % / °C
Step response time	≤ 30 ms, < 300 ms, Configurable
Ambient temperature	-25 °C...+70°C
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	
Approvals	cULus; DETNORVER; FMEX; GL; IECEXKEM; KEMAATEX

Dimensions		
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		

Ordering data

Type	Qty.	Order No.
ACT20M-TCI-AO-S	1	1375480000

Note

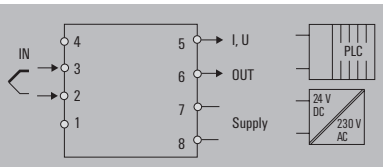
Accessories

Note	DIN mounting rail, see Accessories

Temperature transducer

- Conversion of temperature signals, (thermocouple)
- Configuration via DIP switches

ACT-20M-TCI-AO-E-S



Technical data

Input	
Sensor	Thermocouple (type J, K)
Input measurement range	Thermocouple type J -100...+1200°C, Thermocouple type K -200...+1370°C
Temperature input range	Configurable
Output	
Output current	adjustable, 0...20 mA, 4...20 mA
Output voltage	adjustable, 0(1)...5 V, 0(2)...10 V
Load impedance current	≤ 600 Ω
Load impedance voltage	≥ 10 kΩ
Sensor error detection	3.5 mA / 23 mA / none
General data	
Configuration	DIP switch
Supply voltage	24 V DC ± 30 %
Power consumption	ca. 1 W
Accuracy	Absolute accuracy: < ±0.1 % of the measurement range, Basic accuracy: < ±1 °C
Galvanic isolation	Without isolation
Temperature coefficient	≤ 0.01 % / °C
Step response time	≤ 30 ms, < 300 ms, Configurable
Ambient temperature	-25 °C...+70°C
Insulation coordination	
Insulation voltage	2.5 kV_{eff}
Rated voltage	300 V_{eff}
Pollution degree	2
Overvoltage category	II
Approvals	
Approvals	cULus; DETNORVER; FMEX; GL; IECEXKEM; KEMAATEX

Dimensions		
Clamping range (nominal / min. / max.)	mm^2	2.5 / 0.5 / 2.5
Depth x width x height	mm	114.3 / 6.1 / 112.5
Note		

Ordering data

Type	Qty.	Order No.
ACT20M-TCI-AO-E-S	1	1375500000

Note

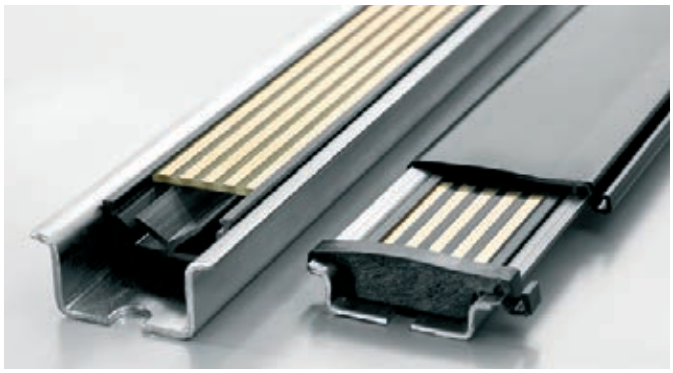
Accessories

Note	DIN mounting rail, see Accessories

CH20M rail bus

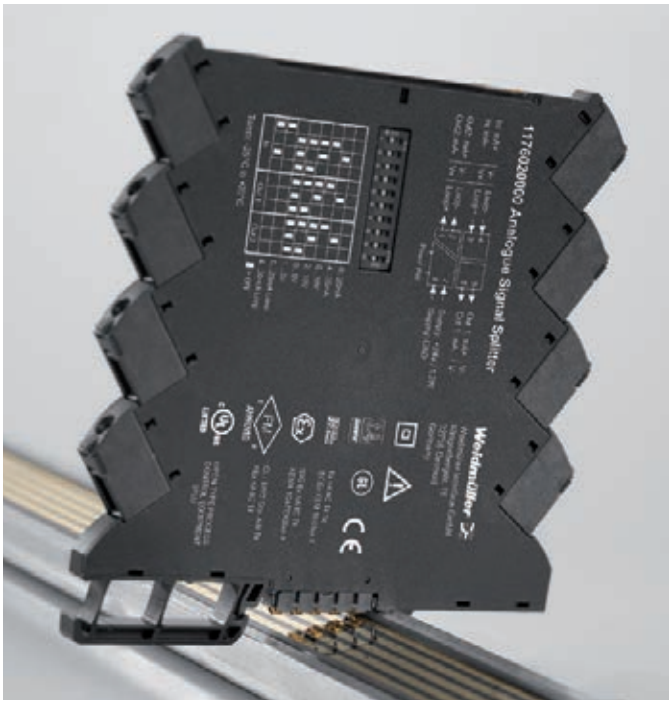
Quick and safe power supply through the DIN rail.

This customer-friendly infrastructure solution brings power, signals and data to the rail in a quick and reliable manner. The rail bus can replace the tedious individual wiring process with a flexible and uninterrupted system solution. As a result, the customer saves time and cost-especially if any module changes are needed later, as other adjacent modules are not disturbed. The uninterrupted system bus is securely integrated within the 35 mm standard mounting rail. Whether 7.5 mm or 15 mm high, the custom-fit rail profiles are easy to install on all TS 35 standard rails in accordance with DIN EN 60715.



The resistant gold-plated contacts ensure a permanent and reliable contact. The ACT20M modules are simply snapped onto the mounting rail and are automatically in contact with the DIN rail bus.

The supply of 24 V DC to the power rail can be from any one of the auxiliary powered ACT20M modules, when that module is itself externally supplied. This allows the rail to power up to 8 other modules (approximately 400 mA). For powering additional ACT20Ms, a separate Feed-In module can be used.
The ACT20-Feed-In-Basic provides a simple and compact (6 mm width) power supply interface to the rail, for supplying up to 2.5 A (up to 50 x ACT20M modules).



The ACT20-Feed-In-Pro is a more powerful 22.5 mm wide solution. This takes 2 external 24 V DC inputs, and via internal diodes provides a redundant supply to the rail, and an alarm output in the case of input failure.

Rail bus accessories

CH20M BUS-PROFIL TS35x7.5/1000

Support section for bus circuit board

- Support section for TS 35 x 7.5
- Length: 250, 500 or 750 mm

Ordering data

Type	Qty.	Order No.
CH20M BUS-PROFIL TS35x7.5/250	10	1248150000
CH20M BUS-PROFIL TS35x7.5/500	10	1248160000
CH20M BUS-PROFIL TS35x7.5/750	5	1248170000

CH20M BUS-PROFIL TS35x15/1000

Support section for bus circuit board

- Support section for TS 35 x 15
- Length: 250, 500 or 750 mm

Ordering data

Type	Qty.	Order No.
CH20M BUS-PROFIL TS35x15/250	5	1248180000
CH20M BUS-PROFIL TS35x15/500	5	1248190000
CH20M BUS-PROFIL TS35x15/750	5	1248210000

CH20M BUS 4.50/05 AU/1000

Bus PCB

- Bus circuit board for use on TS 35 x 7.5 and TS 35 x 15
- Length: 250, 500 or 750 mm
- Five conductor paths, gold-plated
- Electrical rating: 63 V AC, 5 A/conductor path

Ordering data

Type	Qty.	Order No.
CH20M BUS 4.50/05 AU/250	10	1248220000
CH20M BUS 4.50/05 AU/500	10	1248230000
CH20M BUS 4.50/05 AU/750	5	1248240000

CH20M BUS-ADP TS35/1000

Cover plate

- Cover plate for DIN rail bus
- Length: 250, 500 or 750 mm

Ordering data

Type	Qty.	Order No.
CH20M BUS-ADP TS35/250	10	1248250000
CH20M BUS-ADP TS35/500	10	1248260000
CH20M BUS-ADP TS35/750	5	1248270000

CH20M BUS-AP LI TS35x7.5 & 15

End plate

- End plate for DIN rail bus
- Fits on TS 35 x 7.5 and TS 35 x 15
- left

Ordering data

Type	Qty.	Order No.
CH20M BUS-AP LI TS35x7.5 & 15	50	1193160000

CH20M BUS-AP RE TS35x7.5 & 15

End plate

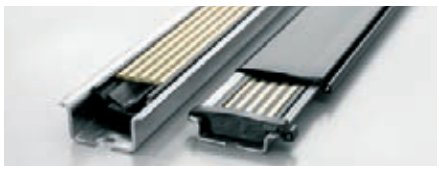
- End plate for DIN rail bus
- Fits on TS 35 x 7.5 and TS 35 x 15
- right

Ordering data

Type	Qty.	Order No.
CH20M BUS-AP RE TS35x7.5 & 15	50	1193170000

SET CH20M BUS 250MM TS 35X15

Set



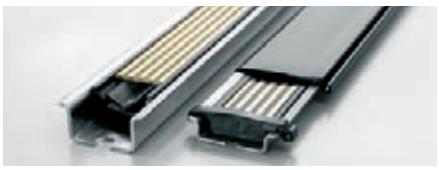
- SET consists of one each of
  CH20M BUS 4.50/05 AU/250
  CH20M BUS-ADP TS 35/250
  CH20M BUS-AP LI TS 35X7.5 & 15
  CH20M BUS-AP RE TS 35X7.5 & 15
  CH20M BUS-PROFIL TS 35X15/250

Ordering data

Type	Qty.	Order No.
SET CH20M BUS 250MM TS 35X15	1	1335150000

SET CH20M BUS 250MM TS 35X7.5

Set



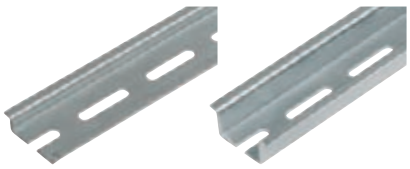
- SET consists of one each of
  CH20M BUS 4.50/05 AU/250
  CH20M BUS-ADP TS 35/250
  CH20M BUS-AP LI TS 35X7.5 & 15
  CH20M BUS-AP RE TS 35X7.5 & 15
  CH20M BUS-PROFIL TS 35X7.5/250

Ordering data

Type	Qty.	Order No.
SET CH20M BUS 250MM TS 35X7.5	1	1335140000

TS 35x7.5 / TS 35x15

DIN rail



- DIN rail with slot
- Passivated galvanised steel

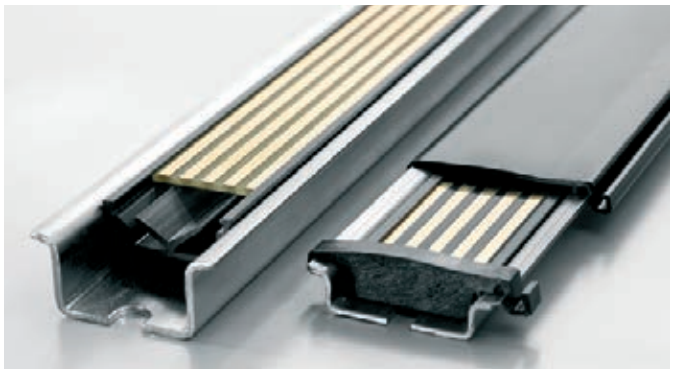
Ordering data

Type	Qty.	Order No.
TS 35X7.5/LL 1M/ST/ZN	10	0514510000
TS 35X15/LL 1M/ST/ZN	10	0236510000

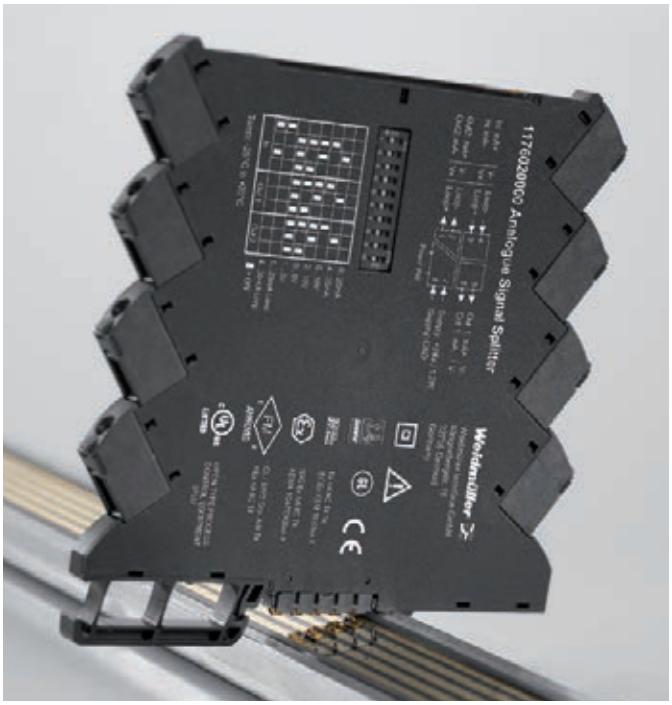
Power-feed module for the CH20M DIN rail bus

4 A supply with backup supply and error analysis

The power-feed unit ACT20-FEED-IN-PRO-S supplies the devices on the CH20M DIN rail bus with 24 V DC. At the same time, the FEED-IN device reads the group error contact – optionally provided by the installed devices – from the CH20M rail bus and sends a message through the status relay to the external controller. Optionally, two power supplies can be connected as a primary and back-up, to create a redundant 24 V DC source. An installation in Zone 2 / Division 2 is also possible. Three LEDs show the status of the power supply and the error status.



The FEED-IN-PRO can supply a maximum of 4 A to feed up to 120 devices mounted on a CH20M rail bus. Quick identification of errors on the DIN rail bus is through the internal status relay. The FEED-IN-PRO device immediately recognises and displays when a power supply has failed. The supply is then switched automatically to the redundant power supply.

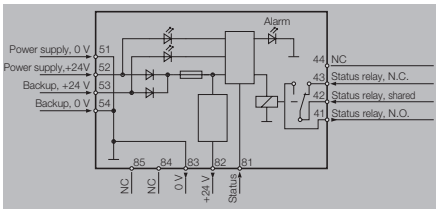


Weidmüller offers a compact and narrow 6 mm feed-in module as an alternative. This feeds the 24 V DC from it's field terminals directly to the to the DIN rail bus. Up to 80 modules can be fed with a maximum available current of 2.5 A.

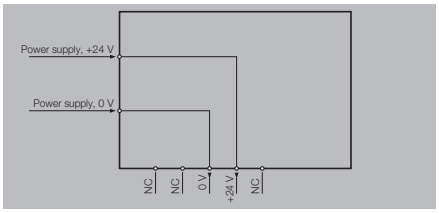
ACT20 power-feed module

- Distributes the supply onto the busbar
- Compatible with Weidmüller CH20 DIN rail bus
- Optional connection for backup supply
- Approved for use in Ex-Zone 2 /Div. 2
- Monitoring of the supply voltage
- Alarm alerts via the status relay

ACT20-Feed-In-PRO-S



ACT20-Feed-In-BASIC-S



Technical data

Input		
Supply voltage	21.6...26.4 V DC	21.6...26.4 V DC
Input current	Max. 4 A	0.5...2.5 A DC
	21.6...26.4 V DC	
Trigger level for the power supply	Fault < 21 V DC	
Output, power supply		
Output voltage	Input voltage -0.5 V DC / 4 A	Corresponds to the input voltage
Output power	96 W	
Output current	Max. 4 A	Equivalent to input current
Output, status relay in safe zone		
Max. switching voltage, AC / Max. switching voltage, DC	250 V / 30 V	250 V / 30 V
Continuous current	2 A AC / DC	
AC power, max.	500 VA / 60 W	
General data		
Degree of efficiency	0,976	100 %
Ambient temperature	-20 °C...+60 °C	-25 °C...+70 °C
Power consumption	< 2 W	
Protection degree	IP 20	IP 20
Weight	140	70
Humidity	95 %, no condensation	95 %, no condensation
Approvals	DEKRAATEX; DETNORVER; FMEX; GOSTME25; IECEXDEK	cULus; DETNORVER; FMEX; GL; GOSTME25; IECEXKEM; KEMAATEX

Dimensions		**Screw connection**	**Screw connection**
Clamping range (nominal / min. / max.)	mm²	2.5 / 0.5 / 2.5	2.5 / 0.5 / 2.5
Length x width x height	mm	119.2 / 22.5 / 113.6	114.3 / 6.1 / 112.5
Note			

Ordering data

	Type	**Qty.**	**Order No.**
Screw connection	ACT20-FEED-IN-PRO-S	1	**8965500000**
Screw connection	ACT20-FEED-IN-BASIC-S	1	**1282490000**

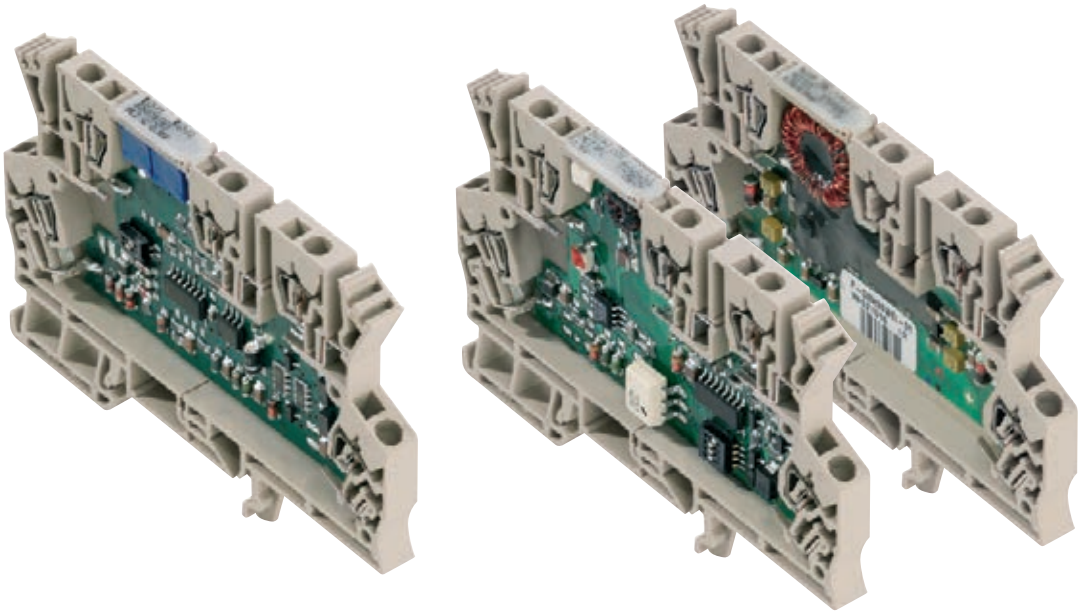
Note

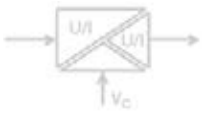
Accessories

Note	DIN mounting rail, see Accessories	DIN mounting rail, see Accessories

Signal converter in a terminal format

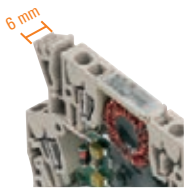
The MCZ-SERIES signal converters have a slim terminal design and convert, isolate and monitor analogue signals. They have five tension clamp connections. The open side of the housing can be closed using a standard cover plate accessory. The housing has a low height of just 6.3 cm. It also accommodates a cross-connector for reducing the wiring of multiple module's 24 V and 0 V connections. Two WS10/6 markers can be used for labelling. These are available in MultiCard format and can be printed using Weidmüller's professional printing system.





Security

Electrical isolation increases the safety of operations and reduces the risk of facility malfunctions.



Saves space in the electrical cabinet

High product density (modules only 6 mm wide) reduces space taken on the DIN rail.

Simple wiring

The power supply can easily be bridged from one module to the next using pluggable cross-connections.

DC/DC passive disconnector

PT100 /RTD signal converter

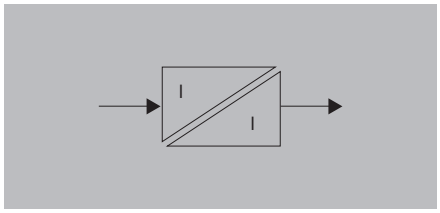
Frequency signal converter

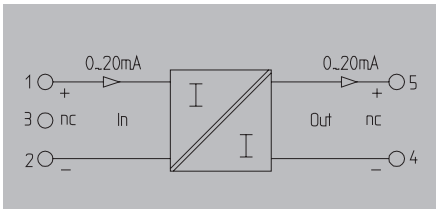
Threshold monitoring

Input current loop feed

- Passive isolators for galvanic isolation of 0/4...20 mA standard signals.
- The component draws power from the measurement signal and requires no additional auxiliary power
- Low energy consumption, pick-up current of < 100 µA.
- 2-way isolation

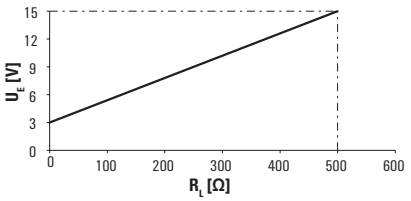
MCZ CCC / ILP





Technical data

Input	
Input voltage / Input current	/ 0(4)...20 mA current loop
Pick-up current	< 100 µA
Voltage drop	2.5....3 V at 20 mA
Output	
Output voltage / Output current	max. 10 V / 0...20 mA, 4...20 mA
Load impedance, voltage/current	/ ≤ 500 Ω
Accuracy	< 0.1 % of end value
Temperature coefficient	≤ 50 ppm/K of measured value at 0 Ω load resistance
Cut-off frequency (-3 dB)	100 Hz
General data	
Configuration	none
Ambient temperature	-25 °C...+60 °C
Approvals	CE; CSA; cURus; GOSTME25
Insulation coordination	
Standards	DIN EN 60529, DIN EN 61010-1
EMC standards	EN 61000-6
Insulation voltage	510 V_{eff}



Dimensions		Tension-clamp connection
Clamping range (nominal / min. / max.)	mm²	1.5 / 0.5 / 1.5
Depth x width x height	mm	63.2 / 6
Note		

Ordering data

	Type	Qty.	Order No.
Tension-clamp connection	MCZ CCC 0-20mA/0-20mA	10	**8411190000**

Note

Accessories

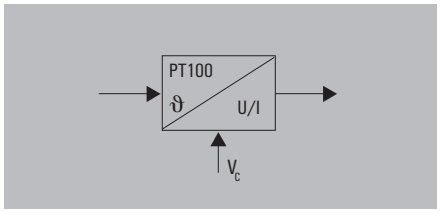
Note	
	Cross-connectors for power supplies and markers: refer to Accessories

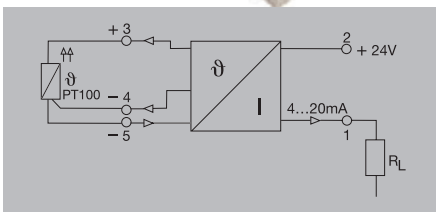
RTD 2-/3-conductor converter

Output-loop powered

- RTD signal converter for galvanic isolation and conversion of PT100 signals
- The component draws power from the output circuit and requires no additional auxiliary power
- 2-way isolation

MCZ PT100/3 CLP / OLP





Technical data

Input	
Sensor	PT100/2-/3-wire (in compliance with IEC 751)
Sensor supply	0.8 mA / 9...30 V DC
Output	
Output current	4...20 mA (current loop)
Load impedance, voltage/current	/ ≤ 600 Ω
General data	
Configuration	none
Ambient temperature / Storage temperature	-25 °C...+50 °C / -25 °C...+85 °C
Accuracy	Typical 0.2%, max. 0.5% of FSR
Approvals	CE; CSA; cURus; GOSTME25
Standards	DIN EN 50178, DIN EN 61000-4-2
EMC standards	EN 61000-6

Dimensions		**Tension-clamp connection**
Clamping range (nominal / min. / max.)	mm^2	1.5 / 0.5 / 1.5
Depth x width x height	mm	63.2 / 6 /
Note		

Ordering data

		Type	Qty.	Order No.
0...100 °C	Tension-clamp connection	MCZ PT100/3 CLP 0...100C	10	**8425720000**
0...120 °C	Tension-clamp connection	MCZ PT100/3 CLP 0...120C	10	**8483680000**
0...150 °C	Tension-clamp connection	MCZ PT100/3 CLP 0...150C	10	**8604420000**
0...200 °C	Tension-clamp connection	MCZ PT100/3 CLP 0...200C	10	**8473010000**
0...300 °C	Tension-clamp connection	MCZ PT100/3 CLP 0...300C	10	**8473020000**
-50...+150 °C	Tension-clamp connection	MCZ PT100/3 CLP -50C...+150C	10	**8473000000**
-40...+100 °C	Tension-clamp connection	MCZ PT100/3 CLP -40C...100C	10	**8604430000**
Note				

Accessories

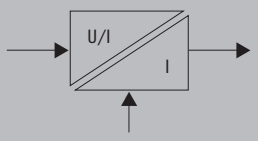
Note	Cross-connectors for power supplies and markers: refer to Accessories

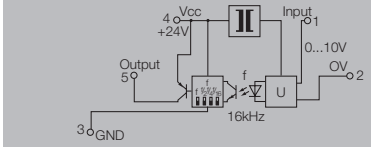
DC/f converter

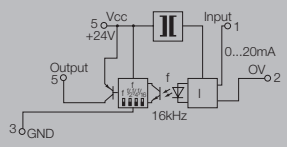
The analogue input signal is converted into a configurable frequency signal. Thus analogue signals can be read by the PLC's counter inputs.

MCZ VFC

MCZ CFC







Technical data

Input		
Input voltage / Input current	0...10 V /	/ 0...20 mA
Input resistance, voltage/current	100 kΩ /	/ 50 Ω
Voltage drop		1 V at 20 mA
Output		
Output frequency	0...1/ 4/ 8/ 16 kHz	0...1/ 4/ 8/ 16 kHz
Output level	PNP, Ub-0.7 V	PNP, Ub-0.7 V
Output current	max. 20 mA	max. 20 mA
Accuracy	0.2% of FSR	0.2% of FSR
Temperature coefficient	≤ 250 ppm/K	≤ 250 ppm/K
Status indicator	LED, pulsing	LED, pulsing
General data		
Configuration	DIP switch	DIP switch
Supply voltage	24 V DC ± 10 %	24 V DC ± 10 %
Current consumption	14 mA without load	14 mA without load
Current-carrying capacity of cross-connect.	≤ 20 A	≤ 20 A
Ambient temperature	0 °C...+50 °C	0 °C...+50 °C
Approvals	CE; GOSTME25	CE; GOSTME25
Insulation coordination		
Standards	DIN EN 50178	DIN EN 50178
EMC standards	EN 55011, EN 61000-6	EN 55011, EN 61000-6
Rated voltage	100 V	100 V
Impulse withstand voltage	1.5 kV	1.5 kV
Insulation voltage	1 kV DC	1 kV DC
Overvoltage category	III	III
Pollution degree	2	2
Clearance & creepage distances	≥ 1.5 mm	≥ 1.5 mm

Dimensions		**Tension-clamp connection**	**Tension-clamp connection**
Clamping range (nominal / min. / max.)	mm²	1.5 / 0.5 / 1.5	1.5 / 0.5 / 1.5
Depth x width x height	mm	63.2 / 6	63.2 / 6
Note			

Ordering data

	Type	**Qty.**	**Order No.**
Tension-clamp connection	MCZ VFC 0-10V	10	**8461470000**
	MCZ CFC 0-20MA	10	**8461480000**

Note

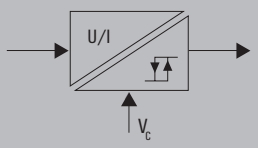
Accessories

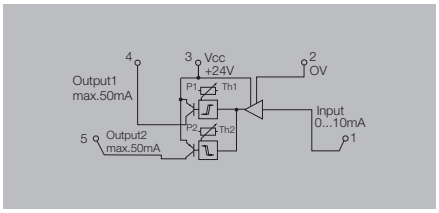
Note		
	Cross-connectors for power supplies and markers: refer to Accessories	Cross-connectors for power supplies and markers: refer to Accessories

Transistor output

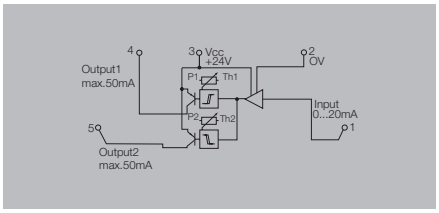
- 2 digital outputs
- Monitoring of upper and lower limit values
- 3 selectable input ranges: 300 mV...10 V, 30 mV...1 V, 10 mV...100 mV

MCZ SC 0...10 V





MCZ SC 0...20 mA



Technical data

Input		
Input voltage / Input current	0...10 V /	/ 0.5...20 mA
Input resistance, voltage/current	60 kΩ /	/ 50 Ω
Voltage drop		1 V
Output		
Contact assembly	double switch output PNP	double switch output PNP
Function	$U_{IN}<U_{TH1}$: output 1 active / $U_{IN}>U_{TH2}$: output 2 active	$I_{IN}<I_{TH1}$: Output 1 active / $I_{IN}>I_{TH2}$: Output 2 active
Switching thresholds	Via 2 potentiometers (12 turns)	Via 2 potentiometers (12 turns)
Hysteresis	1% of adjusted final value	1% of adjusted final value
Switching current	50 mA - per channel (voltage drop at transistor: < 1.2 V at 50 mA)	50 mA - per channel (voltage drop at transistor: < 1.2 V at 50 mA)
Step response time	< 250 µs (switching threshold at 90% of max. input signal; $R_l \leq 1$ kΩ)	< 250 µs (switching threshold at 90% of max. input signal; $R_l \leq 1$ kΩ)
Cut-off frequency (-3 dB)	100 Hz	100 Hz
Temperature coefficient	max. 250 ppm/K	max. 250 ppm/K
General data		
Configuration	Potentiometer	Potentiometer
Supply voltage	24 V DC ± 20 %	24 V DC ± 20 %
Ambient temperature	0 °C...+50 °C	0 °C...+50 °C
Approvals	CE; CSA; cURus; GOSTME25	CE; CSA; cURus; GOSTME25
Insulation coordination		
Standards	DIN EN 50178	DIN EN 50178
EMC standards	EN 55011, EN 61000-6	EN 55011, EN 61000-6

Dimensions			
Clamping range (nominal / min. / max.)	mm^2	1.5 / 0.5 / 1.5	1.5 / 0.5 / 1.5
Depth x width x height	mm	63.2 / 6	63.2 / 6
Note			

Ordering data

	Type	**Qty.**	**Order No.**
Tension-clamp connection	MCZ SC 0-10V	10	**8260280000**
Tension-clamp connection	MCZ SC 0-20MA	10	**8227350000**

Note

Accessories

Note	
	Cross-connectors for power supplies and markers: refer to Accessories
	Cross-connectors for power supplies and markers: refer to Accessories