

ACT20M ACT20M-UI-AO-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
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Germany
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ACT20M: The slim solution

- Safe and space-saving (6 mm) isolation and conversion
- Quick installation of the power supply unit using the CH20M mounting rail bus
- Easy configuration via DIP switch or FDT/DTM software
- Extensive approvals such as ATEX, IECEx, GL, DNV
- High interference resistance

General ordering data

Type	ACT20M-UI-AO-S
Order No.	1176030000
Version	Signal converter/insulator, Temperature converter, All-purpose, 2-/3-/4- wire RTD, Thermocouple, Input : universal U, I, R,9, Output : I / U
GTIN (EAN)	4032248970070
Qty.	1 pc(s).

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Technical data

Dimensions and weights

Width	6.1 mm	Width (inches)	0.24 inch
Height	112.5 mm	Height (inches)	4.429 inch
Depth	114.3 mm	Depth (inches)	4.5 inch
Net weight	80 g		

Temperatures

Humidity	40 °C / 93 % rel. humidity, no condensation	Operating temperature	-25 °C...70 °C
Ambient temperature	-25 °C...+70 °C	Storage temperature	-40 °C...85 °C

Probability of failure

MTBF	176 Years
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Input

Number of inputs	1	Sensor	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
Sensor supply	> 15 V DC at 20 mA	Input voltage	configurable, 0(2)...10 V, 0(1)...5 V, 0...1 V DC, 0,2...1 V DC
Input resistance, voltage	> 10 MΩ	Input current	configurable, 0...20 mA, 4...20mA
Voltage drop, current input	< 3 V	Temperature input range	Configurable, min. measurement range 10°C (RTD), min. measurement range 50°C (TC), PT100: -200°C...850 °C, NI100: -60°C...+250 °C, TC type: B (0...+1820 °C), E: (-100...+1000 °C), J: (-100...+1200 °C), K: (-180...+1372 °C), L: (-200...+900 °C), N: (-180...+1300 °C), R: (-50...+1760 °C), S: (-50...+1760 °C), T: (-200...+400 °C), U: (-200...+600 °C), W3: (0...+2300 °C), W5: (0...+2300 °C), LR: (-200...+800 °C)
Resistance	0...10 kΩ	Potentiometer	10...100 kΩ

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Output

Number of outputs	1	Output voltage, note	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
Output current	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	Cut-off frequency (-3 dB)	100 Hz
cold junction compensation	internal	load impedance voltage	≥ 10 kΩ
load impedance current	≤ 600 Ω, @ max 28mA		

General data

Accuracy	< 0.1 % of measuring range	Configuration	With FDT/DTM software
Galvanic isolation	3-way isolator	Mounting rail	TS 35
Power consumption, max.	1.2 W	Power consumption, typ.	0.84 W
Step response time	400 ms (10...90%) @ U/I, 1 s @ temp	Supply voltage	24 V DC ± 30 %
Temperature coefficient	≤ 0.01 % / °C		

Insulation coordination

EMC standards	IEC 61326-1, NE 21	Galvanic isolation	3-way isolator
Insulation voltage	2.5 kV _{eff} / 1 min.	Pollution severity	2
Rated voltage	300 V _{eff}	Standards	IEC 61010-1
Surge voltage category	II		

Data for Ex applications (ATEX)

Marking	II 3 G Ex nA IIC T4 Gc
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Connection data

Type of connection	Screw connection	Tightening torque, min.	0.4 Nm
Tightening torque, max.	0.6 Nm	Clamping range, rated connection	2.5 mm ²
Clamping range, min.	0.5 mm ²	Clamping range, max.	2.5 mm ²
Wire connection cross section AWG, min.	AWG 30	Wire connection cross section AWG, max.	AWG 14

Rated data UL

UL certificate	E337701.pdf
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Ratings IECEx/ATEX/cUL

Certificate No. (ATEX)	KEMA10ATEX0183X	Certificate No. (IECEX)	IECEXKEM10.0090X
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Data sheet

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Classifications

ETIM 3.0	EC002479	ETIM 4.0	EC002653
ETIM 5.0	EC002653	ETIM 6.0	EC002653
eClass 6.2	27-21-01-20	eClass 7.1	27-21-01-20
eClass 8.1	27-21-01-20	eClass 9.0	27-21-01-20
eClass 9.1	27-21-01-90		

Product information

Descriptive text technical data	Power supply optionally over the DIN mounting rail CH20M
Descriptive text accessories	CBX200 USB configuration adapter - 8978580000 DIN mounting rail, see Accessories

Approvals

Approvals



ROHS	Conform
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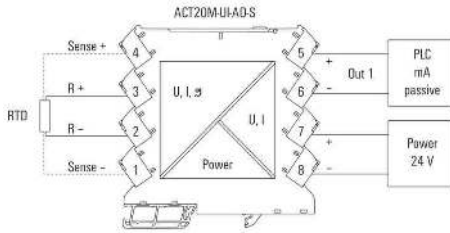
Downloads

Approval/Certificate/Document of Conformity	Declaration of Conformity
Brochure/Catalogue	CAT 4.1 ELECTR 16/17 EN
Engineering Data	EPLAN, WSCAD, Zuken E3.S
Engineering Data	STEP
Software	WI-Manager, DTM-Library for online installation
User Documentation	Instruction sheet measuring range table

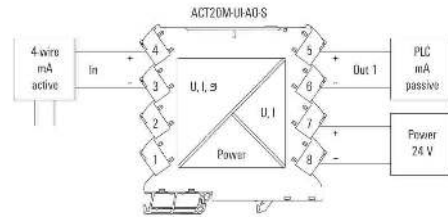
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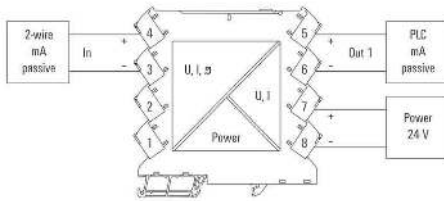
Drawings



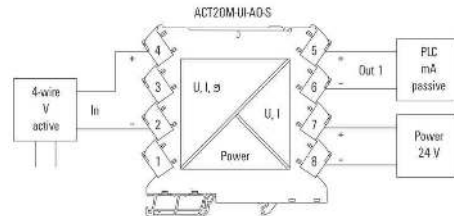
connection example



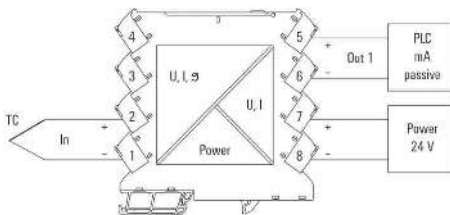
connection example



connection example



connection example



connection example

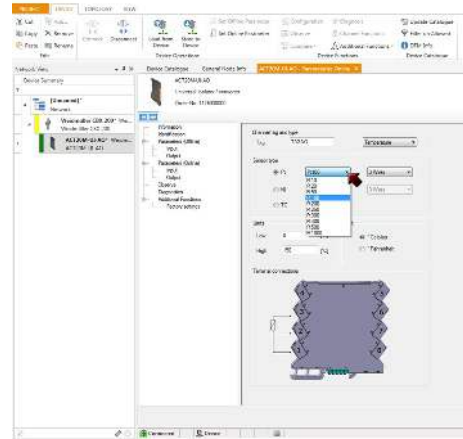
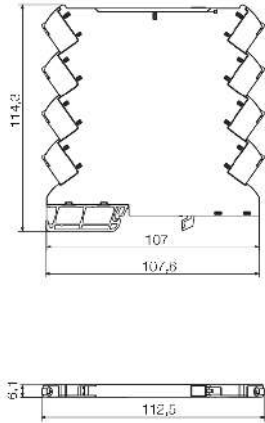


Power supply via the rail bus (housing example)

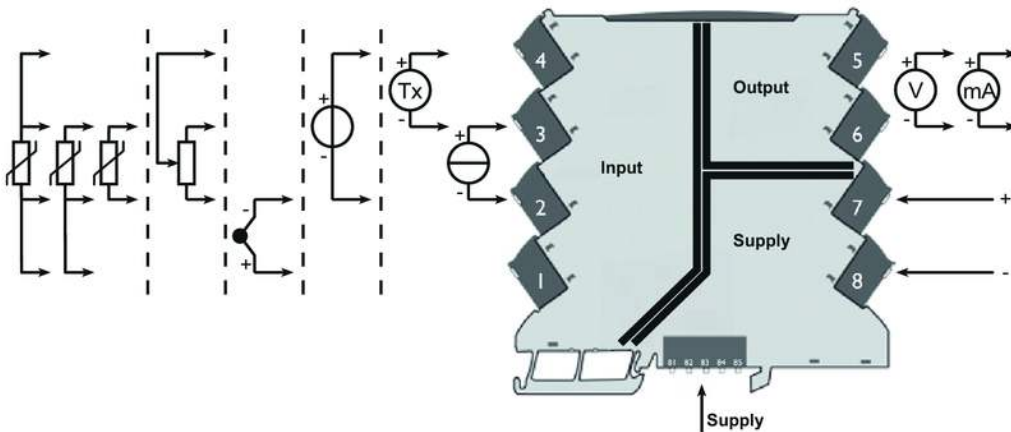
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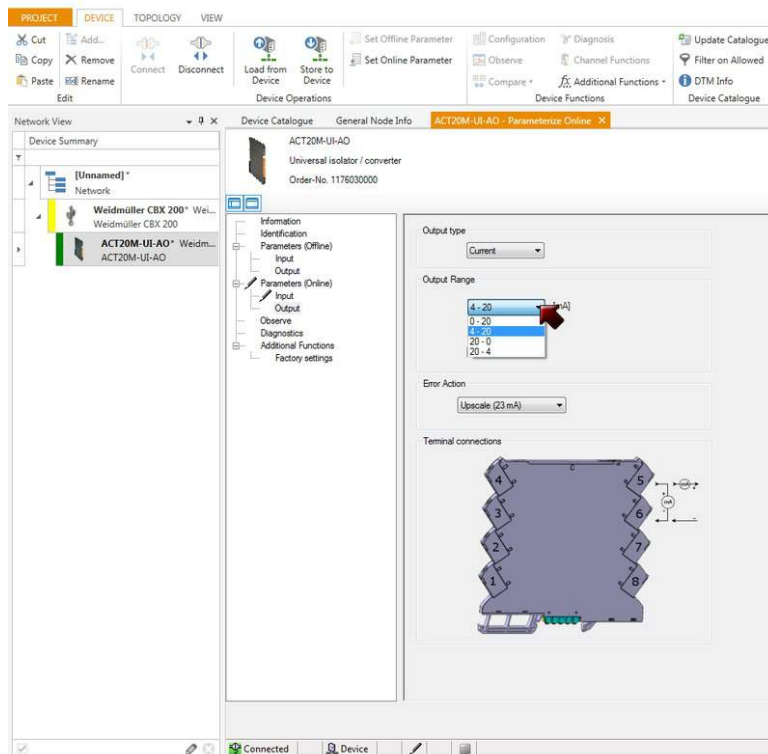
screenshot, setup temperature input with FDT2 / DTM software



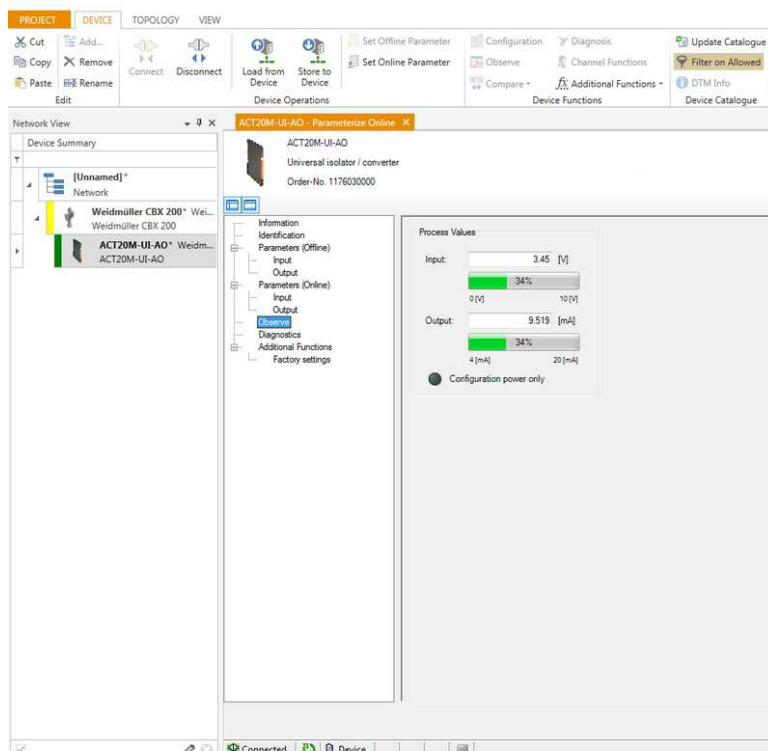
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Drawings



screenshot, setup output with FDT2 / DTM software



screenshot, observe in-/output with FDT2 / DTM software