

ACT20M
ACT20M-UI-AO-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
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Germany
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Product image

connection example

**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, universal, 2-/3-/4- wire RTD, Thermocouple, Input : universal U, I, R, θ , Output : I / U
GTIN (EAN)	4032248970070
Qty.	1 pc(s).

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Technical data
Dimensions and weights

Width	6.1	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, max.	70 °C
Operating temperature, min.	-25 °C	Storage temperature, max.	85 °C
Storage temperature, min.	-40 °C	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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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Rated data UL

UL certificate	E337701.pdf
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Technical data
Input

Number of inputs		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
	1		
Sensor supply		Input voltage	configurable, 0(2)...10 V, 0(1)...5 V, 0...1 V DC, 0,2...1 V DC
	> 15 V DC at 20 mA		
Input resistance, voltage		Input current	configurable, 0...20 mA, 4...20mA
	> 10 MΩ		
Voltage drop, current input		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), Details under Downloads "Measuring range Table ACT20M-UI-AO"
	< 3 V		
Resistance	0...10 kΩ	Potentiometer	10...100 kΩ

Output

Number of outputs		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
	1		
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		

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Technical data**General data**

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

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}	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

Classifications

ETIM 6.0	EC002653	ETIM 7.0	EC002653
eClass 9.0	27-21-01-20	eClass 9.1	27-21-01-90
eClass 10.0	27-21-01-20		

Product information

Product information	The software configurable Universal Transmitter ACT20M-UI-AO-S separates and converts standard analogue signals. An analogue input signal (voltage, current, resistance, potentiometer, RTD, TC) is converted linear and galvanic isolated into an analogue output signal. The input may also operate as an active current loop (the loop current provided by the device). The power supply is galvanically isolated from input and output and happens via a direct wiring or the Weidmüller DIN Rail Bus (3-way isolation).
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Approvals

Approvals



ROHS	Conform
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Technical data

Downloads

Approval/Certificate/Document of
Conformity

[DNV-GL certificate](#)
[EAC certificate](#)
[FM certificate](#)
[IECEX certificate](#)
[ATEX certificate](#)
[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 V.1.2.0](#)

User Documentation

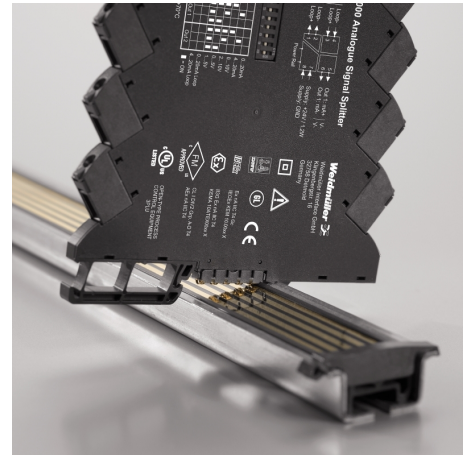
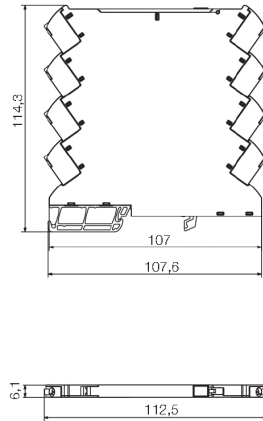
[Instruction sheet](#)
[measuring range table](#)

ACT20M ACT20M-UI-AO-S

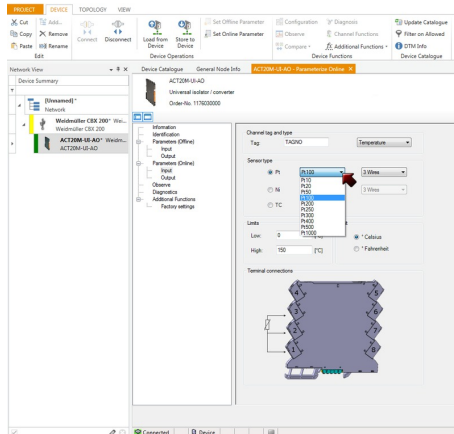
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Drawings

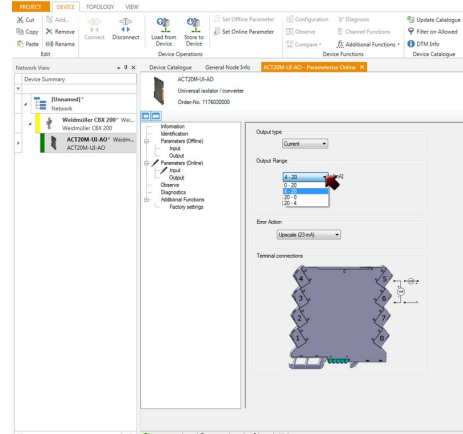
Dimensional drawing



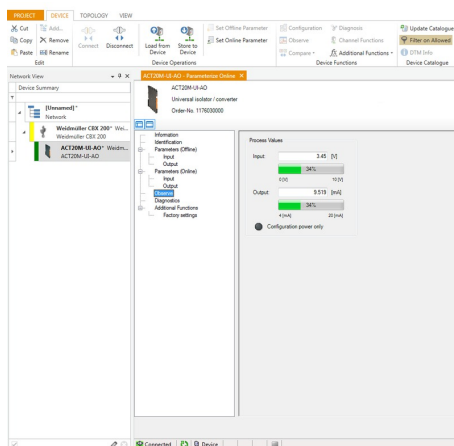
Power supply via the rail bus (housing example)



screenshot, setup temperature input with FDT2 / DTM software



screenshot, setup output with FDT2 / DTM software



screenshot, setup output with FDT2 / DTM software

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Drawings

Connection diagram

