

ACT20M-UI-AO-S

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



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).

General ordering data

Version	Temperature converter, Analogue isolating amplifier, Input : universal U, I, R,9, Output : I / U
Order No.	1176030000
Type	ACT20M-UI-AO-S
GTIN (EAN)	4032248970070
Qty.	1 items

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Technical data

Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E337701

Dimensions and weights

Depth	114.3 mm	Depth (inches)	4.5 inch
Height	112.5 mm	Height (inches)	4.4291 inch
Width	6.1 mm	Width (inches)	0.2402 inch
Net weight	80 g		

Temperatures

Storage temperature	-40 °C...85 °C	Operating temperature	-25 °C...70 °C
Humidity at operating temperature	0...95 % (no condensation)	Humidity	40 °C / 93 % rel. humidity, no condensation

Probability of failure

SIL in compliance with IEC 61508	None	MTBF	176 a
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Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924

Input

Sensor	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	Number inputs	1
Potentiometer	10...100 kΩ	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	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...

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+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"

Resistance	0...10 kΩ	Input current	configurable, 0...20 mA, 4...20mA
Input resistance, voltage	> 10 MΩ	Voltage drop, current input	<3 V

Output

Number of outputs	1	load impedance voltage	≥ 10 kΩ
Load impedance current	≤ 600 Ω, @ max 28mA	Wire break detection	Yes, if using RTD / POT / TC
Type	active, connected control must be passive	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

General data

Accuracy	<0.1 % of measuring range	Protection degree	IP20
Supply voltage	24 V DC ±30 % at terminal or via CH20M rail bus	Step response time	400 ms (10...90%) @ U/I, 1 s @ temp
Mounting rail	TS 35	Temperature coefficient	≤ 0.01 % / °C
Nominal power consumption	1.2 VA	Configuration	With FDT/DTM software, Requires configuration adapter 8978580000 CBX200 USB
Operating altitude	≤ 2000 m	Power consumption, max.	1.2 W
Power consumption, typ.	0.84 W		

Insulation coordination

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

Data for Ex applications (ATEX)

Marking	II 3 G Ex nA IIC T4 Gc	IECEx - gas labelling	Ex nA IIC T4 Gc, Standard: IEC 60079-0-15
Installation location	Device installed in safe area, zone 2		

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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

EMC conformity and approvals

EMC standards	IEC 61326-1	Standards	IEC 61010-1
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Part description

Product description	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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Classifications

ETIM 8.0	EC002653	ETIM 9.0	EC002653
ETIM 10.0	EC002653	ECLASS 14.0	27-21-01-20
ECLASS 15.0	27-21-01-20		

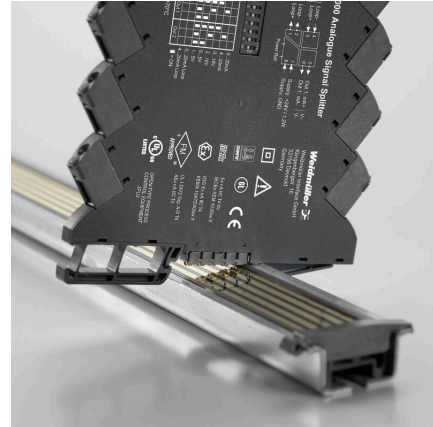
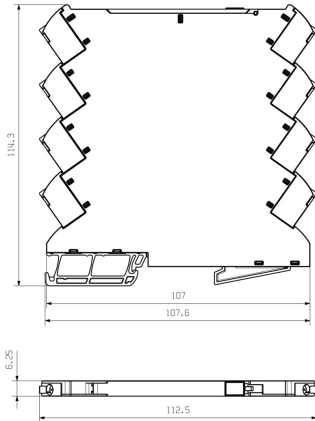
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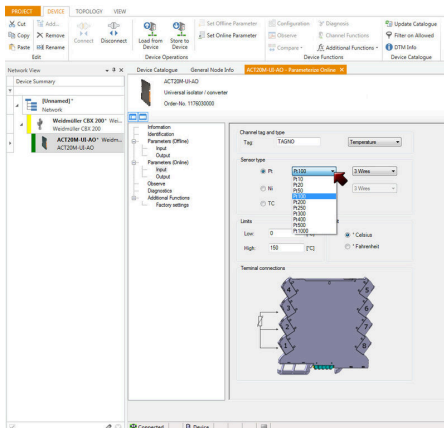
Drawings

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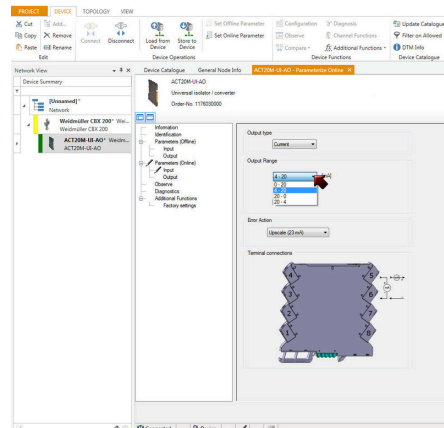
Dimensional drawing



Additional power supply option via bus



screenshot, setup temperature input with FDT2 / DTM software



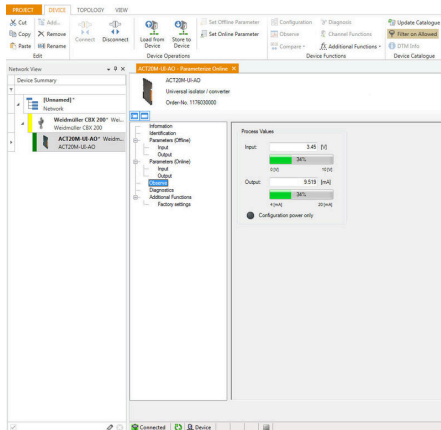
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Drawings

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screenshot, setup output with FDT2 / DTM software

Connection diagram

