

ACT20X ACT20X-HUI-SAO-S

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The ACT 20X HUI-SAO-S/ SAO-LP universal measurement and signal isolating converters can be configured individually.

Temperature signals from PT100 sensors and thermocouples as well as analogue DC current and voltage signals can be recorded from Ex zone 0.

On the output side, optional current/voltage (SAO-S) or 4...20 mA current loop signals (SAO-LP / SAO-S) are provided for the safe zone.

The ACT20X-HUI-SAO-S also has a relay output for configuring its switching threshold.

An integrated alarm contact is available on this device for issuing an alert in the event of a malfunction. This makes troubleshooting easier and also increases system availability.

The power supply of the signal isolating converter is either done using the integrated power supply (SAO-S) or alternatively over the output-side current loop (SAO-LP).

The rail mountable devices are designed with one channel, and are optionally available in widths of 12.5 mm (SAO-LP) or 22.5 mm (SAO-S).

General ordering data

Type	ACT20X-HUI-SAO-S
Order No.	8965490000
Version	EX signal isolating converter, Ex-output: U, I, R, 9, Safe-output: 4-20mA/ relay, 1-channel
GTIN (EAN)	4032248785100
Qty.	1 pc(s).

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Technical data
Dimensions and weights

Width	22.5 mm	Width (inches)	0.886 inch
Height	117.2 mm	Height (inches)	4.614 inch
Depth	113.6 mm	Depth (inches)	4.472 inch
Net weight	202 g		

Temperatures

Humidity	0...95 % (no condensation)	Operating temperature, max.	60 °C
Operating temperature, min.	-20 °C	Storage temperature, max.	85 °C
Storage temperature, min.	-20 °C	Operating temperature	-20 °C...60 °C
Storage temperature	-20 °C...85 °C		

Probability of failure

MTBF	74 Years
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Input EX

Input current	0...20 mA, 4...20 mA	Input resistance	configurable, 0... 10 kΩ
Input resistance, current	20 Ω + PTC 50 Ω	Input resistance, voltage	> 10 MΩ @ 600 mV, 2 MΩ @ 28 V
Input voltage	configurable, 0...1 V DC, 0,2...1 V DC, 1...5 V DC, 0...(5)10 V, 2...10 V DC	Line resistance in measuring circuit	≤ 50 Ω
Potentiometer		Sensor	2-/3-/4-wire, RTD: PT10, PT20, PT50, PT100, PT250, PT300, PT400, PT500, PT1000, Ni50, Ni100, Ni120, Ni1000, Thermocouples: B, E, J, K, N, R, S, T ; in compliance with IEC 60584-1 and L, U in compliance with DIN43710, Potentiometer, Resistance: 0 - 12 kΩ
Temperature input range	10 Ω... 10 kΩ Adjustable from -200...+800°C	Type	intrinsically safe circuit, active (as current source) or passive (as current sink)

Output

Type	active (as current source) or passive (as current sink)	Influence of load resistance	≤ 0.01% of span / 100 Ω
Output signal limit		Output current	0...23 mA, configurable: 0...20 / 4...20 / 20...0 / 20...4 mA, configurable downscale (3.5 mA) / upscale (23 mA) @ error
load impedance current	3.8...20.5 mA / 0...20.5 mA (dependent on range)		
	≤ 600 Ω		

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Technical data
Alarm output

Alarm function	No supply voltage, Device error	Type	Relay, 1 NC (voltage-free)
Nominal switching voltage	≤ 125 V AC / 110 V DC (safe area) ≤ 32 V AC / 32 V DC (Zone 2)	Continuous current	≤ 0.5 A AC / 0.3 A DC (safe zone), ≤ 0.5 A AC / 1 A DC (Zone 2)
Power rating	≤ 62.5 VA / 32 W (safe area) ≤ 16 VA / 32 W (Zone 2)		

General specifications

Configuration	With FDT/DTM software	Supply voltage	19.2 – 31.2 V DC
Type of connection	Screw connection, Removable terminal block	Power consumption	≤ 2.1 W
Protection degree	IP20	Humidity	0...95 % (no condensation)

Insulation coordination

EMC standards	DIN EN 61326, NE 21	Insulation voltage	2.6 kV (input / output)
Pollution severity	2	Rated voltage	300 V

Digital output

Type	Relay, 1 NO / NC contact	Nominal switching voltage	≤ 250 V AC / 30 V DC (safe area) ≤ 32 V AC / 32 V DC (Zone 2)
Power rating	≤ 500 VA / 60 W (safe area) ≤ 16 VA / 32 W (Zone 2)	Continuous current	≤ 2 A AC/DC (safe area, Zone 2 area)
Function	Configurable switching thresholds, Sensor error, Window function		

Data for Ex applications (ATEX)

Voltage U ₀	8.7 V DC	Current I ₀	18.4 mA
Power P ₀	40 mW	Marking	II (1) G [Ex ia Ga] IIC/IIB/ IIA, I (M1) [Ex ia Ma] I, II (1) G [Ex ia Ga] IIC, II (1) D [Ex ia Da] IIIC

Safety-related basic specifications

Device type	B	Hardware fault tolerance (HFT)	0
T _{proof}	4 Years	Safety category	SIL 2
Probability of outage PFH	4.33 x 10 ⁻⁸ h ⁻¹		

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Technical data**Safety-related specifications Low demand mode**

Average Probability of Failure on Demand (PFD _{avg})	2.82 x 10 ⁻⁴ (T _{proof} = 1 year), 4.63 x 10 ⁻⁴ (T _{proof} = 2 years), 1.00 x 10 ⁻³ (T _{proof} = 5 years), additional data in the safety manual
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Connection data

Type of connection	Screw connection, Removable terminal block	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

ATEX certificate	10ATEX0071X.pdf	IEC Ex certificate	IECEx certification
Certificate No. (ATEX)	KEMA10ATEX0071X	Certificate No. (IECEx)	IECExKEM10.0034X

Classifications

ETIM 3.0	EC002479	ETIM 4.0	EC002479
ETIM 5.0	EC002479	ETIM 6.0	EC002653
UNSPSC	30-21-18-01	eClass 5.1	27-21-01-07
eClass 6.2	27-21-01-07	eClass 7.1	27-21-01-07
eClass 8.1	27-21-01-07	eClass 9.0	27-21-01-07
eClass 9.1	27-21-01-20		

Product information

Product information	Weidmüller provides an extended guarantee period of 36 months for this device.
Descriptive text ordering data	CBX200 USB configuration adapter - 8978580000

Approvals

Approvals



Approvals	DNVGL;
ROHS	Conform

Creation date September 4, 2018 8:25:26 AM CEST

Catalogue status 31.08.2018 / We reserve the right to make technical changes.

Data sheet**ACT20X
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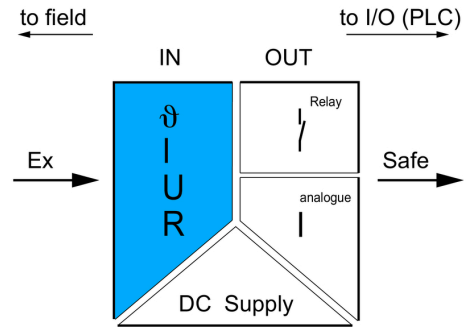
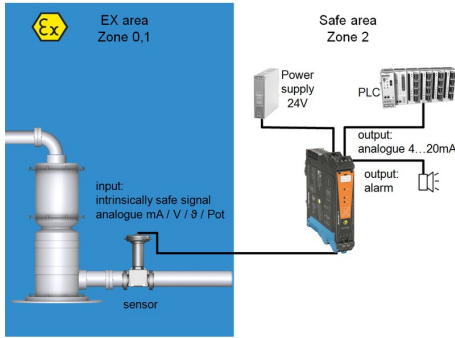
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Technical data**Downloads**

Approval/Certificate/Document of Conformity	SIL certificate Certification DNV GL Declaration of Conformity
Brochure/Catalogue	CAT 4.1 ELECTR 16/17 EN
Engineering Data	EPLAN, WSCAD
Engineering Data	STEP
Software	WI-Manager, DTM-Library for online installation
User Documentation	Instruction sheet Manual MAN SAFETY ACT20X-HUI-SAO

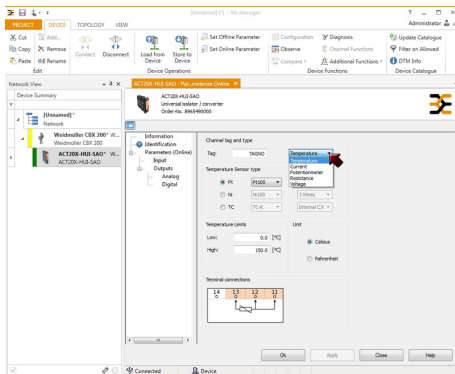
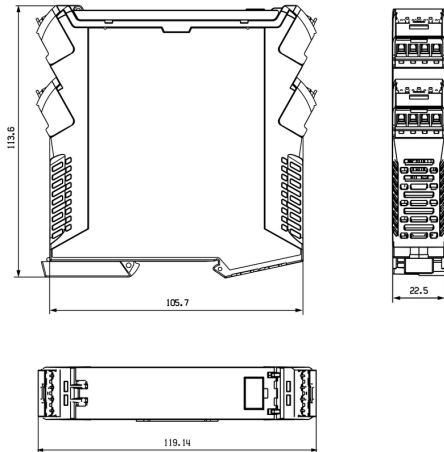
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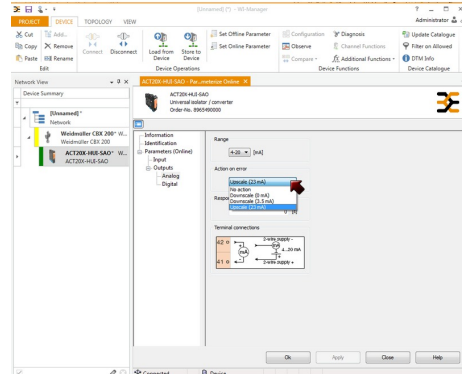


application schematic

Dimensioned drawing



screenshot of temperature input configuration with FDT2 / DTM software

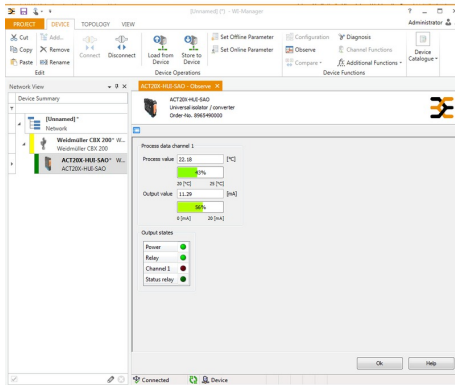


screenshot of output configuration with FDT2 / DTM software

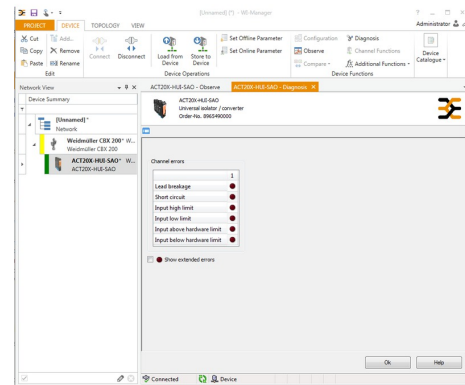
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Drawings



screenshot of "observe" with FDT2 / DTM software



screenshot of "diagnosis" with FDT2 / DTM software

