

ACT20X-HUI-SAO-LP-S

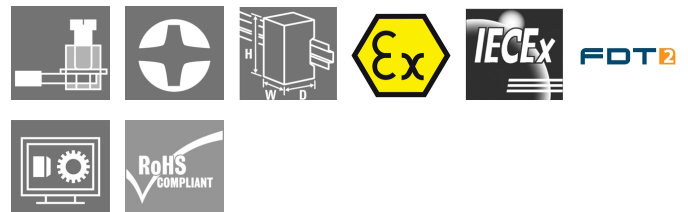
Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 26
 D-32758 Detmold
 Germany

www.weidmueller.com

Product image



Do not use product for new developments



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

Version	ACT20X, EX signal isolating converter, 1-channel version, Output-loop powered
Order No.	1318220000
Type	ACT20X-HUI-SAO-LP-S
GTIN (EAN)	4050118323955
Qty.	1 Stück
Delivery status	This article will no longer be available in the future.
Available until	2021-12-15

ACT20X-HUI-SAO-LP-S

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Technische Daten

Dimensions and weights

Depth	113.6 mm	Depth (inches)	4.472 inch
Height	117.2 mm	Height (inches)	4.614 inch
Width	12.5 mm	Width (inches)	0.492 inch
Net weight	171 g		

Temperatures

Storage temperature	-20 °C...70 °C	Operating temperature	0 °C...60 °C
Operating temperature, min.	0 °C	Operating temperature, max.	60 °C
Humidity	10...90 %, no condensation		

Probability of failure

SIL in compliance with IEC 61508	2
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Input EX

Input current	configurable, ± 25 mA, 0...20 mA, 4...20mA	Input resistance	0...12 k Ω
Input resistance, current	70 Ω	Input resistance, voltage	> 10 M Ω @ 600 mV, 2 M Ω @ 28 V
Input voltage	configurable, ± 12 V DC (min. measurement range 1 V), ± 28 V DC (min. measurement range 2 V), ± 600 mV DC (min. measurement range 50 mV), ± 150 mV DC (min. measurement range 15 mV)	Line resistance in measuring circuit	≤ 50 Ω
Potentiometer	1.2...500 k Ω	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 k Ω
Sensor supply	28...16.5 V DC / 0...20 mA	Temperature input range	Adjustable from -200...+800°C
Type	intrinsically safe circuit		

Output

Cut-off frequency (-3 dB)	100 Hz	Influence of load resistance	$\leq 0.01\%$ of span / 100 Ω
Load impedance current	≤ 700 Ω	Output current	4...20 mA (max. 23 mA)
Output signal limit	3.8...20.5 mA / 0...20.5 mA (dependent on range)	Residual ripple (current loop)	≤ 10 mV _{ss}
Type	Output-loop powered		

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General specifications

Accuracy	< 0.1 % of end value	Configuration	With FDT/DTM software, Requires configuration adapter 8978580000 CBX200 USB
Humidity	10...90 %, no condensation	Power consumption	≤ 3.5 W
Protection degree	IP20	Step response time	250 ms (10...90%)
Temperature coefficient	<0.02 °C of measuring range / °C	Type of connection	Screw connection
Voltage supply	via output current loop, 11...28 V DC (loop powered)		

Insulation coordination

Impulse withstand voltage	4 kV (1.2/50 µs)	Insulation voltage	3.51 kV between input and output
Pollution severity	2	Rated voltage	300 V _{eff}
Standards	DIN EN 61326-1, IEC 61010-1, IEC 61010-2-030, IEC 60079-0, IEC 60079-11, IEC 60079-15, IEC 60079-26	Surge voltage category	III

Data for Ex applications (ATEX)

Current I ₀	88.2 mA	Installation location	Device installed in safe area, zone 2
Marking	II 3 G Ex nA IIC T4 Gc, I (M1) [Ex ia Ma] I, II (1) D [Ex ia Da] IIIC	Power P ₀	129 mW
Voltage U ₀	5.88 V DC		

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.	0.25 mm ²	Clamping range, max.	2.5 mm ²
Wire connection cross section AWG, min.	AWG 26	Wire connection cross section AWG, max.	AWG 12

Guarantee

Time interval	3 years
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Classifications

ETIM 6.0	EC002653	ETIM 7.0	EC002653
ETIM 8.0	EC002653	ECLASS 9.0	27-21-01-20
ECLASS 9.1	27-21-01-20	ECLASS 10.0	27-21-01-20
ECLASS 11.0	27-21-01-20	ECLASS 12.0	27-21-01-20

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Technische Daten

Tender specification sheets

Long specification

Short specification

Ex universal measurement isolating transformer for RTD-/ TC temperature and DC-current-/ voltage signals, output-loop powered 1-channel 4...20 mA output-loop powered measurement isolating transformer in 12.5 mm width for recording, isolating and transmitting RTD- / TC sensors, resistors, potentiometers and DC current signals and voltages from Ex zones 0,1,2 to the safe zone.
The component can be configured using standard FDT/DTM software.
Add-on housing for TS35 rail mounting
Dimensions: L/W/H
119.2/ 12.5/ 113.6
Screw connection/ Nominal cross-section
2.5 mm²
Protection degree: IP
20
Input RTD:
PT200, PT1000, Ni120, Cu100

Resistance 0...15 kOhm / Potentiometer
1.2...500 kOhm
TC-
Type: B, E, J, K, L, N, R, S, T,U
+/-
25 mA configurable
+/- 28 V configurable
Output
4...20 mA current loop
Load <
700 Ohm
Accuracy <
0,1 % v.E
Auxiliary power
11...28 VDC / current loop
Power loss approx. 1.5 W
Ambient temperature range 0 °C...+60 °C

Secure isolation
EN 50178, 2-way
10 kV 18 AWG/18 AWG
Working voltage
300 V AC/DC
overvoltage category II

Ex universal measurement isolating transformer for RTD-/ TC temperature and DC-current-/ voltage signals, output-loop powered 1-channel 4...20 mA- loop-powered measurement isolating

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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924

Approvals

Approvals



Approvals	CULUS; EAC; IECEXKEM; ATEX
ROHS	Conform

Downloads

Approval/Certificate/Document of Conformity	Certification ATEX Certification IECEX UL Certification Declaration of Conformity
Engineering Data	CAD data – STEP
Engineering Data	WSCAD, EPLAN
Software	Runtime Software – WI-Manager, DTM-Library for online installation Release notes for Weidmueller FDT-DTM Software version
User Documentation	Instruction sheet 20210120 Security Advisory - WI-Manager affected by MundM Software fdtCONTAINER vulnerability
Catalogues	Catalogues in PDF-format
Brochures	

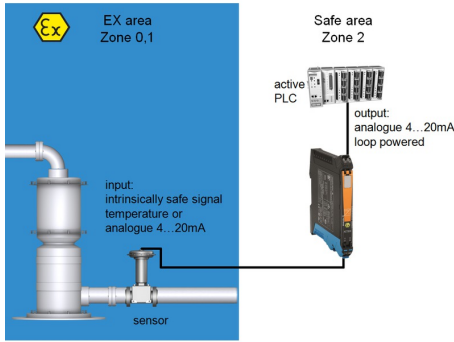
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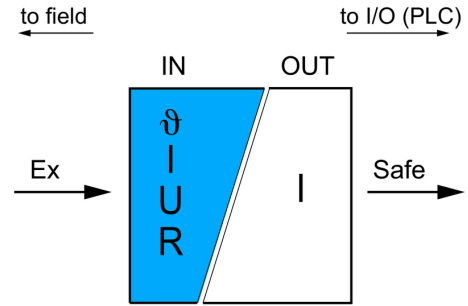
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Zeichnungen

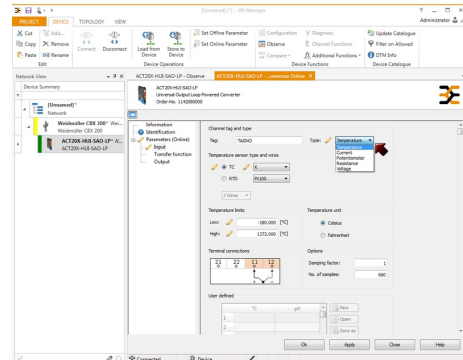
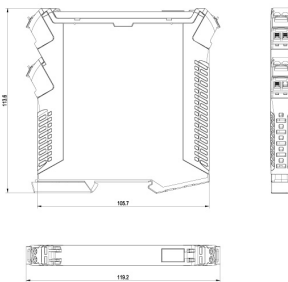
Application



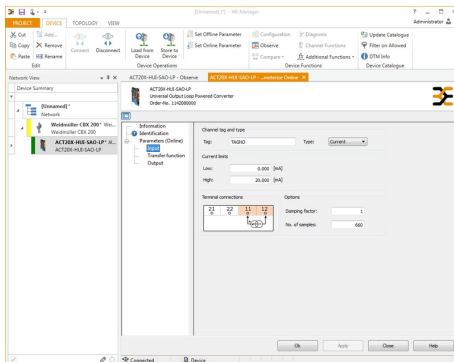
Block diagram



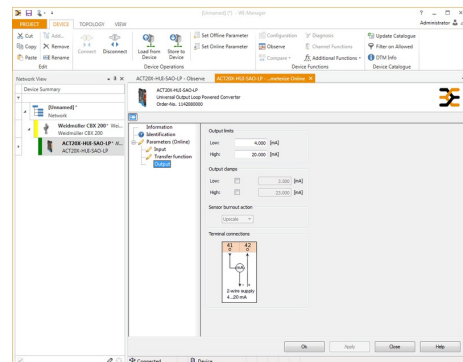
Dimensioned drawing



screenshot of temperature input configuration with FDT2 / DTM software



screenshot of current input configuration with FDT2 / DTM software



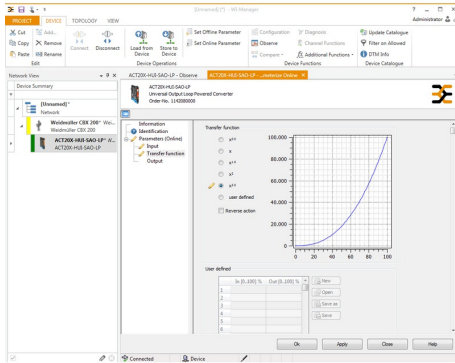
screenshot of output configuration with FDT2 / DTM software

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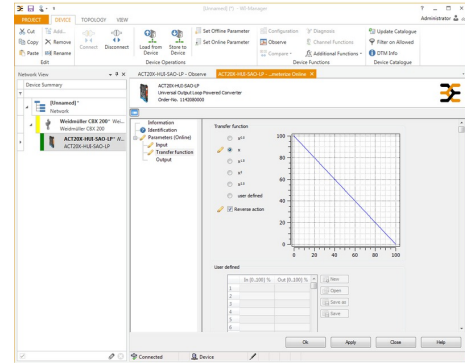
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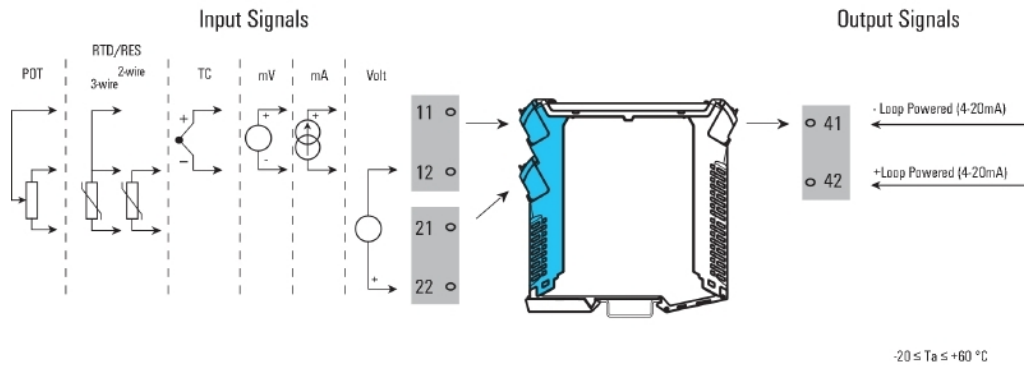


screenshot of transfer function configuration with FDT2 / DTM software



screenshot of transfer function configuration with FDT2 / DTM software

Connection diagram



Zone 0, 1, 2, 20, 21, 22 /
 Cl. I/II/III, div. 1 gr. A-G

Zone 2 / FM Cl. 1, div. 2,
 gr. A-D or safe area

-20 ≤ Ta ≤ +60 °C