

## ACT20X-HUI-SAO-LP-S

Weidmüller Interface GmbH &amp; Co. KG

Klingenbergstraße 26

D-32758 Detmold

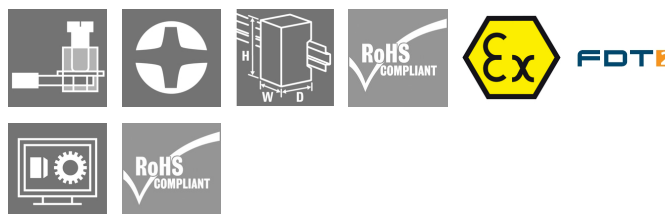
Germany

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## Product image



Product is no longer available, Data sheet for information only



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.	<a href="#">1318220000</a>
Type	ACT20X-HUI-SAO-LP-S
GTIN (EAN)	4050118323955
Qty.	1 pc(s).
Delivery status	<b>This article will no longer be available in the future.</b>
Available until	2021-12-15

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**Technical data****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	125 g		

**Temperatures**

Storage temperature	-20 °C...70 °C	Operating temperature	0 °C...60 °C
Humidity at operating temperature	0...95 % (no condensation)	Humidity	10...90 %, no condensation

**Probability of failure**

SIL in compliance with IEC 61508	2
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**Assembling**

Mounting position	horizontal or vertical	Rail	TS 35
Type of mounting	DIN rail		

**Input EX**

Input current	configurable, $\pm 25$ mA, 0...20 mA, 4...20mA	Input resistance	0...12 k $\Omega$
Input resistance, current	70 $\Omega$	Input resistance, voltage	> 10 M $\Omega$ @ 600 mV, 2 M $\Omega$ @ 28 V
Input voltage	configurable, $\pm 12$ V DC (min. measurement range 1 V), $\pm 28$ V DC (min. measurement range 2 V), $\pm 600$ mV DC (min. measurement range 50 mV), $\pm 150$ mV DC (min. measurement range 15 mV)	Line resistance in measuring circuit	$\leq 50$ $\Omega$
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 k $\Omega$
Sensor supply	1.2...500 k $\Omega$ 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	Load impedance current	$\leq 700$ $\Omega$
Output current	4...20 mA (max. 23 mA)	Output signal limit	3.8...20.5 mA / 0...20.5 mA (dependent on range)
Type	Output-loop powered		

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**Technical data****Digital output**

Max. switching frequency	20 Hz
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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 <sub>eff</sub>
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 <sub>0</sub>	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 <sub>0</sub>	129 mW
Voltage U <sub>0</sub>	5.88 V DC		

**Safety-related basic specifications**

Safety category	SIL 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 <sup>2</sup>
Clamping range, min.	0.25 mm <sup>2</sup>	Clamping range, max.	2.5 mm <sup>2</sup>
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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ETIM 6.0	EC002653	ETIM 7.0	EC002653
ETIM 8.0	EC002653	ETIM 9.0	EC002653
ETIM 10.0	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
ECLASS 13.0	27-21-01-20	ECLASS 14.0	27-21-01-20
ECLASS 15.0	27-21-01-20		

## Germany

Long specification	Short specification
<p><b>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.</b></p> <p><b>The component can be configured using standard FDT/DTM software.</b></p> <p><b>Add-on housing for TS35 rail mounting</b></p> <p><b>Dimensions: L/W/H 119.2/ 12.5/ 113.6</b></p> <p><b>Screw connection/ Nominal cross-section 2.5 mm<sup>2</sup></b></p> <p><b>Protection degree: IP 20</b></p> <p><b>Input RTD: PT200, PT1000, Ni120, Cu100</b></p> <p><b>Resistance 0...15 kOhm / Potentiometer 1.2...500 kOhm</b></p> <p><b>TC-Type: B, E, J, K, L, N, R, S, T,U</b></p> <p><b>+/- 25 mA configurable</b></p> <p><b>+/- 28 V configurable</b></p> <p><b>Output 4...20 mA current loop</b></p> <p><b>Load &lt; 700 Ohm</b></p> <p><b>Accuracy &lt; 0,1 % v.E</b></p> <p><b>Auxiliary power 11...28 VDC / current loop</b></p> <p><b>Power loss approx. 1.5 W</b></p> <p><b>Ambient temperature range 0 °C...+60 °C</b></p> <p><b>Secure isolation EN 50178, 2-way</b></p> <p><b>40 Pt1000 to 4kV</b></p> <p><b>Working voltage 300 V</b></p> <p><b>AC/DC overvoltage category II and pollution degree 2</b></p>	<p><b>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 trans-</b></p>

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Approvals



Approvals	CULUS; EAC; IECEXKEM; ATEX
Approvals MAMID	<a href="https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/">https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/</a> <a href="https://mdcop.weidmueller.com/mediadelivery/rendition/900_319259/-T1z1mm-S800/">https://mdcop.weidmueller.com/mediadelivery/rendition/900_319259/-T1z1mm-S800/</a>
ROHS	Conform

**Environmental Product Compliance**

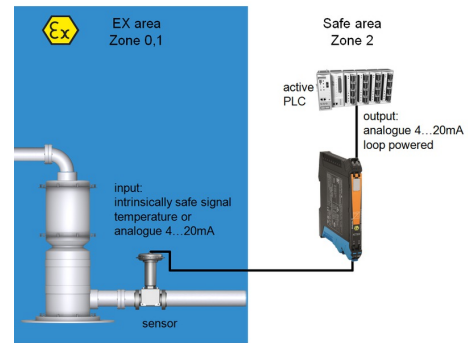
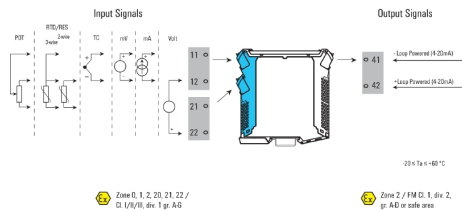
RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924

**Downloads**

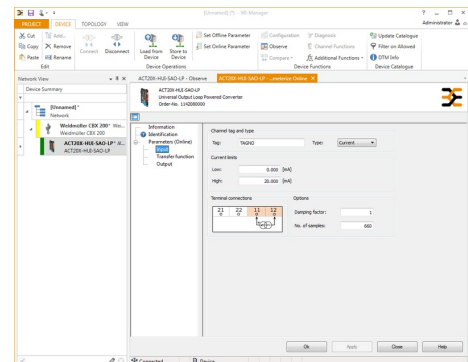
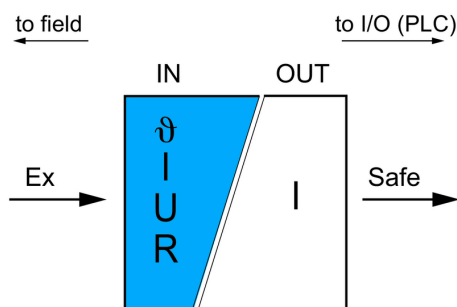
Approval/Certificate/Document of Conformity	<a href="#">Certification ATEX</a> <a href="#">Certification IECEX</a> <a href="#">UL Certification</a> <a href="#">Declaration of Conformity</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Software	<a href="#">WI-Manager, DTM-Library for online installation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

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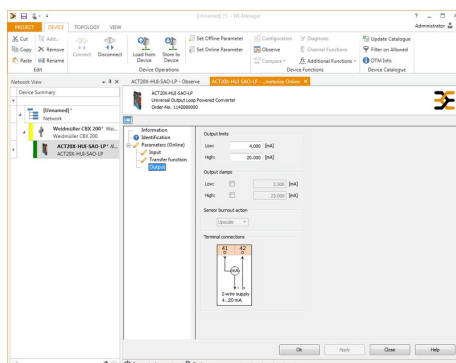
## Application



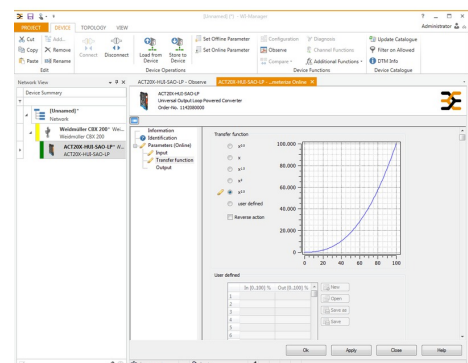
### Block diagram



screenshot of temperature input configuration with FDT2 / DTM software



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screenshot of output configuration  
with FDT2 / DTM software

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**Accessories****Blank**

ESG is the tried-and-tested marker in MultiCard format for use on many well-known electrical devices. The result is high-quality device marking with a high-contrast appearance.

Various types are available for devices from manufacturers like Siemens, ABB, Beckhoff etc.

Advantages at a glance:

- Tags for universal usage, self-adhesive or clip-on tags, depending on type
- For aligned equipment, e.g. circuit breakers, we supply ESG markers for clipping onto tag rails
- Individual laser-quality printing according to specifications

**For custom printing:** Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

**General ordering data**

Type	ESG 8/13.5/43.3 SAI AU	Version
Order No.	<a href="#">1912130000</a>	ESG, Device markers x 13.5 mm, PA 66, Colour: Transparent,
GTIN (EAN)	4032248541164	pluggable
Qty.	5 pc(s).	

**Configuration interfaces****General ordering data**

Type	CBX200 USB
Order No.	<a href="#">8978580000</a>
GTIN (EAN)	4032248813759
Qty.	1 pc(s).



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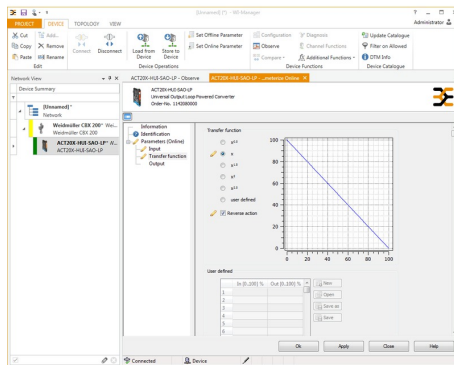
Type	ESG 6.6/11 BHZ 5.00/02	Version
Order No.	<a href="#">1082490000</a>	ESG, Device markers x 11 mm, PA 66, Colour: white, pluggable
GTIN (EAN)	4032248845330	
Qty.	200 pc(s).	

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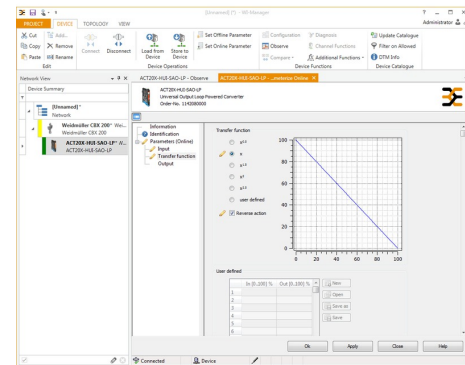
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## Drawings

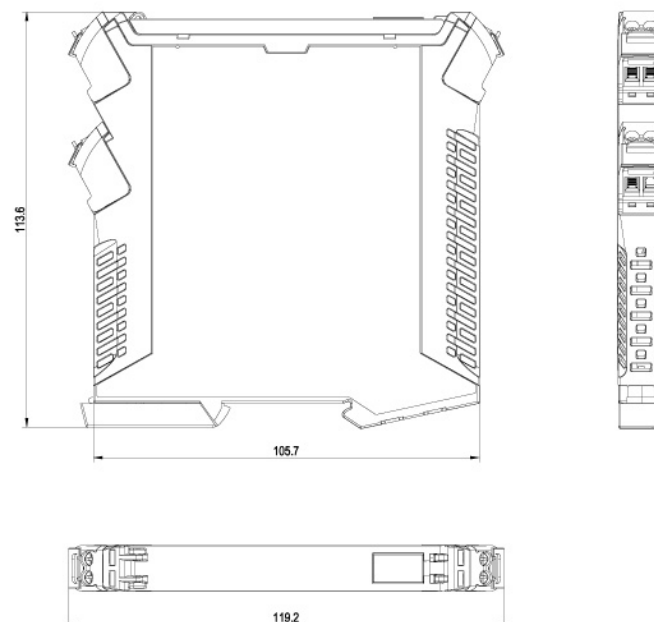


screenshot of transfer function configuration with FDT2 / DTM software

**Dimensioned drawing**



screenshot of transfer function configuration with FDT2 / DTM software



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Drawings

