

ACT20X-HTI-SAO-S

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

www.weidmueller.com

Product image, Similar to illustration



The ACT20X-HTI-SAO / 2HTI-2SAO temperature transducers record temperatures from PT100 sensors and thermocouples from Ex zone 0. Current loops from 0(4) to 20 mA can also be connected on the input side.

On the output side, there are active and passive current loops available for the safe zone.

Integrated alarm contacts issue an alert in the event of a malfunction; this makes troubleshooting easier and increases system availability.

The rail-mounted current output isolators are optionally available in one- or two-channel versions.

With 11 mm width per channel, the devices need little space in the electrical cabinet.

General ordering data

Version	EX signal isolating converter, Ex-input: I, 9, Safe-output: 4-20mA, 2-channel, Input : Temperature, 0-20 mA, EX, Output : 0(4)-20 mA, Safe, 4-20 mA
Order No.	8965470000
Type	ACT20X-HTI-SAO-S
GTIN (EAN)	4032248785087
Qty.	1 items

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Technical data

Approvals

Approvals	CE; CULUS; DETNORVER; FMEX; FUSAFETY; IECEXKEM; KEMAATEX
Approvals	DNVGL;
Approvals	



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

Dimensions and weights

Depth	113.6 mm	Depth (inches)	4.4724 inch
Height	119.2 mm	Height (inches)	4.6929 inch
Width	22.5 mm	Width (inches)	0.8858 inch
Net weight	178 g		

Temperatures

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

Probability of failure

SIL PAPER	SIL certificate - PDF/ Cert_Weidmueller_070902_P0002_C003_V2R1.pdf (application/pdf)	SIL in compliance with IEC 61508	2
MTBF	111 a		

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		

Assembling

Type of mounting	DIN rail, Snap mounting support rail	Mounting rail	TS 35
Mounting position	horizontal or vertical		

Input EX

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	Type	intrinsically safe circuit, RTD, TC, DC (mA)
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	L, U in compliance with DIN43710		
Line resistance in measuring circuit	≤ 50 Ω	Temperature input range	Configurable, PT100: -200...+850 °C, PT200: -200...+850 °C, PT1000: -200...+850 °C, NI100: -60°C...+250 °C, Ni120: -80 °C...+320 °C, NI1000: -60°C...+250 °C, B: +100... +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)
Input current	0...20 mA, 4...20mA	Input resistance, current	20 Ω + PTC 50 Ω

Output

Number of outputs	1	Load impedance current	≤ 600 Ω
Influence of load resistance	≤ 0.01% of span / 100 Ω	Type	active (as current source) or passive (as current sink)
Output current	0...23 mA, configurable: 0...20 / 4...20 / 20...0 / 20...4 mA, configurable downscale (3.5 mA) / upscale (23 mA) @ error	Output signal limit	3.8...20.5 mA / 0...20.5 mA (dependent on range)

Output (Status)

Type	Status relay, 1 NC (voltage-free)	Alarm function	Device error, No supply voltage
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

Type of connection	Screw connection	Humidity	0...95 % (no condensation)
Protection degree	IP20	Supply voltage	19.2...31.2 V DC
Step response time	≤ 400 ms (with current), ≤ 1 s (with temperature)	Power consumption	≤ 0.8 W
Configuration	With FDT/DTM software, Requires configuration adapter 8978580000 CBX200 USB	Operating altitude	≤ 2000 m

Insulation coordination

EMC standards	EN 61326-1	Standards	EN 61010-1
Insulation voltage	2.6 kV (input / output)	Rated voltage	300 V

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Technical data

Data for Ex applications (ATEX)

Installation location	Device installed in safe area, zone 2
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Safety-related basic specifications

Description of the "safe state"	analogue Output ≤ 3.6 mA or output ≥ 21 mA	Tproof	3 a
Diagnostic test interval	30 s	Total failure rate for safe detected failures (ASD)	0 FIT
Device type	B	Hardware fault tolerance (HFT)	0
Safety category	SIL 2	Safe Failure Fraction (SFF)	90 %
Mean Time To Repair (MTTR)	24 h	Total failure rate for safe undetected failures (ASU)	234 FIT
Total failure rate for dangerous detected failures (ADD)	367 FIT	Total failure rate for dangerous undetected failures (ADU)	61 FIT
Probability of outage PFH	6.1×10^{-8} h ⁻¹	Demand mode	High
Demand rate	3000 s	Demand response time	Signal input: <0.5 s (opto output), Temperature input: <1.1 s (opto output)

Safety-related specifications Low demand mode

Average Probability of Failure on Demand (PFDavg)	3.96×10^{-4} (Tproof = 1 year), 6.5×10^{-4} (Tproof = 2 years), 1.41×10^{-4} (Tproof = 5 years)
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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.	0.25 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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Part description

Product description	<p>The devices of the ACT20X-HTI-SAO-S family transmit analog signals galvanic isolated from hazardous areas to the safe area. For this purpose the input circuits are designed intrinsically safe.</p> <p>Features</p> <ul style="list-style-type: none"> • Configuration and diagnosis via FDT/DTM Software "WI-Manager". • The device can be mounted in the safe area and in zone 2 / division 2 and receive signals from zone 0, 1, 2, 20, 21 and 22, as well as Class I/II/III, division 1, group A-G. • The passive signal inputs for RTD, TC and mA are made for one or two channels and completely electrically isolated. • The two-channel version is suitable to use as a signal splitter. • As cold junction compensation for the TC signal input, either the internal cold junction compensation or for even higher accuracy an external cold junction compensation terminal is used. • Extended self diagnostic: Monitoring of error events and cable breakage via the individual status relay. • Front LEDs indicates operation status and malfunction. • 3-way galvanic isolation between input, output and power supply.
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Classifications

ETIM 6.0	EC002919	ETIM 7.0	EC002919
ETIM 8.0	EC002919	ETIM 9.0	EC002919
ETIM 10.0	EC002919	ECLASS 9.0	27-21-01-29
ECLASS 9.1	27-21-01-29	ECLASS 10.0	27-21-01-29
ECLASS 11.0	27-21-01-29	ECLASS 12.0	27-21-01-29
ECLASS 13.0	27-21-01-29	ECLASS 14.0	27-21-01-29
ECLASS 15.0	27-21-01-29		

Tender specification sheets

Long specification	Short specification	Ex- temperature transducer for RTD-/ TC temperature signals and DC current signals 1-channel temperature transducer in 22.5 mm width with external power supply, for capturing and isolating RTD- / TC- sensor and DC current signals (0(4)...20 mA) from Ex zones 0,1,2. The output can be operated in the safe zone either as an active signal (0(4)...20 mA) or as a passive 4...20 mA current loop. Status and error messages are available via a relay contact (NO). The component can be configured using standard FDT/DTM software.
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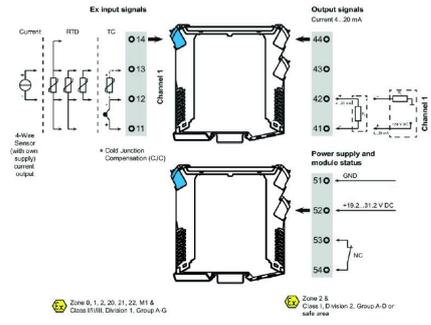
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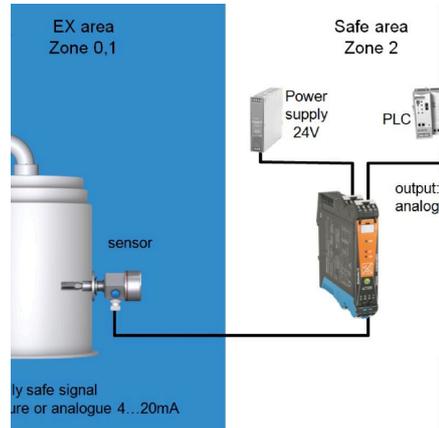
Drawings

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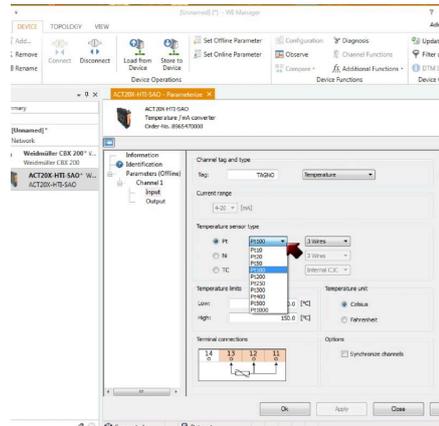
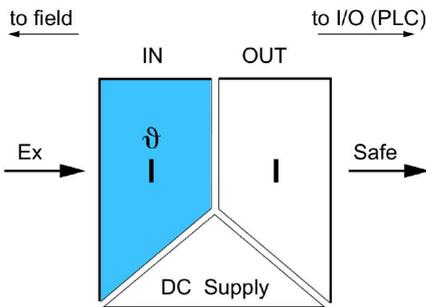
Connection diagram

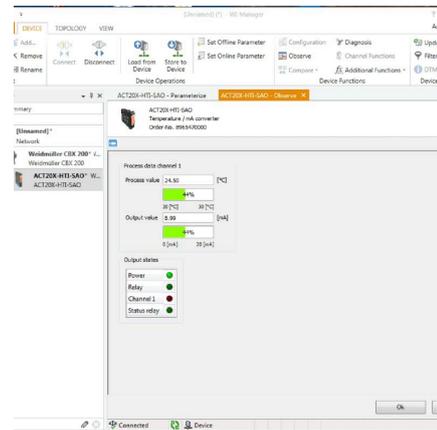
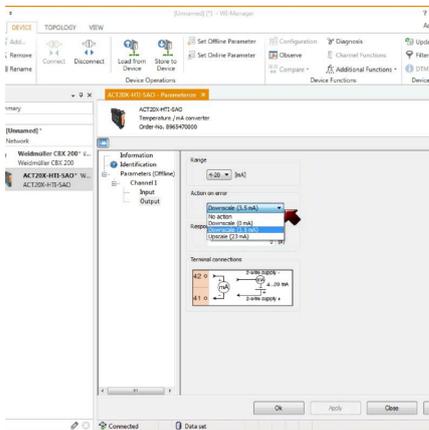


Application



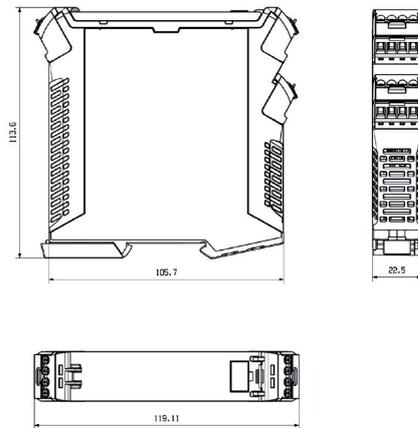
Block diagram





screenshot of output configuration with FDT2 / DTM software

Dimensioned drawing



Removable terminals with coding

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Accessories

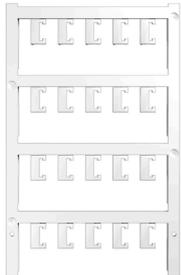
Configuration interfaces



General ordering data

Type	CBX200 USB	Version	
Order No.	8978580000		
GTIN (EAN)	4032248813759		
Qty.	1 ST		

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 6.6/20 BHZ 5.00/04	Version	
Order No.	1082540000		ESG, Device markers x 20 mm, PA 66, Colour: white, pluggable
GTIN (EAN)	4032248845439		
Qty.	200 ST		
Type	ESG 8/13.5/43.3 SAI AU	Version	
Order No.	1912130000		ESG, Device markers x 13.5 mm, PA 66, Colour: Transparent, pluggable
GTIN (EAN)	4032248541164		
Qty.	5 ST		

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Cold-junction compensation terminals



General ordering data

Type	ACT20X-CJC-HTI-S PRT 11	Version	
Order No.	1160640000	(CJC) cold-junction compensation terminal for ACT20X thermal	
GTIN (EAN)	4032248948345	module, built-in PT100 sensor, Labelling for channel 1 (11,12,13,14)	
Qty.	1 ST		