

## ACT20X-2HTI-2SAO-S

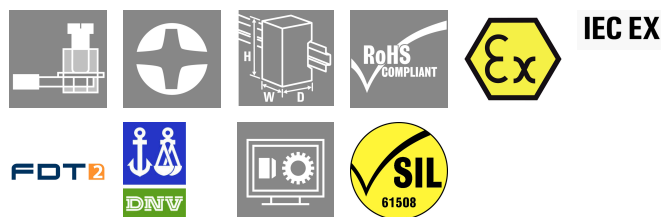
**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



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, 4-20 mA, EX, Output : 4-20 mA, Safe
Order No.	<a href="#">8965480000</a>
Type	ACT20X-2HTI-2SAO-S
GTIN (EAN)	4032248785094
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	<a href="#">UL Website</a>
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	180 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	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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## Technical data

	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	2	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)	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)

ATEX - gas labelling	II (1) G [Ex ia Ga] IIC/IIB/IIA	IECEx - dust labelling	[Ex ia Da] IIIC
ATEX - dust labelling	II (1) D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I	IECEx - gas labelling	Ex ec nC IIC T4 Gc, [Ex ia Ga] IIC/IIB/IIA
Installation location	Device installed in safe area, zone 2		

### 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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### 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"> <li>• Configuration and diagnosis via FDT/DTM Software "WI-Manager".</li> <li>• 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.</li> <li>• The passive signal inputs for RTD, TC and mA are made for one or two channels and completely electrically isolated.</li> <li>• The two-channel version is suitable to use as a signal splitter.</li> <li>• 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.</li> <li>• Extended self diagnostic: Monitoring of error events and cable breakage via the individual status relay.</li> <li>• Front LEDs indicates operation status and malfunction.</li> <li>• 3-way galvanic isolation between input, output and power supply.</li> </ul>
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### Classifications

ETIM 8.0	EC002919	ETIM 9.0	EC002919
ETIM 10.0	EC002919	ECLASS 14.0	27-21-01-29
ECLASS 15.0	27-21-01-29		

### Tender specification sheets

Long specification	<p>Ex temperature transducer for RTD-/ TC temperature signals and DC current signals, 2-channel 2-channel temperature transducer in 22.5 mm width with external power supply, for capturing and isolating RTD- / TC sensors and DC current signals 0(4)...20 mA from the Ex Zones 0, 1, 2. The outputs can be operated</p>	Short specification	<p>Ex- temperature transducer for RTD-/ TC temperature signals and DC current signals, 2-channel 2-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 outputs can be operated in the safe zone either as an</p>
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as either an active  
0(4)...20 mA signal 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.  
Add-on housing for TS35  
rail mounting  
Dimensions: L/W/H  
119.2/ 22.5/ 113.6  
Screw connection/  
Nominal cross-section 2.5  
mm<sup>2</sup>  
Protection degree: IP 20  
Input / channel RTD:  
PT100, PT500, PT1000,  
Ni100, Ni120, Ni1000  
TC-  
Type: B, E, J, K, N, R, S, T,  
U, L

0(4)...20  
mA  
Output / channel  
active

0(4)...20 mA / 20..4 mA  
configurable  
passive 4...20 mA current  
loop 3.5...26 V DC  
Load / channel <  
600 Ohm  
Accuracy < 0,1  
% v.E.  
Temperature coefficient <  
0,01% v.E./°C (Tu)  
Alarm output relay 1 NO  
contact

250  
V AC / 30 V DC @ 2A safe  
zone

32 V  
AC @ 0.5 A/ 32 VDC @ 1  
A Zone 2  
Auxiliary  
power

19...31.2 V DC  
Power loss approx. 3 W  
Ambient  
temperature range  
-20 °C...+60 °C Secure  
isolation EN  
61010, 3-way isolation  
up to 2.6 kV AC/DC of all  
circuits against each other  
Working  
voltage 300  
V AC/DC at overvoltage  
category II and pollution  
degree 2  
Approvals cULus, ATEX  
IECEX, FM  
ATEX marking II 3 G ExnA  
nC IIC T4

active signal 0(4)...20 mA)  
or  
as a passive 4...20 mA  
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## Technical data

ATEX characteristic data  
U0 = 8.7 V DC  
= 18.4 mA DC IO  
= 40 mW PO  
Type  
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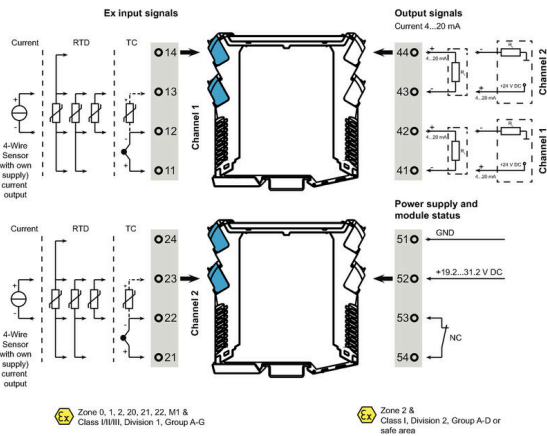
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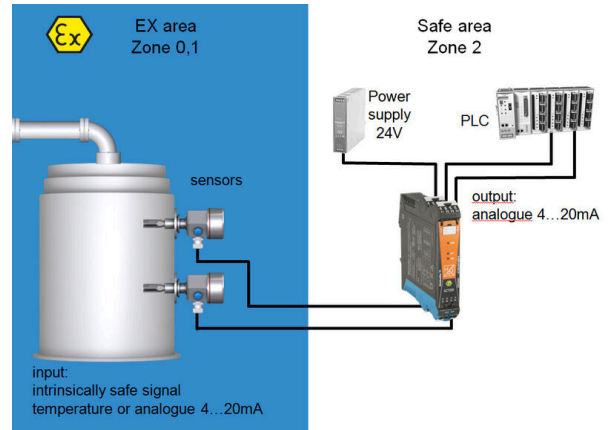
**Drawings**

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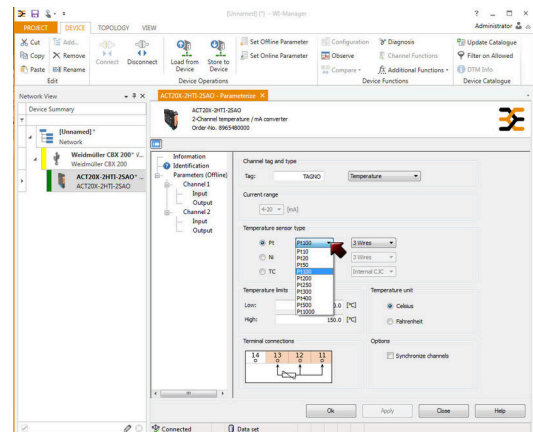
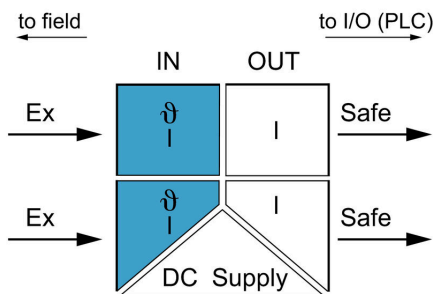
**Connection diagram**



**Application**



**Block diagram**

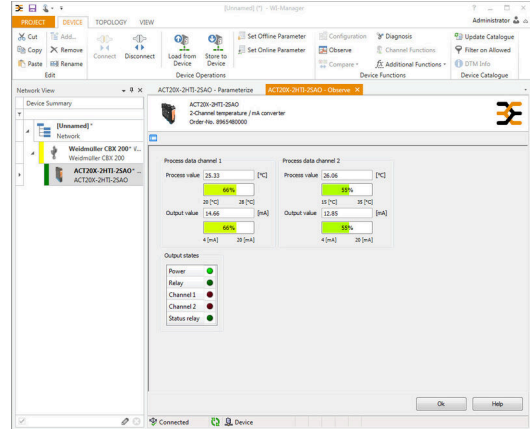
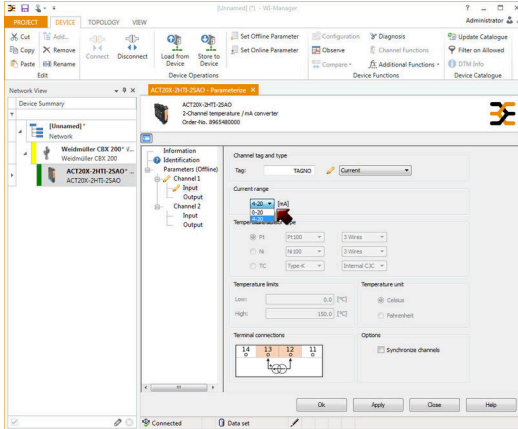


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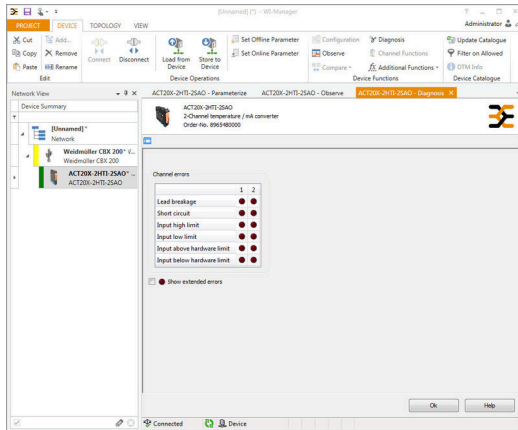
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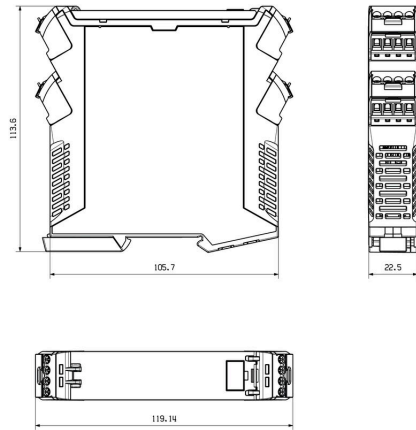


screenshot of current configuration with FDT2 / DTM software

**Dimensioned drawing**



screenshot of "observe" with FDT2 / DTM software





Removable terminals with coding

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**Accessories**

**Configuration interfaces**



**General ordering data**

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

**Cold-junction compensation terminals**



**General ordering data**

Type	ACT20X-CJC-HTI-S PRT 1 1	Version	
Order No.	<a href="#">1160640000</a>		(CJC) cold-junction compensation terminal for ACT20X thermal module, built-in PT100 sensor, Labelling for channel 1 (11,12,13,14)
GTIN (EAN)	4032248948345		
Qty.	1 ST		
Type	ACT20X-CJC-HTI-S PRT 2 1	Version	
Order No.	<a href="#">1160650000</a>		(CJC) cold-junction compensation terminal for ACT20X thermal module, built-in PT100 sensor, Labelling for channel 2 (21, 22, 23, 24)
GTIN (EAN)	4032248948352		
Qty.	1 ST		

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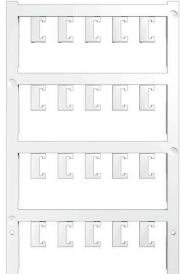
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## Accessories

### 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 6.6/20 BHZ 5.00/04	Version	
Order No.	<a href="#">1082540000</a>	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.	<a href="#">1912130000</a>	ESG, Device markers x 13.5 mm, PA 66, Colour: Transparent, pluggable	
GTIN (EAN)	4032248541164		
Qty.	5 ST		