ACT20X-2HTI-2SAO-P

Product image, Similar to illustration

The ACT20X-HTI-SAO / 2HTI-2SAO temperature trans-
ducers 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,ϑ, Safe-output: 4-20mA, 2-channel, Input : Temperature, 4-20 mA, EX, Output : 4-20 mA, Safe
Order No.	2456190000
Type	ACT20X-2HTI-2SAO-P
GTIN (EAN)	4050118471588
Qty.	1 items

Creation date 08.03.2026 11:42:47 MEZ

Technical data

Approvals

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

Dimensions and weights

Depth	114.6 mm	Depth (inches)	4.5118 inch
Height	127.3 mm	Height (inches)	5.0118 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	DIN 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 L, U in compliance with DIN43710	Type	intrinsically safe circuit, RTD, TC, DC (mA)
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:

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			-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	PUSH IN	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

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		

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Connection data

Type of connection	PUSH IN	Wire connection cross section AWG, min.	AWG 26
Wire connection cross section AWG, max.	AWG 14	Wire cross-section, solid, min.	0.2 mm²
Wire cross-section, solid, max.	2.5 mm²	Wire connection cross section, finely stranded, min.	0.2 mm²
Wire connection cross section, finely stranded, max.	2.5 mm²	Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min.	0.2 mm²
Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max.	2.5 mm²		

Guarantee

Time interval	3 years

Part description

Product description	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. Features

- 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.

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		

ACT20X-2HTI-2SAO-P

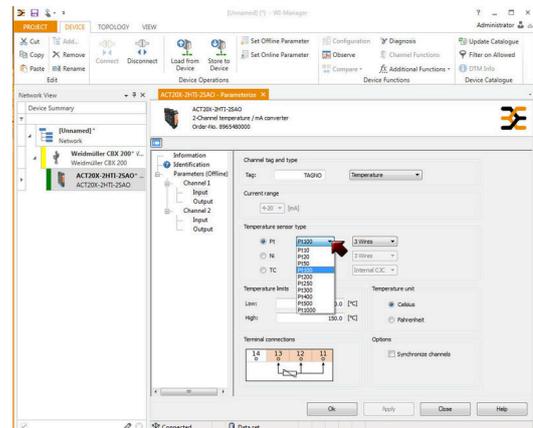# Drawings

Connection diagram
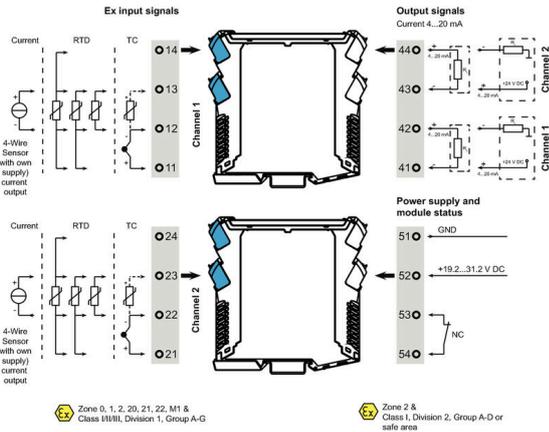
Application

Block diagram

Creation date 08.03.2026 11:42:47 MEZ

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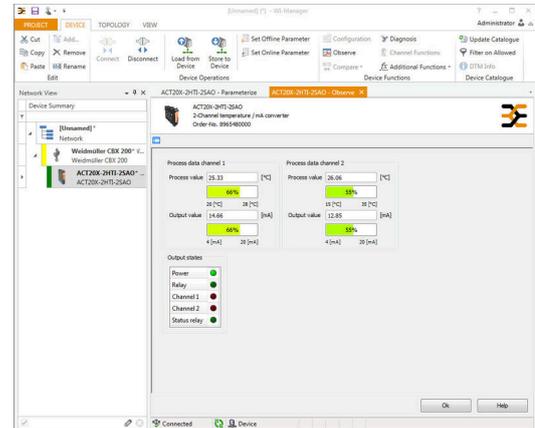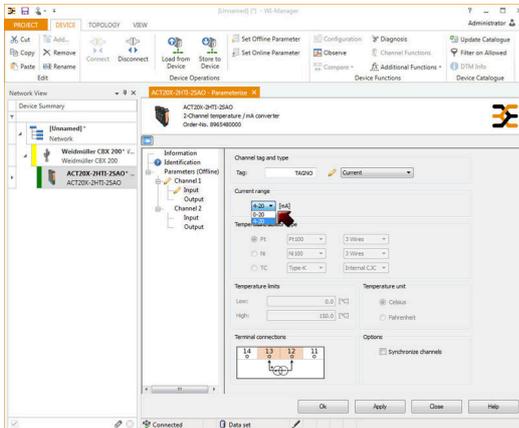# Drawings
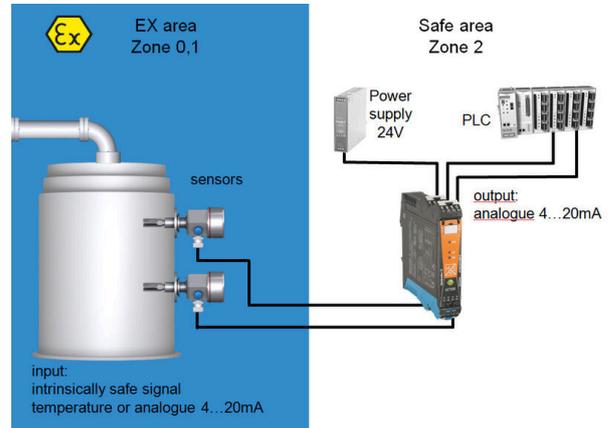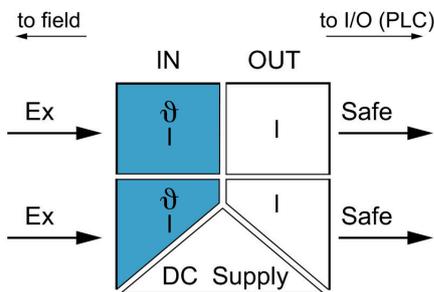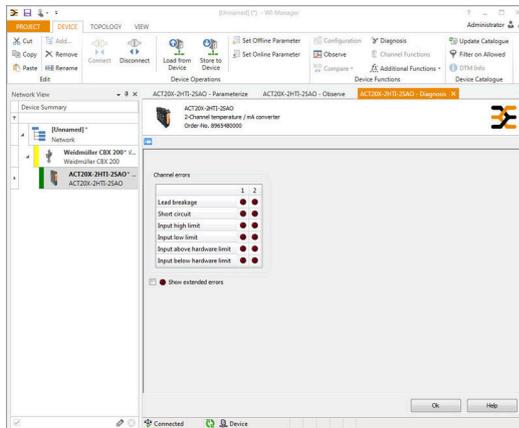

screenshot of current configuration
with FDT2 / DTM software

screenshot of "observe" with FDT2 / DTM software

Removable terminals with coding

ACT20X-2HTI-2SAO-P

Accessories

Configuration interfaces

General ordering data

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

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	
Type	ACT20X-CJC-HTI-S PRT 21	Version
Order No.	1160650000	(CJC) cold-junction compensation terminal for ACT20X thermal
GTIN (EAN)	4032248948352	module, built-in PT100 sensor, Labelling for channel 2 (21, 22, 23,
Qty.	1 ST	24)

Weidmüller

Accessories

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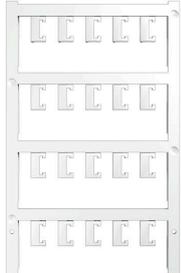
ESG is the tried-and-tested marker in MultiCard format for use on many well-known electrical devices. The result is high-quality device marking with a high-contrast appearance.

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.	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,
GTIN (EAN)	4032248541164	pluggable
Qty.	5 ST	