

ACT20X-2HTI-2SAO-P

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, 4-20 mA, EX, Output : 4-20 mA, Safe |
| Order No. | 2456190000 |
| Type | ACT20X-2HTI-2SAO-P |
| GTIN (EAN) | 4050118471588 |
| Qty. | 1 items |

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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, 7cI |
| 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 mm ² |
| Wire cross-section, solid, max. | 2.5 mm ² | Wire connection cross section, finely stranded, min. | 0.2 mm ² |
| Wire connection cross section, finely stranded, max. | 2.5 mm ² | Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min. | 0.2 mm ² |
| Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max. | 2.5 mm ² | | |

Guarantee

| | |
|---------------|---------|
| Time interval | 3 years |
|---------------|---------|

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. |
|---------------------|--|

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 | | |

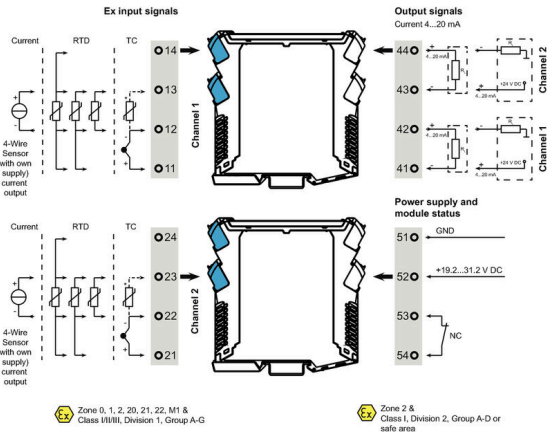
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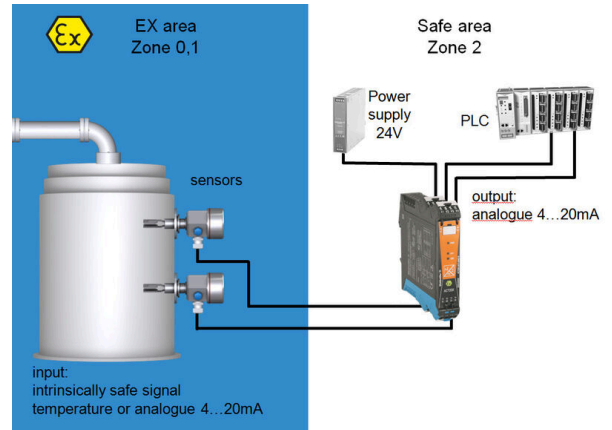
Drawings

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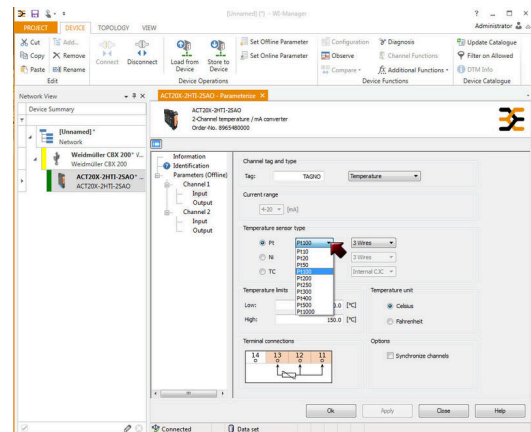
Connection diagram



Application



Block diagram

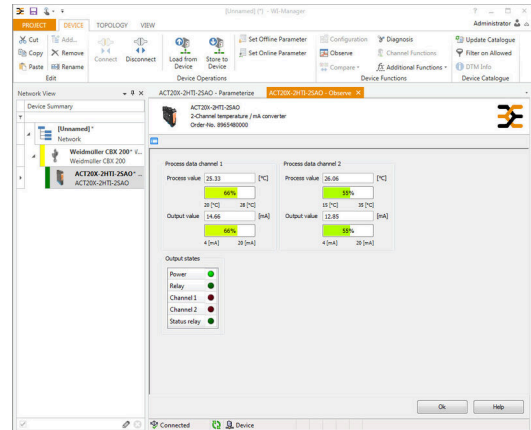
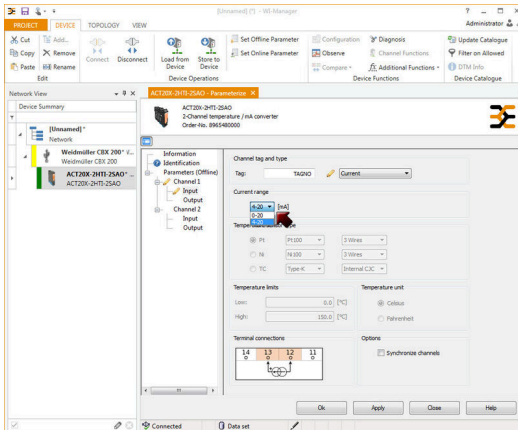


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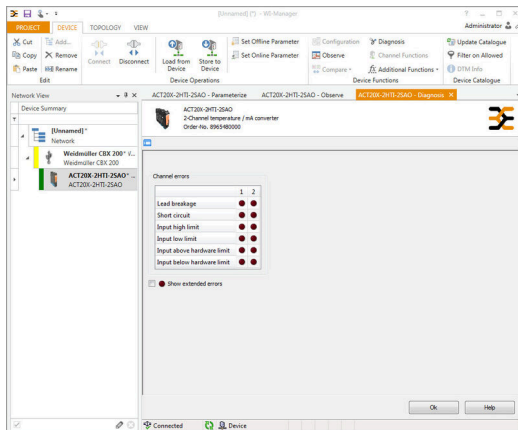
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Drawings



screenshot of current configuration with FDT2 / DTM software



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. | 8978580000 | |
| GTIN (EAN) | 4032248813759 | |
| Qty. | 1 ST | |

Cold-junction compensation terminals



General ordering data

| | | |
|------------|----------------------------|--|
| Type | ACT20X-CJC-HTI-S PRT 1 1 | Version |
| Order No. | 1160640000 | (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. | 1160650000 | (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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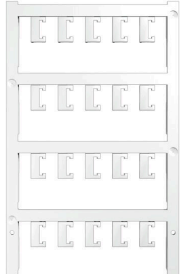
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Accessories

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. | 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 | | |