ACT20X-HTI-SAO-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
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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, 1-channel
Order No.	8965470000
Type	ACT20X-HTI-SAO-S
GTIN (EAN)	4032248785087
Qty.	1 pièce(s)

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Caractéristiques techniques

Dimensions and weights

Depth	113,6 mm	Depth (inches)	4,472 inch
Height	119,2 mm	Height (inches)	4,693 inch
Width	22,5 mm	Width (inches)	0,886 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	SIL in compliance with IEC 61508	2
MTBF	111 a		

Assembling

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

Input EX

Input current	0...20 mA, 4...20mA	Input resistance, current	20 Ω + PTC 50 Ω
Line resistance in measuring circuit	≤ 50 Ω	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
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)	Type	intrinsically safe circuit, RTD, TC, DC (mA)

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Output

Influence of load resistance	≤ 0.01% of span / 100 Ω	Load impedance current	≤ 600 Ω
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)
Type	active (as current source) or passive (as current sink)		

Alarm output

Alarm function	Line interruption at the input, Short circuit at input, No supply voltage, Device error	Continuous current	≤ 0.5 A AC / 0.3 A DC (safe zone), ≤ 0,5 A AC / 1 A DC (zone 2)
Nominal switching voltage	≤ 125 V AC / 110 V DC (safe area) ≤ 32 V AC / 32 V DC (zone 2)	Power rating	≤ 62.5 VA / 32 W (safe area) ≤ 16 VA / 32 W (Zone 2)
Type	Status relay, 1 NC (voltage-free)		

General specifications

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

Insulation coordination

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

Data for Ex applications (ATEX)

Current I_0	18.4 mA	Installation location	Device installed in safe area, zone 2
Marking	II (1) G [Ex ia Ga] IIC/IIB/IIA, II (1) D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I	Power P_0	40 mW
Voltage U_0	8.7 V DC		

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Safety-related basic specifications

Description of the "safe state"	analogue Output ≤ 3.6 mA or output ≥ 21 mA	Device type	B
Diagnostic test interval	30 s	T_{proof}	3 a
Total failure rate for safe detected failures (λ_{SD})	0 FIT	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 (λ_{SU})	234 FIT
Total failure rate for dangerous detected failures (λ_{DD})	367 FIT	Total failure rate for dangerous undetected failures (λ_{DU})	61 FIT
Probability of outage PFH	$6.1 \times 10^{-8}\ h^{-1}$	Demand mode	High
Demand rate	3 000 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 (PFD_{avg})	3.96×10^{-4} (T_{proof} = 1 year), 6.5×10^{-4} (T_{proof} = 2 years), 1.41×10^{-4} (T_{proof} = 5 years)

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 mm²
Clamping range, min.	0,25 mm²	Clamping range, max.	2,5 mm²
Wire connection cross section AWG, min.	AWG 26	Wire connection cross section AWG, max.	AWG 12

Guarantee

Time interval	3 years

Classifications

ETIM 6.0	EC002919	ETIM 7.0	EC002919
ETIM 8.0	EC002919	ETIM 9.0	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		

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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.

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

Approvals

Approvals

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

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Downloads

Approval/Certificate/Document of Conformity	Certification SIL Certification DNV GL Certification ATEX Certification IECEx Certification UL UL certification for canada Declaration of Conformity
Engineering Data	CAD data – STEP
Software	WI-Manager, DTM-Library for online installation Release notes for Weidmueller FDT-DTM Software version
User Documentation	Instruction sheet Safety Manual for SIL application Handbuch ACT20X- Serie, deutsch Manual ACT20X- series, english 20210120 Security Advisory - WI-Manager affected by MundM Software fdtCONTAINER vulnerability Measuring range table
Catalogues	Catalogues in PDF-format
Brochures	

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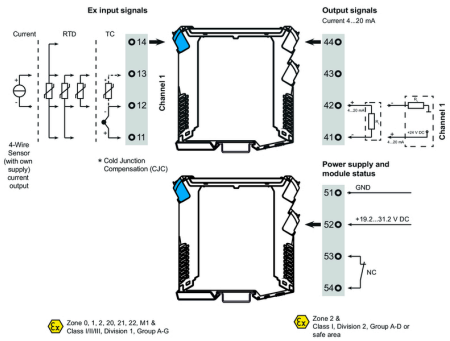
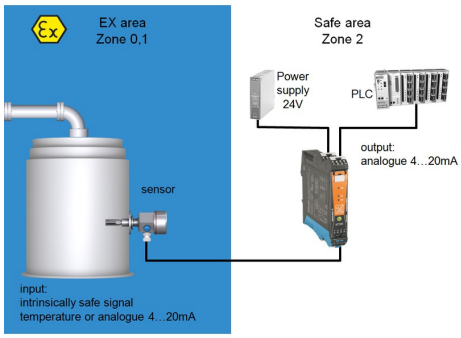
Dessins

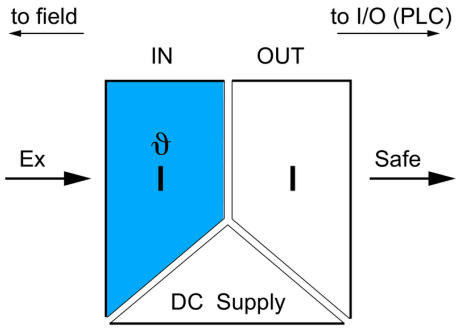
Connection diagram

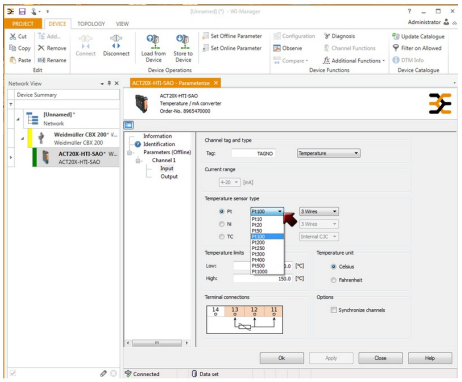


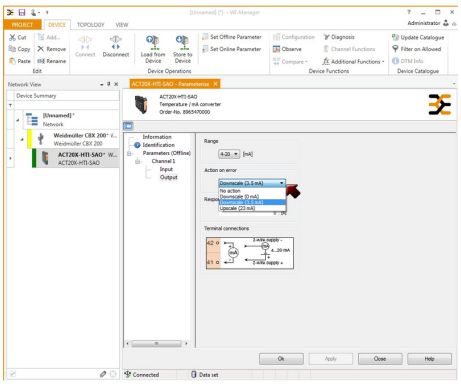
Application

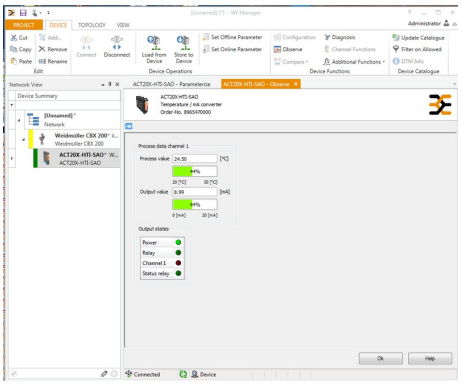


Block diagram









screenshot of output configuration with FDT2 / DTM software

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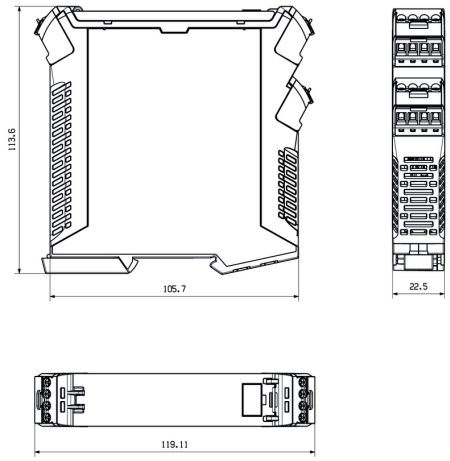
Dessins

Dimensioned drawing



Removable terminals with coding