

ACT20X-HTI-SAO-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, 0, Safe-output: 4-20mA, 1-channel
Order No.	2456180000
Type	ACT20X-HTI-SAO-P
GTIN (EAN)	4050118471595
Qty.	1 pc(s).

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Technical data

Dimensions and weights

Depth	114.6 mm	Depth (inches)	4.512 inch
Height	127.3 mm	Height (inches)	5.012 inch
Net weight	178 g	Width	22.5 mm
Width (inches)	0.886 inch		

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
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Input EX

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

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...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)		

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Technical data

General specifications

Configuration	With FDT/DTM software	Humidity	0...95 % (no condensation)
Power consumption	≤ 0.8 W	Protection degree	IP20
Step response time	≤ 400 ms (with current), ≤ 1 s (with temperature)	Type of connection	PUSH IN
Voltage supply	19.2...31.2 V DC		

Insulation coordination

EMC standards	DIN EN 61326, NE 21	Insulation voltage	2.6 kV (input / output)
Rated voltage	300 V		

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		

Safety-related basic specifications

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)	Description of the "safe state"	analogue Output ≤ 3.6 mA or output ≥ 21 mA
Device type	B	Diagnostic test interval	30 s
Hardware fault tolerance (HFT)	0	Mean Time To Repair (MTTR)	24 h
Probability of outage PFH	6.1 x 10 ⁻⁸ h ⁻¹	Safe Failure Fraction (SFF)	90 %
Safety category	SIL 2	T _{proof}	3 Years
Total failure rate for dangerous detected failures (λ _{DD})	367 FIT	Total failure rate for dangerous undetected failures (λ _{DU})	61 FIT
Total failure rate for safe detected failures (λ _{SD})	0 FIT	Total failure rate for safe undetected failures (λ _{SU})	234 FIT

Safety-related specifications Low demand mode

Average Probability of Failure on Demand (PFD _{avg})	3.96 x 10 ⁻⁴ (T _{proof} = 1 year), 6.5 x 10 ⁻⁴ (T _{proof} = 2 years), 1.41 x 10 ⁻⁴ (T _{proof} = 5 years)
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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		

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Technical data**Classifications**

ETIM 6.0	EC002919	ETIM 7.0	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

Approvals

Approvals



ROHS	Conform
UL File Number Search	E337701

Downloads

Approval/Certificate/Document of Conformity	Certification SIL Certification DNV GL Certification ATEX Certification IECEx Certification UL Declaration of Conformity
Engineering Data	STEP
Software	WI-Manager, DTM-Library for online installation V.1.2.2
User Documentation	Safety Manual for SIL application Instruction sheet Handbuch ACT20X- Serie, deutsch Manual ACT20X- series, english
Brochure/Catalogue	Catalogues in PDF-format

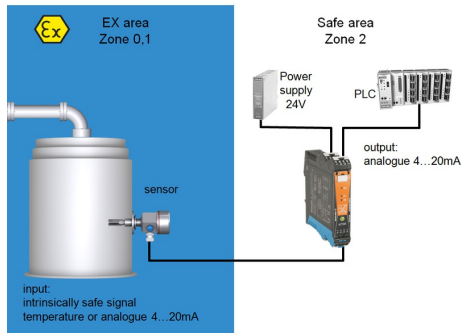
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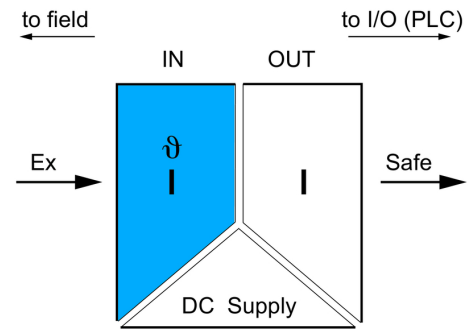
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Drawings

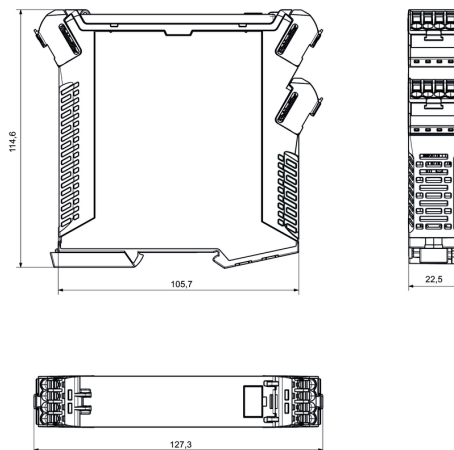
Application



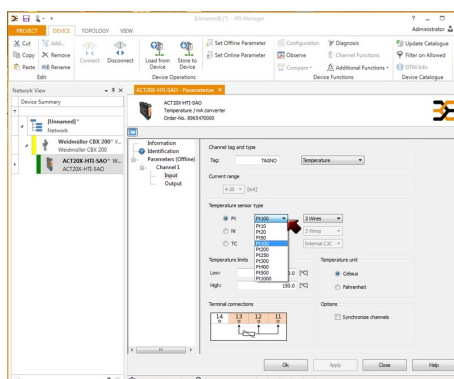
Block diagram



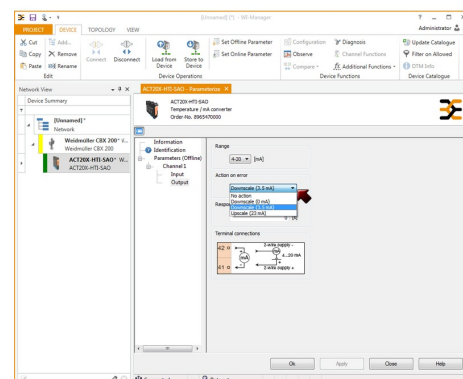
Dimensioned drawing



Similar to illustration



screenshot of input configuration
with FDT2 / DTM software



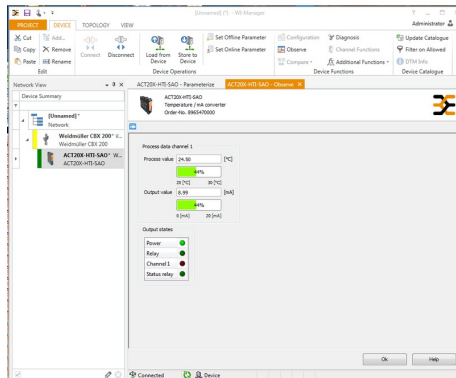
screenshot of output configuration
with FDT2 / DTM software

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Drawings



screenshot of "observe" with FDT2 / DTM software

Connection diagram

