ACT20X
ACT20X-2HTI-2SAO-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
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Product image

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

Type	ACT20X-2HTI-2SAO-S
Order No.	8965480000
Version	EX signal isolating converter, Ex-input: I,ϑ, Safe-output: 4-20mA, 2-channel
GTIN (EAN)	4032248785094
Qty.	1 pc(s).

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Technical data

Dimensions and weights

Width	22.5 mm	Width (inches)	0.886 inch
Height	117.2 mm	Height (inches)	4.614 inch
Depth	113.6 mm	Depth (inches)	4.472 inch
Net weight	180 g		

Temperatures

Humidity	0...95 % (no condensation)	Operating temperature, max.	60 °C
Operating temperature, min.	-20 °C	Storage temperature, max.	85 °C
Storage temperature, min.	-20 °C	Operating temperature	-20 °C...60 °C
Storage temperature	-20 °C...85 °C		

Probability of failure

MTBF	111 Years	SIL in compliance with IEC 61508	2

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1

Rated data UL

UL certificate	E337701.pdf

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	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	Type	intrinsically safe circuit, RTD, TC, DC (mA)

Output

Type	active (as current source) or passive (as current sink)	Influence of load resistance	≤ 0.01% of span / 100 Ω
Output signal limit	3.8...20.5 mA / 0...20.5 mA (dependent on range)	Output current	0...23 mA, configurable: 0...20 / 4…20 / 20…0 / 20...4 mA, configurable downscale (3.5 mA) / upscale (23 mA) @ error
load impedance current	≤ 600 Ω		

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Alarm output

Alarm function	Line interruption at the input, Short circuit at input, No supply voltage, Device error	Type	Relay, 1 NC (voltage-free)
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

Configuration	With FDT/DTM software	Voltage supply	19.2...31.2 V DC
Type of connection	Screw connection	Power consumption	≤ 1.4 W
Step response time	≤ 400 ms (with current), ≤ 1 s (with temperature)	Protection degree	IP20
Humidity	0...95 % (no condensation)		

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)

Voltage U_0	8.7 V DC	Current I_0	18.4 mA
Power P_0	40 mW	Marking	II (1) G [Ex ia Ga] IIC/IIB/IIA, II (1) D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I

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
Safe Failure Fraction (SFF)	90 %	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 category	SIL 2	Probability of outage PFH	6.1×10^{-8} h^{-1}

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)

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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 23	Wire connection cross section AWG, max.	AWG 14

Ratings IECEx/ATEX/cUL

ATEX certificate	10ATEX0020X.pdf	IEC Ex certificate	IECEx certification
Certificate No. (ATEX)	KEMA10ATEX0020X	Certificate No. (IECEX)	IECEXKEM09.0092X

Classifications

ETIM 3.0	EC002479	ETIM 4.0	EC002479
ETIM 5.0	EC002479	ETIM 6.0	EC002919
UNSPSC	30-21-18-01	eClass 5.1	27-21-01-07
eClass 6.2	27-21-01-07	eClass 7.1	27-21-01-07
eClass 8.1	27-21-01-07	eClass 9.0	27-21-01-29
eClass 9.1	27-21-01-29		

Product information

Product information	Weidmüller provides an extended guarantee period of 36 months for this device.

Approvals

Approvals	
Approvals	DNVGL;
ROHS	Conform

Downloads

Approval/Certificate/Document of Conformity	SIL certificate Certification DNV GL Declaration of Conformity
Brochure/Catalogue	CAT 4.1 ELECTR 16/17 EN
Engineering Data	EPLAN, WSCAD
Engineering Data	STEP
Software	WI-Manager, DTM-Library for online installation V.1.2.0
User Documentation	Instruction sheet Manual MAN SAFETY ACT20X-(2)HTI-(2)SAO

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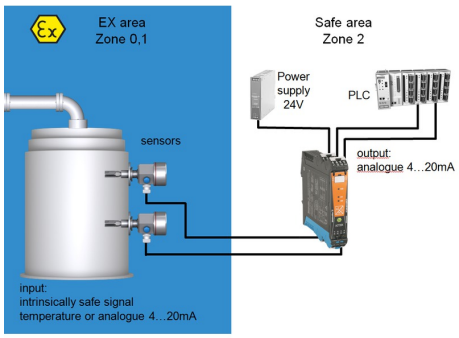
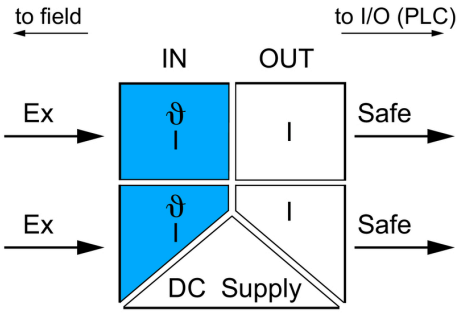
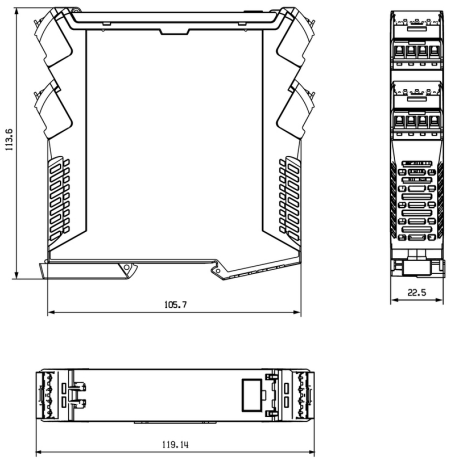
Drawings

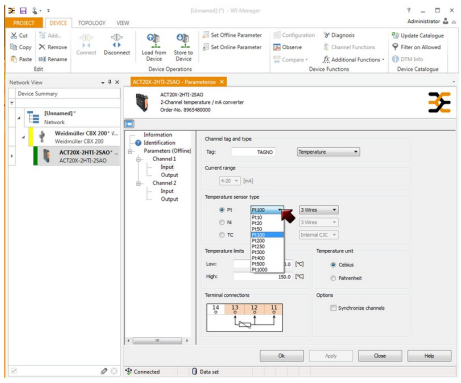




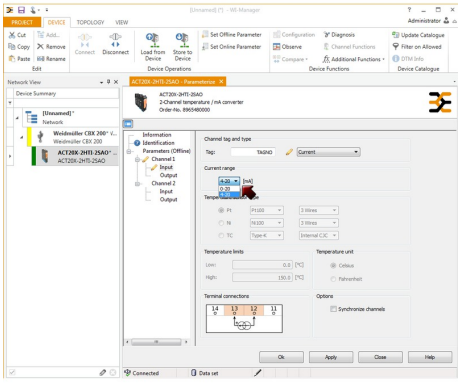
application schematic

Dimensioned drawing





screenshot of temperature configuration
with FDT2 / DTM software



screenshot of current configuration
with FDT2 / DTM software

Creation date May 28, 2019 12:37:38 AM CEST

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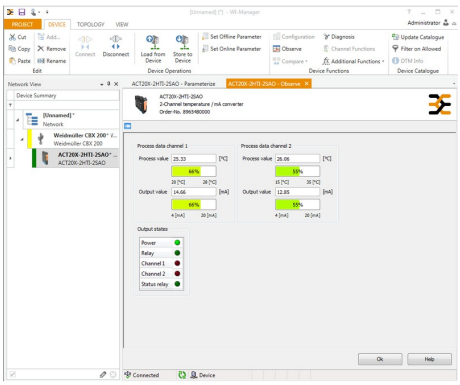
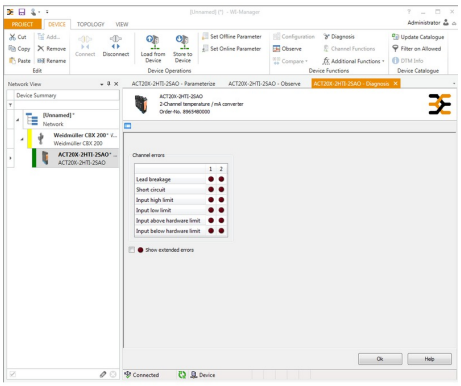
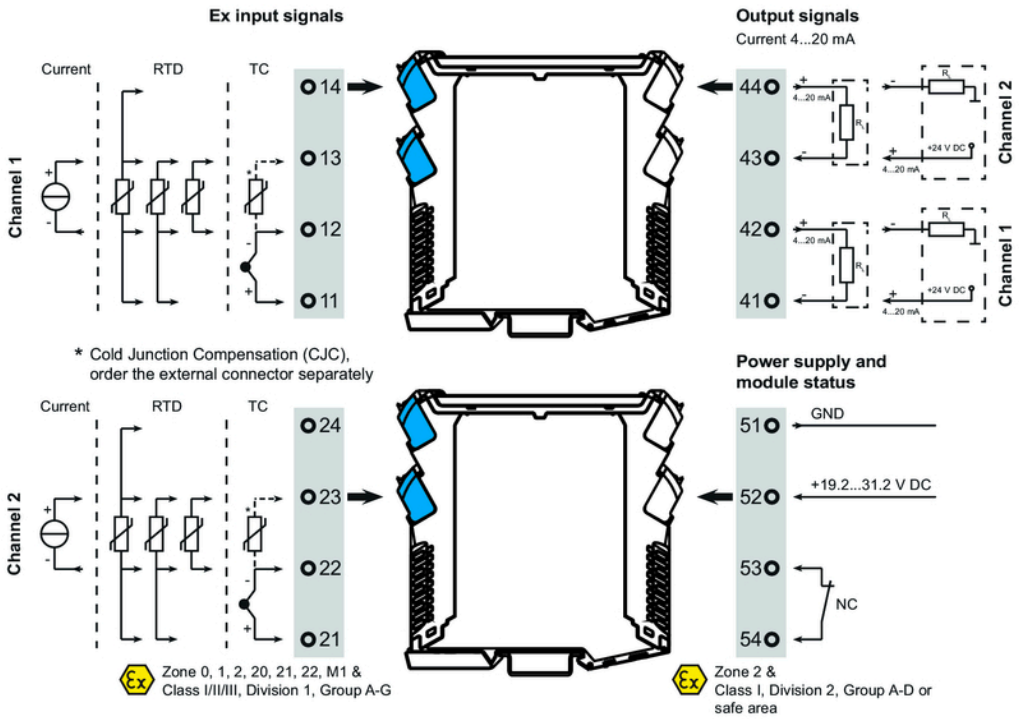


screenshot of "observe" with FDT2 / DTM software



screenshot of "diagnosis" with FDT2 / DTM software