

**ACT20X-2SAI-2HAO-P**

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany

www.weidmueller.com

**Product image, Similar to illustration**



The ACT20X-SAI-HAO/2SAI-2HAO current output isolators are suitable for controlling field devices in Ex areas, up to Zone 0.

The input/output-side HART protocol transparent signal connection is implemented using 4 to 20 mA current loops.

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, Safe-input: 4-20mA, Ex output: 4 - 20 mA, 2-channel
Order No.	<a href="#">2456170000</a>
Type	ACT20X-2SAI-2HAO-P
GTIN (EAN)	4050118471571
Qty.	1 Stück

Erstellungs-Datum May 25, 2023 2:29:35 PM CEST

Katalogstand 12.05.2023 / Technische Änderungen vorbehalten

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## Technische Daten

### Dimensions and weights

Depth	114.6 mm	Depth (inches)	4.512 inch
Height	127.3 mm	Height (inches)	5.012 inch
Width	22.5 mm	Width (inches)	0.886 inch
Net weight	212 g		

### Temperatures

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

### Probability of failure

SIL PAPER	SIL certificate	SIL in compliance with IEC 61508	2
MTBF	135 Years		

### Input

Input current	4...20mA	Input frequency	0.5...2.5 kHz @ 3.5...23 mA bi-directional HART <sup>®</sup> signal
Number of inputs	2	Voltage drop	< 2 V

### Output

2-wire supply	> 14.5 V @ 20 mA	Cut-off frequency (-3 dB)	0.5...2.5 kHz @ 3.5...23 mA bi-directional HART <sup>®</sup> signal
Influence of load resistance	≤ 0.01% of span / 100 Ω	Load impedance current	≤ 725 Ω
Output current	4...20 mA (max. 23 mA)	Output signal limit	< 28 mA
Residual ripple (current loop)	< 7.5 mV <sub>eff</sub>	Type	intrinsically safe circuit

### Alarm output

Alarm function	Signal limit exceeded, Line interruption at the 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)
Hysteresis	0.1 mA (switching threshold)	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)	Switching thresholds	0...29.9 mA (programmable)
Type	Status relay, 1 NC (voltage-free)		

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### General specifications

Accuracy	< 0.1% span	Configuration	With FDT/DTM software, Requires configuration adapter 8978580000 CBX200 USB
Humidity	0...95 % (no condensation)	Power consumption	≤ 1.8 W
Protection degree	IP20	Step response time	≤ 5 ms
Temperature coefficient	<0.01% of span/°C (TU)	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 $I_0$	93 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 $P_0$	< 650 mW
Voltage $U_0$	28 V DC		

### Safety-related basic specifications

Description of the "safe state"	analogue Output ≤ 3.6 mA or output ≥ 21 mA	Device type	A
$T_{proof}$	5 Years	Total failure rate for safe detected failures ( $\lambda_{SD}$ )	0 FIT
Hardware fault tolerance (HFT)	0	Safety category	SIL 2
Safe Failure Fraction (SFF)	85 %	Mean Time To Repair (MTTR)	24 h
Total failure rate for safe undetected failures ( $\lambda_{SU}$ )	164 FIT	Total failure rate for dangerous detected failures ( $\lambda_{DD}$ )	127 FIT
Total failure rate for dangerous undetected failures ( $\lambda_{DU}$ )	48 FIT	Probability of outage PFH	$4.8 \times 10^{-8} \text{ h}^{-1}$
Demand mode	High		

### Safety-related specifications Low demand mode

Average Probability of Failure on Demand ( $PFD_{avg}$ )	$2.29 \times 10^{-4}$ ( $T_{proof} = 1$ year), $4.37 \times 10^{-4}$ ( $T_{proof} =$ 2 years), $1.06 \times 10^{-4}$ ( $T_{proof}$ = 5 year)
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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 <sup>2</sup>
Wire cross-section, solid, max.	2.5 mm <sup>2</sup>	Wire connection cross section, finely stranded, min.	0.2 mm <sup>2</sup>
Wire connection cross section, finely stranded, max.	2.5 mm <sup>2</sup>	Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min.	0.2 mm <sup>2</sup>
Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max.	2.5 mm <sup>2</sup>		

### Guarantee

Time interval 3 years

### Classifications

ETIM 6.0	EC002653	ETIM 7.0	EC002653
ETIM 8.0	EC002653	ECLASS 9.0	27-21-01-20
ECLASS 9.1	27-21-01-20	ECLASS 10.0	27-21-01-20
ECLASS 11.0	27-21-01-20	ECLASS 12.0	27-21-01-20

### Environmental Product Compliance

REACH SVHC Lead 7439-92-1  
 SCIP 2f6dd957-421a-46db-a0c2-cf1609156924

### Approvals

Approvals



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

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## Technische Daten

### Downloads

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

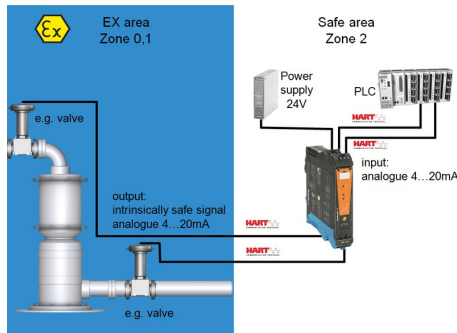
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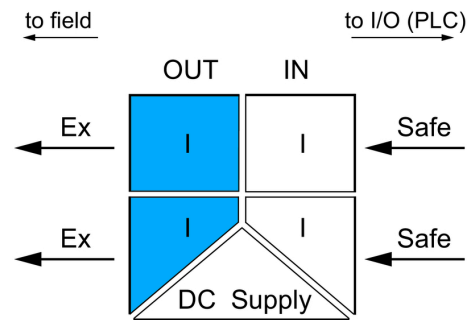
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**Zeichnungen**

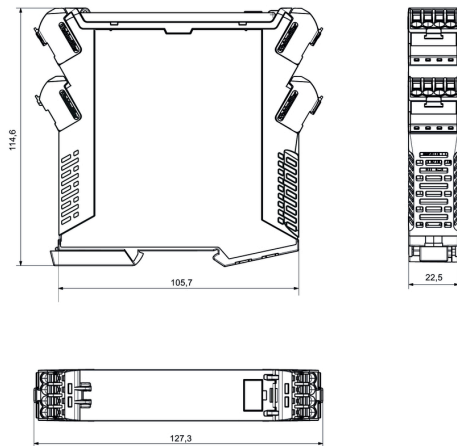
**Application**



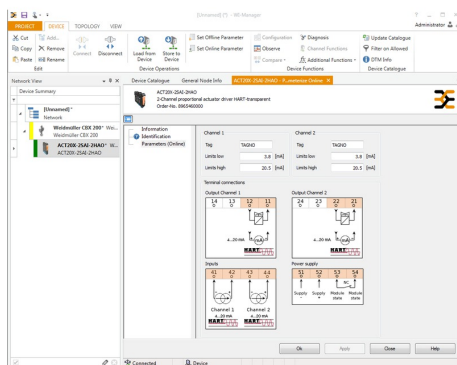
**Block diagram**



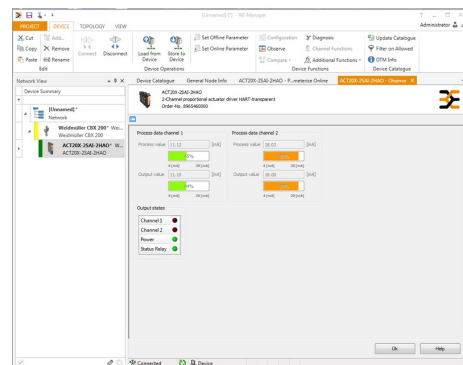
**Dimensioned drawing**



**Similar to illustration**



screenshot of configuration with FDT2 / DTM software



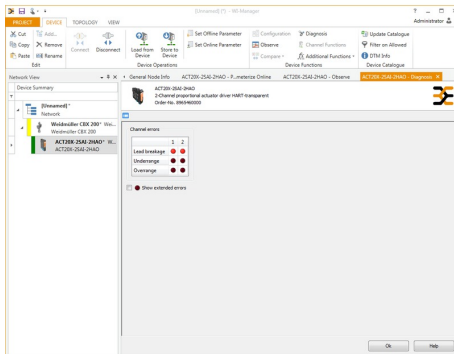
screenshot of "observe" with FDT2 / DTM software

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**Zeichnungen**



screenshot of "diagnosis" with FDT2 / DTM software

**Connection diagram**

