

**ACT20X-2SAI-2HAO-S****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://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="#">8965460000</a>
Type	ACT20X-2SAI-2HAO-S
GTIN (EAN)	4032248785070
Qty.	1 pc(s).

**ACT20X-2SAI-2HAO-S****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Technical data****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	212 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	135 a		

**Assembling**

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

**Input**

Input current	4...20mA	Number of inputs	2
Voltage drop	<2 V		

**Output**

2-wire supply	> 14.5 V @ 20 mA	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		

**Digital output**

Max. switching frequency	20 Hz		
--------------------------	-------	--	--

**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)		

**ACT20X-2SAI-2HAO-S****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Technical data****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	Screw connection
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	Standards	EN 61326

**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 a	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)
--	---

**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 mm <sup>2</sup>
Clamping range, min.	0.25 mm <sup>2</sup>	Clamping range, max.	2.5 mm <sup>2</sup>
Wire connection cross section AWG, min.	AWG 26	Wire connection cross section AWG, max.	AWG 12

**Guarantee**

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

Creation date May 4, 2024 8:24:26 PM CEST

Catalogue status 20.04.2024 / We reserve the right to make technical changes.

**ACT20X-2SAI-2HAO-S****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**Technical data****Classifications**

ETIM 6.0	EC002653	ETIM 7.0	EC002653
ETIM 8.0	EC002653	ETIM 9.0	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	ECLASS 13.0	27-21-01-20

**ACT20X-2SAI-2HA0-S**

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)

## Technical data

## Tender specification sheets

Long specification	Short specification
<p><b>Ex output isolation amplifier for standard DC current signals, 2-channel, HART transparent 2-channel output isolation amplifier in 22.5 mm width with external power supply, for transmitting and isolating standard signals 4 to 20 mA from the safe zone to Ex zones 0,1,2.</b></p> <p><b>Status-/ error messages are available via a relay contact (NO).</b></p> <p>The component can be configured using standard FDT/DTM software.</p> <p><b>Add-on housing for TS35 rail mounting</b></p> <p><b>Dimensions: L/W/H 119.2/ 22.5/ 113.6</b></p> <p><b>Screw connection/ Nominal cross-section 2.5 mm<sup>2</sup></b></p> <p><b>Protection degree: IP 20</b></p> <p><b>Input 2 x 4...20 mA</b></p> <p><b>Output 2 x 4...20 mA</b></p> <p><b>Load &lt; 600 Ohm Kanal</b></p> <p><b>Accuracy &lt; 0,1 % v.E</b></p> <p><b>Temperature coefficient &lt; 0,01% v.E./°C (Tu)</b></p> <p><b>Alarm output relay 1 NO contact</b></p> <p><b>250 V AC / 30 V DC @ 2A safe zone</b></p> <p><b>32 V AC @ 0.5 A/ 32 VDC @ 1 A Zone 2</b></p> <p><b>Auxiliary power 19...31.2 V DC</b></p> <p><b>Power loss approx. 3 W</b></p> <p><b>Ambient temperature range -20 °C...+60 °C</b></p> <p><b>Secure isolation EN 61010, 3-way isolation up to 2.6 kV AC/DC of all circuits against each other</b></p> <p><b>Working voltage 300 V AC/DC at overvoltage category III and pollution degree 2</b></p> <p><b>Approvals cULus, ATEX, IECEx, FM, ATEX marking II 3 G Ex-nc, IIC</b></p>	<p><b>Ex output isolation amplifier for standard DC current signals, 2-channel, HART transparent 2-channel output isolation amplifier in 22.5 mm width with external power supply,</b></p>

**ACT20X-2SAI-2HAO-S****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Technical data****Environmental Product Compliance**

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

**Downloads**

Approval/Certificate/Document of Conformity	<a href="#">Application notes – Certification SIL</a> <a href="#">Certification DNV GL</a> <a href="#">Application notes – Certification ATEX</a> <a href="#">Application notes – Certification IECEX</a> <a href="#">Application notes – Certification UL</a> <a href="#">Declaration of Conformity</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Software	<a href="#">WI-Manager, DTM-Library for online installation</a> <a href="#">Release notes for Weidmueller FDT-DTM Software version</a>
User Documentation	<a href="#">Device description – 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>
Brochures	

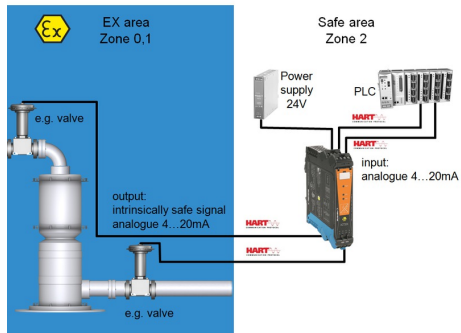
# ACT20X-2SAI-2HAO-S

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

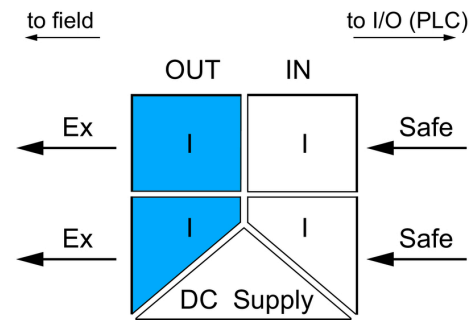
[www.weidmueller.com](http://www.weidmueller.com)

## Drawings

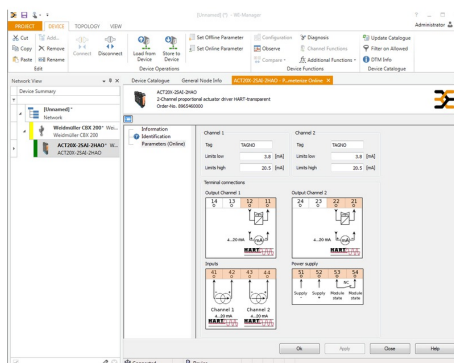
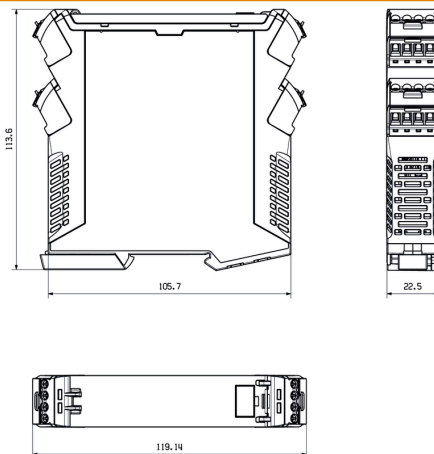
### Application



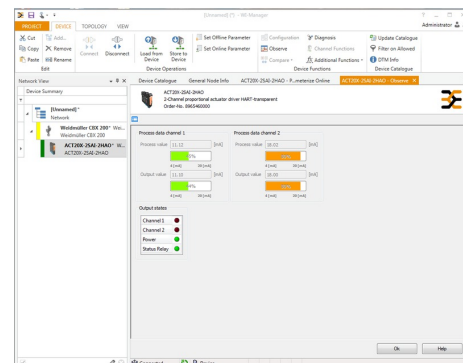
### Block diagram



### Dimensioned drawing



screenshot of configuration with FDT2 / DTM software



screenshot of "observe" with FDT2 / DTM software

**ACT20X-2SAI-2HAO-S****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**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.	<a href="#">1082540000</a>	ESG, Device markers x 20 mm, PA 66, Colour: white
GTIN (EAN)	4032248845439	
Qty.	200 pc(s).	

**Configuration interfaces****General ordering data**

Type	CBX200 USB
Order No.	<a href="#">8978580000</a>
GTIN (EAN)	4032248813759
Qty.	1 pc(s).

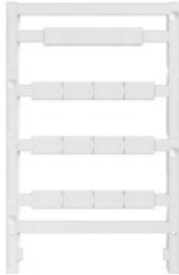


**ACT20X-2SAI-2HAO-S****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)**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**

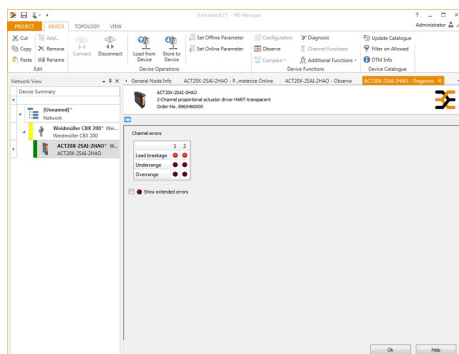
Type	ESG 8/13.5/43.3 SAI AU	Version
Order No.	<a href="#">1912130000</a>	ESG, Device markers x 13.5 mm, PA 66, Colour: Transparent
GTIN (EAN)	4032248541164	
Qty.	5 pc(s).	

# ACT20X-2SAI-2HAO-S

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

[www.weidmueller.com](http://www.weidmueller.com)

## Drawings



screenshot of "diagnosis" with FDT2 / DTM software

## Connection diagram

