ACT20X-SAI-HAO-S

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, HART® transparency, 1-channel, Safe-input: 4-20mA, Ex output: 4 - 20 mA
Order No.	8965450000
Type	ACT20X-SAI-HAO-S
GTIN (EAN)	4032248785063
Qty.	1 items

ACT20X-SAI-HAO-S

Weidmüller ⧓

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

www.weidmueller.com

Technical data

Approvals

Approvals	CE; CULUS; DEKRAATEX; DETNORVER; FMEX; FUSAFETY; IECEXDEK
Approvals	DNVGL;
Approvals	

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

Dimensions and weights

Depth	113.6 mm	Depth (inches)	4.4724 inch
Height	119.2 mm	Height (inches)	4.6929 inch
Width	22.5 mm	Width (inches)	0.8858 inch
Net weight	189 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 - PDF/ Cert_Weidmueller_070902_P0002_C007_V2R1.pdf (application/pdf)	SIL in compliance with IEC 61508	2
MTBF	135 a		

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

Assembling

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

Input

Number inputs	1	Input current	4...20mA
Voltage drop	<2 V		

Output

Load impedance current	≤ 725 Ω	Influence of load resistance	≤ 0.01% of span / 100 Ω
Type	intrinsically safe circuit	Output current	4...20 mA (max. 23 mA)

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Technical data

Number of outputs, Ex	1	Output signal limit	<28 mA
2-wire supply	> 14.5 V @ 20 mA	Residual ripple (current loop)	<7.5 mVeff

Output (Status)

Hysteresis	0.1 mA (switching threshold)	Type	Status relay, 1 NC (voltage-free)
Alarm function	Device error, No supply voltage	Number of alarm outputs	1
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 / 1 A DC (zone 2)
Power rating	≤ 62.5 VA / 32 W (safe area) ≤ 16 VA / 32 W (Zone 2)		

General specifications

Type of connection	Screw connection	Accuracy	<0.1% span
Humidity	0...95 % (no condensation)	Protection degree	IP20
Supply voltage	19.2...31.2 V DC	Step response time	≤ 5 ms
Power consumption	≤ 1.0 W	Temperature coefficient	<0.01% of span/°C (TU)
Type of signal forwarding according to HART®	unchanged	Configuration	With FDT/DTM software, Requires configuration adapter 8978580000 CBX200 USB
Operating altitude	≤ 2000 m	HART® transparency supported	Yes

Insulation coordination

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

Data for Ex applications (ATEX)

Installation location	Device installed in safe area, zone 2

Safety-related basic specifications

Description of the "safe state"	analogue Output ≤ 3.6 mA or output ≥ 21 mA	Tproof	5 a
Total failure rate for safe detected failures (λSD)	0 FIT	Device type	A
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 (λSU)	164 FIT	Total failure rate for dangerous detected failures (λDD)	127 FIT
Total failure rate for dangerous undetected failures (λDU)	48 FIT	Probability of outage PFH	4.8×10^{-8} h-1
Demand mode	High		

Safety-related specifications Low demand mode

Average Probability of Failure on Demand (PFDavg)	2.29×10^{-4} (Tproof = 1 year), 4.37×10^{-4} (Tproof = 2 years), 1.06×10^{-4} (Tproof = 5 year)

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Technical data

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

Part description

Product description	The ACT20X-SAI-HAO-S is a HART-protocol, transparent current output isolator. A DC current input signal from the safe area will be galvanically separated and drives controlled field devices in Ex zone 0. The device is available as single-channel or dual-channel version.

Classifications

ETIM 6.0	EC002653	ETIM 7.0	EC002653
ETIM 8.0	EC002653	ETIM 9.0	EC002653
ETIM 10.0	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	ECLASS 14.0	27-21-01-20
ECLASS 15.0	27-21-01-20		

Tender specification sheets

Long specification	Ex output isolation amplifier for standard DC current signals, HART transparent 1-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. Status-/ error messages are available via a relay contact (NO). The component can be configured using standard FDT/DTM software. Add-on housing for TS35 rail mounting Dimensions: L/W/H 119.2/ 22.5/ 113.6 Screw connection/ Nominal cross-section 2.5 mm2 Protection degree: IP 20 Input 4...20 mA Output 4...20 mA Load < 600 Ohm	Short specification	Ex output isolation amplifier for standard DC current signals, HART transparent 1-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. Status-/ error messages are available via a relay contact (NO). The component can be configured using standard FDT/DTM software.

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Technical data

Accuracy	< 0,1 % v.E
Temperature coefficient	< 0,01% v.E./°C (Tu)
Alarm output relay	1 NO contact
	250 V AC / 30 V DC @ 2A safe zone
	32 V AC @ 0.5 A/ 32 VDC @ 1 A Zone 2
Auxiliary power	19...31.2 V DC
Power loss	approx. 1.8 W
Ambient temperature range	-20 °C...+60 °C
Secure isolation	EN 61010, 3-way isolation up to 2.6 kV AC/DC of all circuits against each other
Working voltage	300 V AC/DC at overvoltage category II and pollution degree 2
Approvals	cULus, ATEX IECEX, FM
ATEX marking	II 3 G ExnA nC IIC T4
ATEX characteristic data	U0 = 28 V DC
	I0 = 93 mA DC
	P0 = 650 mW
Type	ACT20X-SAI-HAO-S

ACT20X-SAI-HAO-S
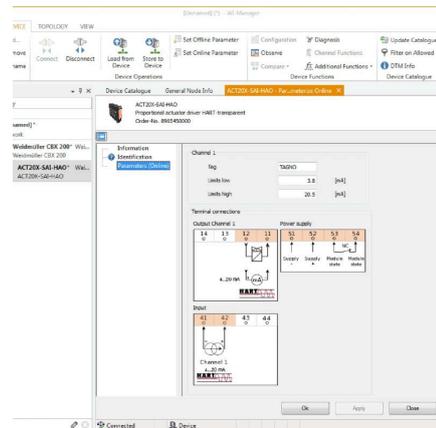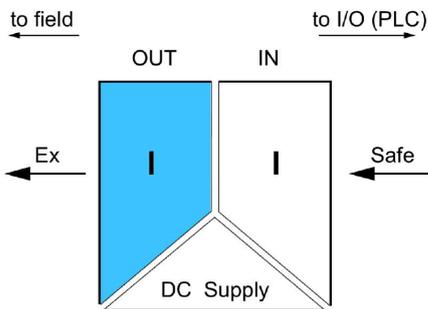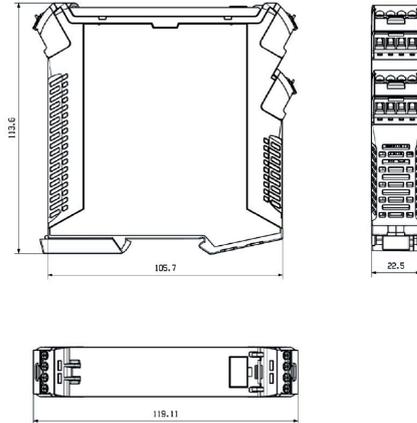
Drawings

Connection diagram
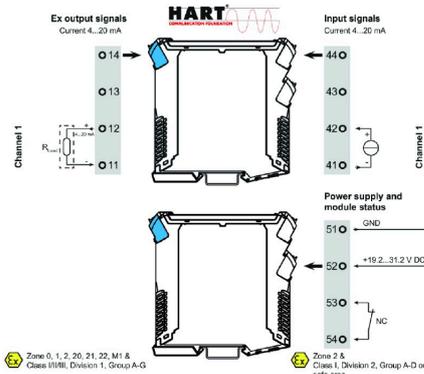
Application
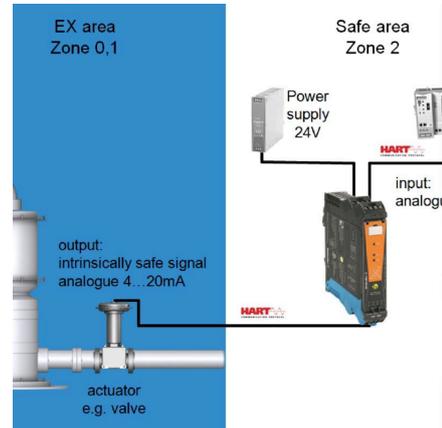
Block diagram
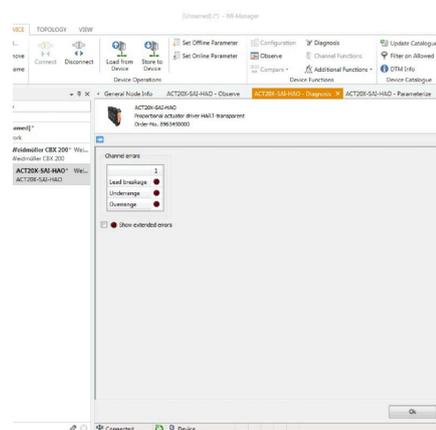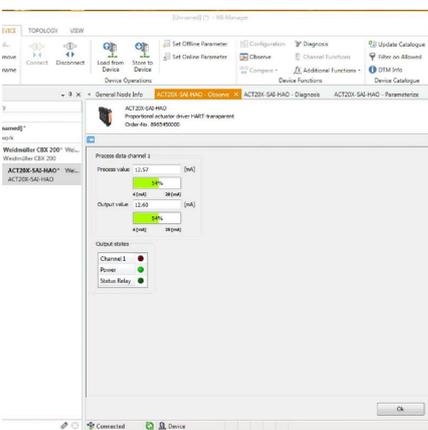
screenshot of configuration with FDT2 / DTM software

screenshot of "observe" with FDT2 / DTM software

ACT20X-SAI-HAO-S

Drawings

Dimensioned drawing

Removable terminals with coding

ACT20X-SAI-HAO-S

Accessories

Blank
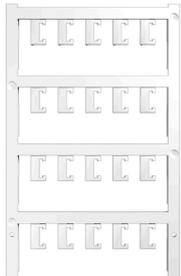
ESG is the tried-and-tested marker in MultiCard format for use on many well-known electrical devices. The result is high-quality device marking with a high-contrast appearance.

Various types are available for devices from manufacturers like Siemens, ABB, Beckhoff etc. Advantages at a glance:

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- 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.	1082540000	ESG, Device markers x 20 mm, PA 66, Colour: white, pluggable
GTIN (EAN)	4032248845439	
Qty.	200 ST	

Type	ESG 8/13.5/43.3 SAI AU	Version
Order No.	1912130000	ESG, Device markers x 13.5 mm, PA 66, Colour: Transparent,
GTIN (EAN)	4032248541164	pluggable
Qty.	5 ST	

Configuration interfaces

General ordering data

Type	CBX200 USB	Version
Order No.	8978580000	
GTIN (EAN)	4032248813759	
Qty.	1 ST	