

ACT20X
ACT20X-2HAI-2SAO-S
Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 16

D-32758 Detmold

Germany

Fon: +49 5231 14-0

Fax: +49 5231 14-292083

www.weidmueller.com



The ACT20X-HAI-SAO/2HAI-2SAO HART-protocol transparent current-supply isolators are capable of transmitting 4...20 mA signals from Ex zone 0 into the safe zone.

External sensors can be supplied with power through the device.

Integrated alarm contacts issue an alert in the event of a malfunction; this makes troubleshooting easier and increases system availability.

The rail mounted current-supply 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-2HAI-2SAO-S
Order No.	8965440000
Version	EX signal isolating converter, Ex-input: 4 - 20 mA, Safe-output: 4-20mA, 2-channel
GTIN (EAN)	4032248785056
Qty.	1 pc(s).

ACT20X

ACT20X-2HAI-2SAO-S

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 www.weidmueller.com

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	212 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	315 Years
------	-----------

Input EX

Input current	4...20 mA	Input frequency	0.5...2.5 kHz @ 3.5...23 mA bi-directional HART [®] signal
Output signal in case of wire break	< 1 mA	Residual ripple (current loop)	< 7.5 mV _{eff}
Sensor supply	3.8...26 V DC	Type	intrinsically safe circuit, active (as current source) or passive (as current sink)
Voltage drop not powered	< 6 V	Voltage drop powered	< 4.5 V

Output

Load stability	≤ 0.01 % of end value / 100 Ω	Type	active (as current source) or passive (as current sink)
Influence of load resistance	≤ 0.01% of span / 100 Ω	2-wire supply	≤ 26 V DC
Output signal limit	< 28 mA	Output current	4...20 mA
Cut-off frequency (-3 dB)	0.5...2.5 kHz @ 3.5...23 mA bi-directional HART [®] signal	load impedance current	≤ 600 Ω

Alarm output

Alarm function	Signal limit exceeded, Line interruption at the 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)		

ACT20X

ACT20X-2HAI-2SAO-S

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 www.weidmueller.com

Technical data

General specifications

Configuration	With FDT/DTM software	Supply voltage	19.2 – 31.2 V DC
Type of connection	Screw connection, Removable terminal block	Power consumption	≤ 1.9 W
Accuracy	< 0.1% span	Temperature coefficient	< 0.01% of span/°C (TU)
Step response time	≤ 5 ms	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	Current loop 28 V / externally 10 V	Current I_0	Current loop 93 mA / externally 10 mA
Power P_0	Current loop 0.65 W / externally 0.1 W	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

Device type	A	Hardware fault tolerance (HFT)	0
T_{proof}	5 Years	Safety category	SIL 2, SIL 3 on use of 2 devices with special wiring
Probability of outage PFH	$4.1 \times 10^{-8} h^{-1}$		

Safety-related specifications Low demand mode

Average Probability of Failure on Demand (PFD_{avg})	1.92×10^{-4} ($T_{proof} = 1$ year), 3.67×10^{-4} ($T_{proof} =$ 2 years), 8.92×10^{-4} ($T_{proof} =$ 5 years), additional data in the safety manual
--	---

Connection data

Type of connection	Screw connection, Removable terminal block	Tightening torque, min.	0.4 Nm
Tightening torque, max.	0.6 Nm	Clamping range, rated connection	2.5 mm ²
Clamping range, min.	0.5 mm ²	Clamping range, max.	2.5 mm ²
Wire connection cross section AWG, min.	AWG 30	Wire connection cross section AWG, max.	AWG 14

Rated data UL

UL certificate	E337701.pdf
----------------	-------------

Ratings IECEx/ATEX/cUL

ATEX certificate	11ATEX0131X.pdf	IEC Ex certificate	IECEx certification
------------------	-----------------	--------------------	---------------------

ACT20X

ACT20X-2HAI-2SAO-S

Weidmüller Interface GmbH & Co. KG
 Klingenbergstraße 16
 D-32758 Detmold
 Germany
 Fon: +49 5231 14-0
 Fax: +49 5231 14-292083
 www.weidmueller.com

Technical data

Classifications

ETIM 3.0	EC002479	ETIM 4.0	EC002479
ETIM 5.0	EC002479	ETIM 6.0	EC002475
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	27-21-01-07
eClass 9.1	27-21-01-23		

Product information

Product information	Weidmüller provides an extended guarantee period of 36 months for this device.
Descriptive text ordering data	CBX200 USB configuration adapter - 8978580000

Approvals

Approvals



Approvals	DNVGL;
ROHS	Conform

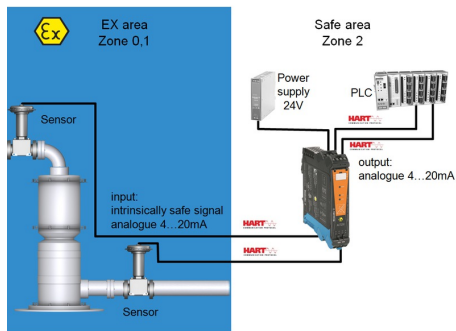
Downloads

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
User Documentation	Instruction sheet Manual MAN SAFETY ACT20X-2HAI-2SAO

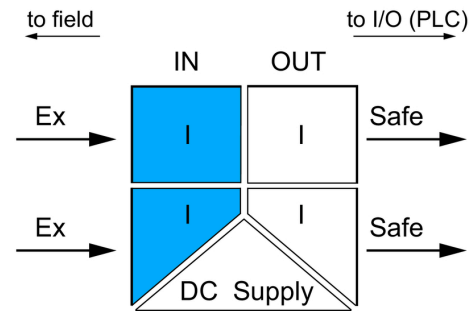
ACT20X ACT20X-2HAI-2SAO-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

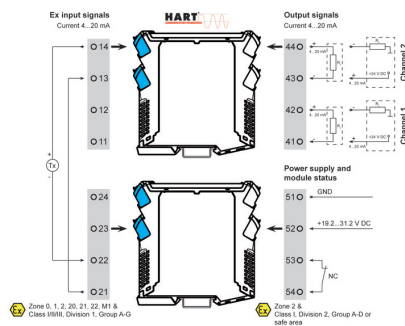
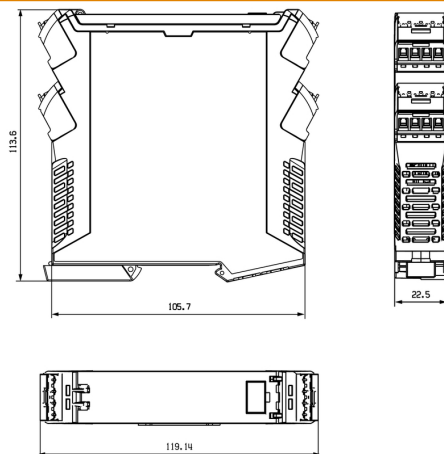
Drawings



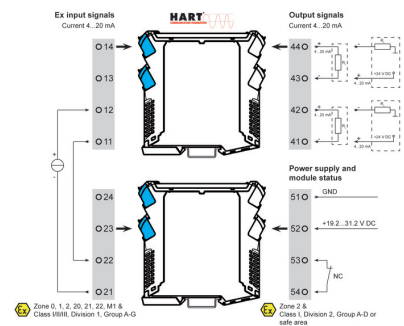
application schematic



Dimensioned drawing



example, wiring to double the current signal, current load as input

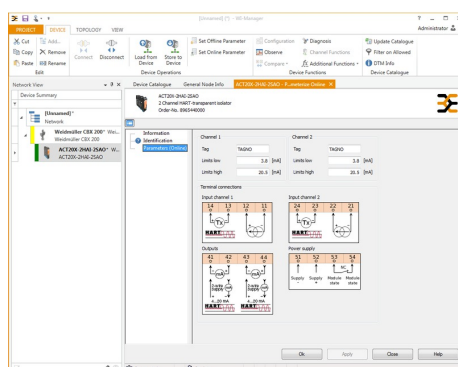


example, wiring to double the current signal, current source as input

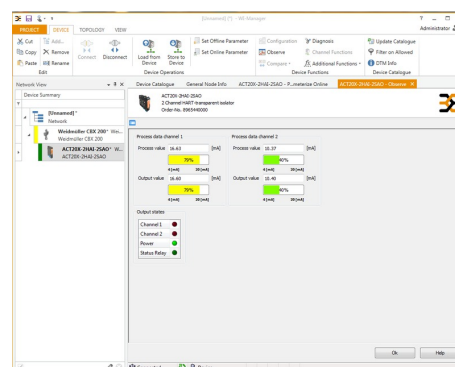
ACT20X ACT20X-2HAI-2SAO-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Drawings

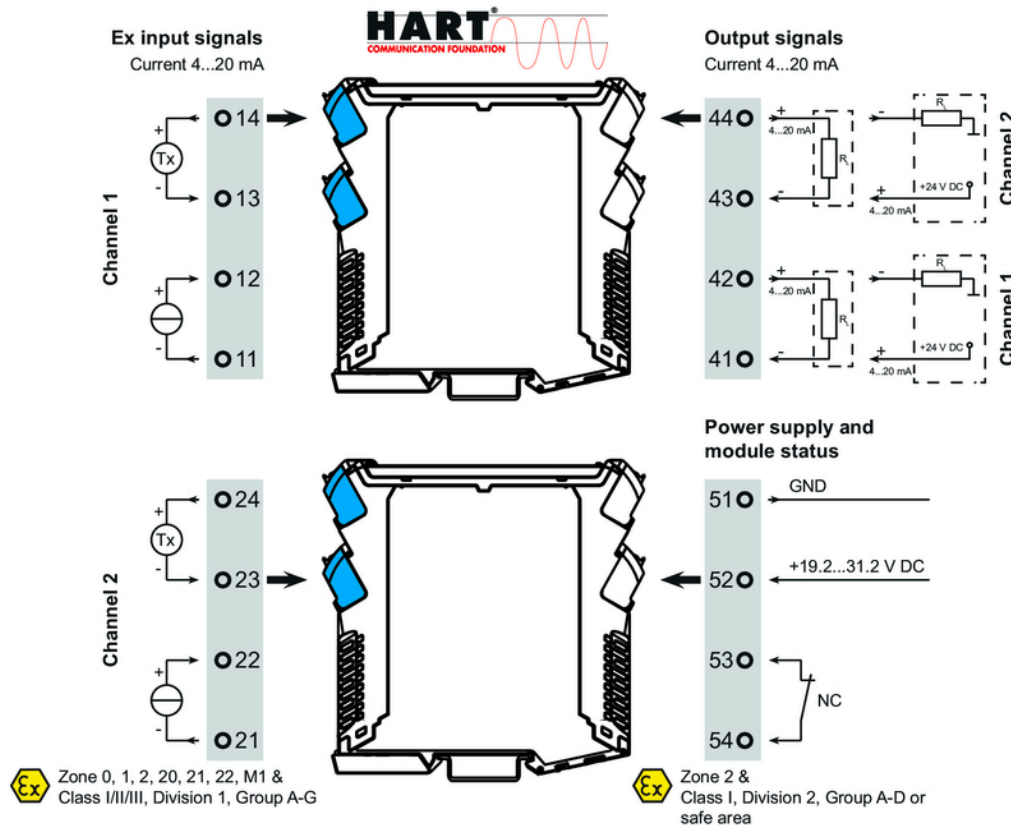


screenshot of configuration with FDT2 /DTM software



screenshot of "observe" with FDT2 / DTM software

Connection diagram



wiring