

ACT20X-2HAI-2SAO-P

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

www.weidmueller.com

Product image



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

Version	EX signal isolating converter, Ex-input: 4 - 20 mA, Safe-output: 4-20mA, 2-channel
Order No.	2456150000
Type	ACT20X-2HAI-2SAO-P
GTIN (EAN)	4050118471281
Qty.	1 Stück

Erstellungs-Datum May 25, 2023 2:29:14 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	315 Years		

Input EX

Input current	4...20mA	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	> 16 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

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

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)
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)
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	≤ 1.9 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	Current loop 93 mA / externally 10 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	Current loop 0.65 W / externally 0.1 W
Voltage U ₀	Current loop 28 V / externally 10 V		

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 (λ _{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 (λ _{SU})	164 FIT	Total failure rate for dangerous detected failures (λ _{DD})	127 FIT
Total failure rate for dangerous undetected failures (λ _{DU})	48 FIT	Probability of outage PFH	4.1 x 10 ⁻⁸ h ⁻¹
Demand mode	High		

Safety-related specifications Low demand mode

Average Probability of Failure on Demand (PFD _{avg})	1.92 x 10 ⁻⁴ (T _{proof} = 1 year), 3.67 x 10 ⁻⁴ (T _{proof} = 2 years), 8.92 x 10 ⁻⁴ (T _{proof} = 5 years), additional data in the safety manual
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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 ²
Wire cross-section, solid, max.	2.5 mm ²	Wire connection cross section, finely stranded, min.	0.2 mm ²
Wire connection cross section, finely stranded, max.	2.5 mm ²	Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min.	0.2 mm ²
Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max.	2.5 mm ²		

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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Downloads

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

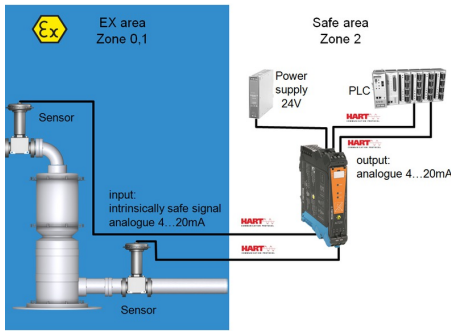
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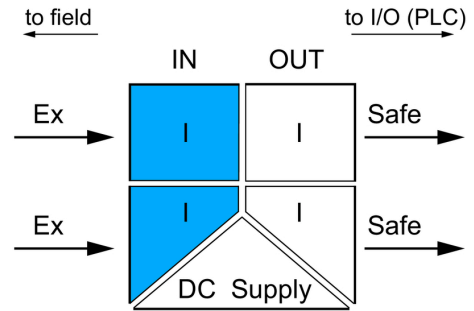
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Zeichnungen

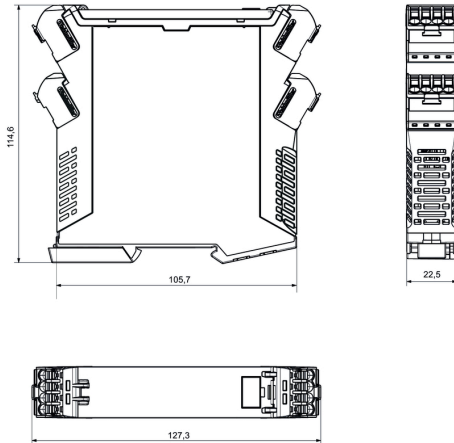
Application



Block diagram



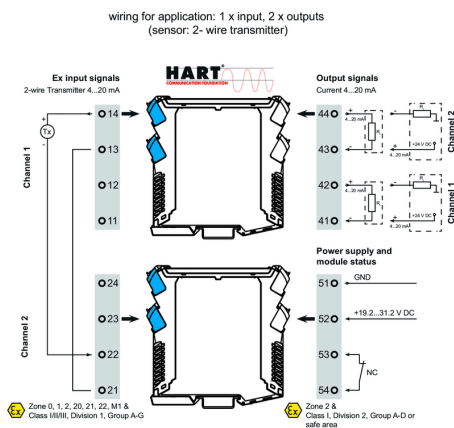
Dimensioned drawing



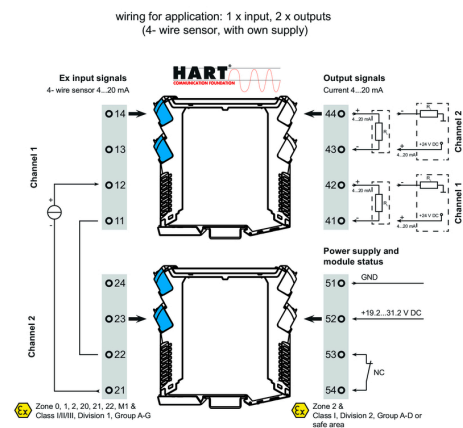
Similar to illustration



Wiring example



Wiring example

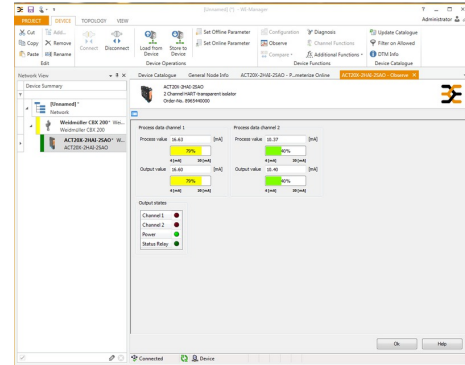
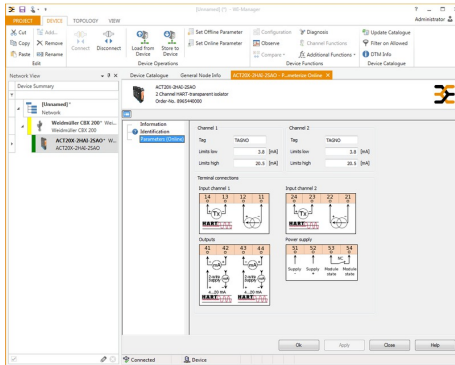


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Zeichnungen



screenshot of configuration with FDT2 /DTM software

screenshot of "observe" with FDT2 / DTM software

Connection diagram

