

ACT20X-HDI-SDO-RNO-S**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image, Similar to illustration

The ACT20X-HDI-SDO/ 2HDI-2SNO RNO/RNC isolating switch amplifiers are specially designed for recording NAMUR sensor signals and digital switching signals which originate from Ex zone 0.

Switching relays, optionally available with NO or NC contacts, transfer output signals to the safe zone.

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

The rail mounted disconnect-switch amplifiers 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: NAMUR sensor/switch, Safe-output: relay, NO contact, 1-channel
Order No.	8965340000
Type	ACT20X-HDI-SDO-RNO-S
GTIN (EAN)	4032248784851
Qty.	1 pc(s).

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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	177 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	207 a		

Assembling

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

Input EX

Input frequency	<20 Hz	Input resistance	1 kΩ
Output signal in case of wire break	<0.1 mA, > 6.5 mA (in case of wire break)	Pulse duration	> 0.1 ms
Resistance	RP = 750 Ω / RS = 15kΩ	Sensor	NAMUR sensor, according to EN60947-5-6, switch with or without RS, RP
Sensor supply	8 V DC / 8 mA	Trigger level high	> 2.1 mA
Trigger level low	<1.2 mA	Type	intrinsically safe circuit

Digital output

Continuous current	≤ 2 A AC/DC (safe area, Zone 2 area)	Function	Output = input, direct or inverse (configurable)
Max. switching frequency	20 Hz	Nominal switching voltage	≤ 250 V AC / 30 V DC (safe area) ≤ 32 V AC / 32 V DC (zone 2)
Switching capacity	500 VA / 60 W (safe area), 16 VA / 60 W (zone 2)	Type	Relay, 1 NO, Switching frequency 20 Hz

Alarm output

Alarm function	Line interruption at the input, Short circuit at 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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Technical data**General specifications**

Configuration	With FDT/DTM software, Requires configuration adapter 8978580000 CBX200 USB	Humidity	0...95 % (no condensation)
NAMUR supply	8 V DC / 8 mA	Power consumption	≤ 1.3 W
Protection degree	IP20	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	12 mA DC	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	32 mW
Voltage U_0	10.6 V DC		

Safety-related basic specifications

Description of the "safe state"	de-energized (relay output)	Device type	B
Diagnostic test interval	10 s	T_{proof}	4 a
Total failure rate for safe detected failures (λ_{SD})	0 FIT	Hardware fault tolerance (HFT)	0
Safety category	SIL 2	Relay lifetime	100000 times
Safe Failure Fraction (SFF)	90 %	Mean Time To Repair (MTTR)	8 h
Total failure rate for safe undetected fail- ures (λ_{SU})	289 FIT	Total failure rate for dangerous detected failures (λ_{DD})	130 FIT
Total failure rate for dangerous undetect- ed failures (λ_{DU})	46 FIT	Probability of outage PFH	$4.66 \times 10^{-8} \text{ h}^{-1}$
Demand mode	High	Demand rate	1,000 s
Demand response time	<10 ms (relay output)		

Safety-related specifications Low demand mode

Safe Failure Fraction (SFF)	Average Probability of Failure on De- mand (PFD_{avg})	2.04×10^{-4} ($T_{proof} = 1$ year), 4.08×10^{-4} ($T_{proof} =$ 2 years), 1.02×10^{-4} (T_{proof} = 5 years)
90 %		

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 ²
Clamping range, min.	0.25 mm ²	Clamping range, max.	2.5 mm ²
Wire connection cross section AWG, min.	AWG 26	Wire connection cross section AWG, max.	AWG 12

Guarantee

Time interval	3 years
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Creation date April 27, 2024 12:59:01 PM CEST

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

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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

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Technical data

Tender specification sheets

Long specification

Ex isolating switch amplifiers for Namur sensors

1-channel isolating switch amplifiers in 22.5 mm width with an external power supply, to transmit and isolate Namur sensor signals from Ex zones 0,1,2 into the safe zone.

On the output side there is a potential-free relay contact with closing function and an alarm contact for status/error messages.

The component can be configured using standard FDT/DTM software.

Add-on housing for TS35 DIN rail installation

Dimensions: L/W/H

119.2/ 22.5/ 113.6

Screw connection/ nominal cross-section

2.5 mm²

Protection degree:

IP20

Input NA-MUR sensor according to EN 60947

8

VDC / 8 mA sensor power supply

0 to

5 kHz input frequency wire-break detection

Output

Relay 1

NO contact

250

VAC / 30 VDC @ 2A safe zone

32

VAC @ 0.5 A/ 32 VDC @ 1 A zone 2

Alarm output relay 1

NO contact

250

VAC / 30 VDC @ 2A safe zone

32

VAC @ 0.5 A/ 32 VDC @ 1 A zone 2

Auxiliary power

19

to 31.2 VDC

Power loss approx. 1.8 W

Ambient

temperature range -20

°C to +60 °C

Short specification

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

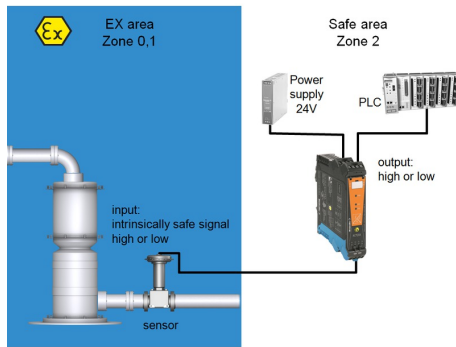
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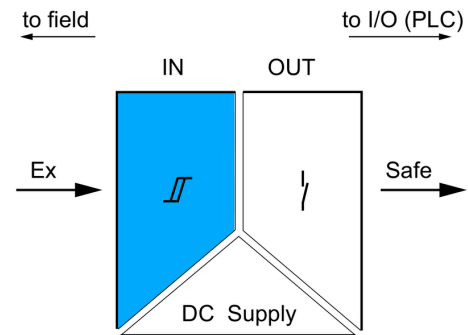
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Drawings

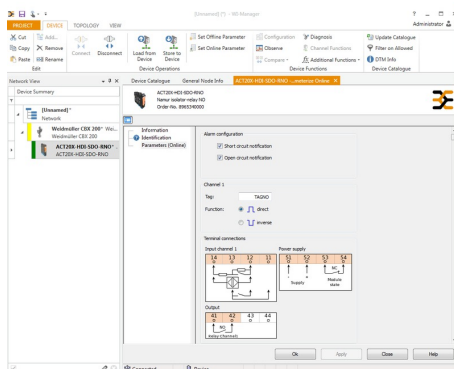
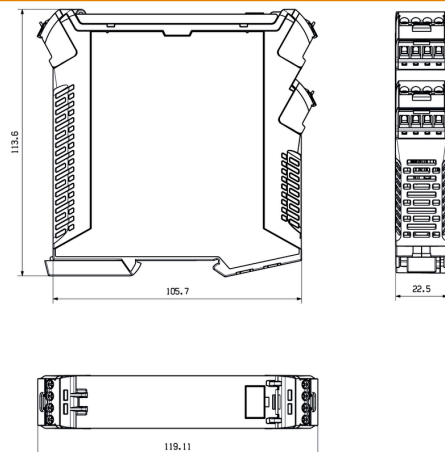
Application



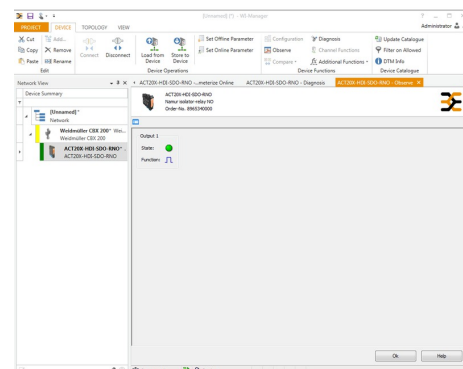
Block diagram



Dimensioned drawing



screenshot of configuration with FDT2 / DTM software



screenshot of "observe" with FDT2 / DTM software

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www.weidmueller.com**Accessories****Configuration interfaces****General ordering data**

Type	CBX200 USB
Order No.	8978580000
GTIN (EAN)	4032248813759
Qty.	1 pc(s).

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

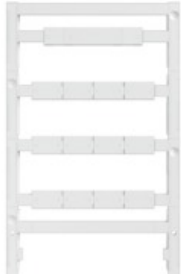
Type	ESG 6.6/20 BHZ 5.00/04	Version
Order No.	1082540000	ESG, Device markers x 20 mm, PA 66, Colour: white
GTIN (EAN)	4032248845439	
Qty.	200 pc(s).	

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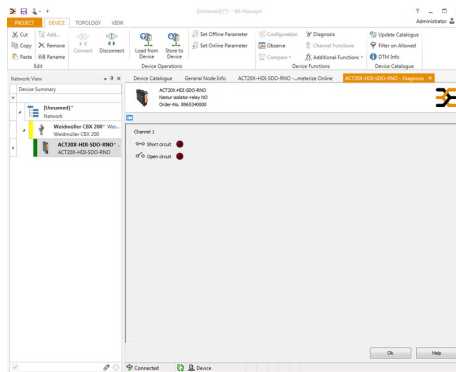
Type	ESG 8/13.5/43.3 SAI AU	Version
Order No.	1912130000	ESG, Device markers x 13.5 mm, PA 66, Colour: Transparent
GTIN (EAN)	4032248541164	
Qty.	5 pc(s).	

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Drawings


screenshot of "diagnosis" with FDT2 / DTM software

Connection diagram
