

ACT20X-HDI-SDO-S

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

www.weidmueller.com

Product image, Similar to illustration



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

Negative-switching (NPN) transistor outputs are used to transmit the signals to applications in 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: Optocoupler, 1-channel
Order No.	8965360000
Type	ACT20X-HDI-SDO-S
GTIN (EAN)	4032248784875
Qty.	1 pièce(s)

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Caractéristiques techniques**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	170 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	215 a		

Assembling

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

Input EX

Input frequency	0...5 kHz	Input resistance	1 kΩ
NAMUR supply	8 V DC / 8 mA	Output signal in case of wire break	<0.1 mA, > 6.5 mA (in case of wire break)
Pulse duration	> 0.1 ms	Resistance	Series resistor 750Ω, Parallel resistor 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	80 mA	Function	Output = input, direct or inverse (configurable)
Max. switching frequency	≤ 5 kHz	Nominal switching voltage	30 V DC
Type	NPN-Transistor		

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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General specifications

Configuration	With FDT/DTM software, Requires configuration adapter 8978580000 CBX200 USB	Humidity	0...95 % (no condensation)
Operating altitude	≤ 2000 m	Power consumption	≤ 1.1 W
Protection degree	IP20	Type of connection	Screw connection
Voltage supply	19.2...31.2 V DC		

Insulation coordination

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

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"	High impedance	Device type	B
Diagnostic test interval	10 s	T_{proof}	5 a
Total failure rate for safe detected failures (λ_{SD})	0 FIT	Hardware fault tolerance (HFT)	0
Safety category	SIL 2	Safe Failure Fraction (SFF)	92 %
Mean Time To Repair (MTTR)	8 h	Total failure rate for safe undetected failures (λ_{SU})	275 FIT
Total failure rate for dangerous detected failures (λ_{DD})	135 FIT	Total failure rate for dangerous undetected failures (λ_{DU})	36 FIT
Probability of outage PFH	$3.62 \times 10^{-9} \text{ h}^{-1}$	Demand mode	High
Demand rate	1 000 s		

Safety-related specifications Low demand mode

Average Probability of Failure on Demand (PFD _{avg})	1.58×10^{-4} ($T_{proof} = 1$ year), 3.17×10^{-4} ($T_{proof} =$ 2 years), 7.92×10^{-4} ($T_{proof} =$ 5 years)
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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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Date de création 26 novembre 2024 13:16:59 CET

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Caractéristiques techniques

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
ECLASS 14.0	27-21-01-20		

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Caractéristiques techniques**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

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 UL certification for canada 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 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	

Fiche de données

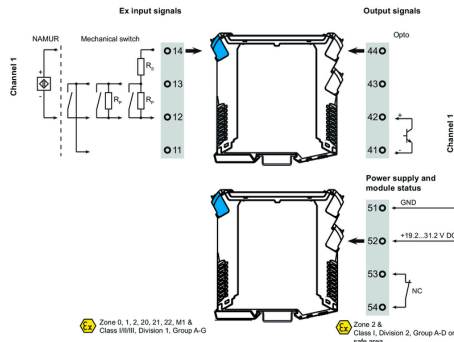
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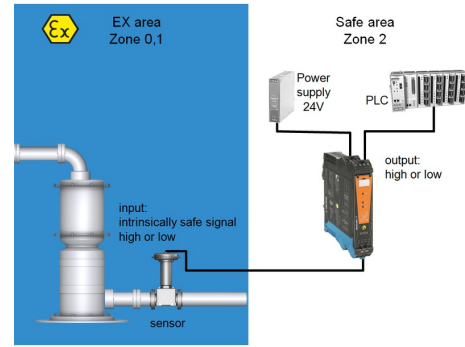
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Dessins

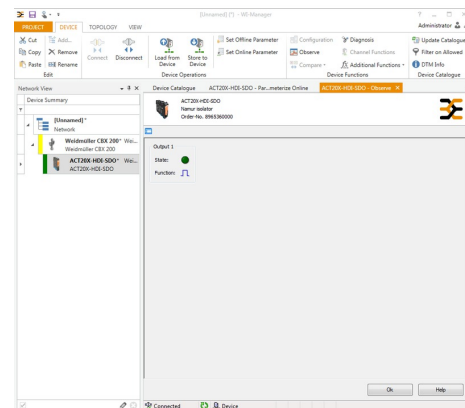
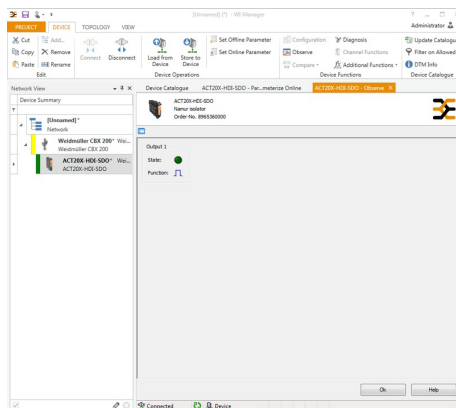
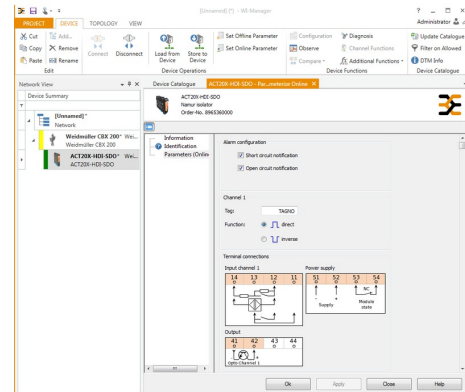
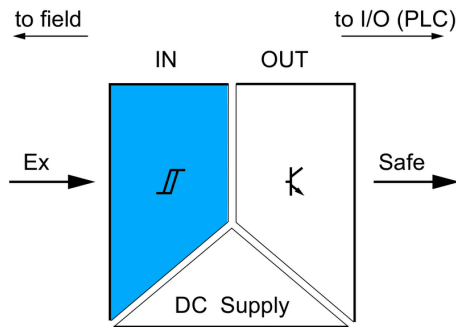
Connection diagram



Application



Block diagram

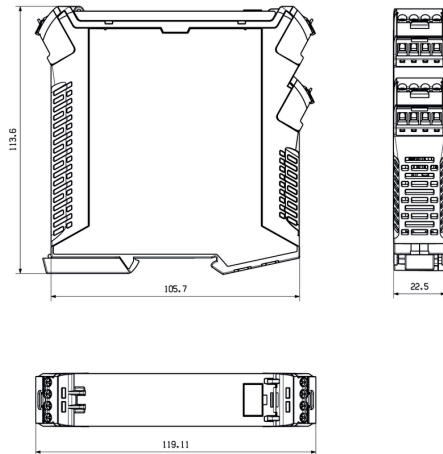


screenshot of "observe" with FDT2 / DTM software

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Dessins**Dimensioned drawing**

Removable terminals with coding