

ACT20X
ACT20X-2HDI-2SDO-S

Weidmüller Interface GmbH & Co. KG
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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

Type	ACT20X-2HDI-2SDO-S
Order No.	8965390000
Version	EX signal isolating converter, Ex-input: NAMUR sensor/switch, Safe-output: Optocoupler, 2-channel
GTIN (EAN)	4032248784905
Qty.	1 pc(s).

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Technical data

Dimensions and weights

Width	22.5 mm	Width (inches)	0.886 inch
Height	119.2 mm	Height (inches)	4.693 inch
Depth	113.6 mm	Depth (inches)	4.472 inch
Net weight	180 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	215 Years
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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Rated data UL

UL certificate	E337701.pdf
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Input EX

Input frequency	0...5 kHz	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	Parallel resistor 15kΩ, Series resistor 750Ω	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

Alarm output

Alarm function	Line interruption at the input, Short circuit at 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)		

General specifications

Configuration	With FDT/DTM software	Voltage supply	19.2...31.2 V DC
Type of connection	Screw connection	NAMUR supply	8 V DC / 8 mA
Power consumption	≤ 1.5 W	Protection degree	IP20
Humidity	0...95 % (no condensation)		

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Insulation coordination

EMC standards	DIN EN 61326, NE 21	Insulation voltage	2.6 kV (input / output)
Rated voltage	300 V		

Digital output

Type	NPN-Transistor	Nominal switching voltage	30 V DC
Continuous current	80 mA	Function	Output = input, direct or inverse (configurable)

Data for Ex applications (ATEX)

Voltage U_0	10.6 V DC	Current I_0	12 mA DC
Power P_0	32 mW	Marking	II (1) G [Ex ia Ga] IIC/IIB/ IIA, II (1) D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I
Installation location	Device installed in safe area, zone 2		

Safety-related basic specifications

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

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

Classifications

ETIM 6.0	EC002653	ETIM 7.0	EC002653
eClass 9.0	27-21-01-20	eClass 9.1	27-21-01-20
eClass 10.0	27-21-01-20	UNSPSC	30-21-18-01

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Technical data

Product information

Product information Weidmüller provides an extended guarantee period of 36 months for this device.

Approvals

Approvals



Approvals DNVGL;
 ROHS Conform

Downloads

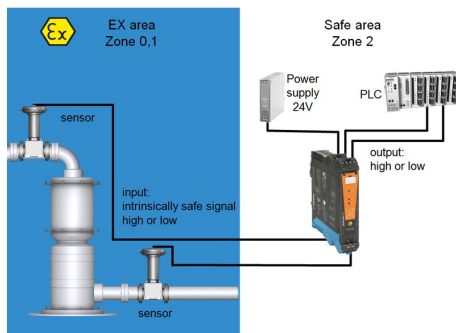
Approval/Certificate/Document of Conformity	Certification SIL Certification DNV GL Certification ATEX Certification IECEx Declaration of Conformity
Brochure/Catalogue	CAT 4.1 ELECTR 16/17 EN
Engineering Data	EPLAN, WSCAD
Engineering Data	STEP
Software	WI-Manager, DTM-Library for online installation V.1.2.0
User Documentation	Instruction sheet MAN SAFETY ACT20X-(2)HDI-(2)SDO-S Handbuch ACT20X- Serie, deutsch Manual ACT20X- series, english

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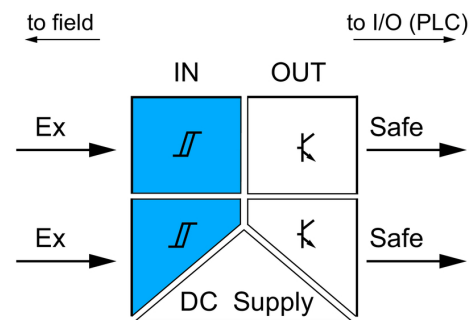
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Drawings

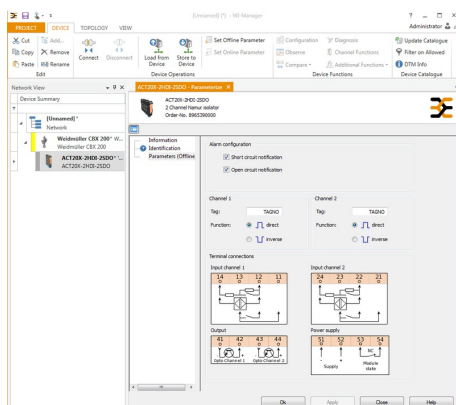
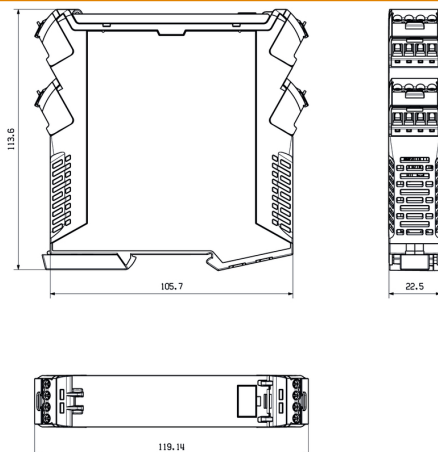
Application



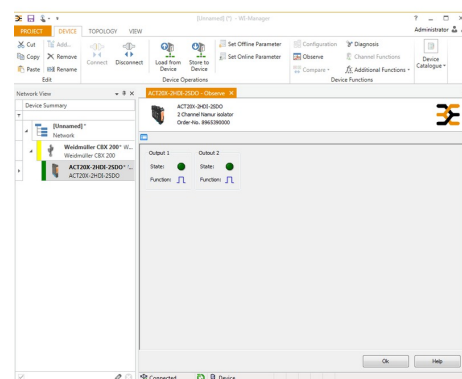
Block diagram



Dimensioned drawing



screenshot of configuration with FDT2 / DTM software

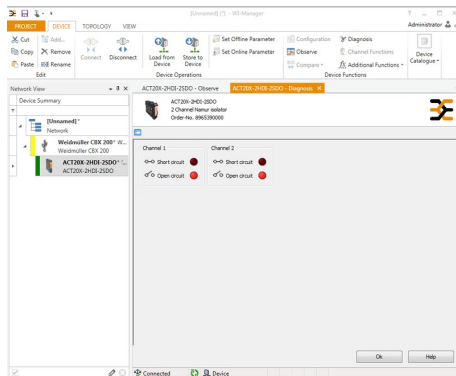


screenshot of "observe" with FDT2 / DTM software

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Drawings



screenshot of "diagnosis" with FDT2 / DTM software

Connection diagram

