

**ACT20X-HDI-SDO-P**

**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.	<a href="#">2456070000</a>
Type	ACT20X-HDI-SDO-P
GTIN (EAN)	4050118471267
Qty.	1 Stück

Erstellungs-Datum May 25, 2023 2:26:56 PM CEST

Katalogstand 12.05.2023 / Technische Änderungen vorbehalten

## ACT20X-HDI-SDO-P

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

## 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	170 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	215 Years		

### 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	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)		

### 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	≤ 1.1 W
Protection degree	IP20	Type of connection	PUSH IN
Voltage supply	19.2...31.2 V DC		

Erstellungs-Datum May 25, 2023 2:26:56 PM CEST

## ACT20X-HDI-SDO-P

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

## Technische Daten

### 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 $I_0$	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 Years
Total failure rate for safe detected failures ( $\lambda_{SD}$ )	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 ( $\lambda_{SU}$ )	275 FIT
Total failure rate for dangerous detected failures ( $\lambda_{DD}$ )	135 FIT	Total failure rate for dangerous undetected failures ( $\lambda_{DU}$ )	36 FIT
Probability of outage PFH	$3.62 \times 10^{-8} \text{ h}^{-1}$	Demand mode	High
Demand rate	1,000 s		

### Safety-related specifications Low demand mode

Average Probability of Failure on Demand (PFD <sub>avg</sub> )	$1.58 \times 10^{-4}$ ( $T_{proof} = 1$ year), $3.17 \times 10^{-4}$ ( $T_{proof} = 2$ years), $7.92 \times 10^{-4}$ ( $T_{proof} = 5$ years)
--	---

### 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 <sup>2</sup>
Wire cross-section, solid, max.	2.5 mm <sup>2</sup>	Wire connection cross section, finely stranded, min.	0.2 mm <sup>2</sup>
Wire connection cross section, finely stranded, max.	2.5 mm <sup>2</sup>	Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min.	0.2 mm <sup>2</sup>
Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max.	2.5 mm <sup>2</sup>		

### Guarantee

Time interval	3 years
---------------	---------

## ACT20X-HDI-SDO-P

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

www.weidmueller.com

## Technische Daten

### 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

### Downloads

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

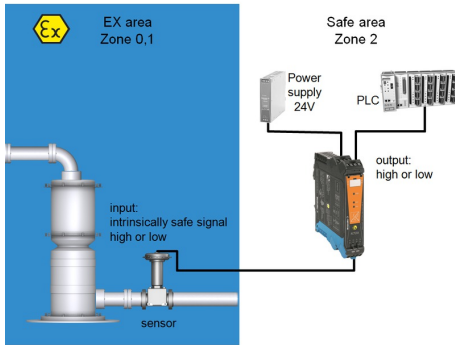
ACT20X-HDI-SDO-P

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

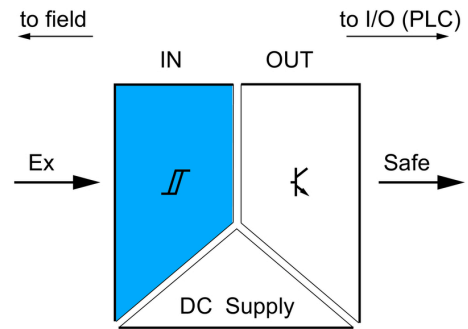
www.weidmueller.com

Zeichnungen

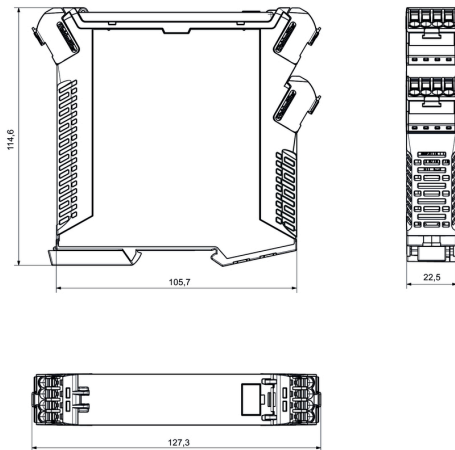
Application



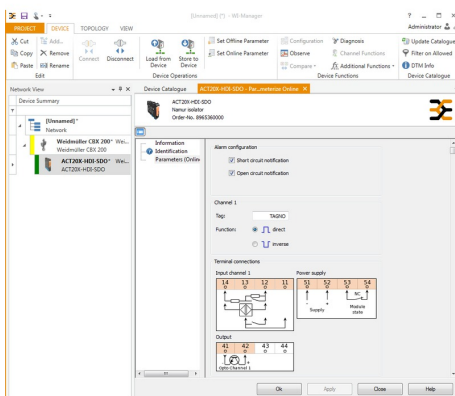
Block diagram



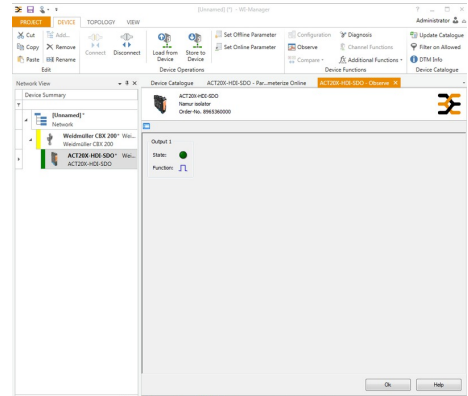
Dimensioned drawing



Similar to illustration



screenshot of configuration with FDT2 / DTM software



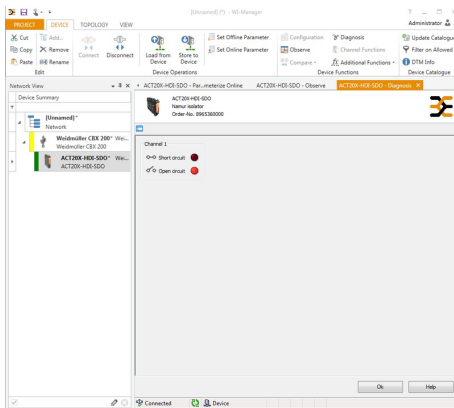
screenshot of "observe" with FDT2 / DTM software

**ACT20X-HDI-SDO-P**

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

www.weidmueller.com

**Zeichnungen**



screenshot of "diagnosis" with FDT2 / DTM software

**Connection diagram**

