ACT20X
ACT20X-2HDI-2SDO-RNC-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
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

Type	ACT20X-2HDI-2SDO-RNC-S
Order No.	8965380000
Version	EX signal isolating converter, Ex-input: NAMUR sensor/switch, Safe-output: relay, NC contact, 2-channel
GTIN (EAN)	4032248784899
Qty.	1 pc(s).

ACT20X
ACT20X-2HDI-2SDO-RNC-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Technical data

Dimensions and weights

Width	22.5 mm	Width (inches)	0.886 inch
Height	117.2 mm	Height (inches)	4.614 inch
Depth	113.6 mm	Depth (inches)	4.472 inch
Net weight	192 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	207 Years	SIL in compliance with IEC 61508	2

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1

Rated data UL

UL certificate	E337701.pdf

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, 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	≤1.9 W	Protection degree	IP20
Humidity	0...95 % (no condensation)		

ACT20X
ACT20X-2HDI-2SDO-RNC-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Technical data

Insulation coordination

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

Digital output

Switching capacity	500 VA / 60 W (safe area), 16 VA / 60 W (zone 2)	Type	Relay, 1 NC contact, Switching frequency 20 Hz
Nominal switching voltage	≤ 250 V AC / 30 V DC (safe area) ≤ 32 V AC / 32 V DC (zone 2)	Continuous current	≤ 2 A AC/DC (safe area, Zone 2 area)
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

Safety-related basic specifications

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

Safety-related specifications Low demand mode

Average Probability of Failure on Demand (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)	Safe Failure Fraction (SFF)	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 mm²
Clamping range, min.	0.25 mm²	Clamping range, max.	2.5 mm²
Wire connection cross section AWG, min.	AWG 23	Wire connection cross section AWG, max.	AWG 14

ACT20X
ACT20X-2HDI-2SDO-RNC-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Technical data

Ratings IECEx/ATEX/cUL

ATEX certificate	09ATEX0168X.pdf	IEC Ex certificate	IECEx certification
Certificate No. (ATEX)	KEMA09ATEX0168X	Certificate No. (IECEX)	IECEXKEM09.0072X

Classifications

ETIM 3.0	EC002479	ETIM 4.0	EC002479
ETIM 5.0	EC002479	ETIM 6.0	EC002653
UNSPSC	30-21-18-01	eClass 5.1	27-21-01-07
eClass 6.2	27-21-01-07	eClass 7.1	27-21-01-07
eClass 8.1	27-21-01-07	eClass 9.0	27-21-01-20
eClass 9.1	27-21-01-20		

Product information

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

Approvals

Approvals

IECEx - KEMA ATEX - KEMA

Approvals	DNVGL;
ROHS	Conform

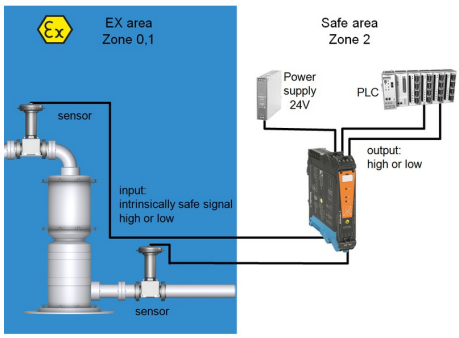
Downloads

Approval/Certificate/Document of Conformity	SIL certificate Certification DNV GL 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 Manual MAN SAFETY ACT20X-(2)HDI-(2)SDO-RNx

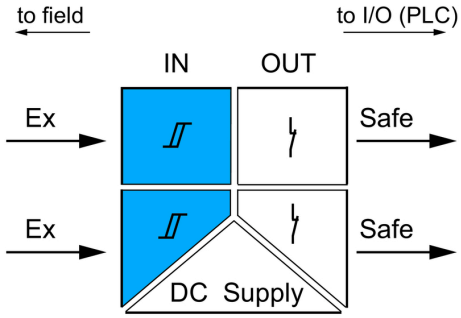
ACT20X
ACT20X-2HDI-2SDO-RNC-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

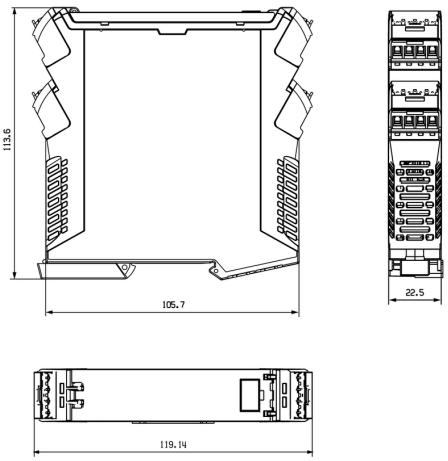
Drawings

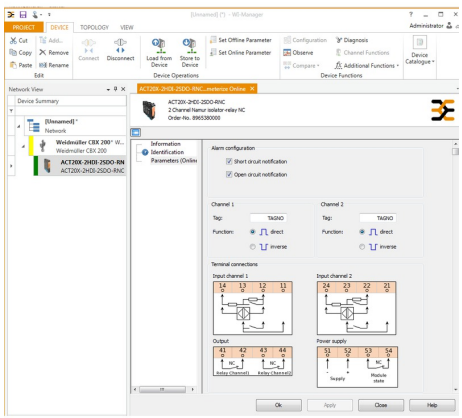


application schematic

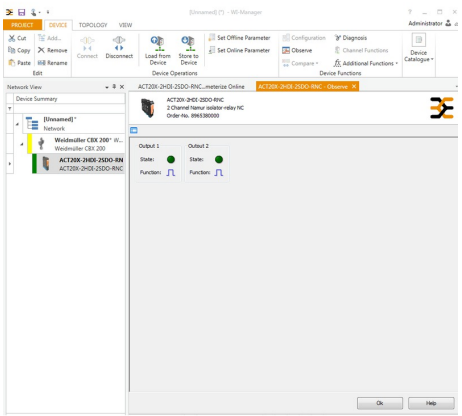


Dimensioned drawing





screenshot of configuration with FDT2 / DTM software

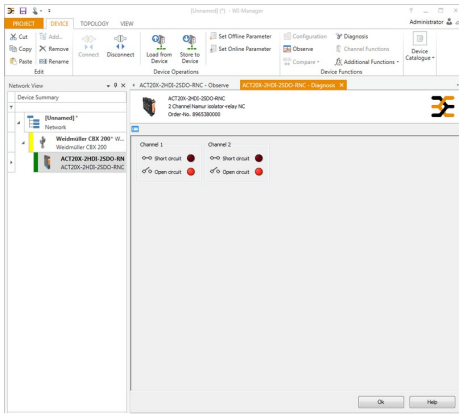


screenshot of "observe" with FDT2 / DTM software

ACT20X
ACT20X-2HDI-2SDO-RNC-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 16
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Drawings



screenshot of "diagnosis" with FDT2 / DTM software

Connection diagram