

ACT20X
ACT20X-SDI-HDO-L-S

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany
Fon: +49 5231 14-0
Fax: +49 5231 14-292083
www.weidmueller.com

Product image, Similar to illustration

The ACT20X-SDI-HDO/2SDI-2HDO valve control modules are controlled from the safe zone on the input side by the switching signals (NPN, PNP) and provide digital outputs to switch actuators (solenoids, alarms) in Ex zone 0. Depending on the module, the output current is limited for the ignition protection groups IIC/IIB to 35 mA or 60 mA (only one channel). 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-SDI-HDO-L-S
Order No.	8965400000
Version	EX signal isolating converter, Safe-input: relay, Ex-output: Opto module, 1-channel, Output current : max. 35 mA
GTIN (EAN)	4032248785018
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	170 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	175 Years	SIL in compliance with IEC 61508	2
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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

Number of inputs	1	Type	NPN, PNP transistor, switching signal [input safe-side valve component]
Input voltage	≤ 28 V DC, Trigger level low: ≤ 2.0 V DC (NPN), ≤ 8.0 V DC (PNP), Trigger level high: ≥ 4.0 V DC (NPN), ≥ 10.0 V DC (PNP)	Input resistance, voltage	3.5 kΩ

Output

Type	intrinsically safe circuit, digital, output = input, direct or inverse (configurable)	Residual ripple (current loop)	< 40 mV _{eff}
Output current	max. 35 mA	Output values	depending on terminal assignment: 12.5 V @ 35 mA / 13.5 V @ 35 mA / 14.5 V @ 35 mA

Alarm output

Alarm function	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)		

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General specifications

Configuration	With FDT/DTM software	Voltage supply	19.2...31.2 V DC
Type of connection	Screw connection	Power consumption	≤ 1.9 W
Step response time	10 ms	Protection degree	IP20
Humidity	0...95 % (no condensation)		

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)

Voltage U_0	28 V DC	Current I_0	≤ 110 mA
Power P_0	≤ 0.77 W	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
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)	24 h
Safe Failure Fraction (SFF)	91 %	T_{proof}	5 Years
Total failure rate for dangerous detected failures (λ_{DD})	61 FIT	Total failure rate for dangerous undetected failures (λ_{DU})	43 FIT
Total failure rate for safe detected failures (λ_{SD})	0 FIT	Total failure rate for safe undetected failures (λ_{SU})	477 FIT
Safety category	SIL 2	Probability of outage PFH	$4.3 \times 10^{-8} \text{ h}^{-1}$

Safety-related specifications Low demand mode

Average Probability of Failure on Demand (PFD_{avg})	2.73×10^{-4} ($T_{proof} = 1$ year), 4.52×10^{-4} ($T_{proof} = 2$ years), 9.89×10^{-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	27-21-01-90
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

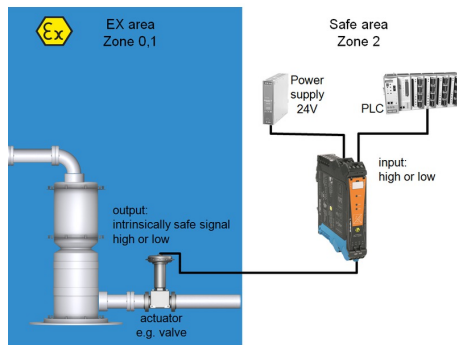
Approval/Certificate/Document of Conformity	Certification SIL Certification DNV GL Certification ATEX Certification IECEX Certification UL Declaration of Conformity
Brochure/Catalogue	CAT 4.1 ELECTR 16/17 EN
Engineering Data	EPLAN, WSCAD
Engineering Data	STEP
Software	WI-Manager, DTM-Library for online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

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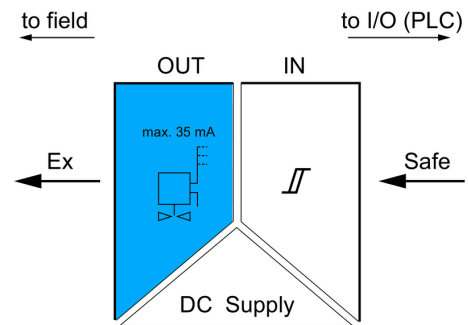
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Drawings

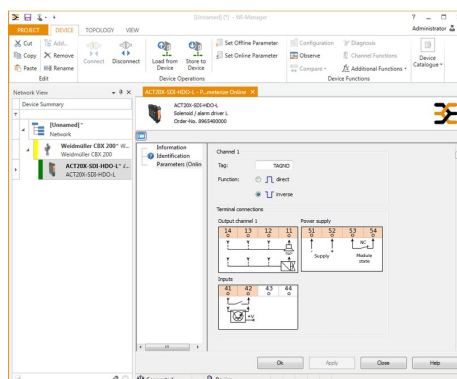
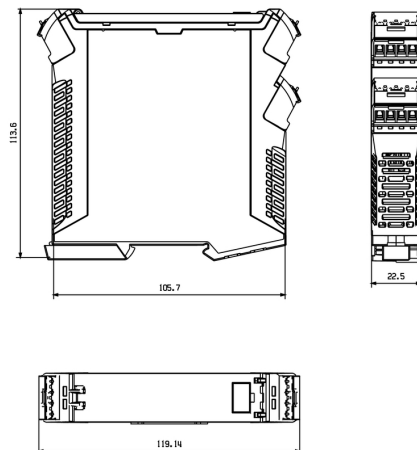
Application



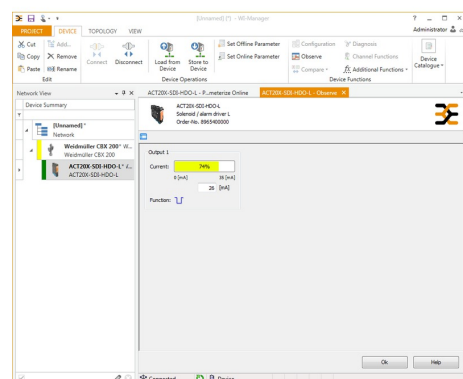
Block diagram



Dimensioned drawing



screenshot of setup configuration
with FDT2 / DTM software



screenshot of "observe" with FDT2 / DTM software

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Connection diagram

