

**ACT20X-SDI-HDO-H-S****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

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**

Version	EX signal isolating converter, Safe-input: relay, Ex-output: Opto module, 1-channel, Output current : max. 60 mA
Order No.	<a href="#">8965410000</a>
Type	ACT20X-SDI-HDO-H-S
GTIN (EAN)	4032248785025
Qty.	1 pc(s).

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## Technical data

### 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	175 a	SFF	91 %

### Assembling

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

### Input

Input resistance, voltage		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)
	3.5 kΩ		
Number of inputs		Type	NPN, PNP transistor, switching signal [input safe-side valve component]
	1		

### Output

Output current	max. 60 mA		
Output values	depending on terminal assignment		
Output values	depending on terminal assignment: 9 V @ 60 mA / 11.5 V @ 50 mA / 10 V @ 60 mA / 12.5 V @ 50 mA / 11 V @ 60 mA / 13.5 V @ 50 mA		
Output values	Current	max.	60 mA
	Voltage	min.	9 V
	Current	max.	50 mA
	Voltage	min.	11.5 V
	Current	max.	60 mA
	Voltage	min.	10 V
	Current	max.	50 mA
	Voltage	min.	12.5 V
	Current	max.	60 mA
	Voltage	min.	11 V
	Current	max.	50 mA
	Voltage	min.	13.5 V
Residual ripple (current loop)	<40 mV <sub>eff</sub>		
Type	intrinsically safe circuit, digital, output = input, direct or inverse (configurable)		

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### Alarm output

Alarm function	No supply voltage, Device error	Continuous current	$\leq 0.5 \text{ A AC} / 0.3 \text{ A DC}$ (safe zone), $\leq 0.5 \text{ A AC} / 1 \text{ A DC}$ (zone 2)
Nominal switching voltage	$\leq 125 \text{ V AC} / 110 \text{ V DC}$ (safe area) $\leq 32 \text{ V AC} / 32 \text{ V DC}$ (zone 2)	Power rating	$\leq 62.5 \text{ VA} / 32 \text{ W}$ (safe area) $\leq 16 \text{ VA} / 32 \text{ W}$ (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)
Power consumption	$\leq 2.5 \text{ W}$	Protection degree	IP20
Step response time	10 ms	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 $I_0$	$\leq 135 \text{ mA}$	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 $P_0$	$\leq 0.77 \text{ W}$
Voltage $U_0$	28 V DC		

### Safety-related basic specifications

Description of the "safe state"	de-energized (relay output)	Device type	B
Diagnostic test interval	10 s	$T_{\text{proof}}$	4 a
Total failure rate for safe detected failures ( $\lambda_{\text{SD}}$ )	0 FIT	Hardware fault tolerance (HFT)	0
Safety category	SIL 2	Safe Failure Fraction (SFF)	91 %
Mean Time To Repair (MTTR)	24 h	Total failure rate for safe undetected failures ( $\lambda_{\text{SU}}$ )	480 FIT
Total failure rate for dangerous detected failures ( $\lambda_{\text{DD}}$ )	61 FIT	Total failure rate for dangerous undetected failures ( $\lambda_{\text{DU}}$ )	46 FIT
Probability of outage PFH	$4.6 \times 10^{-8} \text{ h}^{-1}$	Demand mode	High
Demand rate	1,000 s	Demand response time	<10 ms (opto output)

### Safety-related specifications Low demand mode

Average Probability of Failure on Demand ( $\text{PFD}_{\text{avg}}$ )	$2.92 \times 10^{-4}$ ( $T_{\text{proof}} = 1$ year), $4.84 \times 10^{-4}$ ( $T_{\text{proof}} = 2$ year), $1.06 \times 10^{-4}$ ( $T_{\text{proof}} = 5$ year)
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[www.weidmueller.com](http://www.weidmueller.com)**Technical data****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 <sup>2</sup>
Clamping range, min.	0.25 mm <sup>2</sup>	Clamping range, max.	2.5 mm <sup>2</sup>
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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**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

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## Technical data

### Tender specification sheets

#### Long specification

**Ex valve control modules, 60 mA ignition protection group IIB 1-channel valve control modules in 22.5 mm width with external power supply, to control valves in Ex areas zone 0,1,2 from the safe zone.**  
**The module comes with full three-way, 2.6 kV separation.**  
**On the input side, NPN/ PNP switching sensors can be connected.**  
**On the output side, there are three 60 mA driver steps for ignition protection group IIB with a minimum driver voltage of 9 V/11 V or 12.5 V available optionally.**  
An additional alarm contact ("a" contact) reports status and error messages  
The module can be configured using standard FDT/DTM software.

#### Add-on housing for TS35 DIN rail installation

**Dimensions: L/W/H 119.2/ 22.5/ 113.6**  
**Screw connection/ nominal cross-section 2.5 mm<sup>2</sup>**  
**Protection degree: IP20 input**  
**NPN, PNP switch signal**  
**max. 28 VD-**

**C** out-  
put Ex  
I<sub>max</sub> 60 mA @ ignition protection group IIB  
U with load min. 9 V / min. 11 V / min. 12.5 V U  
without load min. 24 V Alarm output relay 1 NO contact  
250 VAC / 30 VDC @ 2A safe zone  
32 VAC @ 0.5 A / 32 VDC @ 1 A zone 2Auxiliary power 19 to 31.2 VDCPower loss approx. 1.8 W  
Ambienttemperature range -20 °C to +60 °C

#### Short specification

**Ex valve control modules, 60 mA ignition protection group IIB 1-channel valve control modules in 22.5 mm width with external power supply, to control valves in Ex zones 0,1,2 from the safe zone.**

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**Technical data****Environmental Product Compliance**

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	<a href="#">Certification SIL</a> <a href="#">Certification DNV GL</a> <a href="#">Certification ATEX</a> <a href="#">Certification IECEX</a> <a href="#">Certification UL</a> <a href="#">Declaration of Conformity</a>
Engineering Data	<a href="#">CAD data – STEP</a>
Software	<a href="#">WI-Manager, DTM-Library for online installation</a> <a href="#">Release notes for Weidmueller FDT-DTM Software version</a>
User Documentation	<a href="#">Instruction sheet</a> <a href="#">Safety Manual for SIL application</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>
Brochures	

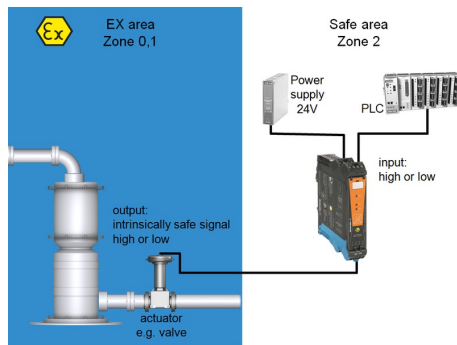
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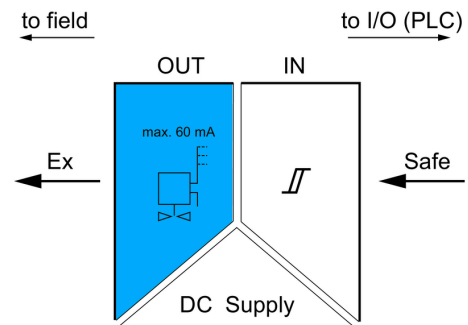
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## Drawings

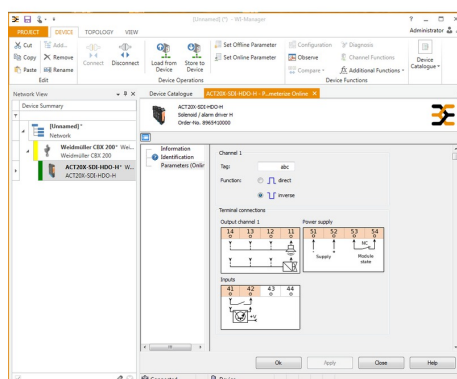
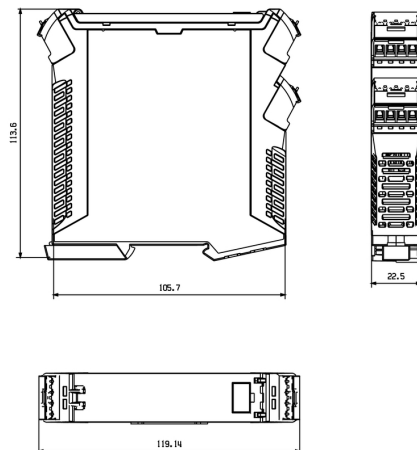
### Application



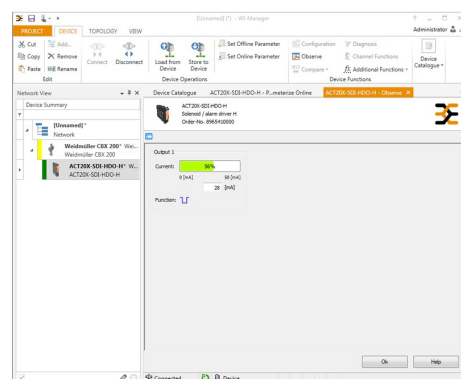
### Block diagram



### Dimensioned drawing



screenshot of configuration with  
FDT2 / DTM software example



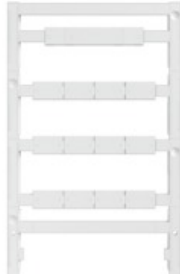
screenshot of "observe" with FDT2 / DTM software

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[www.weidmueller.com](http://www.weidmueller.com)**Accessories****Blank**

ESG is the tried-and-tested marker in MultiCard format for use on many well-known electrical devices. The result is high-quality device marking with a high-contrast appearance.

Various types are available for devices from manufacturers like Siemens, ABB, Beckhoff etc.

Advantages at a glance:

- Tags for universal usage, self-adhesive or clip-on tags, depending on type
- For aligned equipment, e.g. circuit breakers, we supply ESG markers for clipping onto tag rails
- Individual laser-quality printing according to specifications

**For custom printing:** Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

**General ordering data**

Type	ESG 8/13.5/43.3 SAI AU	Version
Order No.	<a href="#">1912130000</a>	ESG, Device markers x 13.5 mm, PA 66, Colour: Transparent
GTIN (EAN)	4032248541164	
Qty.	5 pc(s).	

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**General ordering data**

Type	ESG 6.6/20 BHZ 5.00/04	Version
Order No.	<a href="#">1082540000</a>	ESG, Device markers x 20 mm, PA 66, Colour: white
GTIN (EAN)	4032248845439	
Qty.	200 pc(s).	

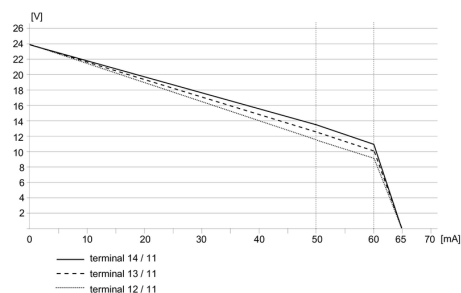
**Configuration interfaces****General ordering data**

Type	CBX200 USB
Order No.	<a href="#">8978580000</a>
GTIN (EAN)	4032248813759
Qty.	1 pc(s).

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**Drawings**
**Derating curve**

**Connection diagram**
