

ACT20X-SDI-HDO-H-P**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. | 2456120000 |
| Type | ACT20X-SDI-HDO-H-P |
| GTIN (EAN) | 4050118471533 |
| Qty. | 1 pc(s). |

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Technical data**Dimensions and weights**

| | | | |
|------------|----------|-----------------|------------|
| Depth | 113.6 mm | Depth (inches) | 4.472 inch |
| Height | 127.1 mm | Height (inches) | 5.004 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 in compliance with IEC 61508 | 2 | MTBF | 175 a |
| SFF | 91 % | | |

Assembling

| | | | |
|-------------------|----------------------------|------|-------|
| Mounting position | horizontal or vertical | Rail | TS 35 |
| Type of mounting | 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 | 1 | Sensor | NAMUR sensor, according to EN60947-5-6 |
| Type | NPN, PNP transistor, switching signal [input safe-side valve component] | | |

Output

| | | | |
|--------------------------------|-----------------------|---------------|---|
| Output current | max. 60 mA | Output values | depending on terminal assignment |
| Residual ripple (current loop) | | Type | intrinsically safe circuit, digital, output = input, direct or inverse (configurable) |
| | <40 mV _{eff} | | |

Digital output

| | | | |
|--------------------------|-------|--|--|
| Max. switching frequency | 20 Hz | | |
|--------------------------|-------|--|--|

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Technical data**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 | $\leq 1.9 \text{ W}$ | Protection degree | IP20 |
| Step response time | 10 ms | Type of connection | PUSH IN |
| Voltage supply | 19.2...31.2 V DC | | |

Insulation coordination

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

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_{proof} | 4 a |
| Total failure rate for safe detected failures (λ_{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 (λ_{SU}) | 480 FIT |
| Total failure rate for dangerous detected failures (λ_{DD}) | 61 FIT | Total failure rate for dangerous undetected failures (λ_{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 (PFD_{avg}) | 2.92×10^{-4} ($T_{\text{proof}} = 1$ year), 4.84×10^{-4} ($T_{\text{proof}} = 2$ year), 1.06×10^{-4} ($T_{\text{proof}} = 5$ year) |
|--|--|

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Technical data**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 ² |
| Wire cross-section, solid, max. | 2.5 mm ² | Wire connection cross section, finely stranded, min. | 0.2 mm ² |
| Wire connection cross section, finely stranded, max. | 2.5 mm ² | Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, min. | 0.2 mm ² |
| Wire connection cross-section, finely stranded with wire-end ferrules DIN 46228/4, max. | 2.5 mm ² | | |

Guarantee

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

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 |

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 |

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www.weidmueller.com**Technical data****Downloads**

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

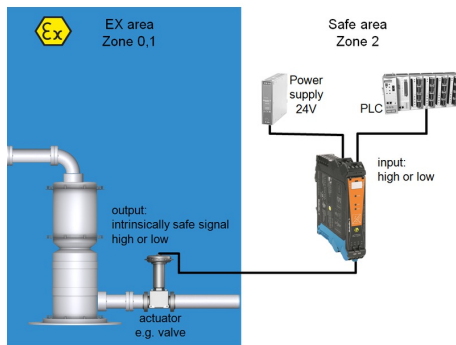
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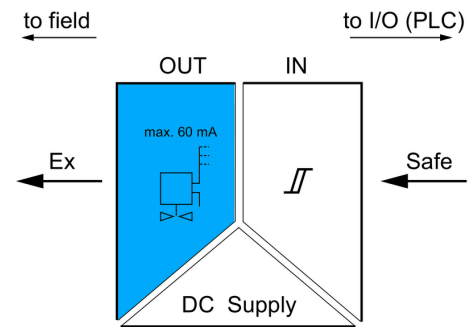
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Drawings

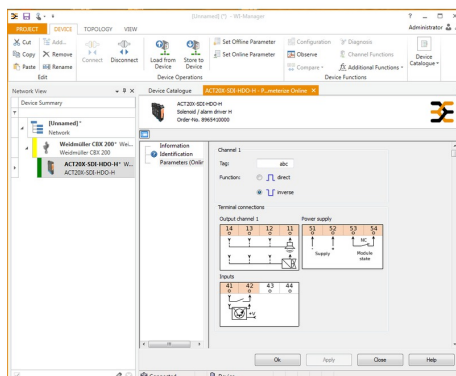
Application



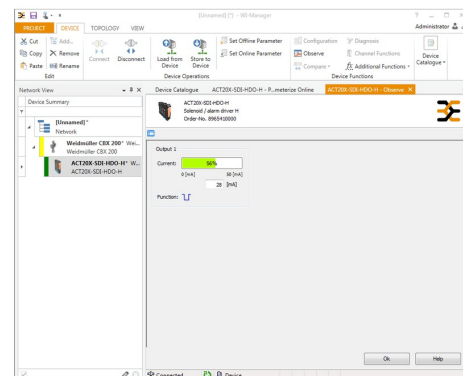
Block diagram



Dimensioned drawing



screenshot of configuration with
FDT2 / DTM software example



screenshot of "observe" with FDT2 / DTM software

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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 6.6/20 BHZ 5.00/04 | Version |
| Order No. | 1082540000 | ESG, Device markers x 20 mm, PA 66, Colour: white |
| GTIN (EAN) | 4032248845439 | |
| Qty. | 200 pc(s). | |

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General ordering data

| | | |
|------------|----------------------------|---|
| Type | ESG 8/13.5/43.3 SAI AU | Version |
| Order No. | 1912130000 | ESG, Device markers x 13.5 mm, PA 66, Colour: Transparent |
| GTIN (EAN) | 4032248541164 | |
| Qty. | 5 pc(s). | |

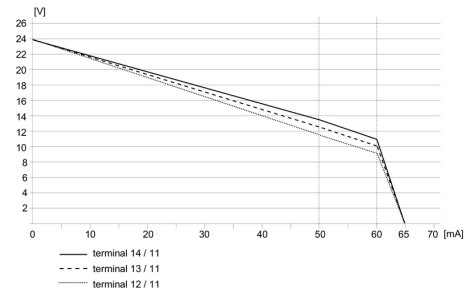
Configuration interfaces**General ordering data**

| | |
|------------|----------------------------|
| Type | CBX200 USB |
| Order No. | 8978580000 |
| GTIN (EAN) | 4032248813759 |
| Qty. | 1 pc(s). |

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Drawings
Derating curve

Connection diagram
