

ACT20X-2SDI-2HDO-P

Weidmüller Interfaces GmbH & Co. KG

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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, 2-channel, Output current : max. 35 mA |
| Order No. | 2456130000 |
| Type | ACT20X-2SDI-2HDO-P |
| GTIN (EAN) | 4050118471298 |
| Qty. | 1 pc(s). |

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Technical data

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 | 180 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 | 176 Years | | |

Input

| | | | |
|---------------------------|---|---------------|---|
| Input resistance, voltage | 3.5 kΩ | 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) |
| Number of inputs | 2 | Sensor | NAMUR sensor, according to EN60947-5-6 |
| Type | NPN, PNP transistor, switching signal [input safe-side valve component] | | |

Output

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

Alarm output

| | | | |
|---------------------------|---|--------------------|---|
| Alarm function | 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) | | |

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Technical data**General specifications**

| | | | |
|--------------------|--|--------------------|---|
| Configuration | With FDT/DTM software, Requires configuration adapter 8978580000 CBX200 USB | Humidity | www.weidmueller.com 0...95 % (no condensation) |
| Power consumption | ≤ 1.9 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 | | |

Data for Ex applications (ATEX)

| | | | |
|------------------------|---|-----------------------|--|
| Current I ₀ | ≤ 110 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 | ≤ 0.95 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} | 5 Years |
| 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}) | 477 FIT |
| Total failure rate for dangerous detected failures (λ _{DD}) | 61 FIT | Total failure rate for dangerous undetected failures (λ _{DU}) | 43 FIT |
| Probability of outage PFH | 4.3 x 10 ⁻⁸ 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}) | 2.73 x 10 ⁻⁴ (T _{proof} = 1 year), 4.52 x 10 ⁻⁴ (T _{proof} = 2 years), 9.89 x 10 ⁻⁴ (T _{proof} = 5 years) |
|--|--|

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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 | 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 |

Data sheet

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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 | Library and function block – 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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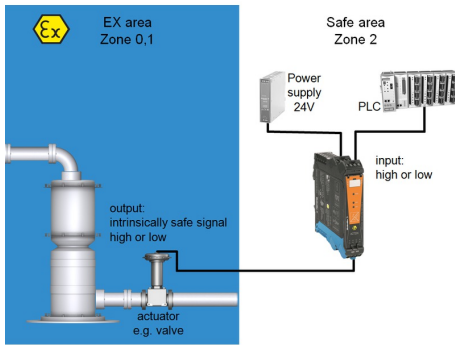
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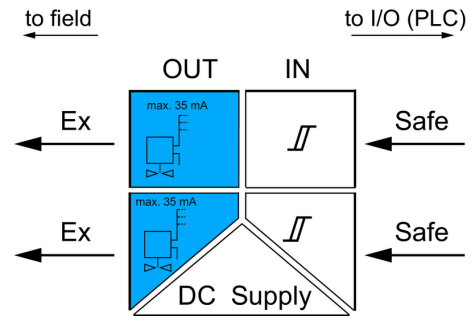
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Drawings

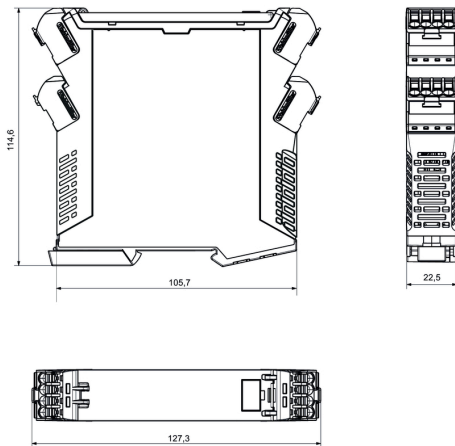
Application



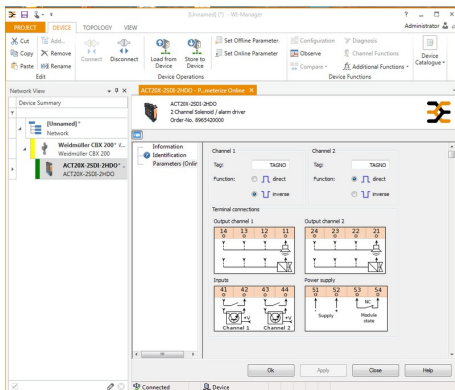
Block diagram



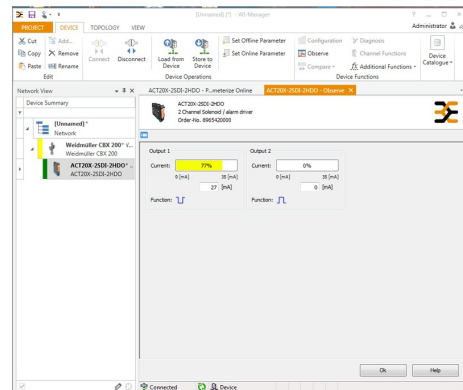
Dimensioned drawing



Similar to illustration



screenshot of setup configuration with FDT2 / DTM software



screenshot of "observe" with FDT2 / DTM software

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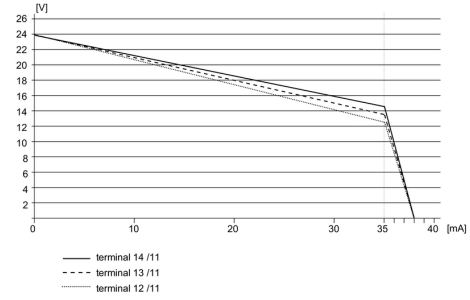
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Drawings

Derating curve



Connection diagram

