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ACT20X-SDI-HDO-L-S

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 option- ally 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, 1-channel, Output current : max. 35 mA
Order No.	8965400000
Type	ACT20X-SDI-HDO-L-S
GTIN (EAN)	4032248785018
Qty.	1 pc(s).

ACT20X-SDI-HDO-L-S

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		

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. 35 mA		
Output values	depending on terminal assignment: 12.5 V @ 35 mA / 13.5 V @ 35 mA / 14.5 V @ 35 mA		
Output values	Voltage	min.	12.5 V
	Current	max.	35 mA
	Voltage	min.	13.5 V
	Current	max.	35 mA
	Voltage	min.	14.5 V
	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)		

Digital output

Max. switching frequency	20 Hz

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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)		

General specifications

Configuration	With FDT/DTM software, Requires configuration adapter 8978580000 CBX200 USB	Humidity	0…95 % (no condensation)
Operating altitude	≤ 2000 m	Power consumption	≤ 1.9 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	≤ 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	≤ 0.77 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 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})	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	4.3×10^{-8} h^{-1}	Demand mode	High
Demand rate	1,000 s	Demand response time	<10 ms (relay output)

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 mm²
Clamping range, min.	0.25 mm²	Clamping range, max.	2.5 mm²
Wire connection cross section AWG, min.	AWG 26	Wire connection cross section AWG, max.	AWG 12

Guarantee

Time interval	3 years

Classifications

ETIM 6.0	EC002653	ETIM 7.0	EC002653
ETIM 8.0	EC002653	ETIM 9.0	EC002653
ETIM 10.0	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	ECLASS 14.0	27-21-01-20
ECLASS 15.0	27-21-01-20		

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Technical data

Tender specification sheets

Long specification

Ex valve control modules, 35 mA ignition protection group IIC 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 35 mA driver steps for ignition protection group IIC with
a minimum driver voltage of 12.5 V/13.5 V or 14.5 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^2
Protection degree: IP20   input
** NPN, PNP switch signal**
** max. 28 VDC**   output Ex
Imax 35 mA @ ignition protection group IIC
U with load min. 12.5 V / min. 13.5 V / min. 14.5 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 VDC
Power loss approx. 1.8 W
Ambient temperature range -20 °C to +60 °C
Secure isola tion   EN 61010, 3-way isolation up to

Short specification

Ex valve control modules, 35 mA ignition protection group IIC 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

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Technical data

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	2f6dd957-421a-46db-a0c2-cf1609156924

Approvals

Approvals	

Approvals	DNVGL;
Approvals MAMID	https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319228/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319234/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319237/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319238/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319240/-T1z1mm-S800/ https://mdcop.weidmueller.com/mediadelivery/rendition/900_319243/-T1z1mm-S800/
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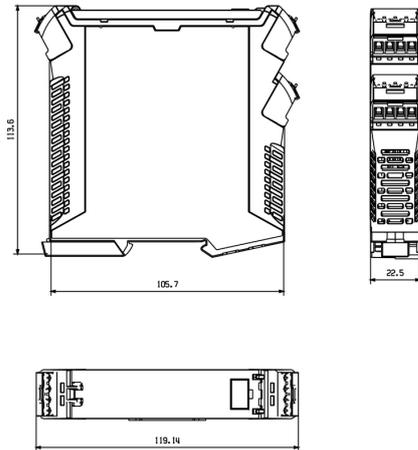|	
Approval/Certificate/Document of Conformity	Certification SIL Certification DNV GL Certification ATEX Certification IECEx Certification UL UL certification for canada Declaration of Conformity
Engineering Data	CAD data – STEP
Software	WI-Manager, DTM-Library for online installation Release notes for Weidmueller FDT-DTM Software version
User Documentation	Instruction sheet Safety Manual for SIL application Handbuch ACT20X- Serie, deutsch Manual ACT20X- series, english 20210120 Security Advisory - WI-Manager affected by MundM Software fdtCONTAINER vulnerability
Catalogues	Catalogues in PDF-format
Brochures	

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Drawings

Connection diagram

Application

Block diagram

Derating curve

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Drawings

Dimensioned drawing

Removable terminals with coding

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