

ED2-VM-Ex2.35

ED2-VM-Ex4.3*

- 2-channel model: ED2-VM-Ex2.35
- 4-channel model: ED2-VM-Ex4.3*
- ATEX approval
- Outputs EEx ib IIC
- 24 V DC supply voltage
- Switch status indicator: LED yellow
- Current supply indicator: LED green
- Common or separate current supply for the 4 channels
- 1-logic input per channel for on/off switching
- Outputs galvanically isolated from the power supply and inputs
- EMC per NAMUR NE 21
- Up to SIL2 acc. to IEC 61508

The ED2-VM-Ex2.35 and ED2-VM-Ex4.3* driver modules have internal logic inputs that are internally OR connected. The differing characteristics of the devices can be determined from the technical data. In the range of no load to the curve angle point, the output behaves as a source. The output is galvanically isolated from the input and the power supply.

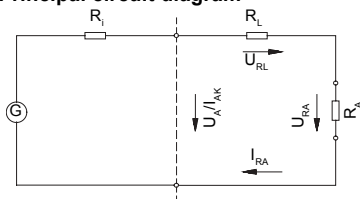
Application

Especially suited for the control of magnetic valves from the SAMSON/SAMSOMATIC company.

Note

The auxiliary supply of the solenoid driver can be activated with a control safe module per channel. A safety circuit is the result in this case.

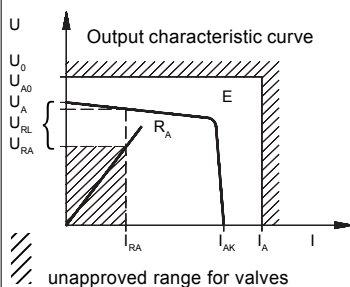
Principal circuit diagram



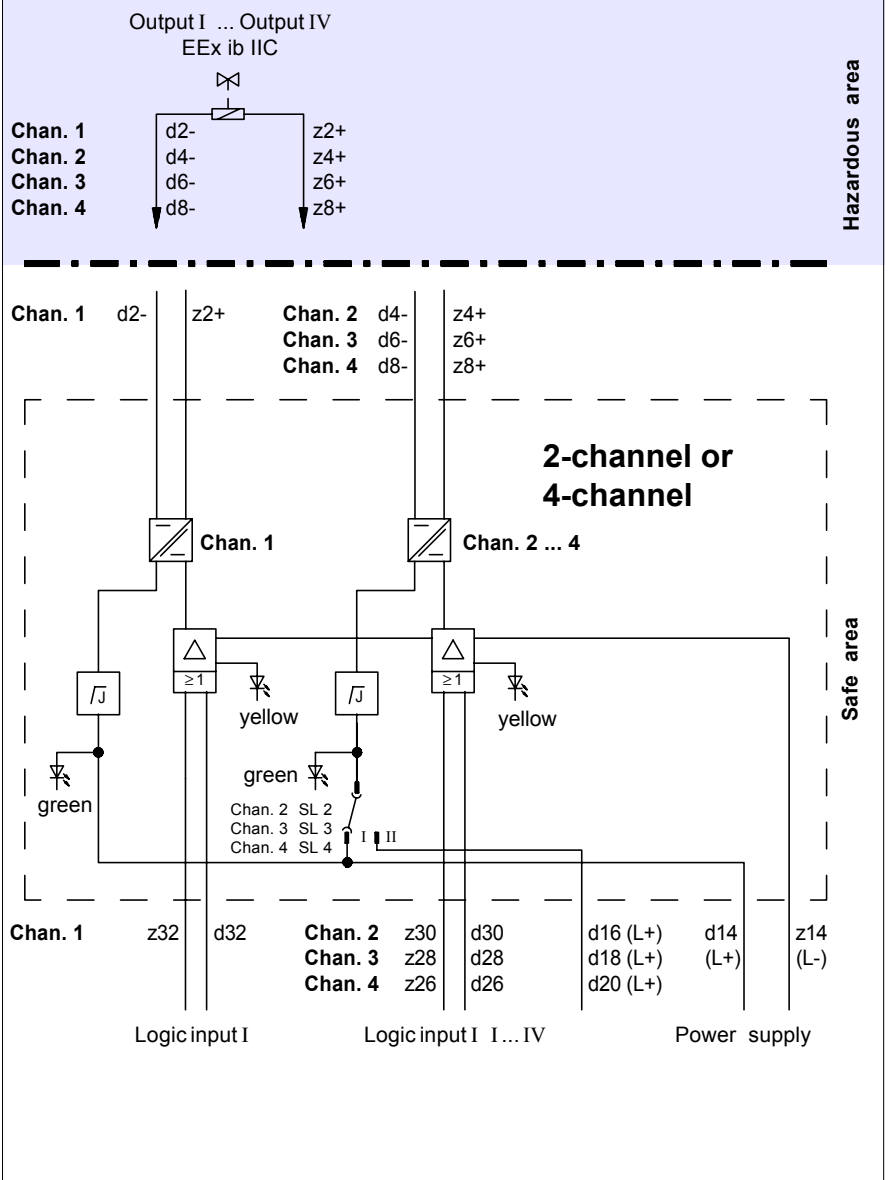
- G: Generator
- R_i : Internal resistance
- R_L : Lead resistance
- R_A : Load resistance
- U_{A0} : Open circuit voltage
- U_A : Output voltage
- U_{RL} : Voltage drop on the lead resistor
- U_{RA} : Voltage drop on the load
- U_G : Max. voltage
- I_G : Max. current
- I_{AK} : Short circuit current
- I_{RA} : Load current

Output characteristic curve

E: Curve angle point (U_E/U_E)

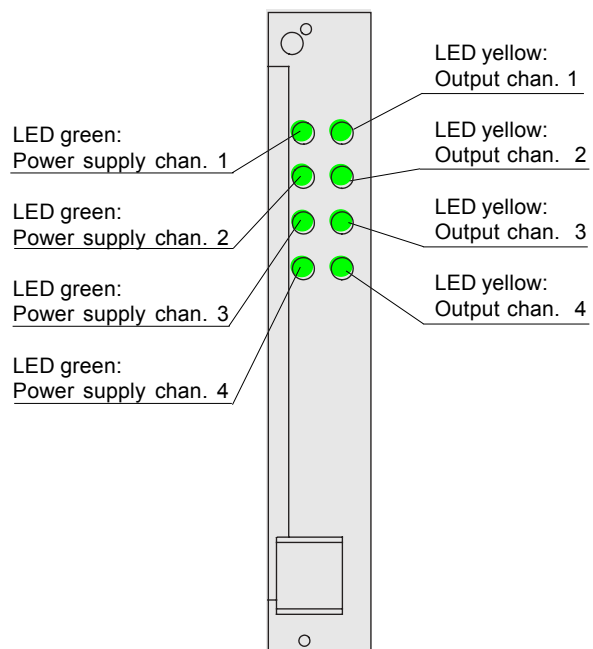


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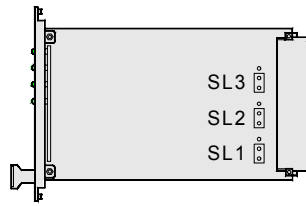
Front view

Type A



Technical data						
Power supply	connections d14 (L+); d16 (L+); d18 (L+); d20 (L); z14 (L-)					
Nominal voltage	20 ... 30 V DC					
Ripple	≤ 10%					
Nominal current	about 180 mA					
Input (not intrinsically safe)						
Input I :	logic input			connections z32, d32 across from z14 (L-)		
Input II :	logic input			connections z30, d30 across from z14 (L-)		
Input III :	logic input			connections z28, d28 across from z14 (L-)		
Input IV :	logic input			connections z26, d26 across from z14 (L-)		
Signal level logic-1	15 ... 30 V DC					
Signal level logic-0	0 ... 5 V DC					
Input current	about 5 mA					
Input delay	5 ... 30 ms (typically 10 ms)					
Output (intrinsically safe)						
Output I :	connections d2-, z2+					
Output II :	connections d4-, z4+					
Output III :	connections d6-, z6+					
Output IV :	connections d8-, z8+					
Nominal values	ED2-VM-Ex4.30		ED2-VM-Ex4.32		ED2-VM-Ex4.35 ED2-VM-Ex2.35	
Internal resistance	≥ 5.7 V	typical 6.2 V	≥ 14 V	typical 15 V	≥ 22.3 V	typical 24 V
Curve angle point E	≤ 10 Ω	typical 10 Ω	≤ 205 Ω	typical 200 Ω	≤ 410 Ω	typical 400 Ω
Voltage U _E	≥ 5.4 V	typical 6 V	≥ 9.7 V	typical 10 V	≥ 15.3 V	typical 16 V
Current J _E	≥ 31 mA	typical 33 mA	≥ 21 mA	typical 22 mA	≥ 17 mA	typical 18 mA
Data for application in conjunction with hazardous areas	PTB 00 ATEX 2192, for additional certificates see www.pepperl-fuchs.com					
EC-Type Examination Certificate	Ⓔ II (1) G D [EEx ia] IIC					
Group, category, type of protection	ED2-VM-Ex4.30					
Output	ED2-VM-Ex4.30		ED2-VM-Ex4.32		ED2-VM-Ex4.35 ED2-VM-Ex2.35	
Max. voltage U ₀	EEx ib IIC		EEx ib IIC		EEx ib IIC	
Max. current I ₀	10.5 V		12.6 V		25.2 V	
Max. power P ₀	120.11 mA		86.05 mA		67.18 mA	
Characteristic	315.29 mW		338.83 mW		423.46 mW	
Type of protection [EEx ia und EEx ib]	linear		linear		linear	
Explosion group	IIA	IIB	IIC	IIA	IIB	IIC
Max. external capacitance C ₀	75 µF	16.8 µF	2.41 µF	11.6 µF	2.88 µF	478 nF
Max. external inductance L ₀	15 mH	9 mH	2 mH	30 mH	15 mH	5 mH
Fail-safe max. voltage U_m	253 V (Attention! The nominal voltage can be lower.)		60 V		60 V	
Supply	EN 50014, EN 50020					
Logic input						
Directive conformity						
Directive 94/9 EC						
Transfer characteristics						
Switch frequency	15 Hz					
Galvanic isolation						
Output I ... IV from input I ... IV	safe galvanic isolation per EN 50 020, voltage peak value 375 V					
Output I ... IV from power supply	safe galvanic isolation per EN 50 020, voltage peak value 375 V					
Conformity to standard						
Climatic conditions	per DIN IEC 721					
Electromagnetic compatibility	per EN 50081-2/EN 50082-2, NAMUR NE 21					
Ambient temperature	-25 ... +60 °C (248 ... 333 K)					
Connection method	32-pin plug connector per DIN 41612, Series 2, Type F; z and d provided					
Coding	ED2-VM-Ex4.30		ED2-VM-Ex4.32		ED2-VM-Ex4.35 ED2-VM-Ex2.35	
Weight	a23/c1		a23/c5		a23/c13	
Weight	about 220 g					

Side view



Delivery status:

All plug-in jumpers on position I.

Position I: Common current supply for the channels

Position II: Separate current supply for the channels

