

Solenoid Driver

KFD2-VM-Ex1.35.L

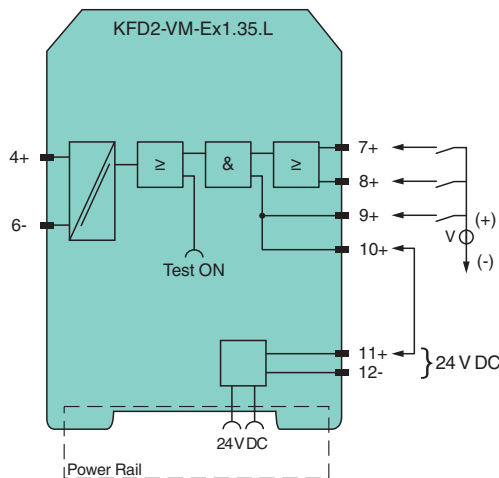
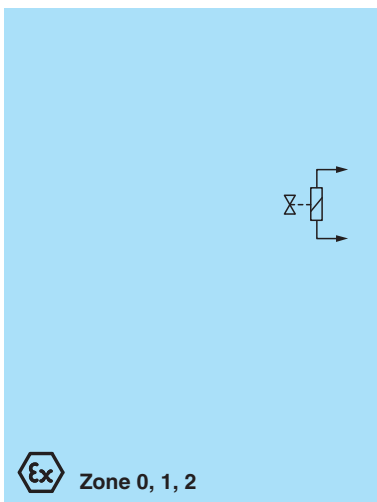
- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Output 15.3 V DC at 17 mA
- 3 logic inputs with AND/OR logic
- Service port for isolator function test



Function

This isolated barrier is used for intrinsic safety applications. It supplies power to solenoids and other similar loads. It is controlled by two "OR" and one "AND" configured logic input. At full load, 15.3 V at 17 mA is available for the hazardous area load. An override/test jack feature is available on the front plate of the device. By engaging the service plug, the logic inputs are bypassed and the output is energized. The operation of this test feature is indicated by a red LED.

Connection



Ex Zone 0, 1, 2

Technical Data

General specifications	
Signal type	Digital Output
Supply	
Connection	Power Rail or terminals 11+, 12-
Rated voltage	U_r 20 ... 30 V DC
Ripple	≤ 10 %
Rated current	I_r ≤ 52 mA
Power dissipation	typ. 1.2 W
Power consumption	< 1.5 W
Input	
Connection side	control side

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

Connection	terminals 7+, 8+, 9+	
Signal level	1-signal: 15 ... 30 V DC ; input current: approx. 2.3 mA at 24 V DC 0-signal: 0 ... 5 V DC or open input	
Response delay	5 ... 30 ms (typical 10 ms)	
Output		
Connection side	field side	
Internal resistor	R_i	max. 410 Ω
Current	I_e	typ. 18 mA
Voltage	U_e	typ. 16 V
Limit	current I_E : ≥ 17 mA; typ. 18 mA voltage U_E : ≥ 15.3 V; typ. 16 V	
Open loop voltage	U_s	min. 22.3 V
Connection	terminals 4+, 6-	
Output current	17 mA	
Output signal	These values are valid for the rated operating voltages from 20 ... 30 V DC.	
Transfer characteristics		
Switching frequency	15 Hz	
Galvanic isolation		
Input/power supply	not available	
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)	
Conformity		
Electromagnetic compatibility	NE 21	
Degree of protection	IEC 60529:2001	
Ambient conditions		
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)	
Mechanical specifications		
Degree of protection	IP20	
Connection	screw terminals	
Mass	approx. 150 g	
Dimensions	20 x 107 x 115 mm (0.8 x 4.2 x 4.5 inch) (W x H x D) , housing type B1	
Height	107 mm	
Width	20 mm	
Depth	115 mm	
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001	
Data for application in connection with hazardous areas		
EU-type examination certificate	PTB 00 ATEX 2132	
Marking	Ⓔ II (1)GD [Ex ia] IIC [circuit(s) in zone 0/1/2]	
Output	Ex ia	
Voltage	U_o	25.2 V DC
Current	I_o	67.2 mA
Power	P_o	423.5 mW (linear characteristic)
Supply		
Maximum safe voltage	U_m	253 V AC/125 V DC without jumper 10-11, 60 V with jumper 10-11 (Attention! U_m is no rated voltage.)
Input		
Maximum safe voltage	U_m	60 V (Attention! U_m is no rated voltage.)
Galvanic isolation		
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V	
Output/power supply	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V	
Directive conformity		
Directive 2014/34/EU	EN IEC 60079-0:2018+AC:2020 , EN 60079-11:2012	
General information		

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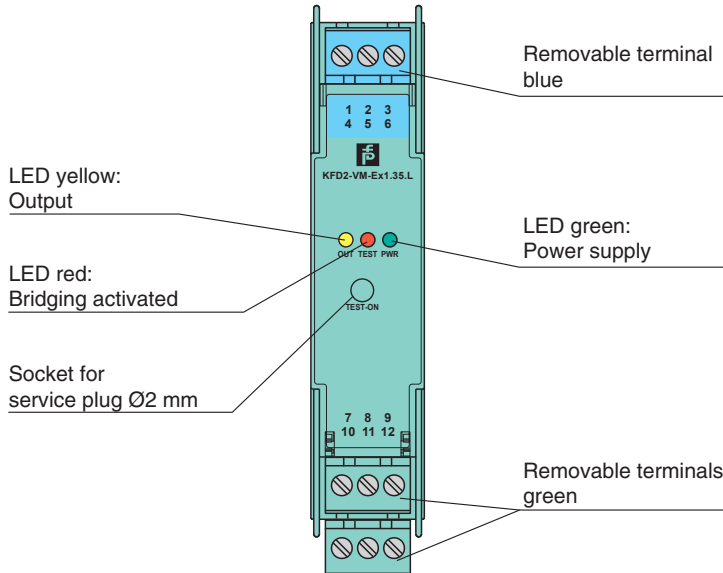
Technical Data

Supplementary information

Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com.

Assembly

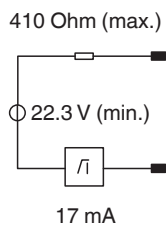
Front view



Characteristic Curve

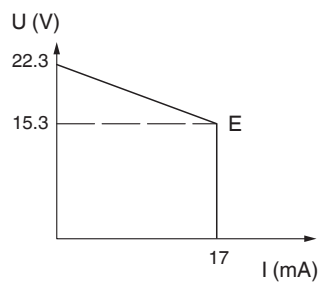
Output circuit diagramm

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Output characteristic for input voltage

20 V ... 30 V
E: Curve angle point (U_E, I_E)



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