

Solenoid Driver

KFD2-VM-Ex1.35.L

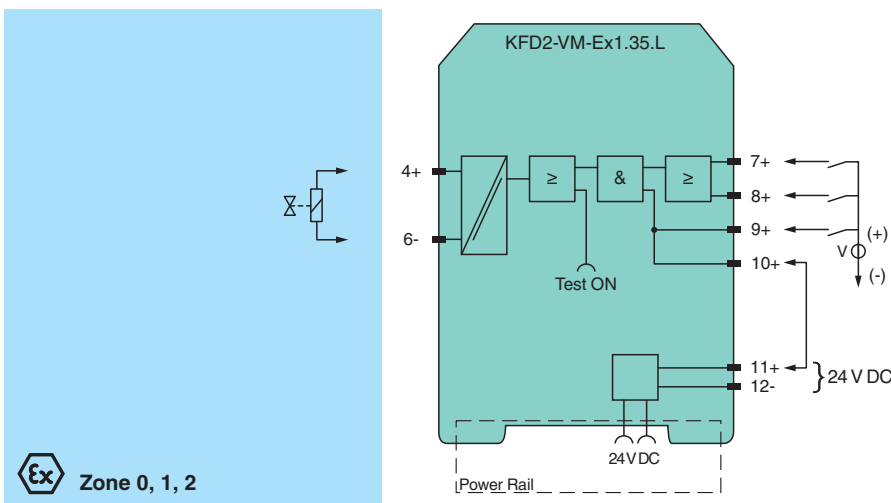
- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Output 15.3 V DC at 17 mA
- 3 logic inputs with AND/OR logic
- Service port for isolator function test



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. The output signal has a resistive characteristic. 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	

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

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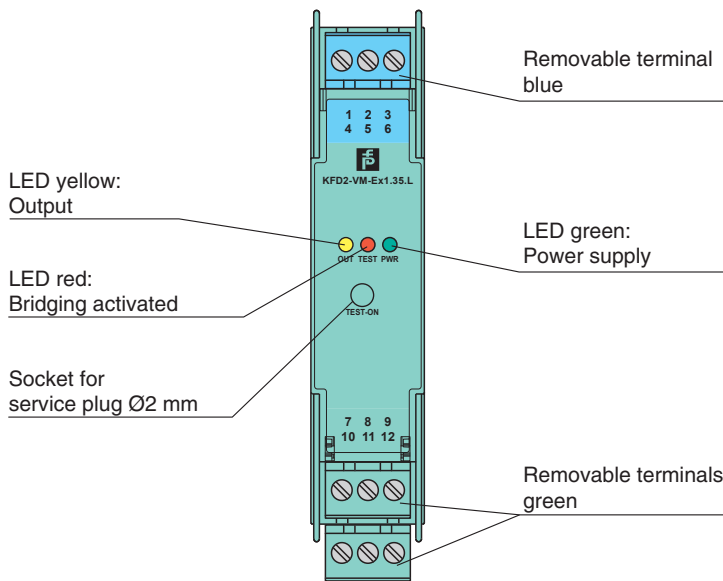
Technical Data

Connection side		control side
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 rated operating 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
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 60079-0:2012+A11:2013 , EN 60079-11:2012
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

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Assembly

Front view

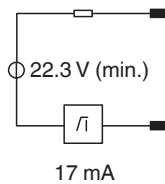


Characteristic Curve

Output circuit diagramm

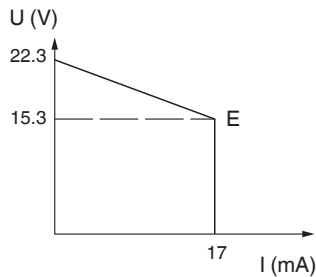
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410 Ohm (max.)








Output characteristic for input voltage

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



Matching System Components

	KFD2-EB2	Power Feed Module
	UPR-03	Universal Power Rail with end caps and cover, 3 conductors, length: 2 m
	UPR-03-M	Universal Power Rail with end caps and cover, 3 conductors, length: 1,6 m
	UPR-03-S	Universal Power Rail with end caps and cover, 3 conductors, length: 0.8 m
	K-DUCT-BU	Profile rail, wiring comb field side, blue

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Matching System Components



K-DUCT-BU-UPR-03 Profile rail with UPR-03- * insert, 3 conductors, wiring comb field side, blue

Accessories

	KF-ST-5GN	Terminal block for KF modules, 3-pin screw terminal, green
	KF-ST-5BU	Terminal block for KF modules, 3-pin screw terminal, blue
	KF-CP	Red coding pins, packaging unit: 20 x 6

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