Features

- 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.

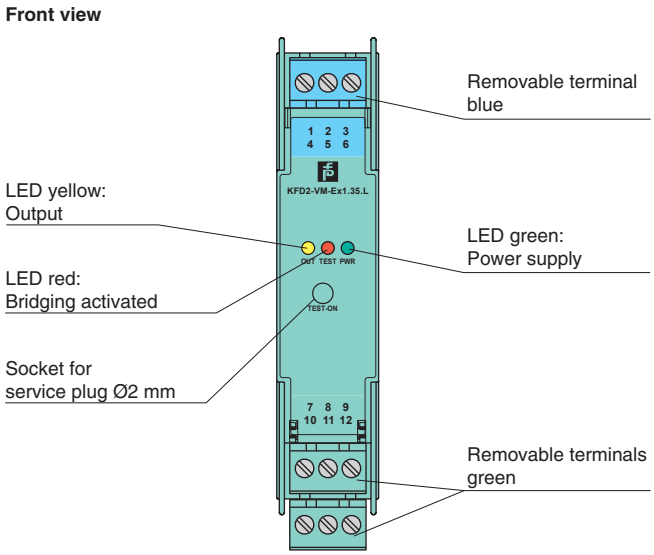
At full load, 15.3 V at 17 mA is available for the hazardous area load. The output signal has a resistive characteristic.

An override/test jack feature is available on the front plate of the device.

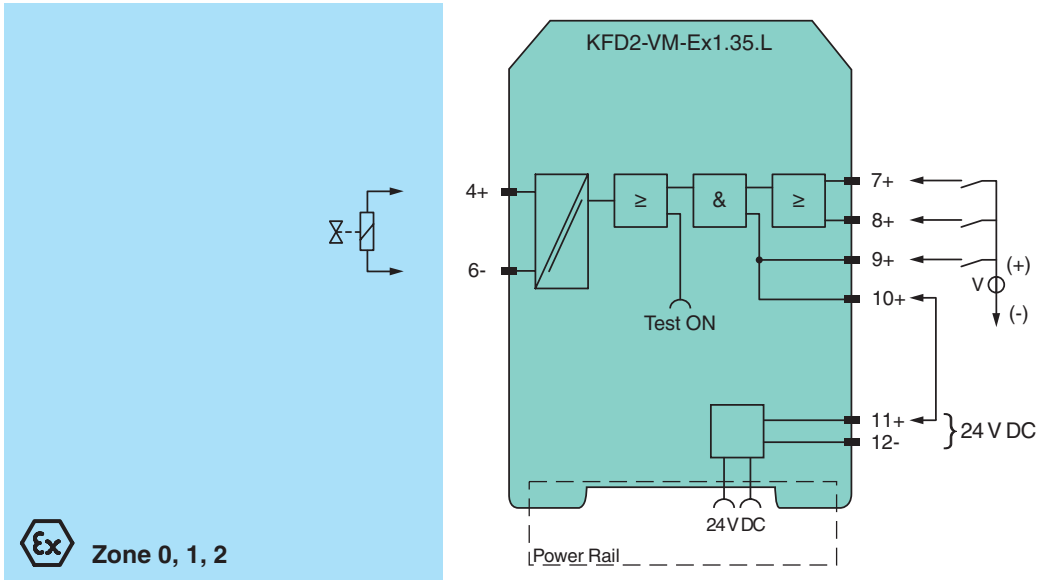
By engaging the service plug, the logic inputs are bypassed and the output is energized. The operation of this test feature is indicated by a red LED.

Assembly

Front view



Connection



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General specifications		
Signal type		Digital Output
Supply		
Connection		Power Rail or terminals 11+, 12-
Rated voltage	U_n	20 ... 30 V DC
Ripple		≤ 10 %
Rated current	I_n	≤ 52 mA
Power loss		typ. 1.2 W
Power consumption		< 1.5 W
Input		
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		
Internal resistor	R_i	≤ 410 Ω
Limit		current I_E: ≥ 17 mA; typ. 18 mA voltage U_E: ≥ 15.3 V; typ. 16 V
Open loop voltage	U_s	≥ 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
Electrical isolation		
Input/power supply		not available
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
Conformity		
Electromagnetic compatibility		NE 21
Degree of protection		IEC 60529
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		approx. 150 g
Dimensions		20 x 107 x 115 mm (0.8 x 4.2 x 4.5 in) , housing type B1
Data for application in connection with Ex-areas		
EC-Type Examination Certificate		PTB 00 ATEX 2132 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		⟨Ex⟩ II (1)GD [EEx ia] IIC [circuit(s) in zone 0/1/2]
Output		EEx ia IIC
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.)
Type of protection [EEx ia and EEx ib]		
Input		
Maximum safe voltage	U_m	60 V (Attention! U_m is no rated voltage.)
Electrical isolation		
Input/Output		safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Output/power supply		safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity		
Directive 94/9/EC		EN 50014, EN 50020
General information		
Supplementary information		EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.

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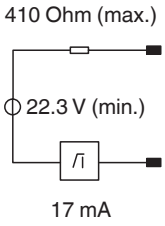
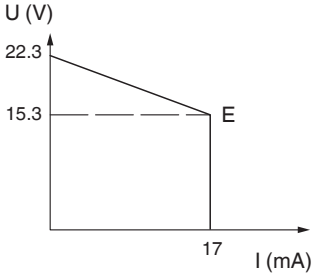
Note

Output circuit diagramm

KFD2-VM-Ex1.35.L



Output characteristic for input voltage
20 V ... 30 V
E: Curve angle point (U_E, I_E)



Accessories

Power feed module KFD2-EB2

The power feed module is used to supply the devices with 24 V DC via the Power Rail. The fuse-protected power feed module can supply up to 100 individual devices depending on the power consumption of the devices. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm. To make electrical contact, the devices are simply engaged.

Profile Rail K-DUCT with Power Rail

The profile rail K-DUCT is an aluminum profile rail with Power Rail insert and two integral cable ducts for system and field cables. Due to this assembly no additional cable guides are necessary.

Attention

Power Rail and Profile Rail must not be fed via the device terminals of the individual devices!

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