

**Features**

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Input 2-wire and 3-wire SMART transmitters and 2-wire SMART current sources
- Signal splitter (1 input and 2 outputs)
- Dual output 0/4 mA ... 20 mA
- Terminal blocks with test sockets
- High field voltage 17.6 V DC
- Up to SIL3 acc. to IEC 61508

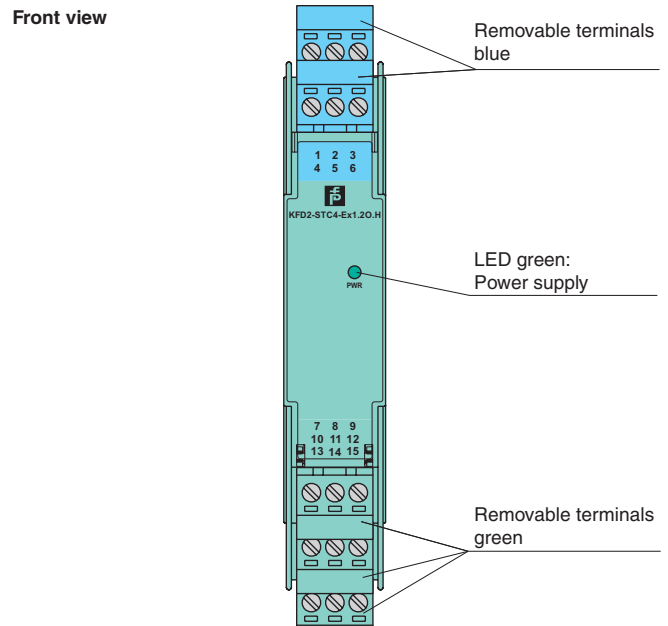
**Function**

This isolated barrier is used for intrinsic safety applications. The device supplies 2-wire and 3-wire SMART transmitters with higher output voltage in a hazardous area, and can also be used with 2-wire SMART current sources. It transfers the analog input signal to the safe area as two isolated current values. Digital signals may be superimposed on the input signal in the hazardous or safe area and are transferred bi-directionally. If the HART communication resistance in the loop is too low, the internal resistance of 250 Ohm between terminals 8, 9 and 11, 12 can be used. Test sockets for the connection of HART communicators are integrated into the terminals of the device.

**Application**

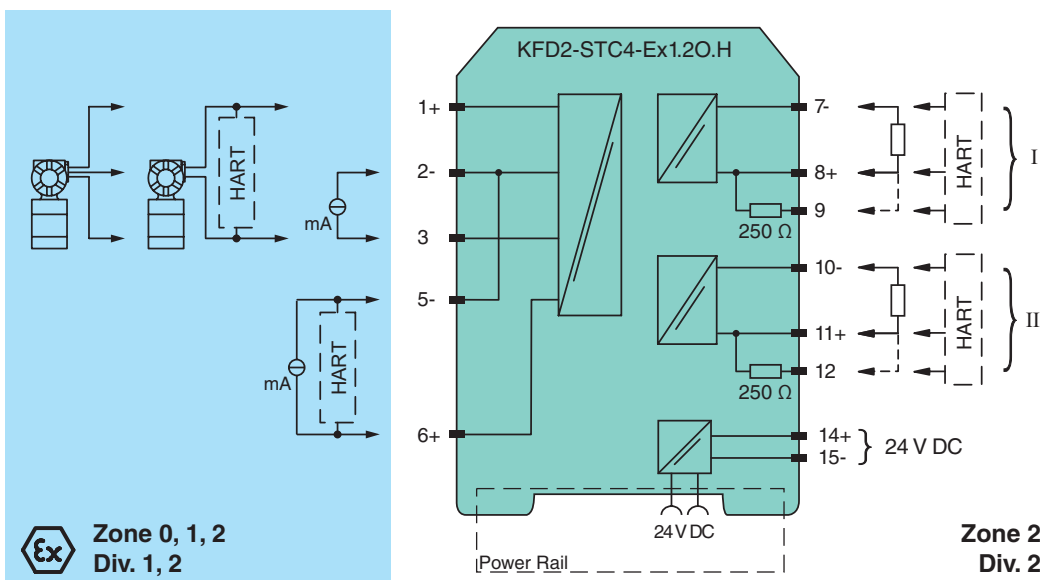
- The device supports the following SMART protocols:
- HART
  - BRAIN
  - Foxboro

**Assembly**



**SIL3**

**Connection**



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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

<b>General specifications</b>		
Signal type		Analog input
<b>Supply</b>		
Connection		Power Rail or terminals 14+, 15-
Rated voltage	$U_n$	20 ... 35 V DC
Ripple		within the supply tolerance
Power dissipation		1.9 W
Power consumption		2.5 W
<b>Input</b>		
Connection		terminals 1+, 2-, 3 or 5-, 6+
Input signal		0/4 ... 20 mA
Open circuit voltage/short-circuit current		terminals 1+, 3-: 24.2 V / 38 mA
Voltage drop		terminals 5, 6 : $\leq 2.4$ V at 20 mA
Input resistance		terminals 2-, 3: $\leq 76$ $\Omega$ terminals 1+, 3: $\leq 500$ $\Omega$ (250 $\Omega$ load)
Available voltage		terminals 1+, 3: $\geq 17.6$ V at 20 mA
<b>Output</b>		
Connection		terminals 7-, 8+,9; 10-, 11+,12
Load		0 ... 550 $\Omega$
Output signal		0/4 ... 20 mA (overload > 25 mA)
Ripple		$\leq 50$ $\mu A_{rms}$
<b>Transfer characteristics</b>		
Deviation		at 20 °C (68 °F), 0/4 ... 20 mA $\leq 10$ $\mu A$ incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage
Influence of ambient temperature		0.25 $\mu A/K$
Frequency range		field side into the control side: bandwidth with 0.5 $V_{pp}$ signal 0 ... 7.5 kHz (-3 dB) control side into the field side: bandwidth with 0.5 $V_{pp}$ signal 0.3 ... 7.5 kHz (-3 dB)
Settling time		200 $\mu s$
Rise time/fall time		20 $\mu s$
<b>Electrical isolation</b>		
Output/power supply		functional insulation, rated insulation voltage 50 V AC
Output/Output		functional insulation, rated insulation voltage 50 V AC
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
<b>Conformity</b>		
Electromagnetic compatibility		NE 21:2011
Degree of protection		IEC 60529:2001
Protection against electrical shock		UL 61010-1:2012
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>		
Degree of protection		IP20
Mass		approx. 200 g
Dimensions		20 x 124 x 115 mm (0.8 x 4.9 x 4.5 in) , housing type B2
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>Data for application in connection with Ex-areas</b>		
EC-Type Examination Certificate		BAS 99 ATEX 7060 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>
Group, category, type of protection		$\text{Ex}$ II (1)G [Ex ia Ga] IIC , $\text{Ex}$ II (1)D [Ex ia Da] IIIC
Input		[Ex ia Ga] IIC, [Ex ia Da] IIIC
<b>Supply</b>		
Maximum safe voltage	$U_m$	250 V (Attention! The rated voltage can be lower.)
Equipment		terminals 1+, 3-
Voltage	$U_o$	27.2 V
Current	$I_o$	93 mA
Power	$P_o$	632 mW
Equipment		terminals 2-, 3
Voltage	$U_i$	30 V
Current	$I_i$	117 mA
Voltage	$U_o$	3.5 V
Current	$I_o$	73 mA
Power	$P_o$	64 mW
Equipment		terminals 1+, 2 / 3-
Voltage	$U_o$	27.2 V

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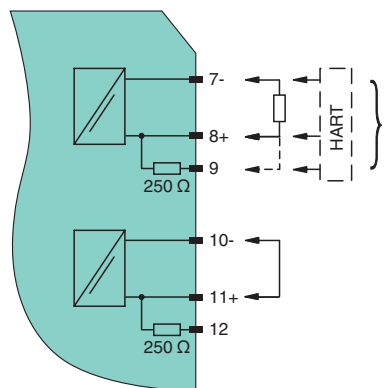
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Current	$I_o$	117 mA
Power	$P_o$	639 mW
Equipment		terminals 5-, 6+
Voltage	$U_i$	30 V
Current	$I_i$	117 mA
Voltage	$U_o$	8.7 V
Current	$I_o$	0 mA
<b>Output</b>		
Maximum safe voltage	$U_m$	250 V (Attention! The rated voltage can be lower.)
<b>EC-Type Examination Certificate</b>		
Group, category, type of protection		Ⓔ I (M1) [Ex ia] I
<b>Statement of conformity</b>		
Group, category, type of protection, temperature class		Ⓔ II 3G Ex nA II T4 [device in zone 2]
<b>Electrical isolation</b>		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Input/power supply		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
<b>Directive conformity</b>		
Directive 94/9/EC		EN 60079-0:2012 , EN 60079-11:2012 , EN 60079-15:2010 , EN 50303:2000
<b>International approvals</b>		
<b>UL approval</b>		
Control drawing		116-0173 (cULus)
<b>IECEX approval</b>		
Approved for		[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
<b>General information</b>		
Note		Both output loads must be connected to ensure complete and correct operation within the technical specification.
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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

### Configuration active output (source)

If only one output of the two outputs is used, a jumper have to be set as follows.



## 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 150 individual devices depending on the power consumption of the devices. Collective error messages received from the Power Rail activate a galvanically-isolated mechanical contact.

### Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical insert 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.



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