

**Features**

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Input for 2-wire SMART transmitters and current sources
- Output for 4 mA ... 20 mA or 1 V ... 5 V
- Sink or source mode
- Line fault detection (LFD)
- Up to SIL3 acc. to IEC 61508

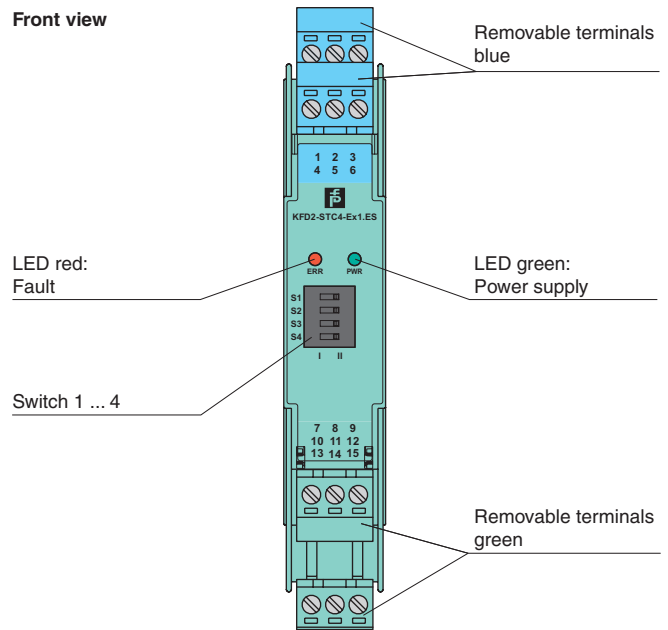
**Function**

This isolated barrier is used for intrinsic safety applications. The device supplies 2-wire transmitters in the hazardous area, and can also be used with current sources. It transfers the analog input signal to the safe area as an isolated current value. Bi-directional communication is supported for SMART transmitters that use current modulation to transmit data and voltage modulation to receive data. The output is selected as a current source, current sink, or voltage source via DIP switches. A fault is signaled by LEDs acc. to NAMUR NE44 and a separate collective error message output. Test sockets for the connection of HART communicators are integrated into the terminals of the device.

**Application**

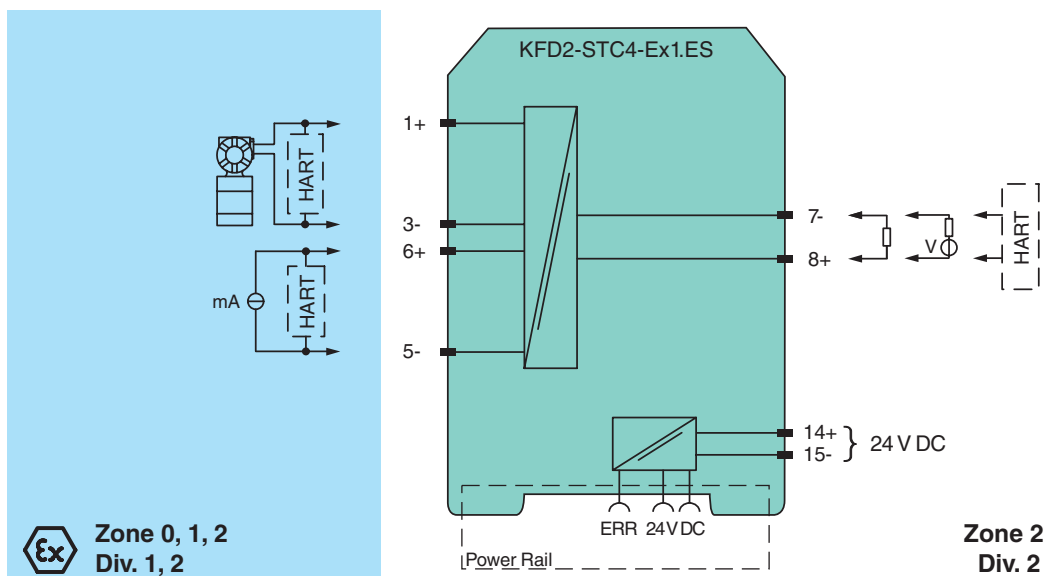
- The device supports the following SMART protocol:
- HART

**Assembly**



**SIL 3**

**Connection**



Release date 2017-08-09 14:38 Date of issue 2017-08-10 227919\_eng.xml

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

<b>General specifications</b>	
Signal type	Analog input
<b>Functional safety related parameters</b>	
Safety Integrity Level (SIL)	SIL 3
<b>Supply</b>	
Connection	Power Rail or terminals 14+, 15-
Rated voltage $U_r$	19 ... 30 V DC
Ripple	≤ 10 %
Rated current $I_r$	≤ 50 mA
Power dissipation	≤ 800 mW
Power consumption	≤ 1.2 W
<b>Input</b>	
Connection side	field side
Connection	terminals 1+, 3-; 6+, 5-
Input signal	4 ... 20 mA , limited to approx. 27 mA reverse polarity protected
Line fault detection	downscaling ≤ 3 mA ; upscaling ≥ 22 mA
Voltage drop	approx. 5 V on terminals 5-, 6+
Available voltage	≥ 15 V at 20 mA terminals 1+, 3-
<b>Output</b>	
Connection side	control side
Connection	terminals 7-, 8+
Load	0 ... 300 Ω (source mode)
Output signal	4 ... 20 mA or 1 ... 5 V (on 250 Ω, 0.1 % internal shunt) 4 ... 20 mA (sink mode), operating voltage 16 ... 28 V
Ripple	20 mV <sub>rms</sub>
<b>Fault indication output</b>	
Output type	fault bus signal , open collector transistor
<b>Transfer characteristics</b>	
Deviation	at 20 °C (68 °F) ≤ ± 20 μA incl. calibration, linearity, hysteresis, loads and supply voltage fluctuations (source mode and sink mode 4 ... 20 mA) ≤ 10 mV incl. calibration, linearity, hysteresis and fluctuations of supply voltage (source mode 1 ... 5 V)
Influence of ambient temperature	< 2 μA/K (0 ... 70 °C (32 ... 158 °F)); < 4 μA/K (-20 ... 0 °C (-4 ... 32 °F)) (source mode and sink mode 4 ... 20 mA) < 0.5 mV/K (0 ... 70 °C (32 ... 158 °F)); < 1 mV/K (-20 ... 0 °C (-4 ... 32 °F)) (source mode 1 ... 5 V)
Frequency range	field side into the control side: bandwidth with 1 mA <sub>pp</sub> signal 0 ... 3 kHz (-3 dB) control side into the field side: bandwidth with 0.5 V <sub>pp</sub> signal 0 ... 3 kHz (-3 dB)
Settling time	≤ 200 ms
Rise time/fall time	≤ 20 ms
<b>Galvanic 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
Output/power supply	Basic isolation acc. to EN 61010-1 rated insulation voltage ≤ 50 V
<b>Indicators/settings</b>	
Display elements	LEDs
Control elements	DIP-switch
Configuration	via DIP switches
Labeling	space for labeling at the front
<b>Directive conformity</b>	
Electromagnetic compatibility Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
<b>Conformity</b>	
Electromagnetic compatibility	NE 21:2006
Degree of protection	IEC 60529:2001
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 70 °C (-4 ... 158 °F)
<b>Mechanical specifications</b>	
Degree of protection	IP20
Connection	screw terminals
Mass	approx. 150 g
Dimensions	20 x 124 x 115 mm (0.8 x 4.9 x 4.5 inch) , housing type B2
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>Data for application in connection with hazardous areas</b>	
EU-Type Examination Certificate	CESI 10 ATEX 076
Marking	Ⓔ II (1)GD [Ex ia] IIC, [Ex iaD] [circuit(s) in zone 0/1/2/20/21/22] Ⓔ I (M1) [Ex ia] I

Release date 2017-08-09 14:38 Date of issue 2017-08-10 227919\_eng.xml


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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

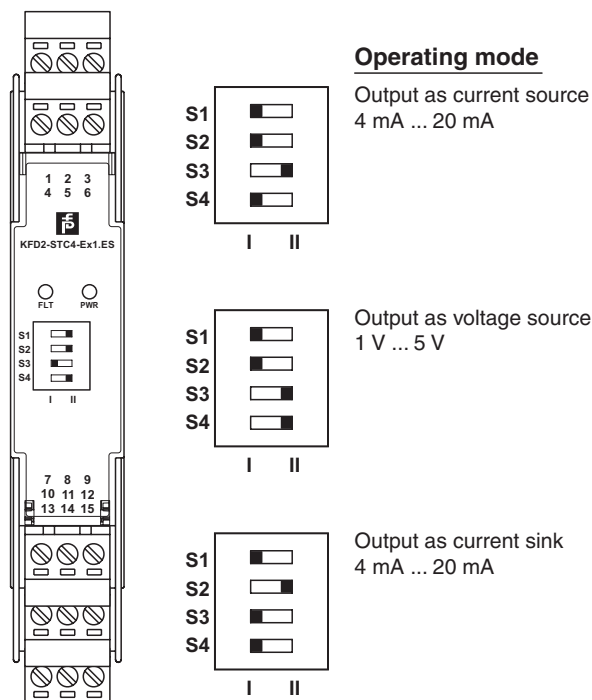
USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

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

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

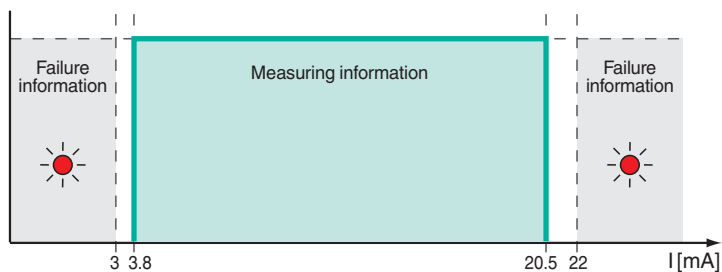
Input		Ex ia, Ex iaD
Supply		
Maximum safe voltage	$U_m$	253 V AC (Attention! $U_m$ is no rated voltage.)
Equipment		terminals 1+, 3-
Voltage	$U_o$	25.2 V
Current	$I_o$	100 mA
Power	$P_o$	630 mW
Equipment		terminals 5-, 6+
Voltage	$U_i$	< 30 V
Current	$I_i$	< 128 mA
Voltage	$U_o$	7.2 V
Current	$I_o$	100 mA
Power	$P_o$	25 mW
Certificate		PF 10 CERT 1750 X
Marking		 II 3G Ex nA II T4
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010
<b>International approvals</b>		
UL approval		
Control drawing		116-0368 (cULus)
IECEX approval		IECEX CES 11.0005
<b>General information</b>		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

**Configuration**



Factory settings: output as current source 4 mA ... 20 mA

**Transfer characteristic**



**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!*

Release date 2017-08-09 14:38 Date of issue 2017-08-10 227919\_eng.xml