

# SMART Transmitter Power Supply KFD2-STC3-Ex1

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- 2-wire SMART transmitter
- Output 4 mA ... 20 mA
- SMART capable up to 40 kHz (-1dB)
- Suitable for Honeywell DE protocol
- Terminals with test points

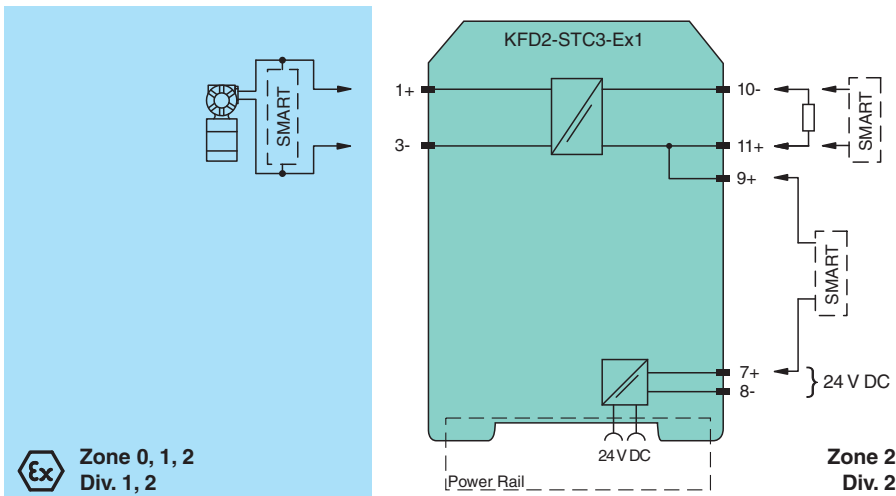
Output 4 ... 20 mA



## Function

This isolated barrier is used for intrinsic safety applications. It provides a 2-wire SMART transmitter with power in a hazardous area and transfers the analog signal to the safe area as an isolated current source. Digital signals up to 40 kHz may be superimposed on the analog values in the hazardous or safe area and are transferred bi-directionally. Sockets for the connection of a HART communicator are integrated into the terminals of the device.

## Connection



## Technical Data

### General specifications

Signal type	Analog input	
<b>Supply</b>		
Connection	Power Rail or terminals 7+, 8-	
Rated voltage	$U_r$	20 ... 35 V DC
Ripple	within the supply tolerance	
Power dissipation	$\leq 1.6$ W	
Power consumption	$\leq 2$ W	
<b>Input</b>		
Connection side	field side	
Connection	terminals 1+, 3-	
Input signal	4 ... 20 mA	

Release date: 2020-09-23 Date of issue: 2020-09-23 Filename: 266783\_eng.pdf

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

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## Technical Data

Available voltage		approx. 17 V at 4 ... 20 mA
<b>Output</b>		
Connection side		control side
Connection		terminals 9+, 10-, 11+
Output signal		4 ... 20 mA , max. load 1000 Ω , for HART ≥ 230 Ω , Honeywell DE 230 ... 280 Ω (transmitter and communicator dependent)
Ripple		≤ 0.05 % of output signal range
<b>Transfer characteristics</b>		
Deviation		≤ 0.05 % of output signal range (current output), ≤ 10 μA at 20 °C (68 °F)
Influence of ambient temperature		≤ 20 ppm/K
Frequency range		field side into the control side: bandwidth with 1 mA <sub>pp</sub> signal 0 ... 40 kHz (-1 dB); 0 ... 50 kHz (-6 dB) safe area to hazardous area: bandwidth with 250 mV <sub>pp</sub> signal 2 Hz ... 40 kHz (-1 dB); 1 Hz ... 50 kHz (-6 dB)
Rise time		10 μs
<b>Galvanic isolation</b>		
Output/power supply		functional insulation, rated insulation voltage 50 V AC
<b>Indicators/settings</b>		
Display elements		LED
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 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>		
Degree of protection		IP20
Connection		screw terminals
Mass		approx. 150 g
Dimensions		20 x 115 x 115 mm (0.8 x 4.5 x 4.5 inch) , housing type B1
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		BAS 01 ATEX 7369
Marking		⊕ II (1)G [Ex ia Ga] IIC , ⊕ II (1)D [Ex ia Da] IIIC , ⊕ I (M1) [Ex ia Ma] I
Input		[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
Voltage	U <sub>o</sub>	25.2 V DC
Current	I <sub>o</sub>	93 mA
Power	P <sub>o</sub>	587 mW
<b>Supply</b>		
Maximum safe voltage	U <sub>m</sub>	250 V (Attention! The rated voltage can be lower.)
Certificate		BASEEFA 09 ATEX 0218X
Marking		⊕ II 3G Ex nA II T4 Gc [device in zone 2]
<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
<b>Directive conformity</b>		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010
<b>International approvals</b>		
<b>UL approval</b>		
Control drawing		116-0173 (cULus)
<b>IECEx approval</b>		

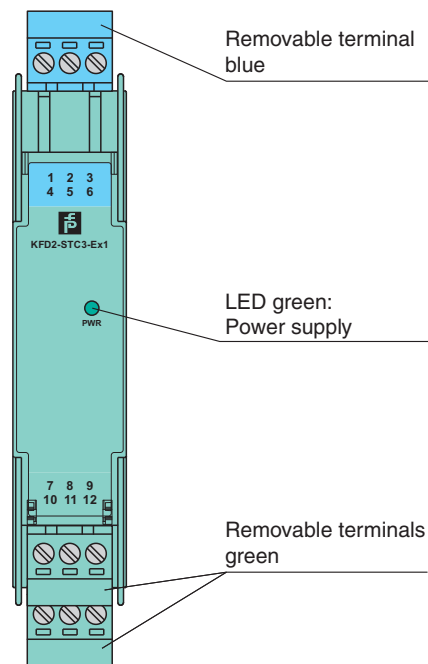
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**Technical Data**

IECEX certificate	IECEX BAS 06.0088 IECEX BAS 09.0102X
IECEX marking	[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I Ex nA IIC T4 Gc
<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> .
<b>Accessories</b>	
Optional accessories	- power feed module KFD2-EB2(.R4A.B)(.SP) - universal power rail UPR-03(-M)(-S) - profile rail K-DUCT-BU(-UPR-03)

**Assembly**

Front view






**Accessories**

	<b>KFD2-EB2</b>	Power Feed Module
	<b>KFD2-EB2.R4A.B</b>	Power feed module, redundant supply
	<b>KFD2-EB2.R4A.B.SP</b>	Power feed module with spring terminals, redundant supply
	<b>KFD2-EB2.SP</b>	Power feed module with spring terminals
	<b>UPR-03</b>	Universal Power Rail with end caps and cover, 3 conductors, length: 2 m
	<b>UPR-03-M</b>	Universal Power Rail with end caps and cover, 3 conductors, length: 1,6 m

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**Accessories**

	<b>UPR-03-S</b>	Universal Power Rail with end caps and cover, 3 conductors, length: 0.8 m
	<b>K-DUCT-BU</b>	
	<b>K-DUCT-BU-UPR-03</b>	Profile rail with UPR-03- * insert, 3 conductors, wiring comb field side blue

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## Application

The device supports the following SMART protocols:

- HART
- BRAIN
- Honeywell DE