



SMART Current Driver/Repeater

KFD0-SCS-Ex1.55

SIL 2

- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- Current input/output 4 mA ... 20 mA
- HART I/P or transmitter power supply
- Low voltage drop
- Line fault detection (LFD)
- Up to SIL 2 acc. to IEC 61508



Function

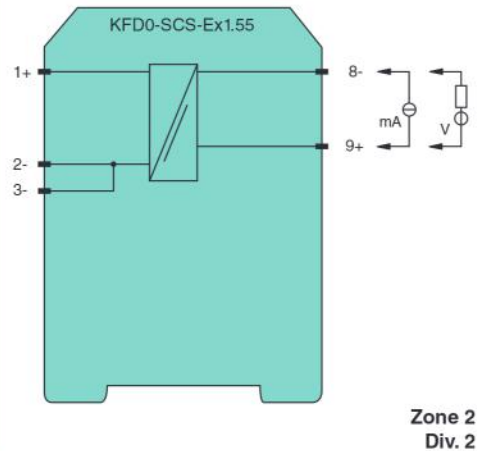
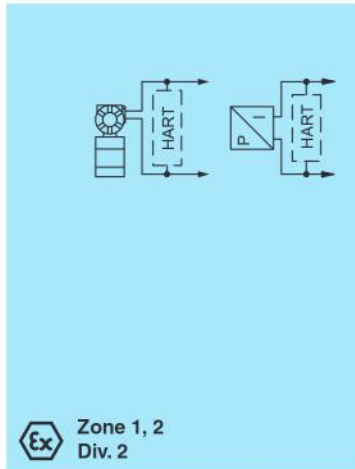
This isolated barrier is used for intrinsic safety applications. It is loop powered and isolates a 4 mA ... 20mA signal for transmitters and positioners and is HART compatible.

With a noticeably lower power loss compared to active isolator modules, the barriers 5 V drop makes it suitable for transmitter applications with unstable power sources between 20 V DC ... 30 V DC.

Line fault detection of the field circuit is possible if the control loop in the safe area is monitored for overscale or underscale conditions of the 4 mA ... 20mA range.

The module can also be used for controlling solenoid valves and discrete outputs, such as LEDs. In this case, terminals 8- and 9+ are driven with a 24 V signal.

Connection



Technical Data

General specifications

Signal type Analog input/analog output

Functional safety related parameters

Safety Integrity Level (SIL) SIL 2

Supply

Rated voltage U_r loop powered

Power dissipation 0.2 W

Control circuit

Connection terminals 8-, 9+

Release date: 2020-09-23 Date of issue: 2020-09-23 Filename: 240495_eng.pdf

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

PF PEPPERL+FUCHS

Technical Data

Voltage	max. 30 V DC	
Current	4 ... 20 mA (quiescent current < 0.5 mA)	
Power dissipation	150 mW at 20 mA and $U_{in} < 24$ V	
Field circuit		
Connection	terminals 1+, 2 / 3-	
Voltage	≥ 16 V for supply voltage > 21 V	
Current	4 ... 20 mA (linear transmission 1 ... 22 mA)	
Load	$\leq 800 \Omega$ (at 20 mA)	
Transfer characteristics		
Voltage drop	see note	
Deviation		
After calibration	$\leq \pm 80 \mu\text{A}$ linearity, load and voltage dependence at 20 °C (68 °F)	
Influence of ambient temperature	< 0.5 $\mu\text{A/K}$	
Damping	approx. 3 dB	
Rise time	$\leq 20 \mu\text{s}$ at 0 Ω , $\leq 600 \mu\text{s}$ with 800 Ω load	
Galvanic isolation		
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V	
Indicators/settings		
Labeling	space for labeling at the front	
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)	
Conformity		
Electromagnetic compatibility	NE 21:2007	
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. 120 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	
Data for application in connection with hazardous areas		
EU-Type Examination Certificate	PTB 02 ATEX 2064	
Marking	Ⓜ II (2)G [EEx ib] IIC	
Voltage	U_o	23.1 V DC
Current	I_o	28 mA
Power	P_o	0.647 W
Supply		
Maximum safe voltage	U_m	253 V (Attention! The rated voltage can be lower.)
Certificate		
Marking	Ⓜ II 3G Ex nA IIC T4 Gc	
Galvanic isolation		
Input/Output	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 , EN 60079-15:2010	
International approvals		
FM approval	device with FM approval on request	
General information		
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .	

Release date: 2020-09-23 Date of issue: 2020-09-23 Filename: 240495_eng.pdf