



Switch Amplifier KFU8-SR-Ex2.W

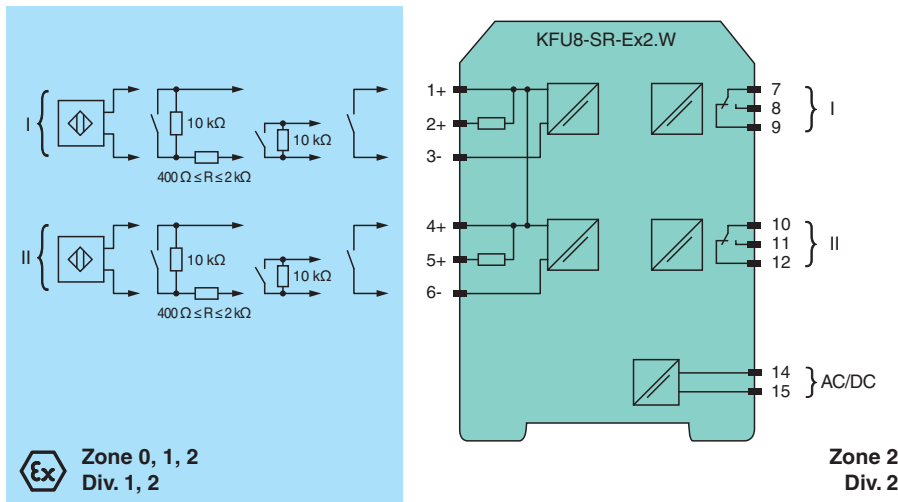
- 2-channel isolated barrier
- Universal usage at different power supplies
- Dry contact or NAMUR inputs
- Relay contact output
- Line fault detection (LFD)
- Reversible mode of operation
- Up to SIL 2 (SC 3) acc. to IEC/EN 61508



Function

This isolated barrier is used for intrinsic safety applications. It transfers digital signals (NAMUR sensors/mechanical contacts) from a hazardous area to a safe area. The proximity sensor or switch controls a form C changeover relay contact for the safe area load. The normal output state can be reversed using switches S1 and S2. Switch S3 is used to enable or disable line fault detection of the field circuit. During an error condition, the relays revert to their de-energized state and the LEDs indicate the fault according to NAMUR NE44.

Connection



Technical Data

General specifications	
Signal type	Digital Input
Functional safety related parameters	
Safety Integrity Level (SIL)	SIL 2
Systematic capability (SC)	SC 3
Supply	
Connection	terminals 14, 15
Rated voltage	U_r 19 ... 30 V DC / 90 ... 253 V AC 50 ... 60 Hz
Power dissipation/power consumption	$\leq 1.3 \text{ W} / \leq 1.3 \text{ W} ; 3.6 \text{ VA}$
Input	
Connection side	field side

Release date: 2023-01-03 Date of issue: 2023-01-03 Filename: 204136_eng.pdf

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

Pepperl+Fuchs Group USA: +1 330 486 0002 Germany: +49 621 776 2222 Singapore: +65 6779 9091
 www.pepperl-fuchs.com pa-info@us.pepperl-fuchs.com pa-info@de.pepperl-fuchs.com pa-info@sg.pepperl-fuchs.com

Technical Data

Connection	terminals 1+, 2+, 3-; 4+, 5+, 6-	
Rated values	acc. to EN 60947-5-6 (NAMUR)	
Open circuit voltage/short-circuit current	approx. 8 V DC / approx. 8 mA	
Switching point/switching hysteresis	1.2 ... 2.1 mA / approx. 0.2 mA	
Line fault detection	breakage $I \leq 0.1$ mA , short-circuit $I > 6$ mA	
Pulse/Pause ratio	min. 20 ms / min. 20 ms	
Output		
Connection side	control side	
Connection	output I: terminals 7, 8, 9 ; output II: terminals 10, 11, 12	
Output I, II	signal ; relay	
Contact loading	250 V AC/2 A/cos $\phi > 0.75$; 126.5 V AC/4 A/cos $\phi > 0.75$; 40 V DC/2 A resistive load	
Minimum switch current	2 mA / 24 V DC	
Energized/De-energized delay	approx. 20 ms / approx. 20 ms	
Mechanical life	10^7 switching cycles	
Transfer characteristics		
Switching frequency	≤ 10 Hz	
Galvanic isolation		
Input/Output	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}	
Input/power supply	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}	
Output/power supply	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}	
Output/Output	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}	
Indicators/settings		
Display elements	LEDs	
Control elements	DIP switch	
Configuration	via DIP switches	
Labeling	space for labeling at the front	
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)	
Low voltage		
Directive 2014/35/EU	EN 61010-1:2010+A1:2019+A1:2019/AC:2019	
Conformity		
Electromagnetic compatibility	NE 21:2017 , EN 61326-3-1:2017 , EN IEC 61326-3-2:2018 , EN IEC 61326-1:2021 (industrial locations)	
Degree of protection	IEC 60529:1989+A1:1999+A2:2013	
Input	EN 60947-5-6:2000	
Ambient conditions		
Ambient temperature	-40 ... 60 °C (-40 ... 140 °F) extended ambient temperature range up to 70 °C (158 °F), refer to manual for necessary mounting conditions	
Mechanical specifications		
Degree of protection	IP20	
Connection	screw terminals	
Mass	approx. 150 g	
Dimensions	20 x 119 x 115 mm (0.8 x 4.7 x 4.5 inch) (W x H x D) , 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	FIDI 22 ATEX 0029 X	
Marking	Ⓢ II 3(1)G Ex ec nC [ia Ga] IIC T4 Gc Ⓢ II (1)D [Ex ia Da] IIIC Ⓢ I (M1) [Ex ia Ma] I	
Input	Ex ia	
Voltage	U _o	10.5 V
Current	I _o	13 mA
Power	P _o	34 mW (linear characteristic)

Release date: 2023-01-03 Date of issue: 2023-01-03 Filename: 204136_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

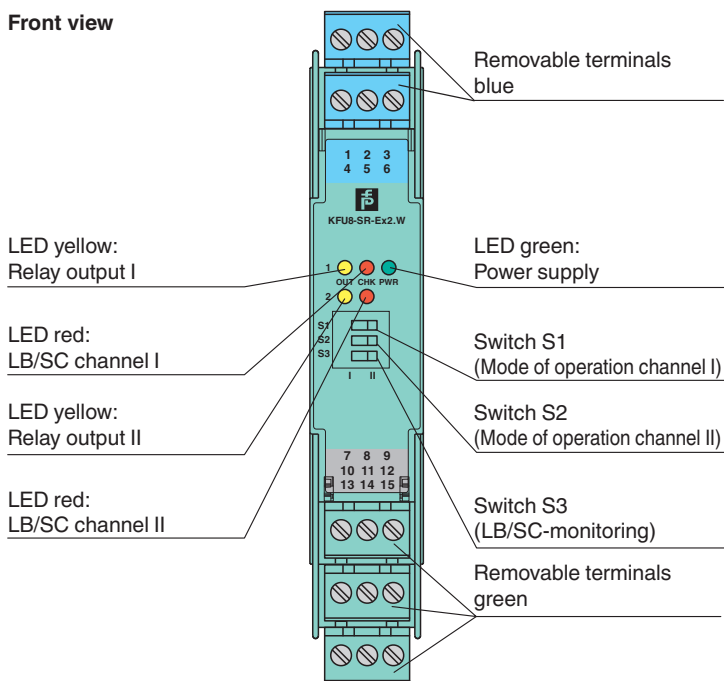
 **PEPPERL+FUCHS**

Technical Data

Supply			
Maximum safe voltage	U _m	253 V AC (Attention! U _m is no rated voltage.)	
Output			
Maximum safe voltage	U _m	253 V AC (Attention! The rated voltage can be lower.)	
Galvanic isolation			
Input/input		not available	
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	
Directive conformity			
Directive 2014/34/EU		EN IEC 60079-0:2018 , EN 60079-7:2015+A1:2018 , EN 60079-11:2012 , EN IEC 60079-15:2019	
International approvals			
UL approval		E106378	
Control drawing		116-0489	
Contact loading		250 V AC/2 A/cos φ > 0.75; 126.5 V AC/4 A/cos φ > 0.75; 30 V DC/2 A resistive load	
IECEx approval			
IECEx certificate		IECEx FIDI 22.0003X	
IECEx marking		Ex ec nC [ia Ga] IIC T4 Gc , [Ex ia Da] IIIC , [Ex ia Ma] I	
General information			
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .	



Assembly

Front view



Release date: 2023-01-03 Date of issue: 2023-01-03 Filename: 204136_eng.pdf


Accessories

	KF-ST-5GN	Terminal block for KF modules, 3-pin screw terminal, green
	KF-ST-5BU	Terminal block for KF modules, 3-pin screw terminal, blue

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

Pepperl+Fuchs Group USA: +1 330 486 0002 Germany: +49 621 776 2222 Singapore: +65 6779 9091
www.pepperl-fuchs.com pa-info@us.pepperl-fuchs.com pa-info@de.pepperl-fuchs.com pa-info@sg.pepperl-fuchs.com

Accessories

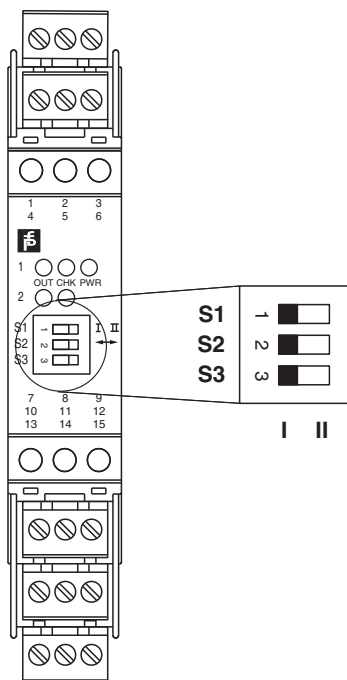
	KF-CP	Red coding pins, packaging unit: 20 x 6
---	--------------	---

Release date: 2023-01-03 Date of issue: 2023-01-03 Filename: 204136_eng.pdf

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

Pepperl+Fuchs Group
www.pepperl-fuchs.comUSA: +1 330 486 0002
pa-info@us.pepperl-fuchs.comGermany: +49 621 776 2222
pa-info@de.pepperl-fuchs.comSingapore: +65 6779 9091
pa-info@sg.pepperl-fuchs.com **PEPPERL+FUCHS**

Configuration



Switch position

S	Function		Position
1	Mode of operation output I (relay) energized	with high input current	I
		with low input current	II
2	Mode of operation output II (relay) energized	with high input current	I
		with low input current	II
3	Line fault detection	ON	I
		OFF	II

Operating states

Control circuit	Input signal
Initiator high impedance/contact opened	low input current
Initiator low impedance/contact closed	high input current
Lead breakage, lead short circuit	Line fault

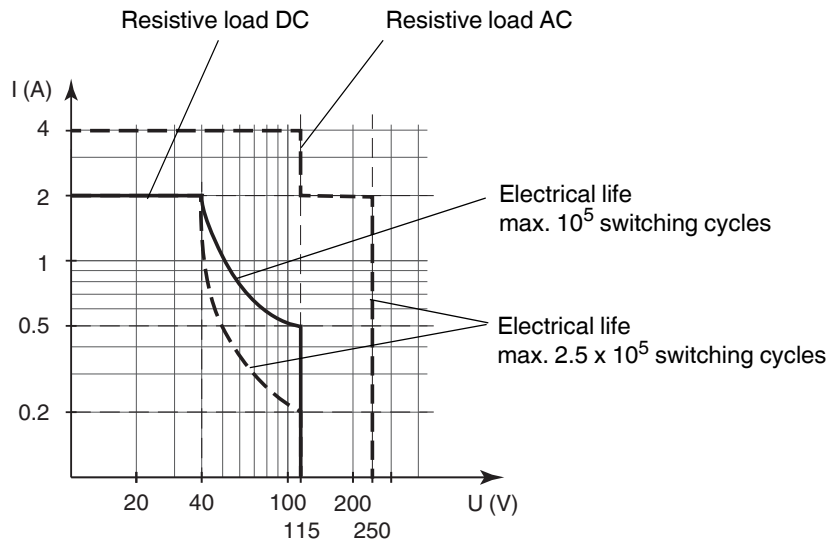
Factory setting: switch 1, 2 and 3 in position I

Characteristic Curve

Maximum switching power of output contacts

Release date: 2023-01-03 Date of issue: 2023-01-03 Filename: 204136_eng.pdf

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



The maximum number of switching cycles is depending on the electrical load and may be higher when reduced currents and voltages are applied.

Release date: 2023-01-03 Date of issue: 2023-01-03 Filename: 204136_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

 **PEPPERL+FUCHS**



**SCATTERGOOD
& JOHNSON LTD**
ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product manufacturers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

www.scatts.co.uk