



**Transmission range 0 V ... 12 V**

- 1-channel
- Input EEx ia IIC
- 24 V DC nominal supply voltage
- EMC acc. to NAMUR NE 21

**Function**

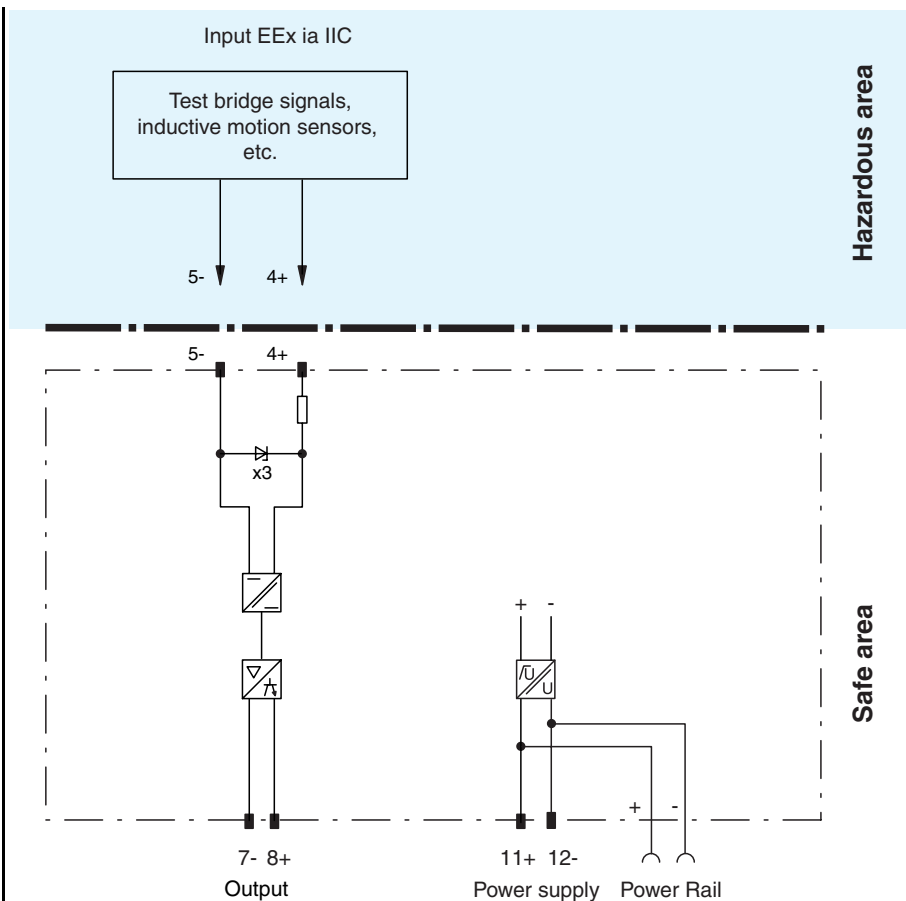
The KFD2-VR-Ex1.18 repeater transfers the voltage signal in the range of 0 V ... 12 V.

The input voltage at terminals 4 and 5 is transferred to the output (terminals 7 and 8). Terminal 8 has the same polarity as terminal 4, i. e. when terminal 4 is positive relative to terminal 5 then terminal 8 is positive relative to terminal 7.

Input, output and power supply are galvanically isolated from each other.

**Application**

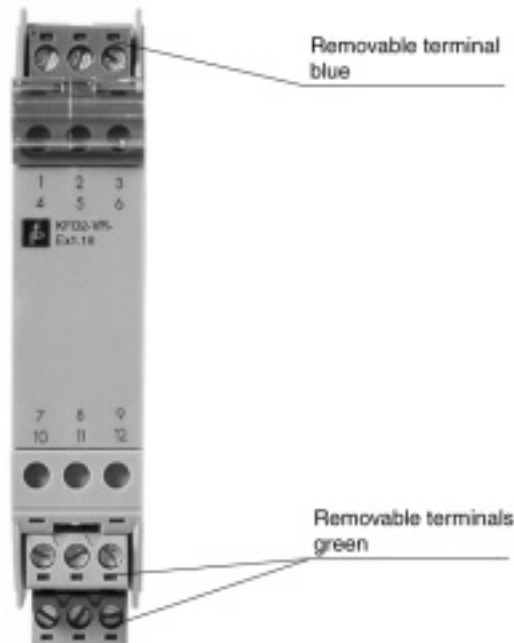
Signal transfer of test bridges, Ex-buffers, potential isolators.



**Composition**

**Front View**

Housing type A2  
(see system description)



<b>Supply</b>			
Connection	Power Rail or terminals 11+, 12-		
Rated voltage	20 ... 35 V DC		
Ripple	within the supply tolerance		
Rated current	< 20 mA		
<b>Input</b>			
Connection	terminals 4+, 5-		
Input resistance	≥ 10 MΩ		
Transmission range	0 ... 12 V		
Offset voltage/Current	< 2 mV / < 7 mA		
<b>Output</b>			
Connection	terminals 7-, 8+		
Voltage	0 ... 12 V		
Safety maximum voltage U <sub>m</sub>	250 V		
Output resistance	≤ 600 Ω		
<b>Transfer characteristics</b>			
Deviation			
After calibration	± 5 mV, at 20 °C (293 K)		
Temperature	≤ 0.005 % of range per K		
Cutoff frequency	4 kHz		
Rise time	≤ 0,5 ms		
<b>Electrical isolation</b>			
Input/Output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V		
Input/Power supply	safe electrical isolation acc. to EN 50020, voltage peak value 375 V		
Output/Power supply	basic insulation acc. to DIN EN 50178, rated insulation voltage of AC 50 V		
<b>Standard conformity</b>			
Coordination of insulation	acc. to DIN EN 50178		
Electrical isolation	acc. to DIN EN 50178		
Electromagnetic compatibility	acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21		
Climatic conditions	acc. to DIN IEC 721		
<b>Directive conformity</b>			
Electromagnetic compatibility	standards		
Directive 89/336/EG	on request		
<b>Ambient conditions</b>			
Ambient temperature	-20 ... 60 °C (253 ... 333 K)		
<b>Mechanical specifications</b>			
Protection degree	IP20		
Mass	approx. 100 g		
<b>Data for application in conjunction with hazardous areas</b>			
EC-Type Examination Certificate	BAS 01 ATEX 7262 ; for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>		
Group, category, type of protection	⊕ II (1) G D [Ex ia] IIC (-20 °C ≤ T <sub>a</sub> ≤ 60 °C)		
Voltage U <sub>0</sub>	18 V		
Current I <sub>0</sub>	4,2 mA		
Power P <sub>0</sub>	19 mW		
Type of protection [Ex ia]			
Explosion group	IIA	IIB	IIC
External capacitance	7,6 μF	1,78 μF	0,309 μF
External inductance	1000 mH	1000 mH	492 mH
<b>Supply</b>			
Safety maximum voltage U <sub>m</sub>	250 V		
<b>Electrical isolation</b>			
Input/Output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V		
Input/Power supply	safe electrical isolation acc. to EN 50020, voltage peak value 375 V		
<b>Directive conformity</b>			
Directive 94/9 EU	standards		
	on request		
<b>Entity parameter</b>			
Certification number	4Z6A5.AX		
FM control drawing	No. 116-0129		
Suitable for installation in division 2	yes		
Connection	terminals 4, 5		
<b>Input I</b>			
Voltage V <sub>OC</sub>	17,3 V		
Current I <sub>t</sub>	4 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C <sub>a</sub>	0,5 μF	1,52 μF	4,07 μF

072036\_ENG.xml 2003-03-24

Max. external inductance $L_a$	1000 mH	3000 mH	8000 mH
<b>Safety parameter</b>			
CSA control drawing	LR 65756-13		
Control drawing	No. 116-0132		
Connection	terminals 4, 5		
Input I			
Safety parameter	18 V / 4400 Ohm		
Voltage $V_{OC}$	18 V		
Current $I_{SC}$	4,2 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance $C_a$	0,45 $\mu$ F	1,35 $\mu$ F	3,6 $\mu$ F
Max. external inductance $L_a$	1000 mH	1000 mH	1000 mH

## Accessories

### PR-03 Power Rail

### UPR-03 Power Rail

### KFD2-EB2 power feed module

The devices are supplied with 24 V DC through the KFD2-EB2 power feed module and the PR-03 or the UPR-03 Power Rail. Each power feed module monitors and provides protection for groups of as many as 100 individual devices. The PR-03 Power Rail is an insert component for the DIN rail. The UPR-03 Power Rail is a complete unit consisting of an electrical insert and an aluminium DIN rail measuring 35 mm x 15 mm x 2000 mm. The devices are simply snapped in place to make electrical contact.

If a Power Rail is not being used, power can be supplied to the devices directly through the device terminals.