

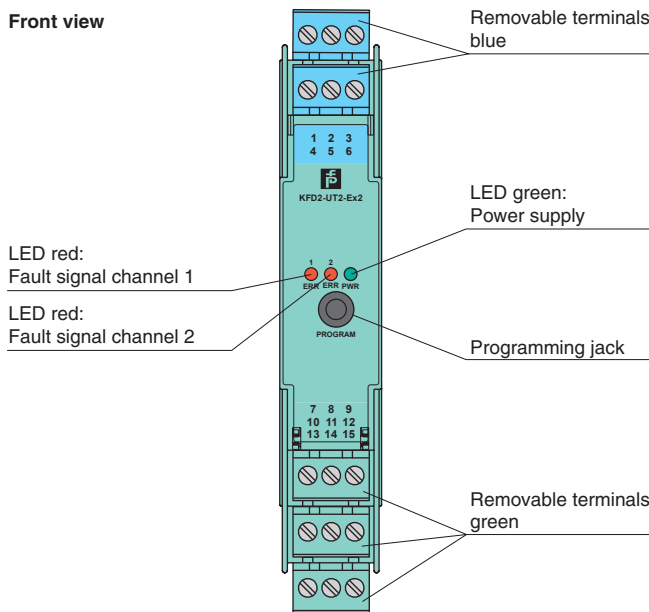
Features

- 2-channel isolated barrier
- 24 V DC supply (Power Rail)
- Thermocouple, RTD, potentiometer or voltage input
- Usable as signal splitter (1 input and 2 outputs)
- Current output 0/4 mA ... 20 mA
- Sink or source mode
- Configurable by PACTware
- Line fault (LFD) and sensor burnout detection
- Up to SIL 2 acc. to IEC 61508/IEC 61511

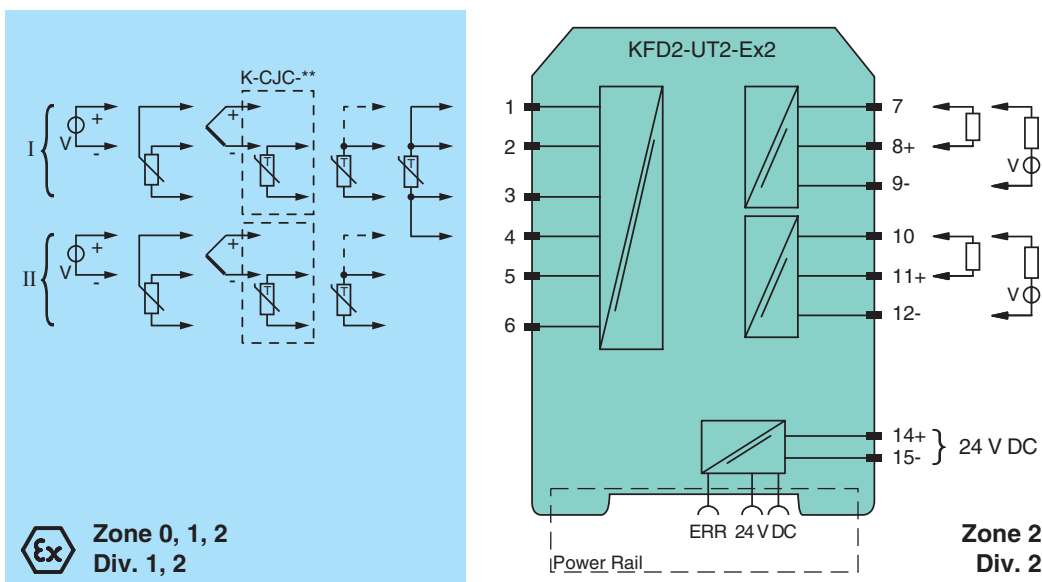
Function

This isolated barrier is used for intrinsic safety applications. The device converts the signal of a resistance thermometer, thermocouple, or potentiometer to a proportional output current. The device can also be configured as a signal splitter. The removable terminal block K-CJC-** is available as an accessory for internal cold junction compensation of thermocouples. A fault is signaled by LEDs acc. to NAMUR NE44 and a separate collective error message output. The device is easily configured by the use of the PACTware configuration software. For additional information, refer to the manual and www.pepperl-fuchs.com.

Assembly



Connection



Release date 2017-10-20 10:15 Date of issue 2017-10-20 248767_eng.xml

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

General specifications	
Signal type	Analog input
Functional safety related parameters	
Safety Integrity Level (SIL)	SIL 2
Supply	
Connection	terminals 14+, 15- or power feed module/Power Rail
Rated voltage U_r	20 ... 30 V DC
Ripple	within the supply tolerance
Power dissipation/power consumption	$\leq 1.53 \text{ W} / 1.53 \text{ W}$
Interface	
Programming interface	programming socket
Input	
Connection side	field side
Connection	terminals 1, 2, 3; 4, 5, 6
RTD	type Pt10, Pt50, Pt100, Pt500, Pt1000 (EN 60751: 1995) type Pt10GOST, Pt50GOST, Pt100GOST, Pt500GOST, Pt1000GOST (6651-94) type Cu10, Cu50, Cu100 (P50353-92) type Ni100 (DIN 43760)
Measuring current	approx. 200 μA with RTD
Types of measuring	2-, 3-wire connection
Lead resistance	$\leq 50 \Omega$ per line
Measurement loop monitoring	sensor breakage, sensor short-circuit
Thermocouples	type B, E, J, K, N, R, S, T (IEC 584-1: 1995) type L (DIN 43710: 1985) type TXK, TXKH, TXA (P8.585-2001)
Cold junction compensation	external and internal
Measurement loop monitoring	sensor breakage
Potentiometer	0 ... 20 k Ω (2-wire connection), 0.8 ... 20 k Ω (3-wire connection)
Voltage	selectable within the range -100 ... 100 mV
Input resistance	$\geq 1 \text{ M}\Omega$ (-100 ... 100 mV)
Output	
Connection side	control side
Connection	output I: terminal 7: source (-), sink (+), terminal 8: source (+), terminal 9: sink(-) output II: terminal 10: source (-), sink (+), terminal 11: source (+), terminal 12: sink(-)
Output I, II	Analog current output
Current range	0 ... 20 mA or 4 ... 20 mA
Fault signal	downscale 0 or 2 mA, upscale 21.5 mA (acc. NAMUR NE43)
Source	load 0 ... 550 Ω open-circuit voltage $\leq 18 \text{ V}$
Sink	Voltage across terminals 5 ... 30 V. If the current is supplied from a source $> 16.5 \text{ V}$, series resistance of $\geq (V - 16.5)/0.0215 \Omega$ is needed, where V is the source voltage. The maximum value of the resistance is $(V - 5)/0.0215 \Omega$.
Transfer characteristics	
Deviation	
After calibration	Pt100: $\pm (0.06 \%$ of measurement value in K $+ 0.1 \%$ of span $+ 0.1 \text{ K}$ (4-wire connection)) thermocouple: $\pm (0.05 \%$ of measurement value in $^{\circ}\text{C} + 0.1 \%$ of span $+ 1 \text{ K}$ (1.2 K for types R and S)) this includes $\pm 0.8 \text{ K}$ error of the cold junction compensation mV: $\pm (50 \mu\text{V} + 0.1 \%$ of span) potentiometer: $\pm (0.05 \%$ of full scale $+ 0.1 \%$ of span, (excludes errors due to lead resistance))
Influence of ambient temperature	deviation of CJC included: Pt100: $\pm (0.0015 \%$ of measurement value in K $+ 0.006 \%$ of span)/K $\Delta T_{\text{amb}}^{*)}$ thermocouple: $\pm (0.02 \text{ K} + 0.005 \%$ of measurement value in $^{\circ}\text{C} + 0.006 \%$ of span)/K $\Delta T_{\text{amb}}^{*)}$ mV: $\pm (0.01 \%$ of measurement value $+ 0.006 \%$ of span)/K $\Delta T_{\text{amb}}^{*)}$ potentiometer: $\pm 0.006 \%$ of span/K $\Delta T_{\text{amb}}^{*)}$ $^{*)} \Delta T_{\text{amb}} =$ ambient temperature change referenced to 23 $^{\circ}\text{C}$ (296 K)
Influence of supply voltage	$< 0.01 \%$ of span
Influence of load	$\leq 0.001 \%$ of output value per 100 Ω
Reaction time	worst case value (sensor breakage and/or sensor short circuit detection enabled) mV: 1.2 s, thermocouples with CJC: 1.4 s, thermocouples with fixed ref. temp: 1.4 s, 3- or 4-wire RTD: 1.1 s, 2-wire RTD: 920 ms, Potentiometer: 3-wire connection 2.8 s, 2-wire connection 2.25 s
Galvanic isolation	
Output/supply, programming input	functional insulation, rated insulation voltage 50 V AC There is no electrical isolation between the programming input and the supply. The programming cable provides galvanic isolation so that ground loops are avoided.
Indicators/settings	
Display elements	LEDs
Configuration	via PACTware
Labeling	space for labeling at the front

Release date 2017-10-20 10:15 Date of issue 2017-10-20 248767_eng.xml

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

Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Electromagnetic compatibility		
Degree of protection		NE 21:2006
Protection against electrical shock		IEC 60529:2001
Protection against electrical shock		
		UL 61010-1:2004
Ambient conditions		
Ambient temperature		
		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		
		IP20
Connection		
		screw terminals
Mass		
		approx. 130 g
Dimensions		
		20 x 119 x 115 mm (0.8 x 4.7 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		
Marking		CESI 04 ATEX 143 Ex II (1)G [Ex ia Ga] IIC Ex II (1)D [Ex ia Da] IIIC Ex I (M1) [Ex ia Ma] I
Input		
		Ex ia
Inputs		
		terminals 1, 2, 3, 4, 5, 6 (for passive equipment)
Voltage	U_o	9 V
Current	I_o	22 mA
Power	P_o	50 mW
Analog outputs, power supply, collective error		
Maximum safe voltage	U_m	250 V (Attention! This is not the rated voltage.)
Interface		
Maximum safe voltage	U_m	250 V (Attention! The rated voltage is lower.), RS 232
Certificate		
Marking		Ex II 3G Ex nA II T4
Galvanic isolation		
Input/Other circuits		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 , EN 50303:2000
International approvals		
UL approval		
Control drawing		116-0410
CSA approval		
Control drawing		116-0314 (cCSAus) 116-0347
IECEX approval		
IECEX certificate		IECEX TUN 07.0003 IECEX CML 16.0126X
IECEX marking		[Ex ia Ga] IIC [Ex ia Da] IIIC [Ex ia Ma] I Ex nA IIC T4 Gc
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 2017-10-20 10:15 Date of issue 2017-10-20 248767_eng.xml

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

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. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical inset 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!

K-CJC-**

This removable terminal block with integrated temperature measurement sensor is needed for internal cold junction compensation for thermocouples. One K-CJC-** is needed for each channel.

PACT^{ware}™

Device-specific drivers (DTM)

Adapter K-ADP-USB

Programming adapter for parameterisation via the serial USB interface of a PC/Notebook



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 suppliers 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