



Model Number

KFU8-UFC-1.D.FA

48 V AC ... 253 V AC / 20 V DC ... 90 V DC

Features

- 1-channel signal conditioner
- Universal usage at different power supplies
- Input for 2- or 3-wire sensors, NAMUR sensors or dry contacts
- Input frequency 1 mHz ... 10 kHz
- Current output 0/4 mA ... 20 mA
- Relay contact and transistor output
- Start-up override
- Line fault detection (LFD)
- Up to SIL 2 acc. to IEC 61508/ IEC 61511

Accessories

PACTware 4.1

FDT Framework

DTM Interface Technology

K-ADP-USB

Technical data

General specifications

Signal type Digital Input

Functional safety related parameters

Safety Integrity Level (SIL) SIL 2

Supply

Connection terminals 23, 24
 Rated voltage U_r 20 ... 90 V DC / 48 ... 253 V AC 50 ... 60 Hz
 Power dissipation/power consumption ≤ 2 W ; 2.5 VA / 2.2 W ; 3 VA

Interface

Programming interface programming socket

Input

Connection side field side
 Connection Input I: 2-wire sensor: terminals 1+, 3- three wire sensor: terminals 1+, 2- and 3
 input II: terminals 13+, 14- start-up override;
 Input I 2- or 3-wire sensor, sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact
 Open circuit voltage/short-circuit current 22 V / 40 mA
 Input resistance 4.7 k Ω
 Switching point/switching hysteresis logic 1: > 2.5 mA ; logic 0: < 1.9 mA
 Pulse duration > 50 μ s
 Input frequency 0.001 ... 10000 Hz
 Line fault detection breakage I ≤ 0.15 mA ; short-circuit I > 4 mA
 Input II startup override: 1 ... 1000 s, adjustable in steps of 1 s
 Active/Passive I > 4 mA (for min. 100 ms) / I < 1.5 mA
 Open circuit voltage/short-circuit current 18 V / 5 mA

Output

Connection side control side
 Connection output I: terminals 10, 11, 12
 output II: terminals 16, 17, 18
 output III: terminals 19+, 20-
 output IV: terminals 8+, 7-
 Output I, II signal, relay
 Contact loading 250 V AC / 2 A / $\cos \phi \geq 0.7$; 40 V DC / 2 A
 Mechanical life 5×10^7 switching cycles
 Energized/De-energized delay approx. 20 ms / approx. 20 ms
 Output III electronic output, passive
 Contact loading 40 V DC
 Signal level 1-signal: (L+) -2.5 V (50 mA, short-circuit/overload proof)
 0-signal: blocked output (off-state current $\leq 10 \mu$ A)
 Output IV analog
 Current range 0 ... 20 mA or 4 ... 20 mA
 Open loop voltage ≤ 24 V DC
 Load $\leq 650 \Omega$
 Fault signal downscale I ≤ 3.6 mA , upscale ≥ 21.5 mA (acc. NAMUR NE43)

Transfer characteristics

Input I
 Measurement range 0.001 ... 10000 Hz
 Resolution 0.1 % of the measurement value , ≥ 0.001 Hz
 Accuracy 0.1 % of the measurement value , > 0.001 Hz
 Measuring time < 100 ms
 Influence of ambient temperature 0.003 %/K (30 ppm)
 Output I, II
 Response delay ≤ 200 ms
 Output IV
 Resolution < 10 μ A
 Accuracy < 20 μ A
 Influence of ambient temperature 0.005 %/K (50 ppm)

Galvanic isolation

Input I/other circuits reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}
 Output I, II/other circuits reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}
 Mutual output I, II, III reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}
 Output III/power supply reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}
 Output III/IV basic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V_{eff}
 Output IV/power supply reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}
 Start-up override/power supply reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}
 Interface/power supply reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}

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

Interface/output III	basic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V _{eff}
Indicators/settings	
Display elements	LEDs , display
Control elements	Control panel
Configuration	via operating buttons via PACTware
Labeling	space for labeling at the front
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2006
Low voltage	
Directive 2014/35/EU	EN 61010-1:2010
Conformity	
Electromagnetic compatibility	NE 21:2006
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	300 g
Dimensions	40 x 119 x 115 mm (1.6 x 4.7 x 4.5 inch) , housing type C3
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
General information	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .
Accessories	
Optional accessories	- FDT framework PACTware 4.1 - device type manager DTM Interface Technology - adapter K-ADP-USB

Function

This signal conditioner provides the isolation for non-intrinsically safe applications.

The device is a universal frequency converter that changes a digital input signal into a proportional free adjustable 0/4 mA ... 20 mA analog output signal and functions as a switch amplifier and a trip alarm.

The functions of the switch outputs (2 relay outputs and 1 potential free transistor output) are easily adjustable [trip value display (min/max alarm), serially switched output, pulse divider output, error signal output].

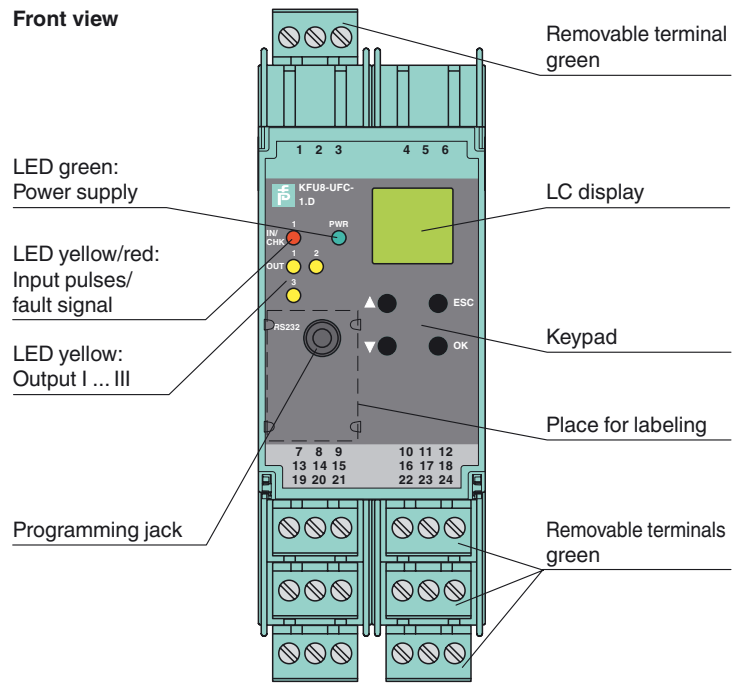
The device is easily configured by the use of keypad or with the PACTware configuration software.

A fault is signaled by LEDs acc. to NAMUR NE44.

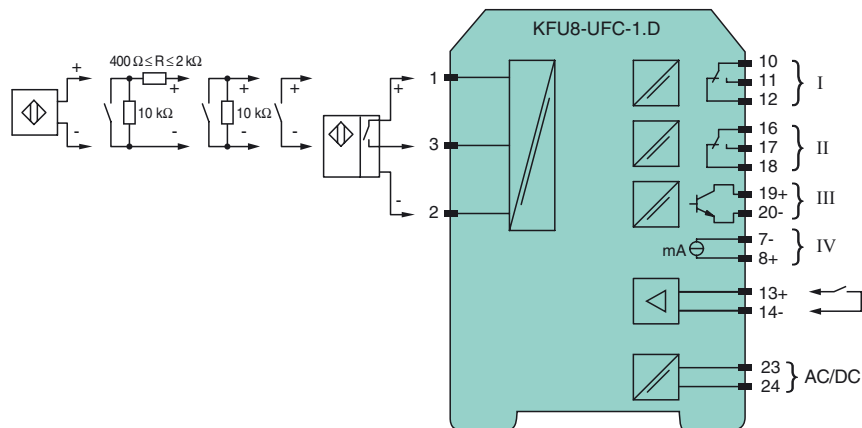
For additional information, refer to the manual and www.pepperl-fuchs.com.

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Indicators / Operating means



Electrical connection



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