



Rotation Speed Monitor KFU8-DWB-1.D

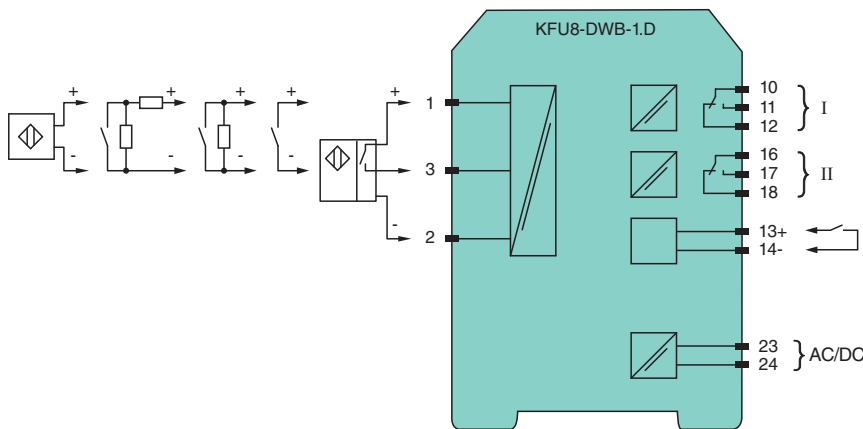
- 1-channel signal conditioner
- Universal usage at different power supplies
- Dry contact or NAMUR inputs
- Input frequency 1 mHz ... 12 kHz
- 2 relay contact outputs
- Start-up override
- Configurable by keypad
- Line fault detection (LFD)
- Up to SIL 2 acc. to IEC/EN 61508 / IEC/EN 61511

CE SIL 2

Function

This signal conditioner monitors an overspeed or underspeed condition of a digital signal (NAMUR sensor/ mechanical contact) by comparing the input frequency to the user programmed reference frequency. An overspeed or underspeed condition is signaled via the relay outputs. Line fault detection of the field circuit is indicated by a red LED and relay. The startup override feature sets relay outputs to default conditions programmed by the user for up to 1,000 seconds. The unit is easily programmed by the use of a keypad located on the front of the unit. For additional information, refer to the manual and www.pepperl-fuchs.com.

Connection



Technical Data

General specifications

Signal type	Digital Input
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Functional safety related parameters

Safety Integrity Level (SIL)	SIL 2
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Supply

Connection	terminals 23, 24
Rated voltage	U_r 20 ... 90 V DC / 48 ... 253 V AC 50 ... 60 Hz
Rated current	I_r approx. 100 mA
Power dissipation/power consumption	≤ 1.8 W ; 2 VA / 1.8 W ; 2 VA

Input

Connection side	field side
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Technical Data

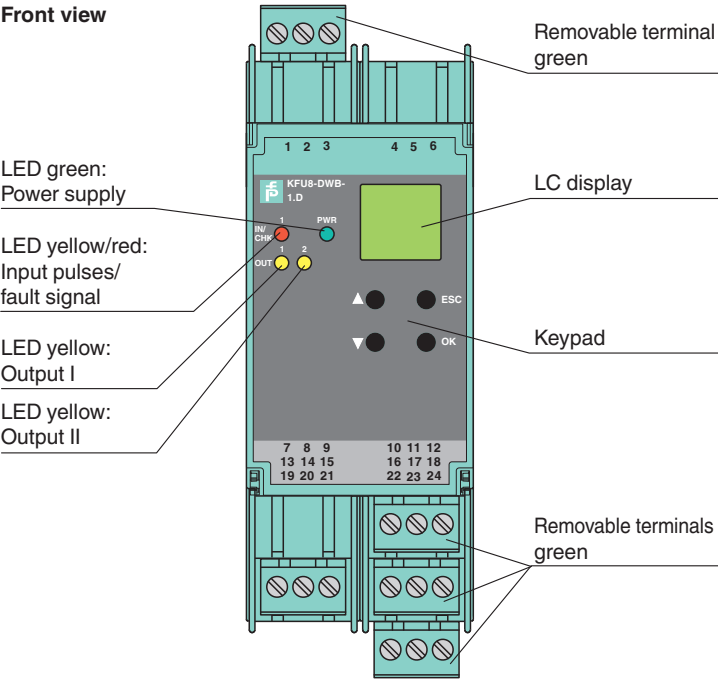
Connection	Input I: 2-wire sensor: terminals 1+, 3- three wire sensor: terminals 1+, 2- and 3 input II: terminals 13+, 14- start-up override;	
Input I		2- or 3-wire sensor, sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact
Open circuit voltage/short-circuit current		22 V / 40 mA
Input resistance		4.7 kΩ
Switching point/switching hysteresis		logic 1: > 2.5 mA ; logic 0: < 1.9 mA
Pulse duration		> 50 μs
Input frequency		0.001 ... 12000 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 I, II		signal, relay
Contact loading		250 V AC / 2 A / cos φ ≥ 0.7 ; 40 V DC / 2 A
Mechanical life		5 x 10 ⁷ switching cycles
Energized/De-energized delay		approx. 20 ms / approx. 20 ms
Transfer characteristics		
Input I		
Measurement range		0.001 ... 12000 Hz
Resolution		0.1 % of measured value , ≥ 0.001 Hz
Accuracy		0.1 % of measured value , > 0.001 Hz
Measuring time		< 100 ms
Influence of ambient temperature		0.003 %/K (30 ppm)
Output I, II		
Response delay		≤ 200 ms
Galvanic isolation		
Input I/other circuits		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Output I, II against each other		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}
Start-up override/power supply		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Indicators/settings		
Display elements		LEDs , display
Control elements		Control panel
Configuration		via operating buttons
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
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) (W x H x D) , housing type C2

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Technical Data

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 .

Assembly



Matching System Components

	K-DUCT-GY	Profile rail, wiring comb field side, gray
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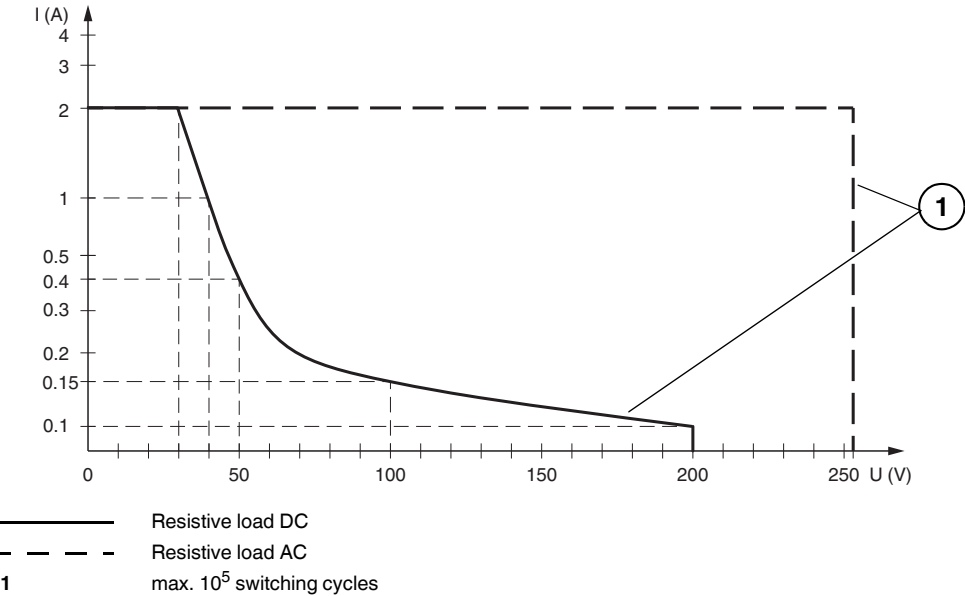
Accessories

	KF-ST-5GN	Terminal block for KF modules, 3-pin screw terminal, green
	KF-CP	Red coding pins, packaging unit: 20 x 6

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Characteristic Curve

Maximum Switching Power of Output Contacts



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