

# Rotation Speed Monitor KFU8-DWB-1.D

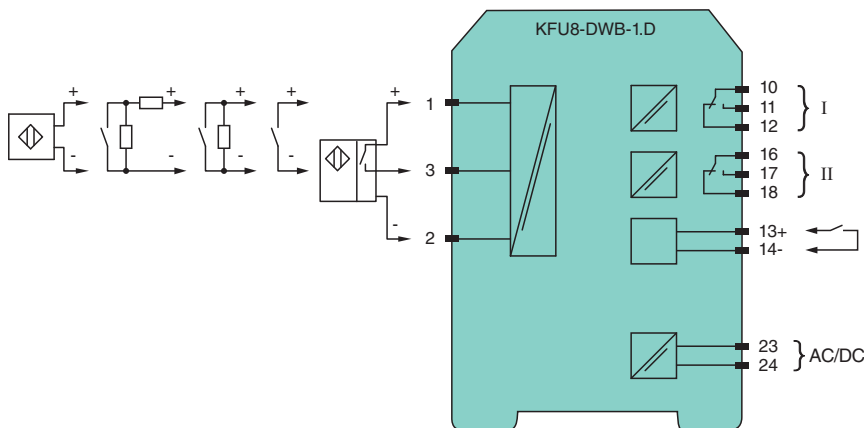
- 1-channel signal conditioner
- Universal usage at different power supplies
- Dry contact or NAMUR inputs
- Input frequency 1 mHz ... 12 kHz
- 2 relay contact outputs
- Start-up override
- Configurable by keypad
- Line fault detection (LFD)
- Up to SIL 2 acc. to IEC 61508/IEC 61511

# CE SIL2

## 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](http://www.pepperl-fuchs.com).

## Connection



## 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 <sub>r</sub>	20 ... 90 V DC / 48 ... 253 V AC 50 ... 60 Hz	
Rated current	I <sub>r</sub>	approx. 100 mA	
Power dissipation/power consumption		≤ 1.8 W ; 2 VA / 1.8 W ; 2 VA	
Input			

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

Pepperl+Fuchs Group  
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## Technical Data

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 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
<b>Output</b>	
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 <sup>7</sup> switching cycles
Energized/De-energized delay	approx. 20 ms / approx. 20 ms
<b>Transfer characteristics</b>	
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
<b>Galvanic isolation</b>	
Input I/other circuits	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output I, II against each other	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output I, II/other circuits	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Start-up override/power supply	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
<b>Indicators/settings</b>	
Display elements	LEDs , display
Control elements	Control panel
Configuration	via operating buttons
Labeling	space for labeling at the front
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
Low voltage	
Directive 2014/35/EU	EN 61010-1:2010
<b>Conformity</b>	
Electromagnetic compatibility	NE 21:2006
Degree of protection	IEC 60529:2001
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>	
Degree of protection	IP20
Connection	screw terminals
Mass	300 g

Release date: 2021-12-10 Date of issue: 2021-12-10 Filename: 231209\_eng.pdf

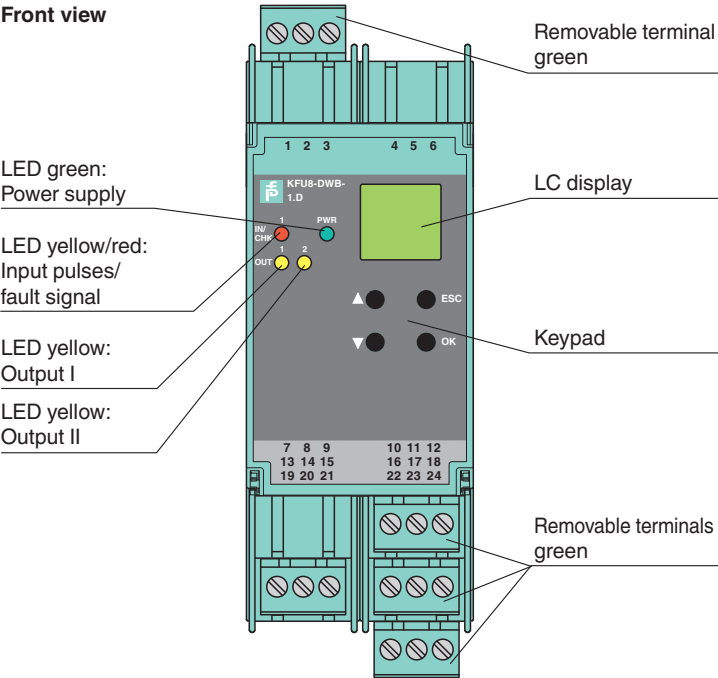
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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
Technical Data

Dimensions	40 x 119 x 115 mm (1.6 x 4.7 x 4.5 inch) (W x H x D) , housing type C2
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>General information</b>	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .



Assembly



Matching System Components

	<b>K-DUCT-GY</b>	Profile rail, wiring comb field side, gray
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Accessories

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

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Characteristic Curve

Maximum Switching Power of Output Contacts

