

Features

- 1-channel signal conditioner
- 230 V AC supply
- Dry contact or NAMUR inputs
- Input frequency 1 mHz ... 12 kHz
- 2 relay contact outputs
- Startup override
- Configurable by keypad
- Line fault detection (LFD)
- Up to SIL2 acc. to IEC 61508

Function

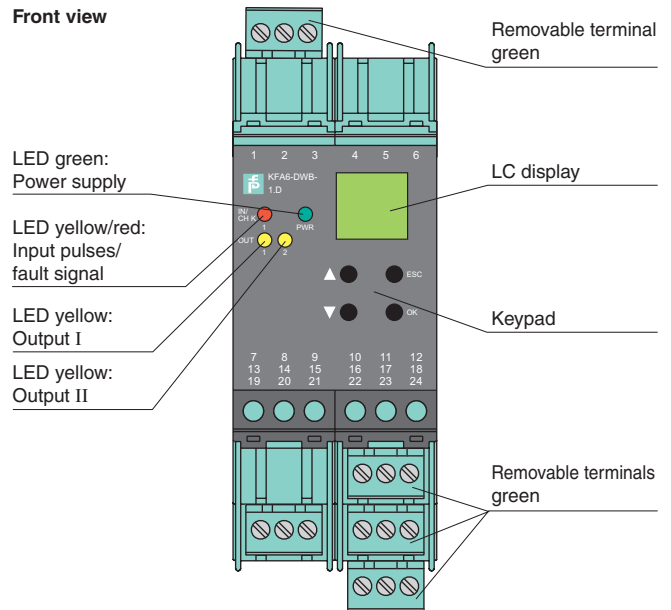
This signal conditioner monitors an overspeed or underspeed condition of a digital signal (NAMUR sensor/mechanical contact) by comparing the input frequency to the user programmed reference frequency.

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/or 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.

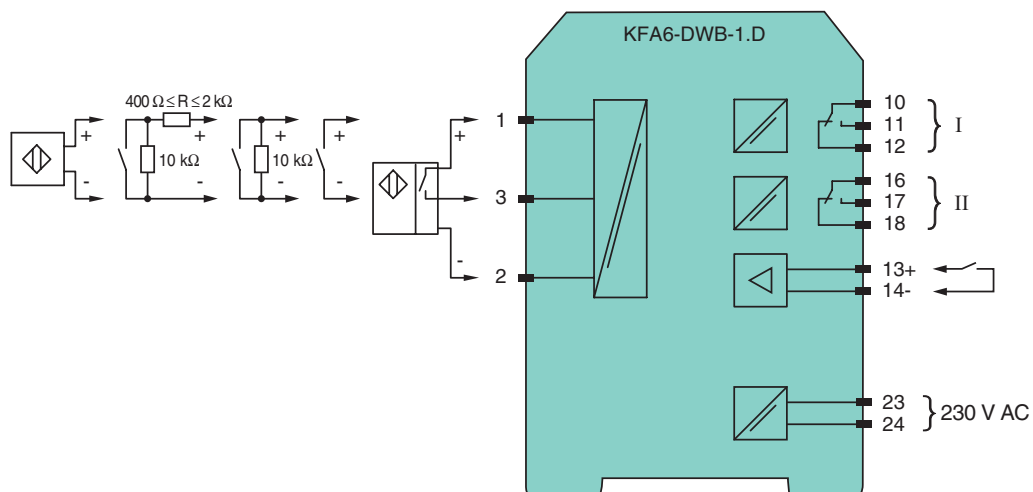
For additional information, refer to the manual and www.pepperl-fuchs.com.

Assembly



SIL2

Connection



General specifications	
Signal type	Digital input
Supply	
Connection	terminals 23, 24
Rated voltage	230 V AC $\pm$ 10 %
Rated current	18 mA
Power loss/power consumption	$\leq$ 2 VA / 2 VA
Input	
Connection	input I: 2-wire sensor: terminals 1+, 3- three wire sensor: terminals 1+, 2- and 3 input II: terminals 13+, 14- startup override;
Input I	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 0: $>$ 2.5 mA ; logic 0: $<$ 1.9 mA
Pulse duration	$>$ 50 μ s
Input frequency	0.001 ... 12000 Hz
Lead monitoring	breakage I $\leq$ 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 mA
Open circuit voltage/short-circuit current	18 V / 5 mA
Output	
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 / $\cos \phi \geq 0.7$; 40 V DC / 2 A
Mechanical life	5×10^7 switching cycles
Energized/de-energized delay	approx. 20 ms / approx. 20 ms
Transfer characteristics	
Input I	
Measuring range	0.001 ... 12000 Hz
Resolution	0.1 % of measured value , $\geq$ 0.001 Hz
Accuracy	0.1 % of measured value , $>$ 0.001 Hz
Measuring time	$<$ 100 ms
Influence of ambient temperature	0.003 %/ $^{\circ}$ C (30 ppm)
Output I, II	
Response delay	$\leq$ 200 ms
Electrical isolation	
Input/other circuits	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Output I, II against each other	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V _{rms}
Output I, II/other circuits	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V _{rms}
Start-up override/power supply	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V _{rms}
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Low voltage	
Directive 2006/95/EC	EN 50178:1997
Conformity	
Insulation coordination	IEC 62103
Electrical isolation	IEC 62103
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Protection against electric shock	IEC 61140
Ambient conditions	
Ambient temperature	-20 ... 60 $^{\circ}$ C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	300 g
Dimensions	40 x 119 x 115 mm (1.6 x 4.7 x 4.5 in) , housing type C3
General information	
Supplementary information	Statement of Conformity, Declaration of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .