- 1-channel
- Control circuit EEx ia IIC
- Input frequency 1 mHz ... 5 kHz
- 2 relay outputs
- Each output individually parameterisable as trip value
- Start-up override
- Lead breakage (LB) monitoring and short-circuit (SC) monitoring
- Restart inhibit
- Bounce filter
- Parameterisation via control panel
- Up to SIL2 acc. to IEC 61508

115 V AC

KFA5-DWB-Ex1.D

Function

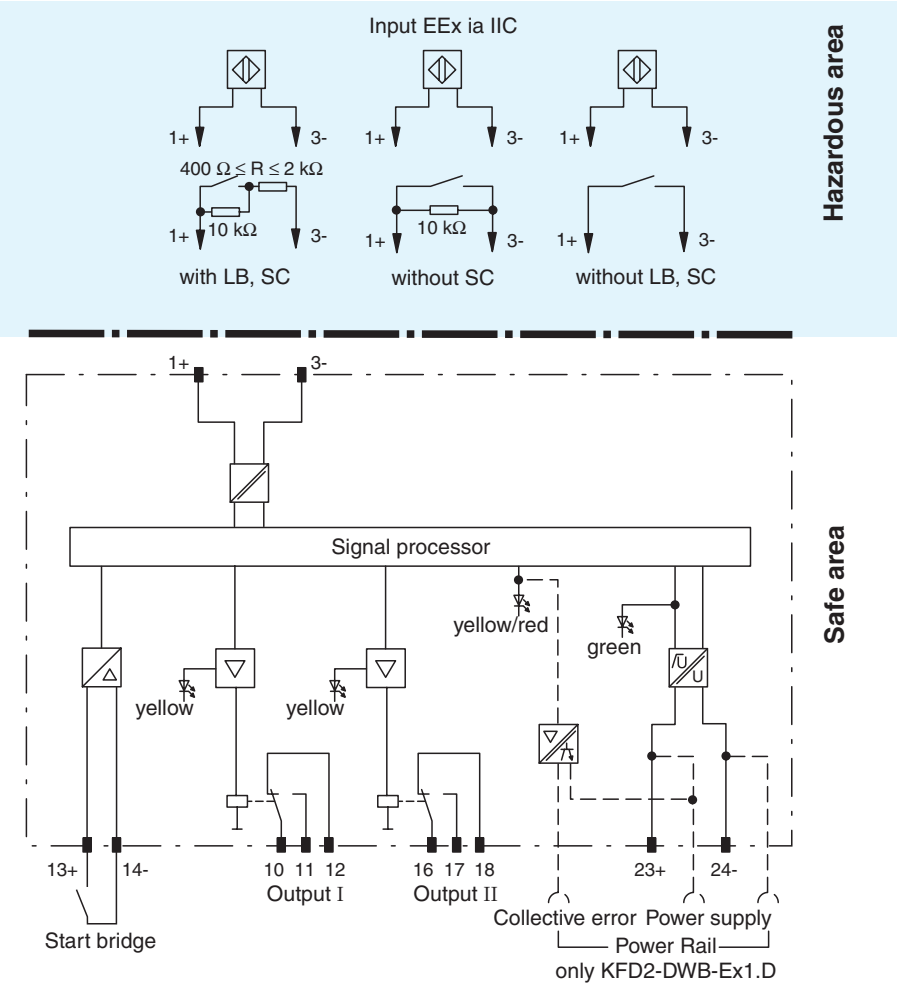
The speed monitor KF**-DWB-Ex1.D is able to survey the trip values.

The switch points of the two relays can be set freely (MIN/MAX alarm). A start-up override that can be activated externally is integrated as well. In order to detect short-time interferences or trip value exceeding a restart inhibit can be activated. The maximum input frequency is 5 kHz.

The input and output circuits are galvanically isolated.

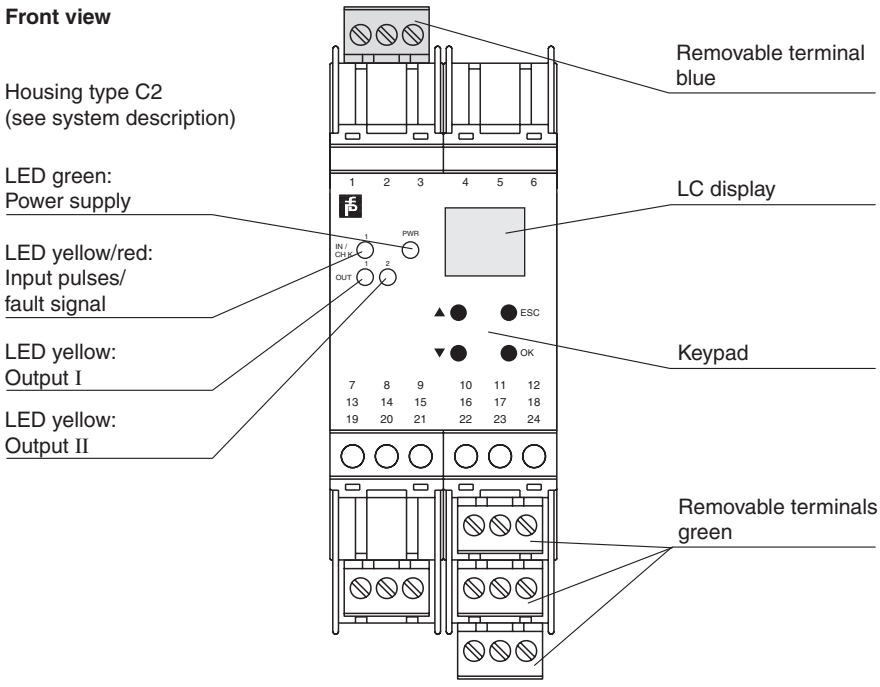
The KFD2-DWB-Ex1.D can be supplied via the Power Rail. It also transfers a collective error message via the Power Rail.

Connection



Composition

Front view



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Supply	
Connection	terminals 23, 24
Rated voltage	115 V AC +/- 10 %
Power loss/Power consumption	≤ 2 VA / 2 VA
Input	
Connection	Input I: intrinsically safe: terminals 1+, 3- Input II: non-intrinsically safe: terminals 13+, 14-
Input I	acc. to EN 60947-5-6 (NAMUR), see system description for electrical data
Pulse duration	> 50 µs
Input frequency	0.001 ... 5000 Hz
Lead monitoring	breakage I ≤ 0.15 mA; short-circuit I > 6.5 mA
Input II	start-up 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	output I: terminals 10, 11, 12 output II: terminals 16, 17, 18
Output I and 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 ... 5000 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 %/°C (30 ppm)
Output I and II	
Response delay	≤ 200 ms
Electrical isolation	
Output I, II against eachother	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V_{eff}
Output I, II/other circuits	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V_{eff}
Start-up override/power supply	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V_{eff}
Directive conformity	
Electromagnetic compatibility	
Directive 89/336/EC	EN 61326, EN 50081-2, EN 50082-2
Conformity	
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Protection against electric shock	IEC 61140
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	300 g
Dimensions	40 x 118 x 115 mm (1.6 x 4.6 x 4.5 in)
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	TÜV 99 ATEX 1408 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⟨Ex⟩ II (1)GD [EEx ia] IIC [circuit(s) in zone 0/1/2]
Supply	
Safety maximum voltage U_m	253 V AC (Attention! U_m is no rated voltage.)
Input I	terminals 1+, 3- EEx ia IIC
Voltage U_o	10.1 V
Current I_o	13 mA
Power P_o	34 mW (linear characteristic)
Input II	terminals 13+, 14- non-intrinsically safe
Safety maximum voltageU_m	40 V DC (Attention! U_m is no rated voltage.)
Output I and II	terminals 10, 11, 12; 16, 17, 18 non-intrinsically safe
Safety maximum voltageU_m	253 V AC (Attention! The rated voltage can be lower.)
Contact loading	253 V AC / 2 A / cos ϕ > 0.7; 40 V DC / 2 A resistive load
Electrical isolation	
Input/other circuits	safe electrical isolation acc. to EN 50020, voltage peak value 375 V

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Directive conformity	
Directive 94/9 EC	EN 50014, EN 50020

Supplementary information

EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com.

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