

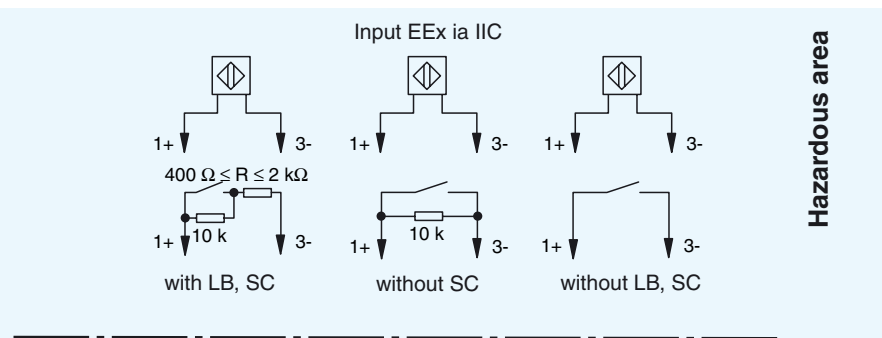


24 V DC

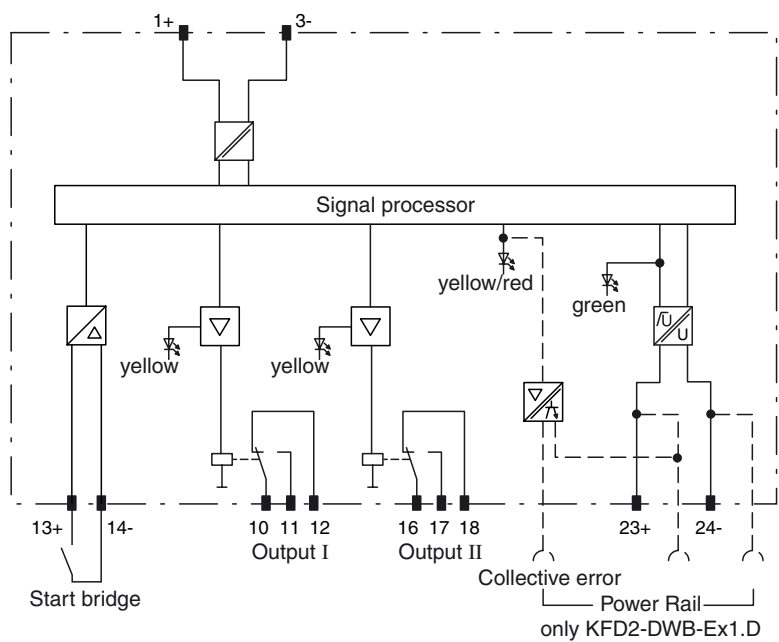
- 1-channel
- Input frequency 0.001 Hz ... 5 kHz
- 2 relay outputs
- Each output individually parameterisable as limit value
- Start-up override
- Lead breakage (LB) monitoring and short-circuit (SC) monitoring
- Restart inhibit
- Bounce filter
- Parameterisation via control panel

Function

The rotation speed monitor offers the possibility to monitor limit values. The switching points of the two relays can be set freely (MAX or MIN alarm). A start-up override that can be activated externally is integrated as well. The maximum input frequency is 5 kHz. The input and output circuits are separated galvanically. The KFD2-DWB-Ex1.D can be supplied via the Power Rail. It also transfers a collective error message via the Power Rail.



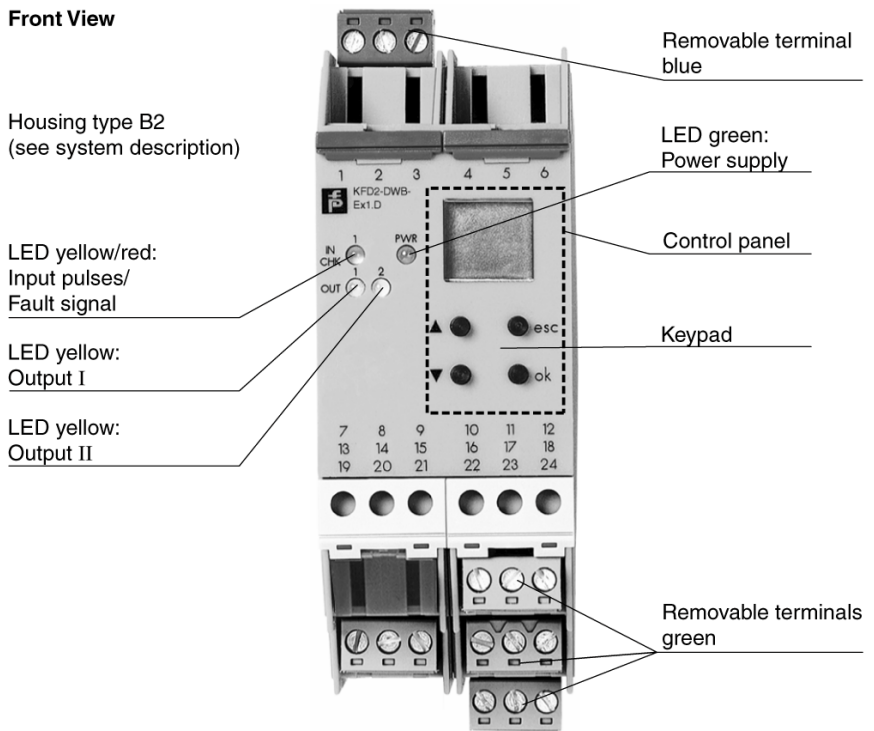
Hazardous area



Safe area


Composition

Front View



Supply		
Connection		terminals 23+, 24- or Power Rail
Rated voltage		20 ... 30 V DC
Rated current		approx. 100 mA
Power loss/Power consumption		≤ 1,8 W / 1,8 W
Input		
Connection		Input I: intrinsically safe: terminals 1+, 3- Input II: non-intrinsically safe: terminals 13+, 14-
Input I		acc. to IEC 60947-5-6 (NAMUR, DIN 19234), 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
Collective error message		Power Rail
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
Energised/De-energised delay		approx. 20 ms / approx. 20 ms
Transfer characteristics		
Input I		
Measurement range		0,001 ... 5000 Hz
Resolution		0.1 % of measured value , ≥ 0.001 Hz
Accuracy		0.1 % of measured value , > 0,001 Hz
Measuring time		< 100 ms
Temperature		0.003 % / °C (30 ppm)
Output I and II		
Response delay		≤ 200 ms
Electrical isolation		
Output I, II against eachother		reinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff}
Output I, II/Other circuits		reinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff}
Start-up override/Power supply and collective error		reinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff}
Directive conformity		
Electromagnetic compatibility		standards
Directive 89/336/EEC		EN 61326, EN 50081-2, NE 21
Low voltage		
Directive 73/23/EEC		EN 50178
Standard conformity		
Electrical isolation		acc. to DIN EN 50178
Electromagnetic compatibility		acc. to EN 50081-2 / EN 50082-2
Climatic conditions		acc. to DIN IEC 721
Ambient conditions		
Ambient temperature		-20 ... 60 °C (253 ... 333 K)
Mechanical specifications		
Protection degree		IP20
Mass		300 g
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		Ⓔ II (1) G D [EEx ia] IIC [circuit(s) in zone 0/1/2]
Supply		
Safety maximum voltage	U _m	40 V DC (Attention! U _m is no rated voltage.)
Input I		
Voltage	U _o	10,1 V
Current	I _o	13 mA
Power	P _o	34 mW (linear characteristic)
Input II		
Safety maximum voltage	U _m	40 V DC (Attention! U _m is no rated voltage.)
Output I and II</font		
Contact loading		253 V AC / 2 A / cos φ > 0.7; 40 V DC / 2 A resistive load
Statement of conformity		TÜV 02 ATEX 1885 X , observe statement of conformity

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Group, category, type of protection, Temperature classification	 II 3 G EEx nAC IIC T4 [device in zone 2]
Electrical isolation	
Input/Other circuits	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity	standards
Directive 94/9 EC	EN 50014, EN 50020, EN 50021

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.

Accessories

PR-03 Power Rail

UPR-03 Power Rail

KFD2-EB2 power feed module

The KFD2-EB2 power feed module and the PR-03 or the UPR-03 Power Rail are used to supply the devices with 24 VDC and at the same time to evaluate collective error message.

Each power feed module monitors and provides protection for up to 100 individual devices. The PR-03 Power Rail is an insert component for the DIN rail. The UPR-03 Power Rail is a complete unit consisting of an electrical insert and an aluminium DIN rail measuring 35 mm x 15 mm x 2000 mm. The devices are simply snapped in place to make electrical contact.

If a Power Rail is not being used, power can be supplied to the devices directly through the device terminals.