Features

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Input for NAMUR sensors or dry contacts
- Input frequency 1 mHz ... 5 kHz
- Current output 0/4 mA ... 20 mA
- Relay and transistor output
- · Start-up override
- Line fault detection (LFD)
- Up to SIL2 acc. to IEC 61508/IEC 61511

Function

This isolated barrier is used for intrinsic safety applications.

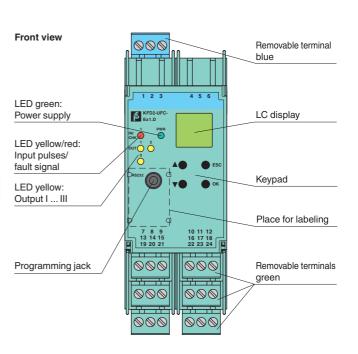
The device is a universal frequency converter that changes a digital input signal into a proportional free adjustable 0/4 mA ... 20 mA analog output signal and functions as a switch amplifier and a trip alarm.

The functions of the switch outputs (2 relay outputs and 1 potential free transistor output) are easily adjustable [trip value display (min/max alarm), serially switched output, pulse divider output, error signal output].

The device is easily configured by the use of keypad or with the PACTware configuration software.

A fault is signalized by LEDs acc. to NAMUR NE44 and a separate collective error message output.

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

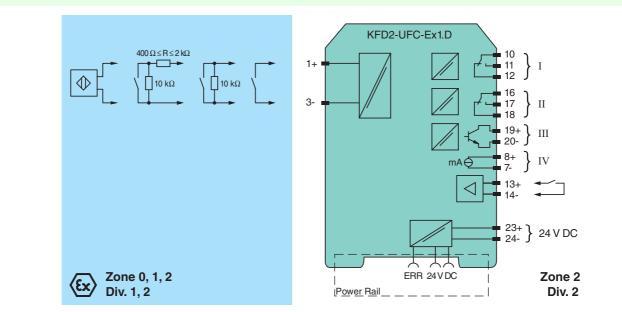


CE (Ex

Assembly

SIL2

Connection



| General specifications Digital Input Supply Digital Input Supply terminals 22+, 24-or power feed module/Power Rail Rated vortage 20-, 30 V DC Rated oursent appox. 100 mA Connection terminals 22+, 24-or power feed module/Power Rail Connection uppot. 100 mA Connection uppot. 100 mA Connection uppot. 100 mA Connection uppot. 100 mA Pute duration > 50 µs Input. 1 sonsor acc. to EN 60947-56 (NAMUR) or mechanical contact Pute duration > 50 µs Input. 1 sonsor acc. to EN 60947-56 (NAMUR) or mechanical contact Input. 1 sonsor acc. to EN 60947-56 (NAMUR) or mechanical contact Input. 1 sonsor acc. to EN 60947-56 (NAMUR) or mechanical contact Output. 1 sonsor acc. to EN 60947-56 (NAMUR) or mechanical contact Output. 1 sonsor acc. to EN 60947-56 (NAMUR) or mechanical contact Output. 1 sonsor acc. to EN 60947-56 (NAMUR) or mechanical contact Output. 1 sonsor acc. to EN 60947-56 (NAMUR) or mechanical contact Open Circuit voltageAbort -circuit worton acontact | | |
|--|---|--|
| Supply Familian 23: 24 or power feed module/Power Rail Connection terminals 23: 24 or power feed module/Power Rail Rated voltage 2030 V DC Rated voltage 2030 V DC Rated voltage 2030 V DC Rated voltage 22 W / 22 W Input 52 W / 22 W Input 1 Septor 2000 mechanical contact Pulse duration > 50 µs Input 1: sensor acc. In SN 0647 >-56 (NAMUR) or mechanical contact Load monitoring Dot 1 500 Hz Load monitoring 10 ar M of rom 1.10 m 3/ 1 < 1.5 m A | • | |
| Connection terminals 23-, 24. or power feed module/Power Rail Rated voltage 2020 V DC Rated current approx. 100 mA Power loss/power consumption 2 V / 2.2 W Connection Imput F Connection Imput F. individual safe: terminals 14, 3- Imput I non-individual safe: terminals 15, 14- Input I requency 0.0015000 Hz Lead monitoring Beraser acc. to EN 60947-5-6 (NAMUR) or mechanical contact Active/Passive 10.0015000 Hz Lead monitoring Beraser acc. to EN 60947-5-6 (NAMUR) or mechanical contact Open circuit voltage/short-circuit 16.9 / S and/stable in steps of 1 s Active/Passive 12.4 mA (for min. 100 ms) / 1< 1.5 mA | | gital input |
| Finish voltage 2030 V DC Ratic durrent approx.100 mÅ Power losspower consumption 5.2 W 2.2 W Input Input I: intrinsically safe: terminals 14, 3- Input I: non-intrinsically safe: terminals 13, 14- Puise duration > 50 µs Input I: mon-intrinsically safe: terminals 13, 14- Puise duration > 50 µs Input I: aon-intrinsically safe: terminals 13, 14- Puise duration > 50 µs Input I: admonitoring brankage 15 0.15 mA Input III safup override: 1 1000 s, adjustable in steps of 1 s Active/Pasive 1 × 4 mA (for min. 100 ms) / 1 < 1.5 mA | - | |
| Fated curven approx. 100 mÅ Power loss/power consumption 52 W / 2.2 W Power loss/power consumption 52 W / 2.2 W Connection Input I: intrinsically safe: terminals 14, 3- Input I: non-intrinsically safe: terminals 14, 14- Input I: consumption > 50 µ Pulse duration > 50 µ Input I: consumption > 500 µ Lead monitoring breakage 12 0.15 mA stort-circuit 1 - 6.5 m A Input I: startup override: 1 1000 s., adjustable in stops of 1 s Active/Passivo 1.5 4 mA (for min. 100 ma) / 1 < 1.5 mA | | |
| Power loss/power consumption \$2 W / 2.2 W input Input 1: intrinsically safe: terminals 14, 3- input 11: non-intrinsically safe: terminals 13, 14- Connection Input 1: intrinsically safe: terminals 13, 14- Pulse duration > 50 µs Input 1: non-intrinsically safe: terminals 13, 14- Input 10 Input 1: non-intrinsically safe: terminals 13, 14- Input 10 Input 1: non-intrinsically safe: terminals 13, 14- Input 10 Input 1: non-intrinsically safe: terminals 13, 14- Input 10 Lead monitoring Doto 12 Lead monitoring Is 4m A(for min. 100 mg / 1<1.5 mA | • | |
| Input Input liminationally safe: terminals 14, 14- Input limon-intrinsically safe: terminals 13+, 14- Input limon-intrinsically safe: terminals 13+, 14- Input limon-intrinsically safe: terminals 13+, 14- Input limon-intrinsically safe: terminals 13+, 14- Input limon-intrinsically safe: terminals 13+, 14- Safe 13- Input limon-intrinsically safe: terminals 13+, 14- Input limon-intrinsically safe: terminals 10, 17 Safe 13- Input limon-intrinsically safe: terminals 10, 15 mA Input limon-intrinsically safe: terminals 10, 15 mA Safe 13- Input limon-intrinsically safe 15- Input limon-intrinsically safe 15- Input limon-intrinsically safe 15- Input limon-intrinsically safe 15- Input limon-intrinsically 17, 18- output limon-intrinsical 15, 24, 26, 92, 67, 140 VD C/2A Contact loading Safe 16, 24, 26, 92, 67, 140 VD C/2A Signal level Safe 16, 24, 25, 92, 60, 74, 200, 92, 60, 74, 200, 92, 60, 74, 200, 92, 60, 74, 200, 92, 60, 74, 200, 92, 60, 74, 200, 92, 60, 74, 200, 92, 60, 74, 200, 92, 60, 74, 200, 92, 74, 200, 92, 60, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 74, 200, 92, 7 | | · |
| Connection Input I: intrinsiculty safe: terminals 1+, 3- Input I: sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact Pulse duration > 50 µs Input I: sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact > 50 µs Input I: sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact > 50 µs Input I: sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact > 50 µs Input I: sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact > 50 µs Active/Passive 0.0015000 Hz Sensor Acc. to EN 60947-5-6 (NAMUR) or mechanical contact Active/Passive 1 > 4 mA (for min. 100 ms) / 1 < 1.5 mA | | 2 W / 2.2 W |
| Input I Input I: Input I: Input I: Input I: sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact Pulse duration > 50 µs Input I: sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact Input I: sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact Input I: sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact Active/Passive 1 > 4 mA (for min. 100 ms, adjustable in steps of 1 s Active/Passive 1 > 4 mA (for min. 100 ms, 1 + 1.5 mA Output Output I: terminals 10, 11, 12 output I: terminals 10, 17, 18 output I: Output I: terminals 10, 7, 18 output I: Connection signal, relay output I: terminals 10, 7, 18 Output I: terminals 10, 7, 18 output I: terminals 10, 7, 18 Output II terminals 10, 7, 18 terminals 10, 11 terminals 10, 10 Output II terminals 10, 7, 18 terminals 10, 10 terminals 10, 10 Output II signal, relay terminals 10, 10 terminals 10, 10 terminals 10, 10 terminals 10, 10 t | | |
| Pulse duration > 50 μs Input Inquency 0.001 5000 Hz Lead monitoring breakage I ≤ 0.15 mA; short-circuit I > 6.5 mA Input II startup override: 1 1000 s, adjustable in steps of 1 s Active/Passive 13 4 M (for min. 100 ms) / 1 < 1.5 mA | Inp | out II: non-intrinsically safe: terminals 13+, 14- |
| Input frequency $0.01 \dots 5000 Hz$ Laad monitoringbreakago I ± 0.15 mA; short-circuit I ± 5. mAInput IIStartup override: 1 1000 s, adjustable in steps of 1 sActive/PassiveI >4 mA (for min. 100 ms) / I < 1.5 mA | | |
| Lead monitoringbreakage I ≤ 0.15 mA; short-circuit I > 6.5 mAInput IIstartup override: 11000 s, adjustable in steps of 1 sActive/PassiveI > 4 m 4 (for min. 100 ms) / I < 1.5 mA | | • |
| Input IIstartup override: 1 1000 s, adjustable in steps of 1 sActive Passive1 > 4 mA (for min. 100 ms) / l < 1.5 mA | ut frequency 0.0 | 001 5000 Hz |
| Active/Passive $1 > 4 mA$ (for min. 100 ms) / $1 < 1.5 mA$ Open circuit voltage/short-circuit current $18 V / 5 mA$ Output $18 V / 5 mA$ Outputcompatibility (for the massive management value)Connectionoutput I: terminals 10, 11, 12 output IV: terminals 94, 20- output IV: terminals 94, 20- output IV: terminals 94, 7-Output Isignal, relayContect loading250 V AC / 2 A / cos $\diamond = 0.7 : 40 V DC / 2 A$ Mechanical life 5×10^7 switching cyclesEnergized/De-energized delayapprox. 20 ms / approx. 20 msOutput IIelectronic output, passiveContact loading40 V DCSignal level1-signal: (L+) - 2.5 V (50 mA, short-circuit/overload proof) Orisinal: switched off (off-state current < 10 µA)Output IIanalog Current rangeOutput IVanalogCollective error messagePower RailTransfer characteristics Input I0.001 5000 HzMeasuring time0.001 5000 HzAccuracy0.1 % of the measurement value, > 0.001 HzAccuracy0.1 % of the measurement value, > 0.001 HzAccuracy0.03 %/K (30 ppm)Output I, IIenforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Output I, IIreinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Output I, IV other circuitsreinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Output I, IV other circuitsreinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V | - | |
| Open circuit voltage/short-circuit current 18 V / 5 mA Output - Connection output I: terminals 10, 11, 12 output II: terminals 16, 7, 18 output II: terminals 16, 7, 20- output IV: terminals 19+, 20- output IV: terminals 8+, 7- Output Garding 250 V AC / 2A / cos e ≥ 0.7; 20 V DC / 2 A Mechanical life 5 x 10 ² awitching cycles Energized/De-energized delay approx. 20 ms / approx. 20 ms Output II electronic output, passive Contact loading 40 V D C Signal level - signal: (L+) - 2.5 V (50 mA, short-circuit/overload proof) O-signal: switched df (dif-state current ≤ 10 µA) Output IN analog Current range 0 20 mA or 4 20 mA Open loop voltage < 24 V DC | l sta | artup override: 1 1000 s, adjustable in steps of 1 s |
| current index Output output 1: terminals 10, 11, 12 output 11: terminals 16, 17, 18 output 11: terminals 19, 20- output 11: terminals 84, 7- Output I.1 signal: relay Contact loading SigNa 109, 200 Energized/De-energized delay approx.20ms / | ive/Passive I > - | 4 mA (for min. 100 ms) / l < 1.5 mA |
| Connection output I: terminals 10, 11, 12 output II: terminals 16, 17, 18 output IV: terminals 19, 20- output IV: terminals 19, 20- output IV: terminals 8+, 7- Output I, II Sandar S | - | 5 V / 5 mA |
| output II: terminals 16, 17, 18 output II: terminals 14, 20- output IV: terminals 84, 7-Output I, IIIsignal, relayContract Ioading250 V AC / 2 A / cos $\phi \ge 0.7$; 40 V DC / 2 AMechanical life5 × 10 ⁷ switching cyclesEnergized/De-energized delayapprox. 20 ms / approx. 20 msOutput IIIelectronic output, passiveContract Ioading40 V DCSignal level1-signal: (L+) - 2.5 V (50 mA, short-circuit/overload proof) osignal: switched of (off-state current < 10 µA) | ut | |
| Contact loading250 V AC / 2 A / cos $\phi \ge 0.7$; 40 V DC / 2 AMechanical life5 × 10 ² switching cyclesBenergized/De-energized delayapprox. 20 msOutput IIelectronic output, passiveContact loading40 V DCSignal level1-signai: (L+) - 2.5 V (50 mA, short-circuit/overload proof)Output IVanalogOutput IVanalogOutput IVanalogOutput IVanalogCurrent range0 20 mA or 4 20 mAOpen loop voltage ≤ 44 V DCLoad $< 650 \Omega$ Fault signaldownscale I ≤ 3.6 mA, upscale ≥ 21.5 mA (acc. NAMUR NE43)Collective error messagePoer RailInput I0.001 5000 HzMeasurement range0.01% of the measurement value, ≥ 0.001 HzAccuracy0.1% of the measurement value, ≥ 0.001 HzAccuracy0.1% of the measurement value, ≥ 0.001 HzNutput IVMeasuring time<000 ms | out | tput II: terminals 16, 17, 18 tout III: terminasl 19+, 20- |
| Mechanical life 5×10^7 switching cyclesEnergized/De-energized delayapprox. 20 ms / approx. 20 msOutput IIIelectronic output, passiveContact loading40 V DCSignal level1-signal: (L+) - 2.5 V (50 mA, short-circuit/overload proof) O-signal: switched off (off-state current < 10 µA) | it I, II sig | nal, relay |
| Energized/De-energized delayapprox. 20 ms / approx. 20 msOutput IIIelectronic output, passiveContact loading40 V DCSignal level1-signal: (L+) - 2.5 V (50 mA, short-circuit/overload proof) o-signal: switched off (off-state current < 10 μ A)Output IVanalogOutput IVanalogCurrent range0 20 mA or 4 20 mAOpen loop voltage<24 V DC | ntact loading 250 | 0 V AC / 2 A / $\cos \phi \ge 0.7$; 40 V DC / 2 A |
| Output IIIelectronic output, passiveContact loading40 V DCSignal level1-signal: (L+) - 2.5 V (50 mA, short-circuit/overload proof) o-signal: switched off (off-state current $\leq 10 \mu$ A)Output IVanalogOutput IVanalogCurrent range0 20 mA or 4 20 mAOpen loop voltage $\leq 24 V DC$ Load $\leq 650 \Omega$ Fault signaldownscale I $\leq 3.6 \text{mA}$, upscale $\geq 21.5 \text{mA}$ (acc. NAMUR NE43)Collective error messagePower RailTransfer characteristicsInput IInput I0.001 5000 HzMeasurement range0.01 5000 HzAccuracy0.1 % of the measurement value , $\geq 0.001 \text{Hz}$ Measuring time< 100 ms | chanical life 5 x | < 10 ⁷ switching cycles |
| Contact loading40 V DCSignal level1-signal: (L+) - 2.5 V (50 mA, short-circuit/overload proof) O-signal: switched off (off-state current < 10 μ A)Output IVanalogCurrent range0 20 mA or 4 20 mAOpen loop voltage< 24 V DC | ergized/De-energized delay app | prox. 20 ms / approx. 20 ms |
| Signal level1-signal: (L+) - 2.5 V (50 mA, short-circuit/overload proof) O-signal: switched off (off-state current < 10 μ A)Output IVanalogCurrent range020 mA or 420 mAOpen loop voltage< 24 V DC | it III ele | ectronic output, passive |
| O-signal: switched off (off-state current ≤ 10 μ A)Output IVanalogOutput IVanalogCurrent range020 mA or 420 mAOpen loop voltage≤ 24 V DCLoad≤ 650 Ω Fault signaldownscale I ≤ 3.6 mA, upscale ≥ 21.5 mA (acc. NAMUR NE43)Collective error messagePower RailTransfer characteristicsInput IMeasurement range0.001 5000 HZResolution0.1 % of the measurement value , ≥ 0.001 HzAccuracy0.1 % of the measurement value , > 0.001 HzMeasuring time< 100 ms | ntact loading 40 | V DC |
| Current range0 20 mA or 4 20 mAOpen loop voltage $\leq 24 V DC$ Load $\leq 650 \Omega$ Fault signaldownscale 1 ≤ 3.6 mA, upscale ≥ 21.5 mA (acc. NAMUR NE43)Collective error messagePower RailInput IMeasurement range0.001 5000 HzResolution0.1 % of the measurement value , ≥ 0.001 HzAccuracy0.1 % of the measurement value , ≥ 0.001 HzMeasuring time1.003 %/K (30 ppm)Output I, IIResolution0.003 %/K (30 ppm)Output I, IIResolution $< 10 \muA$ Accuracy < 200 msOutput I VResolution $< 0.005 %/K (50 ppm)$ Output I VResolution $< 0.05 %/K (50 ppm)$ Output I, IIResolution $< 10 \muA$ Accuracy $< 20 \muA$ Influence of ambient temperature $0.005 %/K (50 ppm)$ Output I, IIResolution $< e10 \muA$ Accuracy $< 20 \muA$ Influence of ambient temperature $0.005 %/K (50 ppm)$ Electrical isolationreinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Input I, III, IIIreinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Output II II/power supply and collectivereinsulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} | | |
| Open loop voltage ≤ 24 V DC Load ≤ 650 Ω Fault signal downscale I ≤ 3.6 mA, upscale ≥ 21.5 mA (acc. NAMUR NE43) Collective error message Power Rail Transfer characteristics - Input I - Measurement range 0.001 5000 Hz Accuracy 0.1% of the measurement value , ≥ 0.001 Hz Accuracy 0.1% of the measurement value , > 0.001 Hz Measuring time < 100 ms | it IV ana | alog |
| Open loop voltage ≤ 24 V DC Load ≤ 650 Ω Fault signal downscale I ≤ 3.6 mA, upscale ≥ 21.5 mA (acc. NAMUR NE43) Collective error message Power Rail Transfer characteristics - Input I - Measurement range 0.001 5000 Hz Accuracy 0.1% of the measurement value , ≥ 0.001 Hz Accuracy 0.1% of the measurement value , > 0.001 Hz Measuring time < 100 ms | rrent range 0 | 20 mA or 4 20 mA |
| Load≤ 650 ΩFault signaldownscale I ≤ 3.6 mA, upscale ≥ 21.5 mA (acc. NAMUR NE43)Collective error messagePower RailTransfer characteristicsInput IMeasurement range0.001 5000 HzResolution0.1 % of the measurement value, ≥ 0.001 HzAccuracy0.1 % of the measurement value, > 0.001 HzMeasuring time< 100 ms | v | 24 V DC |
| Collective error message Power Rail Transfer characteristics Power Rail Input I 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 %/K (30 ppm) Output I, II Response delay ≤ 200 ms Output IV Resolution < 10 μA Accuracy < 20 μA Influence of ambient temperature 0.003 %/K (50 ppm) Output IV Resolution < 10 μA Accuracy < 20 μA Influence of ambient temperature 0.005 %/K (50 ppm) Electrical isolation Input I /other circuits 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} Output II /Ipower supply and collective error basici insulation according to IEC/EN 61010-1, rated | | 350Ω |
| Collective error message Power Rail Transfer characteristics Input I Input I 0.001 5000 Hz 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 | ult signal dov | wnscale I \leq 3.6 mA , upscale \geq 21.5 mA (acc. NAMUR NE43) |
| Transfer characteristics Input I Input I 0.001 5000 Hz Measurement range 0.01 % of the measurement value , ≥ 0.001 Hz Accuracy 0.1 % of the measurement value , > 0.001 Hz Accuracy 0.1 % of the measurement value , > 0.001 Hz Measuring time < 100 ms | • | wer Rail |
| Measurement range0.0015000 HzResolution0.1% of the measurement value , ≥ 0.001 HzAccuracy0.1% of the measurement value , > 0.001 HzMeasuring time< 100 ms | , i i i i i i i i i i i i i i i i i i i | |
| Measurement range0.0015000 HzResolution0.1% of the measurement value , ≥ 0.001 HzAccuracy0.1% of the measurement value , > 0.001 HzMeasuring time< 100 ms | | |
| Resolution0.1 % of the measurement value , ≥ 0.001 HzAccuracy0.1 % of the measurement value , > 0.001 HzMeasuring time< 100 ms | | 001 5000 Hz |
| Accuracy 0.1 % of the measurement value , > 0.001 Hz Measuring time < 100 ms | 0 | |
| Measuring time< 100 msInfluence of ambient temperature0.003 %/K (30 ppm)Output I, IIResponse delay≤ 200 msOutput IVResolution< 10 μA | | |
| Influence of ambient temperature 0.003 %/K (30 ppm) Output I, II - Response delay ≤ 200 ms Output IV - Resolution < 10 μA | , | |
| Output I, II Instruction Response delay ≤ 200 ms Output IV Resolution < 10 μA | 5 | |
| Response delay ≤ 200 ms Output IV Resolution < 10 μA | | |
| Output IV Image: Constraint of the second of | | 200 ms |
| Resolution<10 μAAccuracy<20 μA | | |
| Accuracy < 20 μA | | 10 uA |
| Influence of ambient temperature 0.005 %/K (50 ppm) Electrical isolation reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Input I/other circuits 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} Mutual output I, II, III reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Output III/power supply and collective error basic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V _{eff} | | • |
| Electrical isolation 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} Mutual output I, II, III reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Output III/power supply and collective error basic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V _{eff} | • | • |
| Input I/other circuitsreinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Output I, II/other circuitsreinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Mutual output I, II, IIIreinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Output III/power supply and collective errorbasic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V _{eff} | • | |
| Output I, II/other circuits reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Mutual output I, II, III reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Output III/power supply and collective error basic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V _{eff} | | inforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V |
| Mutual output I, II, III reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} Output III/power supply and collective error basic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V _{eff} | | |
| Output III/power supply and collective basic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V _{eff} error | | |
| | • | |
| Dasic insulation according to IEC/EN 01010-1, rated insulation voltage 50 V _{eff} | t III/start-up override | sic insulation according to IEC/EN 61010 1, roted insulation voltage 50 V/ |
| Output III/IV basic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V _{eff} | | |
| Output IV/power supply and collective functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff} | | |
| error Start-up override/power supply and sultation acc. to IEC 62103, rated insulation voltage 50 V _{eff} | | nctional insulation acc. to IEC 62103, rated insulation voltage 50 V_{eff} |
| collective error Interface/power supply and collective functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff} | | nctional insulation acc. to IEC 62103, rated insulation voltage 50 V_{eff} |
| error Interface/output III basic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V _{eff} | ace/output III bas | sic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V _{eff} |
| Directive conformity | | |

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| Electromagnetic compatibilit | У | |
|--|----------------|---|
| Directive 2004/108/EC | , | EN 61326-1:2006 |
| Low voltage | | |
| Directive 2006/95/EC | | EN 61010-1:2010 |
| Conformity | | |
| Electromagnetic compatibilit | y | NE 21:2006 |
| Protection degree | , | IEC 60529:2001 |
| Input | | EN 60947-5-6:2000 |
| Ambient conditions | | |
| Ambient temperature | | -20 60 °C (-4 140 °F) |
| 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 |
| Mounting | | on 35 mm DIN mounting rail acc. to EN 60715:2001 |
| Data for application in con with Ex-areas | nection | |
| EC-Type Examination Certifi | icate | TÜV 99 ATEX 1471, for additional certificates see www.pepperl-fuchs.com |
| Group, category, type of protection | | ⟨ ix ⟩ II (1)GD, I (M1) [Ex ia] IIC, [Ex iaD], [Ex ia] I (-20 °C ≤ T _{amb} ≤ 60 °C) |
| Supply | | |
| Maximum safe voltage | Um | 40 V DC (Attention! U _m is no rated voltage.) |
| Input I | | terminals 1+, 3- Ex ia IIC, Ex iaD |
| Voltage | Uo | 10.1 V |
| Current | I _o | 13.5 mA |
| Power | Po | 34 mW (linear characteristic) |
| Input II | | terminals 13+, 14- non-intrinsically safe |
| Maximum safe voltage | Um | 40 V (Attention! The rated voltage can be lower.) |
| Output I, II | | terminals 10, 11, 12; 16, 17, 18 non-intrinsically safe |
| Maximum safe voltage | Um | 253 V (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 (TÜV 99 ATEX 1471) |
| Output III | | terminals 19+, 20- non-intrinsically safe |
| Maximum safe voltage | $U_m U_m$ | 40 V (Attention! U _m is no rated voltage.) |
| Output IV | | terminals 8+, 7- non-intrinsically safe |
| Maximum safe voltage | Um | 40 V DC (Attention! U _m is no rated voltage.) |
| Interface | | RS 232 |
| Maximum safe voltage | Um | 40 V (Attention! U _m is no rated voltage.) |
| Statement of conformity | | TÜV 02 ATEX 1885 X |
| Group, category, type of protection, temperature class | | € II 3G Ex nA nC IIC T4 |
| Output I, II | | |
| Contact loading | | 50 V AC/2 A/cos ϕ > 0.7; 40 V DC/1 A resistive load |
| Electrical isolation | | |
| Input I/other circuits | | safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V |
| Directive conformity | | |
| Directive 94/9/EC | | EN 60079-0:2009, EN 60079-11:2007, EN 60079-15:2005, EN 60079-26:2007, EN 61241-11:2006 |
| International approvals | | |
| FM approval | | |
| Control drawing | | 16-538FM-12 |
| General information | | |
| Supplementary information | | EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl- fuchs.com. |

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KFD2-UFC-Ex1.D

Accessories

Power feed module KFD2-EB2

The power feed module is used to supply the devices with 24 V DC via the Power Rail. The fuse-protected power feed module can supply up to 150 individual devices depending on the power consumption of the devices. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm. To make electrical contact, the devices are simply engaged.

Profile Rail K-DUCT with Power Rail

The profile rail K-DUCT is an aluminum profile rail with Power Rail insert and two integral cable ducts for system and field cables. Due to this assembly no additional cable guides are necessary.



Power Rail and Profile Rail must not be fed via the device terminals of the individual devices!

PACT*ware*[™]

Device-specific drivers (DTM)

Adapter K-ADP1

Programming adapter for parameterisation via the serial RS 232 interface of a PC/Notebook

For programming, please use the new version of adapter K-ADP1 (part no. 181953, connector length 14mm). When using the previous version K-ADP1 (connector length 18 mm) the plug is exposed by approx. 3 mm. The function is not affected.

Adapter K-ADP-USB

Programming adapter for parameterisation via the serial USB interface of a PC/Notebook