Features

- 1-channel signal conditioner
- 24 V DC supply (Power Rail)
- Input for 2- or 3-wire sensors, NAMUR sensors or dry contacts
- Input frequency 1 mHz ... 12 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

Function

This signal conditioner provides the isolation for nonintrinsically safe applications.

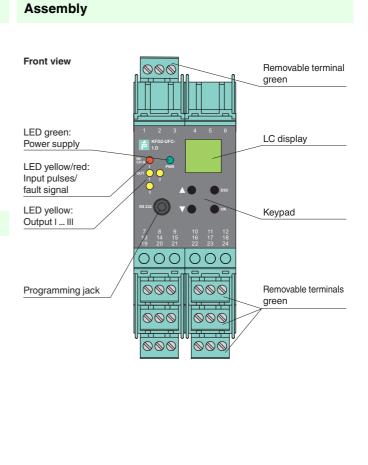
The device is a universal frequency converter that changes a digital input signal into a proportional free adjustable 0/4 mA ... 20 mA analog output signal and functions as a switch amplifier and a trip alarm.

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.

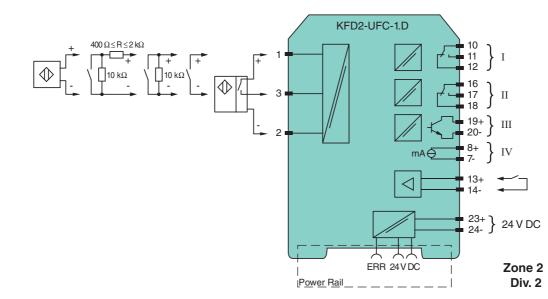
For additional information, refer to the manual and www.pepperl-fuchs.com.



CE

SIL2

Connection



Subject to reasonable modifications due to technical advances.

Copyright Pepperl+Fuchs, Printed in Germany

Control in preparation of the second secon		
Supply Imput Constant terminal 22-9.4 - 2-0 corpower flead modulate?ower Real Rated voltage 2030 V DO Rated voltage 2030 V DO Read voltage 230 V DO Read voltage 2	General specifications	Divite langet
Constrainterminals 2324 - or power freed module/Power RailRelated voltage2030 V DGRelated voltage23.W / 22 WPower loss/power consumption23.W / 23.W	• •	Digital Input
Balets during 2030 V DC Balets during approx.101 mA Balets during approx.101 mA Balets during imput.11 contrast 3: 4.3 string were sensor: terminals 1: 4.2 and 3 imput.11 contrast 3: 4.3 string works approx.101 mA Connection imput.12 stwing sensor: terminals 1: 4.3 string were sensor: terminals 1: 4.2 and 3 imput.11 2- or Swing sensor ace to EN 60347-5-6 (NAMLIR) or mechanical contract Connection 2- or Swing sensor ace to EN 60347-5-6 (NAMLIR) or mechanical contract Connection 2- or Swing sensor ace to EN 60347-5-6 (NAMLIR) or mechanical contract Connection 2- or Swing sensor ace to EN 60347-5-6 (NAMLIR) or mechanical contract Deput floation 2- or Swing sensor ace to EN 60347-5-6 (NAMLIR) or mechanical contract Deput floation 1001 (5- 25 m A; hogie 0: 1 9 mA Deput floation 1001 (5- 25 m A; hogie 0: 1 9 mA Contract Dotation (1: To Tamo) Deput floation 1001 (5- 25 m A; hogie 0: 1 9 mA Contract Dotation (1: To Tamo) Deput floation 10 and (1: To Tamo) Contract 1.3 00 A/ 2 / A / Ca		
Biold cargingapport 100 mAPower Jone Spower Consumption<2 wW / 2 wW		-
Power boscycower consumption 5 2 W / 2 W Input Input / 1. Evelos asneps: terminals 1, 3 - Hansa wire asneps: terminals 1, 2 - and 3 (input). Emminals 1, 3 - 4 starta, overaids. Denn ciciol Multigui/hort-circuit 2 - 02 - wire sensor. to EN 60047-5-6 (NAMUR) or mechanical contact Open ciciol Multigui/hort-circuit 2 - 02 - wire sensor. to EN 60047-5-6 (NAMUR) or mechanical contact Open ciciol Multigui/hort-circuit 2 - 02 - wire sensor. to EN 60047-5-6 (NAMUR) or mechanical contact Open ciciol Multigui/hort-circuit 2 - 02 - 02 - 02 - 02 - 02 - 02 - 02 -	v	
Imput Imput Second Sec	Rated current	approx. 100 mA
Connection Input: 1: 2-wire sensor: terminals 1+, 3- three wire sensor: terminals 1+, 2- and 3 input. 1: 2- or 3-wire sensor, sensor acc. to EIN 60947-5-6 (NAMURI) or mechanical contact Open circuit Voltage/short-circuit 2- or 3-wire sensor, sensor acc. to EIN 60947-5-6 (NAMURI) or mechanical contact Open circuit Voltage/short-circuit 2- 2- 4- wire sensor, sensor acc. to EIN 60947-5-6 (NAMURI) or mechanical contact Open circuit Voltage/short-circuit 2- 2- 4- 40 mA Bwitching point/mexiching hystenesis 5- 50 µ Input resistance 4-7. Va House duration >-50 µ Open circuit Voltage/short-circuit 2- 4-40 mA Input feature -50 µ Open circuit Voltage/short-circuit 2- 4-70 MA Input feature 1-54 mA (tor mn. 100 mJ) / 1-1.5 mA Open circuit Voltage/short-circuit 2- 40 V DC Output -1000 Js. 1200 Mz Output -1000 Js. 1200 Mz Output 1-9 V JS mA Output -1000 Js. 1200 Mz Contact Indusit 1-9 V JS mA Output II -1000 Js. 1200 Mz Contact Indusit -1000 Js. 1200 Mz Output II -1000 Js. 1200 Mz	Power loss/power consumption	\leq 2 W / 2.2 W
input I: terminals 13, 1.4 - start-up overfick: Open circuit-voltage/eiont-circuit 22 / 4 / 0 m A Open circuit-voltage/eiont-circuit 22 / 4 / 0 m A Switching point/switching hystersis 6gis 1:> 2.5 m A : logic 0: - 1 9 m A Pulse duration > 50 µs Switching point/switching hystersis 6gis 1:> 2.5 m A : logic 0: - 1 9 m A Lead monitoring beakage 1 < 0.15 m A; abon-circuit 1 > 4 m A Composition 1.4 m A (formin, 100 m s) / 1 < 1.5 m A	Input	
Open circuit voltage/elont-circuit 22 V / 40 mA Input realistance 4,7 k0 Switching point/switching hysteress logic 1:> 2.5 m A; logic 0: < 1.9 mA	Connection	
current 4.7 kQ Witching point/existion 4.7 kQ Switching point/existion 50 µs Input frequency 0.001 12000 Hz Lead monitoring breakagel i 5.0 5 mA; logic 0> 1.0 mA Input frequency 0.001 12000 Hz Commonitoring breakagel i 5.0 15 mA; logic 0> 1.0 00. adjustable in steps of 1 s Active Passive 1.5 mA (for min. 10 ms) / 1 = 1.5 mA Open circuit violagi/elhort-circuit 18 / 5 mA Connection output I: terminals 10, 11, 12 output I: terminals 10, 17, 18 output I: terminals 10, 17, 18 output I: terminals 10, 17, 18 output I: terminals 10, 17, 18 output I: terminals 10, 17, 18 output I: terminals 10, 17, 18 output I: terminals 10, 17, 18 output I: terminals 10, 17, 18 output III elgent : cutput, passive Contract loading 50 V & C / 2 A / cos & 2 0 7 : 40 V D C / 2 A Signal lovel 5 sup of supput: (-2 - 2 M of Sup A) Signal lovel 5 sup of supput: (-2 - 2 M of Sup A) Output III elgentric cutput, passive Contract loading 5 0 V A - 2 M of Sup A) Output III	Input I	2- or 3-wire sensor, sensor acc. to EN 60947-5-6 (NAMUR) or mechanical contact
Shitching point/switching hysteresia logic 1:> 2.5 m A; logic 0: < 1.9 m A	· •	22 V / 40 mA
Puise duration > 50 μs input frequency 0.001 12000 Hz Lead monitoring breakap i = 0.15 mÅ; short-circuit l > 4 mÅ Toput frequency 0.001 12000 Hz Active/Passifie 1 > 4 mÅ (for min. 100 må) / l < 1.5 mÅ	Input resistance	4.7 kΩ
Input II breakago I ± 0.00 m, 1:2000 Hz Lead monitoring breakago I ± 0.15 m/s. short-circuit I > 4 m A Imput II startup override: 1 1000 s. adjustable in steps of 1 s Active Passive I > 4 m A (for min. 1000 ms) / I = 1.5 m A Open activul togetebort-circuit I > 4 m A (for min. 100 ms) / I = 1.5 m A Output Output Connection output I: terminals 10, 11, 12 Output II signal, rolay Contact Loading 250 V AC / 2 A (oos § 2.07 ; 40 V DC / 2 A Output II signal, rolay Contact Loading 250 V AC / 2 A (oos § 2.07 ; 40 V DC / 2 A Output II signal, rolay Contact Loading 250 V AC / 2 A (oos § 2.07 ; 40 V DC / 2 A Output II signal, rolay Contact Loading 42 V DC Signal level 1 = signat, (L) - 2.5 V (50 m, short-circuit/overlead proof) Output IV analog Output IV <	Switching point/switching hysteresis	logic 1: > 2.5 mA ; logic 0: < 1.9 mA
Lead monitoring breakage I ≤ 0.15 mÅ; short-circuit I > 4 mÅ Input II startup overnder 1 1000 a, adjustable in stope of 1 s Active/Passive I > 4 mÅ (4 r min. 100 m) / I < 1.5 mÅ	Pulse duration	> 50 µs
Input IIIs a trajup overide: 1 1000 s. adjustable in steps of 1 sActive/Passive1.> 4 mA (for min. 100 ms) /1 < 1.5 mA	Input frequency	0.001 12000 Hz
Ache/Passive 1 > 4 mA for min. 100 ms) / 1 < 1.5 mA	Lead monitoring	breakage I \leq 0.15 mA; short-circuit I > 4 mA
Ache/Passive 1 > 4 mA for min. 100 ms) / 1 < 1.5 mA	Input II	startup override: 1 1000 s, adjustable in steps of 1 s
Open sircuit voltage/short-circuit current 18 V / 5 mA Output output 1: terminals 10, 11, 12 output 11: terminals 10, 17, 18 output 11: terminals 10, 7, 18 output 11: terminals 10, 7, 74 Connection output 1: terminals 10, 7, 19 output 11: terminals 10, 7, 74 Contact loading 250 V AC / 2 A / co 8 ≥ 0.7, 240 V DC / 2 A Mechanical life 5 × 10 ⁷ switching cycles Energized/De-energized delay approx. 20 ms / approx. 20 ms Output 1 electronic output, passive Contact loading 40 V DC Signal level -biginal: blocked output (off-state current < 10 µA)	•	
current Concertion Concertion Curput I: terminals 10, 11, 12 output II: terminals 16, 17, 18 output II: terminals 16, 17, 18 output II: terminals 84, 7- Concection curput I, II: eminals 84, 7- curput I: terminals 84, 7- Concection 250 V AC / 2 A / Cos § ≥ 0.7 ; 40 V D C / 2 A Machanical III0 5 x 10 ² switching cycles Energized/De-energized delay approx. 20 ms / approx. 20 ms Contact Ioading 40 V DC Signal Ievel 0-signal: L(u)- 2.5 V (50 mA, short-circuit/overload proof) Output IV analog Curput T range 0 20 mA or 4 20 mA Open loop voltage ≤ 42 V DC Load < 650 Ω		
Connection output I: terminals 10, 11, 12 output II: terminals 10, 17, 16 output IV: terminals 19, 20- output IV: terminals 8, 7. Output I, II signal, relay Contact loading 250 V AC / 2 A / Cos § ≥ 0.7; 40 V D C / 2 A Machanical Irie 5 x 10 ⁵ writching cycles Energized/De-energized delay approx. 20 ms / approx. 20 ms Output II electronic output, passive Contact loading 40 V DC Signal level 1-signat: (L+) - 25 V (50 mA, short-circuit/overload proof) Object IV analog Output IV analog Output IV analog Open loop voltage 5 24 V DC Load 560 Ω Fault signal downscale I ≤ 3.6 mA, upscale ≥ 1.5 mA (acc. NAMUR NE43) Collective error message Power Rail Measurement range 0.001 12000 Hz Measurement range 0.01 12000 Hz Accuracy 0.1 % 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 Accuracy 0.005 %K (30 pm) Un	· •	
autout II: terminals 16, 17, 18 autout III: cerminal 19+, 20- output IV: terminals 8+, 7- Output II: terminals 8+, 7- Output III Esignal: clay Contact loading 5x 10 ⁷ exitching cycles Energized/De-nergized delay approx. 20 ms / 40 V DC Signal level delotronic output, passive Contact loading 40 V DC Signal level	Output	
Contact loading 20 V AC /2 A / cos φ > 0.7 ; 40 V DC /2 A Mechanical life 5 x 10 ² switching cycles Energized/De-energized delay approx. 20 ms / approx. 20 ms Output III electronic output, passive Contact loading 40 V DC Signal level 1-signal: (L) - 2.5 V (50 mA, short-circuit/over/oad proof) O-signal: blocked output (off-state current ≤ 10 µA) analog Current range 0 20 m A or 4 20 mA Open loop voltage ≤ 24 V DC Load < 650 Ω	Connection	output II: terminals 16, 17, 18 outout III: terminasI 19+, 20-
Mechanical life 5 x 10 ⁷ switching cycles Energized/De-energized delay approx. 20 ms / approx.	Output I, II	signal, relay
Energized/De-energized delayapprox. 20 ms / approx. 20 msOutput IIIelectronic output, passiveContact loading40 VDCSignal level1-signat: (L+) -2.5 V (50 mA, short-circuit/overload proof) 0-signat: blocked output (off-state current < 10 μ A)Output IVanalogCurrent range0 20 mA or 4 20 mAOpen loop voltage< 24 V DC	Contact loading	250 V AC / 2 A / cos $\phi \geq 0.7$; 40 V DC / 2 A
Output III electronic output, passive Contact loading 40 V DC Signal level 1-signal: (L-)-25 V (50 mA, short-circuit/overload proof) O-signal: blocked output (off-state current ≤ 10 µA) -signal: (L-)-25 V (50 mA, short-circuit/overload proof) Output IV analog 20 mA Open loop voltage 24 V DC 20 mA Load ≤ 650 Ω 20 mA Collective error message Power Rail	Mechanical life	5 x 10 ⁷ switching cycles
Contact loading40 V DCSignal level1-signal: L(+)-2.5 V (50 mÅ, short-tircult/overload proof) Original: blocked output (off-state current $\leq 10 \ \mu\text{A}$)Output IVanalogCurrent range0 20 mÅ or 4 20 mÅOpen loop voltage $\leq 24 V$ DCLoad $\leq 650 \ \Omega$ Fault signaldownscale I < 3.6 mÅ, upscale $\geq 21.5 \text{ mÅ}$ (acc. NAMUR NE43)Collective error messagePower RailTransfer characteristicsInput I0.01 12000 HzResolution0.1 % of the measurement value $\geq 2.0.001 \text{ Hz}$ Accuracy0.1 % of the measurement value $\geq 0.001 \text{ Hz}$ Accuracy0.1 % of the measurement value $\geq 0.001 \text{ Hz}$ Accuracy0.1 % of the measurement value $\geq 0.001 \text{ Hz}$ Measuring time< 100 ms	Energized/De-energized delay	approx. 20 ms / approx. 20 ms
Signal level1-signal: $(L+) -2.5 V (50 mA, short-circuit/overload proof)O-signal: blocked output (off-state current \leq 10 \ \muA)Output IVanalogCurrent range0 20 mA or 4 20 mAOpen loop voltage\leq 24 V D CLoad\leq 650 \OmegaFault signaldownscale I \leq 3.6 mA, upscale \geq 21.5 mA (acc. NAMUR NE43)Collective error messagePower RailTransfer characteristicsInput IMeasurement range0.001 12000 HzResolution0.1 % of the measurement value, \geq 0.001 HzAccuracy0.1 % of the measurement value, \geq 0.001 HzNeasuring time1.00 msInfluence of ambient temperature0.003 %/K (30 ppm)Output I, IIResponse delaySolution<10 \muAAccuracy<20 \muAInfluence of ambient temperature0.005 %/K (50 ppm)Electrical isolationsei electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 VInfluence of ambient temperature0.005 %/K (50 ppm)Electrical isolationsei electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 VInput Vl/power supply and collectiveerrorsei insulation according to IEC 61140, rated insulation voltage 300 VeffOutput I, II/IVbasic insulation according to IEC 62103, rated insulation voltage 50 VeffOutput I, II/IVbasic insulation according to IEC 62103, rated insulation voltage 50 VeffOutput I, IV/power supply and collectiveerrorfunctional insulation according to IEC 62103, rated insulation voltage 50 Veff$	Output III	electronic output, passive
Signal level 1-signal: $(\bot+) \cdot 2.5 V (50 mA, short-circuit/overload proof) Oright IV analog Current range 0 20 mA or 4 20 mA Open loop voltage \leq 24V DC Load \leq 650 \Omega Fault signal downscale I \leq 3.6 mA, upscale \geq 21.5 mA (acc. NAMUR NE43) Collective error message Power Rail Transfer characteristics Imput I Measurement range 0.001 12000 Hz Resolution 0.1 % of the measurement value, \geq 0.001 Hz Accuracy 0.1 % of the measurement value, \geq 0.001 Hz Measuring time 1.00 ms Influence of ambient temperature 0.003 %/K (30 ppm) Output I, II Response delay Sup Output I, II Collective error with temperature Noutput I, II Response delay Sup Output I, II Collective error Response delay < 20 \mu A Output I, II Se electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V Output I, IV ther circuits safe electrical isolation according to IEC 61140, rated insulation voltage 300 Veff Input Other circuits safe electrical isolation according to IEC 61140, rated insulation voltage 300 Veff$	Contact loading	40 V DC
Current range0 20 mA or 4 20 mAOpen loop voltage $\leq 24 V DC$ Load $\leq 650 \Omega$ Fault signaldownscale $\leq 3.6 mA$, upscale $\geq 21.5 mA$ (acc. NAMUR NE43)Collective error messagePower RailTransfer characteristicsImput 1Input 1Measurement rangeResolution0.1 % of the measurement value , $\geq 0.001 Hz$ Accuracy0.1 % of the measurement value , $\geq 0.001 Hz$ Accuracy0.1 % of the measurement value , $\geq 0.001 Hz$ Accuracy0.1 % of the measurement value , $\geq 0.001 Hz$ Measuring time $< 100 ms$ Influence of ambient temperature $0.003 %/K$ (30 ppm)Output 1/ResolutionResolution< 10 µA	Ŭ	
Open loop voltage $\leq 24 V DC$ Load $\leq 650 \Omega$ Fault signaldownscale $ \leq 3.6 \text{ mA}, upscale \geq 21.5 \text{ mA} (acc. NAMUR NE43)Collective error messagePower RailTransfer characteristicsInput IMeasurement range0.001 12000 HzAccuracy0.1 % of the measurement value , \geq 0.001 \text{ Hz}Accuracy0.1 % of the measurement value , > 0.001 \text{ Hz}Measuring time< 100 ms$	Output IV	analog
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 IMeasurement range0.001 12000 HzResolution0.1 % of the measurement value $\geq 0.001 \text{ Hz}$ Accuracy0.1 % of the measurement value $\geq 0.001 \text{ Hz}$ Measuring time< 100 ms	Current range	0 20 mA or 4 20 mA
Fault signaldownscale I \leq 3.6 mA, upscale \geq 21.5 mA (acc. NAMUR NE43)Collective error messagePower RailTransfer characteristicsInput IMeasurement range0.001 12000 HzResolution0.1 % of the measurement value , \geq 0.001 HzAccuracy0.1 % of the measurement value , \geq 0.001 HzMeasuring time< 100 ms	Open loop voltage	\leq 24 V DC
Collective error message Power Rail Transfer characteristics Input I Input I 0.001 12000 Hz Measurement range 0.001 12000 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		\leq 650 Ω
Collective error message Power Rail Transfer characteristics Input I Input I 0.001 12000 Hz Measurement range 0.001 12000 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	Fault signal	downscale I ≤ 3.6 mA . upscale ≥ 21.5 mA (acc. NAMUR NE43)
Transfer characteristics Input I Input I 0.001 12000 Hz Measurement range 0.001 12000 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	v	
Input I Measurement range 0.001 12000 Hz Measurement range 0.001 12000 Hz 0.1 % of the measurement value , ≥ 0.001 Hz Accuracy 0.1 % of the measurement value , > 0.001 Hz 0.001 Measuring time < 100 ms	ů	
Measurement range $0.001 \dots 12000 \text{ Hz}$ Resolution 0.1% of the measurement value , > 0.001 Hz Accuracy 0.1% of the measurement value , > 0.001 Hz Measuring time $< 100 \text{ ms}$ Influence of ambient temperature $0.003 \%/K (30 \text{ ppm})$ Output I, IIResponse delay $\leq 200 \text{ ms}$ Output IVResolution $< 10 \ \mu\text{A}$ Accuracy $< 20 \ \mu\text{A}$ Influence of ambient temperature $0.005 \%/K (50 \text{ ppm})$ Electrical isolation $< 10 \ \mu\text{A}$ Input/Other circuitssafe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 VOutput II//power supply and collective errorsafe electrical isolation according to IEC 62103, rated insulation voltage 50 V _{eff} Output III//power supply and collective errorbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Start-up override/power supply andfunctional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}		
Resolution 0.1 % of the measurement value, ≥ 0.001 Hz Accuracy 0.1 % of the measurement value, > 0.001 Hz Measuring time < 100 ms	•	0.001 12000 Hz
Accuracy 0.1% of the measurement value, > 0.001 Hz Measuring time < 100 ms	-	
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	•	
Output I, IIImage: Construct of the second of	•	
Response delay≤ 200 msOutput IVResolution<10 μA	•	
Output IVResolution<10 μA	• •	< 000 mm
Resolution< 10 μAAccuracy< 20 μA		≤ 200 ms
Accuracy< 20 μAInfluence of ambient temperature0.005 %/K (50 ppm)Electrical isolationInput/Other circuitssafe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 VOutput I, II/other circuitsreinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} Mutual output I, II, IIIreinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} Output III/power supply and collective errorbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output III/Vbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output IV/power supply and collective errorfunctional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff} Start-up override/power supply andfunctional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}	•	
Influence of ambient temperature0.005 %/K (50 ppm)Electrical isolationsafe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 VInput/Other circuitssafe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 VOutput I, Il/other circuitsreinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} Mutual output I, II, IIIreinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} Output III/power supply and collective errorbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output III/IVbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output IV/power supply and collective errorfunctional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff} Start-up override/power supply andfunctional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}		
Electrical isolationSafe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 VOutput I, II/other circuitsreinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} Mutual output I, II, IIIreinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} Output III/power supply and collective errorbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output III/IVbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output IV/power supply and collective errorfunctional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff} Start-up override/power supply andfunctional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}		
Input/Other circuitssafe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 VOutput I, II/other circuitsreinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} Mutual output I, II, IIIreinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} Output III/power supply and collective errorbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output III/IVbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output IV/power supply and collective errorfunctional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff} Start-up override/power supply andfunctional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}	•	0.005 %/K (50 ppm)
Output I, II/other circuitsreinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} Mutual output I, II, IIIreinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} Output III/power supply and collective errorbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output III/IVbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output III/IVbasic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output IV/power supply and collective errorfunctional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff} Start-up override/power supply andfunctional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}		
Mutual output I, II, III reinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff} Output III/power supply and collective error basic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output III/IV basic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output III/IV basic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output IV/power supply and collective error functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff} Start-up override/power supply and functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}	•	•
Output III/power supply and collective error basic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output III/IV basic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output IV/power supply and collective error functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff} Start-up override/power supply and functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}	Output I, II/other circuits	•
error Output III/IV basic insulation according to IEC 62103, rated insulation voltage 50 V _{eff} Output IV/power supply and collective error functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff} Start-up override/power supply and functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}	Mutual output I, II, III	reinforced insulation according to IEC 61140, rated insulation voltage 300 $\mathrm{V}_{\mathrm{eff}}$
Output IV/power supply and collective error functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff} Start-up override/power supply and functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}		basic insulation according to IEC 62103, rated insulation voltage 50 $\mathrm{V}_{\mathrm{eff}}$
error Start-up override/power supply and functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}	Output III/IV	basic insulation according to IEC 62103, rated insulation voltage 50 $\mathrm{V}_{\mathrm{eff}}$
		functional insulation acc. to IEC 62103, rated insulation voltage 50 $\mathrm{V}_{\mathrm{eff}}$
		functional insulation acc. to IEC 62103, rated insulation voltage 50 $\mathrm{V}_{\mathrm{eff}}$

Subject to reasonable modifications due to technical advances. Pepperl+Fuchs Group • Tel.: Germany +49-621-776-0 • USA +1-330-4253555 • Singapore +65-67-799091 • Internet www.pepperl-fuchs.com

Interface/power supply and collective error	functional insulation acc. to IEC 62103, rated insulation voltage 50 $\mathrm{V}_{\mathrm{eff}}$
Interface/output III	basic insulation according to IEC 62103, rated insulation voltage 50 V_{eff}
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 21:2006
Protection degree	IEC 60529:2001
Protection against electrical shock	IEC 61140
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	DIN rail mounting
Data for application in connection with Ex-areas	
Statement of conformity	Pepperl+Fuchs
Group, category, type of protection, temperature class	⟨Ex⟩ 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
Ambient conditions	
Ambient temperature	-20 50 °C (-4 122 °F)
Directive conformity	
Directive 94/9/EC	EN 60079-0:2006, EN 60079-15:2005
General information	
Supplementary information	Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.

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.



188369_eng.xml

Date of issue 2012-12-17

2012-11-28 13:28

Release date

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