



Solenoid Driver

KCD0-SD3-Ex2.1545-Y1

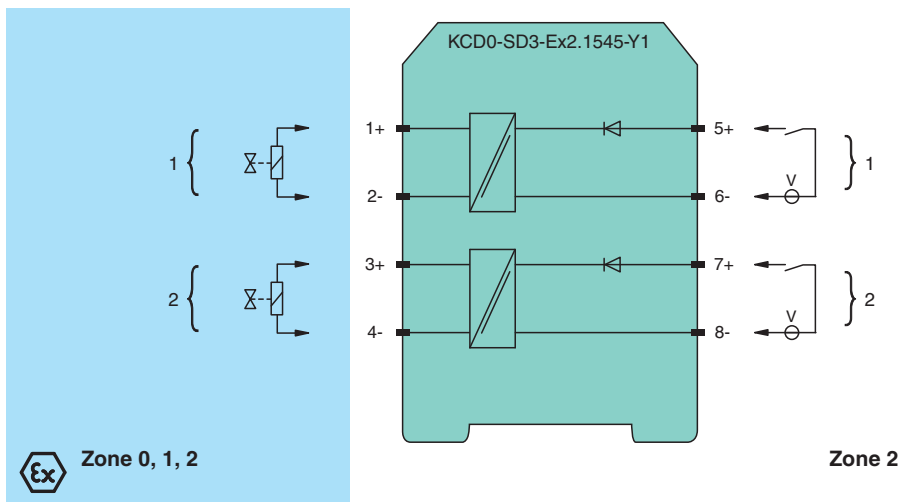
- 2-channel isolated barrier
- 24 V DC supply (loop powered)
- Current limit 45 mA at 15 V DC
- Test pulse immunity
- Housing width 12.5 mm



Function

This isolated barrier is used for intrinsic safety applications. The device supplies power to solenoids, LEDs and audible alarms located in the explosion-hazardous area. The device simulates a minimum load of 20 mA at the input. The device is loop powered, so the available energy at the output is received from the input signal. The output signal has a resistive characteristic. As a result the output voltage and current are dependent on the load and the input voltage. At full load, 15 V at 45 mA is available for the hazardous area application.

Connection



Technical Data

| General specifications | |
|------------------------|--|
| Signal type | Digital Output |
| Supply | |
| Rated voltage | U_r loop powered |
| Power dissipation | < 2 W |
| Power consumption | |
| Input | |
| Connection side | control side |
| Connection | terminals 5+, 6-, 7+, 8- limited electrical values : max. 30 V , max. 5 A |
| Test pulse length | max. 2 ms from DO card |

Release date: 2024-06-20 Date of issue: 2024-06-20 Filename: 70105777_eng.pdf

Technical Data

| | | |
|--|-----------|---|
| Signal level | | 1-signal: 18 ... 30 V DC 0-signal: 0 ... 5 V DC |
| Rated voltage | U_r | 18 ... 30 V DC |
| Rated current | I_r | 0-signal: typ. 1.6 mA at 1.5 V DC; typ. 8 mA at 3 V DC (maximum leakage current DO card) 1-signal: ≥ 20 mA (minimum load current DO card) |
| Inrush current | | ≤ 200 mA after 100 μ s |
| Output | | |
| Connection side | | field side |
| Connection | | terminals 1+, 2-, 3+, 4- |
| Internal resistor | R_i | approx. 167 Ω |
| Current | I_e | typ. 45 mA |
| Voltage | U_e | ≥ 15 V |
| Current limit | I_{max} | 45 mA |
| Open loop voltage | U_s | typ. 23.8 V |
| Switching frequency | f | max. 10 Hz |
| Energized/De-energized delay | | ≤ 20 ms / ≤ 20 ms |
| Galvanic isolation | | |
| Input/Output | | reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff} |
| Indicators/settings | | |
| Display elements | | LED |
| Labeling | | space for labeling at the front |
| Directive conformity | | |
| Electromagnetic compatibility | | |
| Directive 2014/30/EU | | EN 61326-1:2013 (industrial locations) |
| Conformity | | |
| Electromagnetic compatibility | | NE 21:2017 , EN IEC 61326-1:2021 (industrial locations) , EN IEC 61326-3-2:2018 For further information see system description. |
| Degree of protection | | IEC 60529:2013 |
| Protection against electrical shock | | UL 61010-1:2019 |
| Ambient conditions | | |
| Ambient temperature | | -40 ... 70 °C (-40 ... 158 °F) |
| Mechanical specifications | | |
| Degree of protection | | IP20 |
| Connection | | screw terminals |
| Mass | | approx. 95 g |
| Dimensions | | 12.5 x 119 x 114 mm (0.5 x 4.7 x 4.5 inch) (W x H x D) , housing type A2 |
| Height | | 119 mm |
| Width | | 12.5 mm |
| Depth | | 114 mm |
| Mounting | | on 35 mm DIN mounting rail acc. to EN 60715:2001 |
| Data for application in connection with hazardous areas | | |
| EU-type examination certificate | | UL 23 ATEX 3027 X |
| Marking | | ⊕ II (1)G [Ex ia Ga] IIC ⊕ II (1)D [Ex ia Da] IIIC ⊕ I (M1) [Ex ia Ma] I |
| Output | | Ex ia Refer to certificate for alternative parameters. |
| Voltage | U_o | 25.3 V |
| Current | I_o | 52 mA |
| Power | P_o | 850 mW (angular characteristic curve) |
| Internal resistance | R_i | 167 Ω |
| Input | | |
| Maximum safe voltage | U_m | 250 V (Attention! The rated voltage can be lower.) |
| Certificate | | UL 23 ATEX 3065 X |
| Marking | | ⊕ II 3G Ex ec IIC T4 Gc |

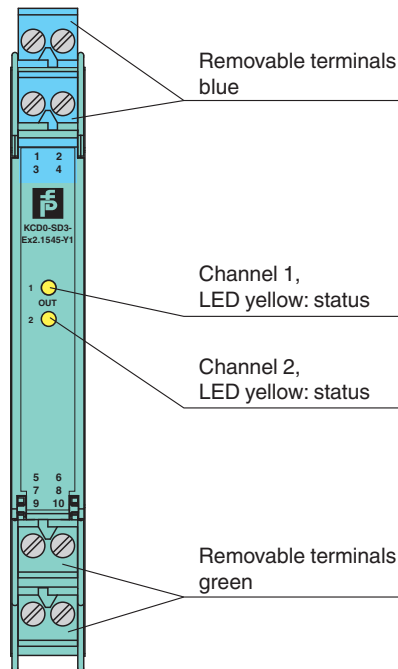
Release date: 2024-06-20 Date of issue: 2024-06-20 Filename: 70105777_eng.pdf

Technical Data

| | |
|--------------------------------|---|
| Galvanic isolation | |
| Input/Output | safe electrical isolation acc. to IEC/EN 60079-11, rated insulation voltage 300 V _{rms} |
| Directive conformity | |
| Directive 2014/34/EU | EN IEC 60079-0:2018+AC:2020 , EN 60079-7:2015+A1:2018 , EN 60079-11:2012 |
| International approvals | |
| UL approval | E106378 |
| Control drawing | 116-0496 (cULus) |
| IECEX approval | |
| IECEX certificate | IECEX ULD 23.0016X |
| IECEX marking | [Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I Ex ec IIC T4 Gc |
| General information | |
| Supplementary information | Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com . |

Assembly

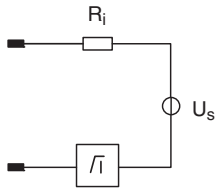
Front view



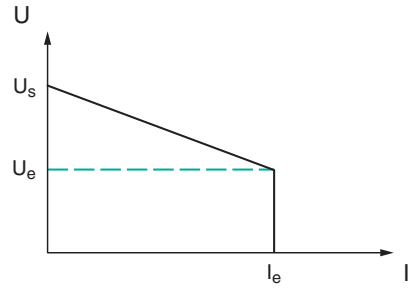
Characteristic Curve

Output characteristics

Output circuit diagram



Output characteristic



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