

# Repeater

## KFD0-CS-Ex1.54-Y2

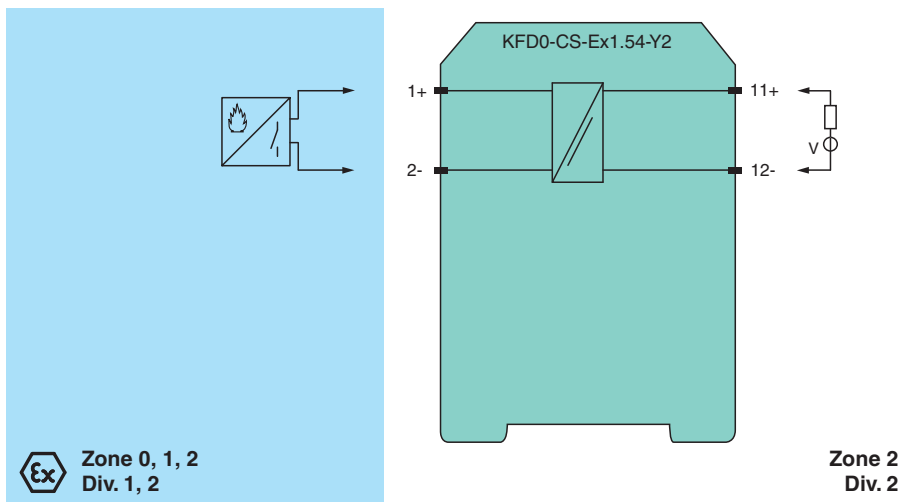
- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- SMART fire alarm input
- Current input 1 mA ... 20 mA



### Function

This isolated barrier is used for intrinsic safety applications. It provides control and signal transfer for SMART compatible fire and smoke alarm transmitters inside hazardous areas. The typical application for the barrier is connection of a fire detector loop to a control panel through a System Sensor® translator device (typically an IST200). The fall time of the digital signal must be less than 50  $\mu$ s, the current in the hazardous area must be bigger than 1 mA. Since this isolator is loop-powered, use the technical data to verify that proper voltage is available to the field devices.

### Connection



### Technical Data

| General specifications |   |
|------------------------|---|
| Signal type            | Analog input                                |
| Supply                 |   |
| Rated voltage          | $U_r$ 0 ... 24 V DC , loop powered          |
| Power dissipation      | 0.2 W                                       |
| Control circuit        |   |
| Connection             | terminals 11+, 12-                          |
| Current                | 0 ... 20 mA                                 |
| Transmission range     | current: 1 ... 20 mA<br>voltage: 0 ... 24 V |
| Field circuit          |   |

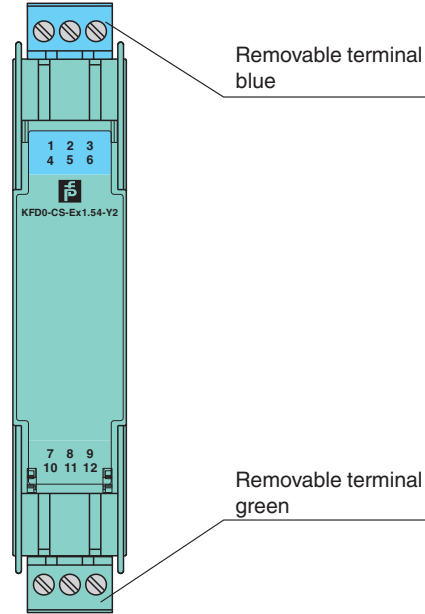
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## Technical Data

|  |                |   |
|--|----------------|---|
| Connection   |                | terminals 1+, 2-  |
| Short-circuit current  |                | ≤ 43 mA   |
| <b>Transfer characteristics</b>                                |                |   |
| Deviation  |                |   |
| After calibration  |                | ≤ 3.5 mA current loss at 20 mA load current   |
| Influence of ambient temperature                               |                | ± 20 µA / K   |
| Rise time/fall time  |                | ≤ 50 µs (load current ≥ 1 mA)   |
| <b>Galvanic isolation</b>                                      |                |   |
| Input/Output   |                | safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V   |
| <b>Indicators/settings</b>                                     |                |   |
| Labeling   |                | space for labeling at the front   |
| <b>Directive conformity</b>                                    |                |   |
| Electromagnetic compatibility                                  |                |   |
| Directive 2014/30/EU   |                | EN 61326-1:2013 (industrial locations)  |
| <b>Conformity</b>  |                |   |
| Electromagnetic compatibility                                  |                |   |
|  |                | NE 21:2006  |
| Degree of protection   |                | IEC 60529:2001  |
| Protection against electrical shock                            |                | UL 61010-1  |
| <b>Ambient conditions</b>                                      |                |   |
| Ambient temperature  |                | -20 ... 60 °C (-4 ... 140 °F)   |
| <b>Mechanical specifications</b>                               |                |   |
| Degree of protection   |                | IP20  |
| Connection   |                | screw terminals   |
| Mass   |                | approx. 100 g   |
| Dimensions   |                | 20 x 107 x 115 mm (0.8 x 4.2 x 4.5 inch) (W x H x D) , housing type B1  |
| Mounting   |                | on 35 mm DIN mounting rail acc. to EN 60715:2001  |
| <b>Data for application in connection with hazardous areas</b> |                |   |
| EU-type examination certificate                                |                | BAS 00 ATEX 7087  |
| Marking  |                | ⊕ II (1)G [Ex ia Ga] IIC<br>⊕ II (1)D [Ex ia Da] IIIC<br>⊕ I (M1) [Ex ia Ma] I  |
| Voltage  | U <sub>o</sub> | 25.2 V  |
| Current  | I <sub>o</sub> | 43 mA   |
| Power  | P <sub>o</sub> | 271 mW  |
| Supply   |                |   |
| Maximum safe voltage   | U <sub>m</sub> | 250 V (Attention! The rated voltage can be lower.)  |
| Certificate  |                |   |
|  |                | TÜV 99 ATEX 1499 X  |
| Marking  |                | ⊕ II 3G Ex nA II T4   |
| Galvanic isolation   |                |   |
| Input/Output   |                | safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V   |
| Directive conformity   |                |   |
| Directive 2014/34/EU   |                | EN IEC 60079-0:2018+AC:2020 , EN 60079-11:2012 , EN 60079-15:2010   |
| <b>International approvals</b>                                 |                |   |
| FM approval  |                |   |
| Control drawing  |                | 116-0129 (cFMus)  |
| UL approval  |                |   |
| Control drawing  |                | E106378   |
| IECEx approval   |                |   |
| IECEx certificate  |                | IECEx BAS 08.0079<br>IECEx BAS 10.0007X   |
| IECEx marking  |                | [Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I<br>Ex nA IIC T4 Gc  |
| <b>General information</b>                                     |                |   |
| Supplementary information                                      |                | Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> . |

## Assembly




Front view



## Matching System Components

|   |                  |  |
|---|------------------|--|
|  | <b>K-DUCT-BU</b> | Profile rail, wiring comb field side, blue |
|---|------------------|--|

## Accessories

|   |                  |  |
|---|------------------|--|
|  | <b>KF-ST-5GN</b> | Terminal block for KF modules, 3-pin screw terminal, green |
|  | <b>KF-ST-5BU</b> | Terminal block for KF modules, 3-pin screw terminal, blue  |
|  | <b>KF-CP</b>     | Red coding pins, packaging unit: 20 x 6                    |