

Features

- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- 2- or 3-wire Pt100 RTD input
- Output 4 mA ... 20 mA, temperature linearization selectable
- DIP switch selectable ranges
- Sensor breakage detection

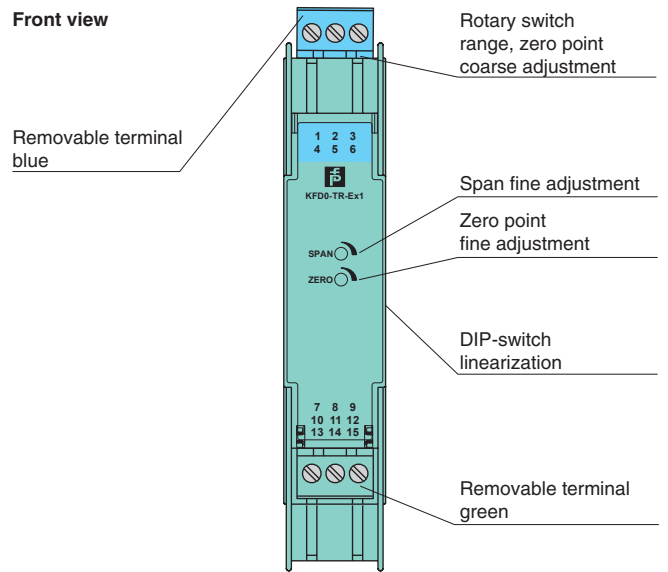
Function

This isolated barrier is used for intrinsic safety applications. It is a loop-powered isolator that converts the resistance from a 3-wire RTD in the hazardous area to a 4 mA ... 20mA signal in the safe area.

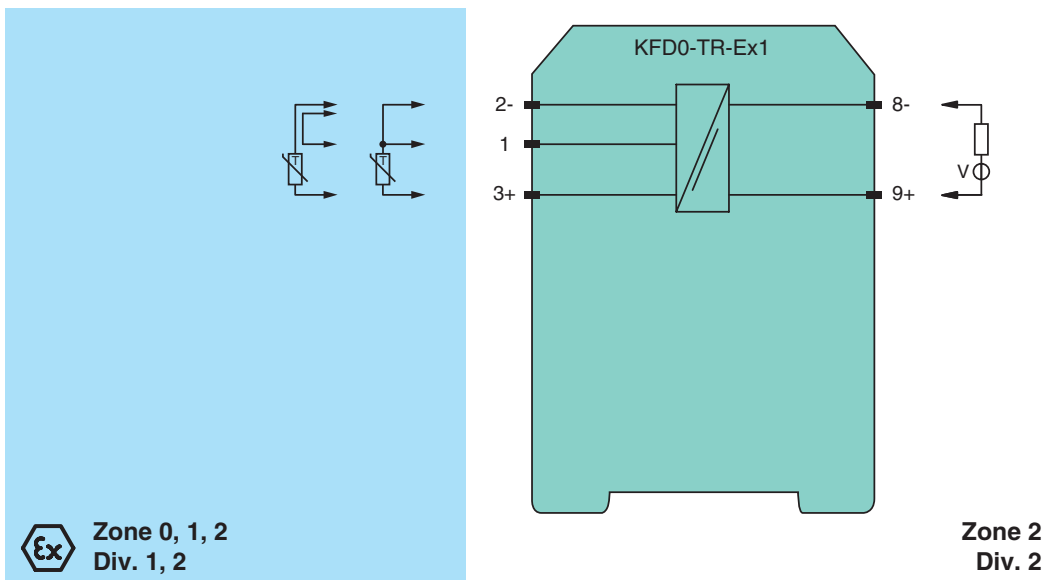
A selectable analog linearization ensures a temperature linear 4 mA ... 20mA output between 25 °C ... 375 °C.

It also features conveniently located DIP switches, rotary switches and potentiometers to make field calibration easy.

Assembly



Connection



Release date 2019-01-14 10:15 Date of issue 2019-01-14 043691_eng.xml



Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0002
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
pa-info@sg.pepperl-fuchs.com

| | | |
|--|-------|---|
| General specifications | | |
| Signal type | | Analog input |
| Supply | | |
| Rated voltage | U_r | 12 ... 35 V DC loop powered |
| Power dissipation | | 0.4 W |
| Input | | |
| Connection side | | field side |
| Connection | | terminals 1, 2-, 3+ suitable for Pt100, 2- and 3-wire connection |
| Lead resistance | | $\leq 100 \Omega$ per line |
| Measuring current | | approx. 1 mA |
| Output | | |
| Connection side | | control side |
| Connection | | terminals 9+, 8- |
| Load | | (U -12 V) / 0.02 A |
| Current output | | 4 ... 20 mA , limited to ≤ 35 mA |
| Fault signal | | upscaling ≥ 22 mA (limited to 35 mA) |
| Transfer characteristics | | |
| Measurement range | f_n | span without linearization 25 ... 800 °C (77 ... 1472 °F)/with linearization 25 ... 375 °C (77 ... 707 °F), both adjustable zero point without linearization -200 ... 400 °C (-328 ... 752 °F)/with linearization -30 ... 375 °C (-22 ... 707 °F), both adjustable |
| Deviation | | |
| After calibration | | 0.1 % of full-scale value incl. linearity and hysteresis |
| Influence of ambient temperature | | span and zero point 0.015 % / K or ± 10 m Ω / K |
| Influence of supply voltage | | 6.5 ppm/V |
| Rise time | | 250 ms |
| Galvanic isolation | | |
| Input/Output | | available |
| Indicators/settings | | |
| Control elements | | DIP-switch rotary switch |
| Configuration | | via DIP switches via rotary switch |
| Labeling | | space for labeling at the front |
| Directive conformity | | |
| Electromagnetic compatibility | | |
| Directive 2014/30/EU | | EN 61326-1:2013 (industrial locations) |
| Conformity | | |
| Insulation coordination | | EN 50178 |
| Galvanic isolation | | EN 50178 |
| Degree of protection | | IEC 60529 |
| Ambient conditions | | |
| Ambient temperature | | -20 ... 60 °C (-4 ... 140 °F) |
| Mechanical specifications | | |
| Degree of protection | | IP20 |
| Connection | | screw terminals |
| Mass | | approx. 150 g |
| Dimensions | | 20 x 119 x 115 mm (0.8 x 4.7 x 4.5 inch) , housing type B2 |
| Mounting | | on 35 mm DIN mounting rail acc. to EN 60715:2001 |
| Data for application in connection with hazardous areas | | |
| EU-Type Examination Certificate | | ZELM 00 ATEX 0036 |
| Marking | |  II (1)GD [EEx ia] IIC |
| Voltage | U_o | 16.1 V |
| Current | I_o | 33 mA |
| Power | P_o | 131 mW |
| Type of protection [EEx ia and EEx ib] | | |
| Certificate | | TÜV 01 ATEX 1777 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 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010 |
| International approvals | | |
| CSA approval | | |

Release date 2019-01-14 10:15 Date of issue 2019-01-14 043691_eng.xml

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0002
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222
pa-info@de.pepperl-fuchs.com

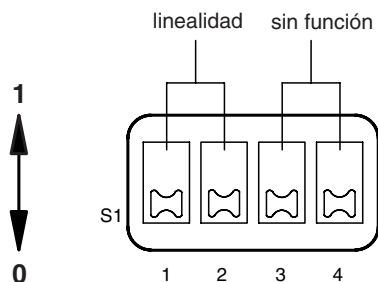
Singapore: +65 6779 9091
pa-info@sg.pepperl-fuchs.com

 **PEPPERL+FUCHS**

| | |
|----------------------------|---|
| Control drawing | 116-0132 |
| General information | |
| Supplementary information | Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com . |

Configuration

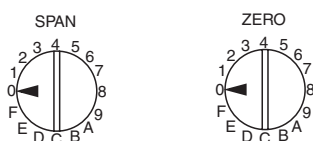
DIP switches function



| Switch | Position | Function |
|--------|----------|-----------------------------|
| S1.1 | 1 | Pt100 with linearisation |
| S1.2 | 0 | (-30 °C ... 375 °C) |
| S1.1 | 0 | Pt100 without linearisation |
| S1.2 | 1 | (-200 °C ... 800 °C) |

Other combinations of S1.1 and S1.2 are not allowed.

Rotary switches function



Please consider that both tables contain typical values, which can be used as an adjustment help.

| Adjustment range with linearisation | | | | | |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Switch SPAN (°C) coarse adjustment | D | 6 | 2 | 1 | 0 |
| | 20 ... 60 | 35 ... 100 | 75 ... 220 | 120 ... 340 | 260 ... 375 |
| Switch ZERO (°C) coarse adjustment | | | | | |
| 0 | - | - | - | - | - |
| 1 | - | - | - | - | - |
| 2 | - | - | - | - | - |
| 3 | - | - | - | - | - |
| 4 | - | - | - | - | - |
| 5 | -19 ... 50 | -22 ... 45 | -30 ... 29 | -30 ... 13 | - |
| 6 | 35 ... 103 | 30 ... 97 | 16 ... 78 | 2 ... 61 | -30 ... 0 |
| 7 | 87 ... 155 | 82 ... 148 | 65 ... 127 | 48 ... 107 | -10 ... 38 |
| 8 | 142 ... 207 | 134 ... 200 | 115 ... 177 | 96 ... 154 | 28 ... 76 |
| 9 | 192 ... 257 | 185 ... 249 | 162 ... 223 | 141 ... 198 | 65 ... 111 |
| A | 245 ... 306 | 234 ... 297 | 209 ... 269 | 185 ... 242 | - |
| B | 290 ... 355 | 282 ... 344 | 254 ... 315 | - | - |
| C | 338 ... 375 | 329 ... 375 | - | - | - |
| D | - | - | - | - | - |
| E | - | - | - | - | - |
| F | - | - | - | - | - |

| Adjustment range without linearisation | | | | | |
|--|---------------|---------------|---------------|---------------|---------------|
| Switch SPAN (°C) coarse adjustment | D | 6 | 2 | 1 | 0 |
| | 25 ... 60 | 40 ... 100 | 90 ... 230 | 140 ... 360 | 320 ... 800 |
| Switch ZERO (°C) coarse adjustment | | | | | |
| 0 | - | - | - | - | - |
| 1 | -200 ... -171 | -200 ... -172 | -200 ... -176 | -200 ... -179 | - |
| 2 | -183 ... -112 | -184 ... -115 | -188 ... -122 | -191 ... -129 | -200 ... -153 |
| 3 | -126 ... -54 | -127 ... -54 | -134 ... -67 | -140 ... -77 | -163 ... -111 |
| 4 | -68 ... -6 | -71 ... 1 | -80 ... -12 | -90 ... -24 | -122 ... -70 |
| 5 | -9 ... 65 | -14 ... 59 | -26 ... 42 | -38 ... 27 | -80 ... -29 |
| 6 | 48 ... 123 | 43 ... 116 | 28 ... 97 | 14 ... 78 | -40 ... 12 |
| 7 | 107 ... 182 | 101 ... 175 | 82 ... 151 | 65 ... 130 | 1 ... 53 |
| 8 | 168 ... 243 | 160 ... 234 | 138 ... 208 | 117 ... 183 | 43 ... 95 |
| 9 | 226 ... 302 | 217 ... 292 | 192 ... 262 | 168 ... 234 | 82 ... 135 |
| A | 284 ... 361 | 274 ... 350 | 246 ... 317 | 219 ... 285 | 122 ... 174 |
| B | 343 ... 400 | 331 ... 400 | 300 ... 372 | 270 ... 337 | 162 ... 215 |
| C | - | - | 353 ... 400 | 320 ... 388 | 201 ... 254 |
| D | - | - | - | 37 ... 400 | 241 ... 293 |
| E | - | - | - | - | 279 ... 333 |
| F | - | - | - | - | 318 ... 372 |

Release date 2019-01-14 10:15 Date of issue 2019-01-14 043691_eng.xml

Recommendation for adjustment:

1. Span determination.
2. "Span coarse adjustment" in accordance with the table (for mode of operation "without linearisation" considering the approx. measurement range start).
3. Minimum value adjustment (in °C) at the input.
4. "Zero point coarse adjustment" to approach to 4 mA.
5. "Zero point fine adjustment" to exactly 4 mA.
6. Maximum value adjustment (in °C) at the input.
7. "Span fine adjustment" to exactly 20 mA.
8. If necessary repeat fine adjustment for 4 mA and 20 mA



SCATTERGOOD & JOHNSON LTD

ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product suppliers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

www.scatts.co.uk