

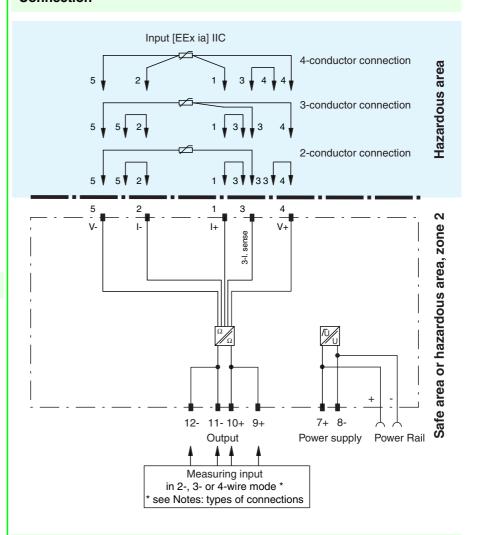
- 1-channel
- Input EEx ia IIC
- Device installation permissible in zone 2
- 24 V DC nominal supply voltage
- Accuracy 0.1 %
- EMC acc. to NAMUR NE 21

KFD2-RR-Ex1

Application

As an Ex-isolator between the temperature sensor in the hazardous area and the converter or thermometer in the safe area.

Connection



Composition

Technical data KFD2-RR-Ex1

Supply Power Rail or terminals 7+, 8- Connection Power Rail or terminals 7+, 8- Rated voltage 20 35 V DC Ripple within the supply tolerance Rated current < 20 mA Power loss 0.25 W (24 V and 1 mA sense current) Input Input Connection terminals 1, 2, 3, 4, 5 Lead resistance < 10 % of resistance value Transmission range 0 10 mA Available voltage 9 V Output 0 10 mA Connection terminals 12-, 11-, 10+, 9+ Current 0 7 V Safety maximum voltage Um 250 V Transfer characteristics Im ≥ 1 mA: Accuracy reduces in proportion to I _m , e.g. I _m = 0.1 mA: ± 1 % of R _m or 1 Ω (the larger value is applicable) Im < 1 mA: Accuracy reduces in proportion to I _m , e.g. I _m = 0.1 mA: ± 1 % of R _m or 1 Ω (the larger value is applicable) Im < 1 mA: Accuracy reduces in proportion to I _m , e.g. I _m = 0.1 mA: ± 1 % of R _m or 1 Ω (the larger value is applicable) Im < 1 mA: Accuracy reduces in proportion to I _m , e.g. I _m = 0.1 mA: ± 1 % of R _m or 1 Ω (the larger value is applicable) Im < 1 mA: Accuracy reduces in proportion to I _m , o.g. I _m = 0.1 mA: ± 1					
Rated voltage 20 35 V DC Ripple within the supply tolerance Rated current < 20 mA					
Ripple within the supply tolerance Rated current < 20 mA					
Rated current < 20 mA					
Power loss 0.25 W (24 V and 1 mA sense current) Input (Connection Lead resistance ≤ 10 % of resistance value Transmission range 0 10 mA Available voltage 9 V Current 0 10 mA Available voltage 0 7 V Safety maximum voltage Um 250 V Transfer characteristics 1 m ≥ 1 mA: ± 0.1 % of Rm or ± 0.1 Ω (the larger value is applicable) lm < 1 mA: Accuracy reduces in proportion to Im.					
Input Lempt Connection terminals 1, 2, 3, 4, 5 Lead resistance ≤ 10 % of resistance value Transmission range 0 10 mA Available voltage 9 V Output Connection Current 0 10 mA Available voltage 0 10 mA Available voltage Ung 250 V Safety maximum voltage Umg 250 V Transfer characteristics Imp ≥ 1 mA: ± 0.1 % of Rm or ± 0.1 Ω (the larger value is applicable) Imm < 1 mA: Accuracy reduces in proportion to Imm < 1 mA: Accuracy reduces in proportion to Imm < 1 mA: Accuracy reduces in proportion to Imm < 1 mA: Accuracy reduces in proportion to Imm < 1 mA: This imm <					
Connection terminals 1, 2, 3, 4, 5 Lead resistance $< 10 %$ of resistance value Transmission range $0 10 mA$ Available voltage $9 V$ Output $0 10 mA$ Current $0 10 mA$ Available voltage $0 7 V$ Safety maximum voltage U_m $250 V$ Transfer characteristics $I_m \ge 1 mA : \pm 0.1 %$ of R_m or $\pm 0.1 \Omega$ (the larger value is applicable) Peviation $I_m \ge 1 mA : \pm 0.1 %$ of R_m or $\pm 0.1 \Omega$ (the larger value is applicable) $I_m < 1 mA : \Delta coursey reduces in proportion to I_m or \pm 0.0 mC or $					
Lead resistance \$ 10 % of resistance value Transmission range 0 10 mA Available voltage 9 V Connection terminals 12-, 11-, 10+, 9+ Current 0 10 mA Available voltage 0 7 V Safety maximum voltage U_m 250 V Transfer characteristics Deviation $I_m \ge 1 \text{ mA} : \pm 0.1 \% \text{ of } R_m \text{ or } \pm 0.1 \Omega \text{ (the larger value is applicable)} I_m < 1 mA: \pm 0.1 mA: \pm 1 % of R_m \text{ or } 1 \Omega \text{ (the larger value is applicable)}.$					
Transmission range 0 10 mA Available voltage 9 V Output Connection Current 0 10 mA Available voltage 0 7 V Safety maximum voltage U _m 250 V Transfer characteristics Image: 1 mA: ± 0.1 % of R _m or ± 0.1 Ω (the larger value is applicable) Deviation I _m ≥ 1 mA: ± 0.1 % of R _m or ± 0.1 Ω (the larger value is applicable). Influence of ambient temperature I _m ≥ 1 mA: ± 0.0 % of R _m or 1 Ω. (the larger value is applicable). Inside time ≤ 2 ms (bounce from 10 90 %) < 3 ms for 1% accuracy					
$ \begin{array}{llllllllllllllllllllllllllllllllllll$					
Output terminals 12-, 11-, 10+, 9+ Current 0 10 mA Available voltage 0 7 V Safety maximum voltage U _m 250 V Transfer characteristics I _m ≥ 1 mA: ± 0.1 % of R _m or ± 0.1 Ω (the larger value is applicable) Deviation I _m ≥ 1 mA: ± 0.1 % of R _m or ± 0.1 Ω (the larger value is applicable). Influence of ambient temperature I _m ≥ 1 mA, R _m ≥ 100 Ω: 0.01 % / K in the range -20 +60 °C (253 333 K) I _m < 1 mA or R _m < 100 Ω: temperature stability reduces in proportion to I _m or R _m Rise time ≤ 2 ms (bounce from 10 90 %) < 3 ms for 1% accuracy					
Connection terminals 12-, 11-, 10+, 9+ Current 0 10 mA Available voltage 0 7 V Safety maximum voltage U _m 250 V Transfer characteristics Deviation $I_{m} \ge 1 \text{ mA}: \pm 0.1\% \text{ of } R_{m} \text{ or } \pm 0.1 \Omega \text{ (the larger value is applicable)}$ $I_{m} \ge 1 \text{ mA}: \pm 0.1\% \text{ of } R_{m} \text{ or } \pm 0.1 \Omega \text{ (the larger value is applicable)}$ $I_{m} < 1 \text{ mA}: \text{ Accuracy reduces in proportion to } I_{m} < 1 \text{ mA}: \text{ accuracy reduces in proportion to } I_{m} < 1 \text{ mA}: \text$					
Current 0 10 mA Available voltage 0 7 V Safety maximum voltage U_m 250 V Transfer characteristics Deviation $I_m \ge 1 \text{ mA} : \pm 0.1 \% \text{ of } R_m \text{ or } \pm 0.1 \Omega \text{ (the larger value is applicable)}$ $I_m \ge 1 \text{ mA} : \pm 0.1 \% \text{ of } R_m \text{ or } \pm 0.1 \Omega \text{ (the larger value is applicable)}$ $I_m \ge 1 \text{ mA} : \pm 1 \% \text{ of } R_m \text{ or } 1 \Omega \text{ (the larger value is applicable)}$ $Influence \text{ of ambient temperature}$ $Influence \text{ of ambient temperature}$ $I_m \ge 1 \text{ mA}, R_m \ge 100 \Omega : 0.01 \% / \text{K in the range -} 20 \dots +60 \degree \text{C (253 333 K)}$ $I_m < 1 \text{ mA or } R_m < 100 \Omega : 0.01 \% / \text{K in the range -} 20 \dots +60 \degree \text{C (253 333 K)}$ $I_m < 1 \text{ mA or } R_m < 100 \Omega : 0.01 \% / \text{K in the range -} 20 \dots +60 \degree \text{C (253 333 K)}$ $I_m < 1 \text{ mA or } R_m < 100 \Omega : 0.01 \% / \text{K in the range -} 20 \dots +60 \degree \text{C (253 333 K)}$ $I_m < 1 \text{ mA or } R_m < 100 \Omega : 0.01 \% / \text{K in the range -} 20 \dots +60 \degree \text{C (253 333 K)}$ $I_m < 1 \text{ mA or } R_m < 100 \Omega : 0.01 \% / \text{K in the range -} 20 \dots +60 \degree \text{C (253 333 K)}$ $I_m < 1 \text{ mA or } R_m < 100 \Omega : 0.01 \% / \text{K in the range -} 20 \dots +60 \degree \text{C (253 333 K)}$ $I_m < 1 \text{ mA or } R_m < 100 \Omega : 0.01 \% / \text{K in the range -} 20 \dots +60 \degree \text{C (253 333 K)}$ $I_m < 1 \text{ mA or } R_m < 100 \Omega : 0.01 \% / \text{K in the range -} 20 \dots +60 \degree \text{C (253 333 K)}$ $I_m < 1 \text{ mA or } R_m < 100 \Omega : 0.01 \% / \text{K in the range -} 20 \dots +60 \degree \text{C (253 333 K)}$ $I_m < 1 \text{ mA or } R_m < 100 \Omega : 0.01 \% / \text{K in the range -} 20 \dots +60 \degree \text{C (253 333 K)}$ $I_m < 1 \text{ mA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 100 \Omega : 0.01 \% / \text{MA or } R_m < 1$					
$ \begin{array}{llllllllllllllllllllllllllllllllllll$					
Safety maximum voltage U_m 250 V Transfer characteristics Deviation					
Transfer characteristics Image: 1 mA: ± 0.1 % of Rm or ± 0.1 Ω (the larger value is applicable) Image: 1 mA: 2 ccuracy reduces in proportino to Image: 1 mA: ± 1 % of Rm or 1 Ω (the larger value is applicable). Influence of ambient temperature Image: 1 mA, Rm ≥ 100 Ω: 0.01 % / K in the range-20 +60 °C (253 333 K) Image: 1 mA, Rm ≥ 100 Ω: 0.01 % / K in the range-20 +60 °C (253 333 K) Image: 1 mA, Rm ≥ 100 Ω: 1 mA or Rm ≥ 100 Ω: 1					
Deviation					
$\begin{array}{ll} I_{m} < 1 \text{ mA: Accuracy reduces in proportion to } I_{m}. \\ e.g. \ I_{m} = 0.1 \text{ mA: } \pm 1 \% \text{ of } R_{m} \text{ or } 1 \Omega \text{ (the larger value is applicable)}. \\ I_{m} \geq 1 \text{ mA, } R_{m} \geq 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +60 ^{\circ}\text{C (253 \dots 333 K)} \\ I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : 0.01 \% / K \text{ in the range } -20 \dots +20 \text{ in the range } -20 \dots +20 \text{ in the range } -20$					
Influence of ambient temperature $I_{m} \geq 1 \text{ mA, } R_{m} \geq 100 \ \Omega : 0.01 \ \% / \text{K in the range } -20 \ +60 \ ^{\circ}\text{C} \ (253 \ 333 \ \text{K})$ $I_{m} < 1 \text{ mA or } R_{m} < 100 \ \Omega : \text{temperature stability reduces in proportion to } I_{m} \text{ or } R_{m}$ $\leq 2 \text{ ms (bounce from } 10 \ 90 \ \%) < 3 \text{ ms for } 1\% \text{ accuracy}$ $Electrical \text{ isolation}$ $Input/Output \qquad \text{safe electrical isolation acc. to EN 50020, voltage peak value } 375 \ \text{V}$ $Input/power \text{ supply} \qquad \text{safe electrical isolation acc. to EN 50020, voltage peak value } 375 \ \text{V}$ $Output/power \text{ supply} \qquad \text{basic insulation acc. to DIN EN 50178, rated insulation voltage of AC 50 \ \text{V}}$ $Directive \text{ conformity} \qquad \text{standards} \qquad \text{on request}$ $Electromagnetic compatibility \qquad \text{acc. to DIN EN 50178}$ $Electrical \text{ isolation} \qquad \text{acc. to DIN EN 50178}$ $Electrical \text{ isolation} \qquad \text{acc. to DIN EN 50178}$ $Electromagnetic compatibility \qquad \text{acc. to DIN EN 50178}$ $Electromagnetic compatibility \qquad \text{acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6}$ $Climatic \text{ conditions} \qquad \text{acc. to DIN IEC 721}$ $Ambient \text{ conditions} \qquad \text{acc. to DIN IEC 721}$ $Ambient \text{ temperature} \qquad \text{-20 60 } ^{\circ}\text{C} \text{ (253 333 K)}$ $Mechanical \text{ specifications} \qquad \text{Protection degree} \qquad \text{IP20}$ $Mass \qquad \text{approx. 100 g}$					
Im < 1 mA or Rm < 100 Ω: temperature stability reduces in proportion to Im or Rm Rise time $≤ 2$ ms (bounce from 10 90 %) < 3 ms for 1% accuracy Electrical isolation Input/Output					
Rise time ≤ 2 ms (bounce from 10 90 %) < 3 ms for 1% accuracy					
Input/Output safe electrical isolation acc. to EN 50020, voltage peak value 375 V Input/power supply safe electrical isolation acc. to EN 50020, voltage peak value 375 V Output/power supply basic insulation acc. to DIN EN 50178, rated insulation voltage of AC 50 V Directive conformity Electromagnetic compatibility standards Directive 89/336/EC on request Standard conformity Insulation coordination acc. to DIN EN 50178 Electrical isolation acc. to DIN EN 50178 Electromagnetic compatibility acc. to DIN EN 50178 Electromagnetic compatibility acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6 Climatic conditions acc. to DIN IEC 721 Ambient conditions Ambient temperature -20 60 °C (253 333 K) Mechanical specifications Protection degree IP20 Mass approx. 100 g					
Input/power supply Output/power supply Directive conformity Electromagnetic compatibility Directive 89/336/EC Standard conformity Insulation coordination Electromagnetic compatibility acc. to DIN EN 50178 Electromagnetic compatibility Conformity Insulation coordination Electrical isolation Electromagnetic compatibility acc. to DIN EN 50178 Electromagnetic compatibility acc. to DIN EN 50178 Electromagnetic compatibility acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6 Climatic conditions Ambient conditions Ambient temperature Ambient specifications Protection degree IP20 Mass Approx. 100 g					
Input/power supply Output/power supply Directive conformity Electromagnetic compatibility Directive 89/336/EC Standard conformity Insulation coordination Electromagnetic compatibility acc. to DIN EN 50178 Electromagnetic compatibility Conformity Insulation coordination Electrical isolation Electromagnetic compatibility acc. to DIN EN 50178 Electromagnetic compatibility acc. to DIN EN 50178 Electromagnetic compatibility acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6 Climatic conditions Ambient conditions Ambient temperature Ambient specifications Protection degree IP20 Mass Approx. 100 g					
Output/power supply Directive conformity Electromagnetic compatibility Directive 89/336/EC Standard conformity Insulation coordination Electrical isolation Electromagnetic compatibility Climatic conditions Ambient conditions Ambient temperature Mechanical specifications Protection degree Mass basic insulation acc. to DIN EN 50178, rated insulation voltage of AC 50 V DIN EN 50178, rated insulation voltage of AC 50 V AC 50 V Basic insulation acc. to DIN EN 50178, rated insulation voltage of AC 50 V Standards Standards on request acc. to DIN EN 50178 acc. to DIN EN 50178 acc. to DIN EN 50178 acc. to EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6 Climatic conditions acc. to DIN IEC 721 Ambient temperature Protection degree IP20 Mass					
Directive conformity Electromagnetic compatibility standards Directive 89/336/EC on request Standard conformity Insulation coordination acc. to DIN EN 50178 Electrical isolation acc. to DIN EN 50178 Electromagnetic compatibility acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6 Climatic conditions acc. to DIN IEC 721 Ambient conditions Ambient temperature -20 60 °C (253 333 K) Mechanical specifications Protection degree IP20 Mass approx. 100 g	• •				
Directive 89/336/EC on request Standard conformity Insulation coordination acc. to DIN EN 50178 Electrical isolation acc. to DIN EN 50178 Electromagnetic compatibility acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6 Climatic conditions acc. to DIN IEC 721 Ambient conditions Ambient temperature -20 60 °C (253 333 K) Mechanical specifications Protection degree IP20 Mass approx. 100 g					
Directive 89/336/EC on request Standard conformity Insulation coordination acc. to DIN EN 50178 Electrical isolation acc. to DIN EN 50178 Electromagnetic compatibility acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6 Climatic conditions acc. to DIN IEC 721 Ambient conditions Ambient temperature -20 60 °C (253 333 K) Mechanical specifications Protection degree IP20 Mass approx. 100 g					
Insulation coordination acc. to DIN EN 50178 Electrical isolation acc. to DIN EN 50178 Electromagnetic compatibility acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6 Climatic conditions acc. to DIN IEC 721 Ambient conditions Ambient temperature -20 60 °C (253 333 K) Mechanical specifications Protection degree IP20 Mass approx. 100 g	on request				
Insulation coordination acc. to DIN EN 50178 Electrical isolation acc. to DIN EN 50178 Electromagnetic compatibility acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6 Climatic conditions acc. to DIN IEC 721 Ambient conditions Ambient temperature -20 60 °C (253 333 K) Mechanical specifications Protection degree IP20 Mass approx. 100 g					
Electrical isolation acc. to DIN EN 50178 Electromagnetic compatibility acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6 Climatic conditions acc. to DIN IEC 721 Ambient conditions Ambient temperature -20 60 °C (253 333 K) Mechanical specifications Protection degree IP20 Mass approx. 100 g	acc. to DIN EN 50178				
Electromagnetic compatibility acc. to EN 50081-2 / EN 50082-2, NAMUR NE 21, DIN IEC 801-2 and DIN IEC 801-4 6 Climatic conditions acc. to DIN IEC 721 Ambient conditions Ambient temperature -20 60 °C (253 333 K) Mechanical specifications Protection degree IP20 Mass approx. 100 g					
Climatic conditions acc. to DIN IEC 721 Ambient conditions Ambient temperature -20 60 °C (253 333 K) Mechanical specifications Protection degree IP20 Mass approx. 100 g					
Ambient conditions Ambient temperature -20 60 °C (253 333 K) Mechanical specifications Protection degree IP20 Mass approx. 100 g					
Ambient temperature -20 60 °C (253 333 K) Mechanical specifications Protection degree IP20 Mass approx. 100 g	400. 10 5111 120 721				
Mechanical specifications IP20 Mass approx. 100 g					
Protection degree IP20 Mass approx. 100 g					
Mass approx. 100 g	ID20				
•					
with hazardous areas					
EC-Type Examination Certificate BAS 01 ATEX 7282; for additional certificates see www.pepperl-fuchs.com					
Group, category, type of protection $\textcircled{\&}\ II\ (1)\ G\ D\ [EEx\ ia]\ IIC\ (-20\ ^{\circ}C\ \le T_{amb}\ \le 60\ ^{\circ}C)$					
Voltage U ₀ 12.4 V					
Current I ₀ 17 mA					
Power P ₀ 53 mW					
Supply					
Safety maximum voltage U _m 250 V					
Type of protection [EEx ia]					
Explosion group IIA IIB IIC					
External capacitance 30 µF 7.9 µF 1.24 µF					
External inductance 855 mH 458 mH 120 mH Statement of conformity TÜV 99 ATEX 1499 X (observe statement of conformity)					
Group, category, type of protection, temperature classification TOV 99 A TEX 1499 X (observe statement of conformity) Example 11 3 G EEx nA II T4					
Electrical isolation					
Input/Output safe electrical isolation acc. to EN 50020, voltage peak value 375 V	safe electrical isolation acc. to EN 50020, voltage peak value 375 V				
Directive conformity standards					
Directive 94/9 EC on request					
Entity parameter					
Certification number 4Z6A5.AX					
FM control drawing No. 116-0129					
Suitable for installation in division 2 yes					
Connection terminals 1, 2, 3, 4, 5					

Input I							
Current	I _t	17.4 mA	17.4 mA				
Voltage	V_{t}	12.8 V					
Explosion group		A&B	C&E	D, F&G			
Max. external capacitance Ca		1.33 μF	3.99 μF	10.64 μF			
Max. external inductance La		108.6 mH	381.1 mH	957.8 mH			
Safety parameter							
CSA control drawing		LR 65756-	LR 65756-13				
Control drawing		No. 116-0	No. 116-0132				
Connection		terminals '	1, 2, 3, 4, 5				
Input I							
Voltage	V_{OC}	11.6 V					
Current	I _{SC}	15.6 mA					
Explosion group		A&B	C&E	D, F&G			
Max. external capacitance C _a		1.8 μF	5.6 μF	15 μF			
Max. external inductance La		1000 mH	1000 mH	1000 mH			

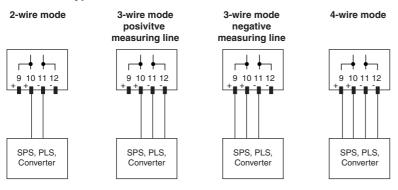
Function

The KFD2-RR-Ex1 transfers the resistance value (R_m) of a temperature sensor (e. g. Pt100, Pt500, Pt1000, ...) in the 2-, 3- or 4- wire mode. The connection of a converter located in the safe area in the 2-, 3- or 4- wire mode may also be successfully employed.

The converter determines the measurement current (I_m). The current is transferred to the hazardous area by the repeater and causes a voltage drop at the temperature sensor. This voltage is then reproduced in the safe area by the repeater. The present resistance value of the sensor is thereby reproduced at the repeater output. All resistance repeaters are compatible provided measurement current x (R_m + 900 W) < 10 V and measurement voltage < 7 V.

Notes

Connection types:



In the case of fast multiplex input cards, transmission problems might be experienced in connection with low resistance values and/or high sensor currents. For data see Rise Time

Measurement range:

071847_ENG.xml

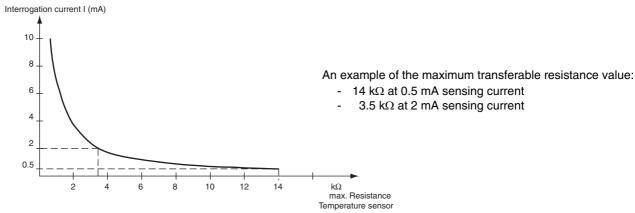
Date of issue 2005-07-08

Release date 2005-07-08 10:56

The isolated transformer can convey a maximum of 10 mA and a maximum of 7 V. The maximum transferable resistance value can be derived from the following equation:

Resistance value = 7 V/sensing current

The sensing current is determined by the original Non-Ex converter.



Technical data KFD2-RR-Ex1

Accessories

Power Rail PR-03 Power Rail UPR-03

Power feed module KFD2-EB2...

By means of the Power Rail PR-03 or UPR-03 the devices can be provided with 24 V DC via the power feed module. If no Power Rails are used, power supply of the individual devices is realised directly via their device terminals.

Each power feed module is used for fusing and monitoring groups with up to 100 individual devices. The Power Rail PR-03 is an inset component for the DIN rail. The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm x 2000 mm. To make electrical contact, the devices are simply engaged.

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