

Technical Data

Power Supply	Power Rail or terminals 14+, 15-
Nominal voltage	20-30 VDC
Power consumption	≤ 1 W

Inputs 1, 2 (intrinsically safe)	Terminals 1+, 2+, 3- ; 4+, 5+, 6-
Nominal data	per NAMUR, ≈ 8 VDC / 8 mA
Lead monitoring	Breakage < 0.1 mA / Short circuit > 6 mA

Output (not intrinsically safe)	
Output 1 (passive transistor)	Terminals 7, 8
Output 2 (passive transistor)	Terminals 8, 9
Nominal current	100 mA short circuit proof
Logic 1	Voltage drop < 2.5 V at 10 mA, ≤ 3.0 V at 100 mA
Logic 0	Output switched off (leakage current ≤ 10µA)

Transfer Characteristics	
Switching frequency	≤ 5 kHz

Entity Parameters	
FM control drawing no.	Terminals 1+, 2+, 3-; 4+, 5+, 6-
Voltage V_{OC}	12.9 V
Current I_{SC}	19.8 mA
Explosion group	A & B C & E D, F & G
Max. external capacitance (C_a)	1.2 µF 3.8 µF 10.1 µF
Max. external inductance (L_a)	84.8 mH 254.4 mH 678.4 mH

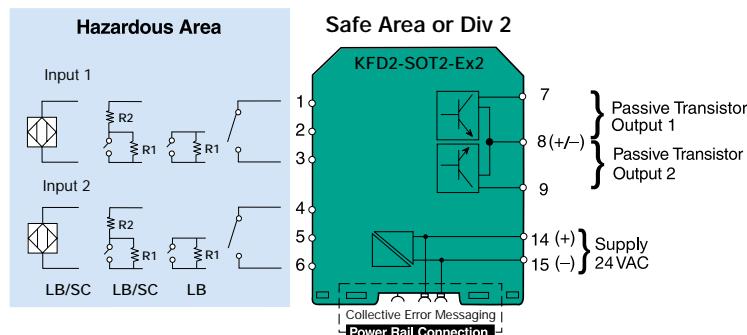
Mechanical	
Housing	Type C (see page 387)
Dimensions (mm)	118 x 20 x 115
Weight	150 g (5.3 oz.)

Ambient Temperature	-20°C to +60°C (-4°F to +140°F)
---------------------	---------------------------------

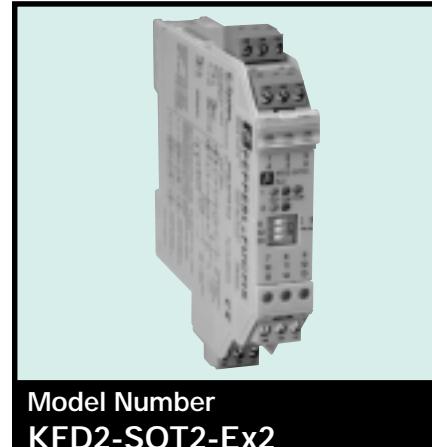


Connection Diagram

Class I, Div 1, Group A-G,
Zone 0, IIC



Switch Isolators Passive Transistor Output



Model Number
KFD2-SOT2-Ex2

- Dual-channel / 24 VDC supply
- 1 signal output with 1 passive transistor per channel
- Optional lead breakage (LB)/short circuit (SC) monitoring
- Suitable for Division 2 mounting

This device is a dual-channel, galvanically isolated intrinsic safety barrier with a built-in amplifier that transfers discrete signals (NAMUR sensors/mechanical contacts) from a hazardous area to a safe area. Each proximity sensor or switch controls a passive transistor output. The barrier output changes state when the input signal changes state. The normal output state can be reversed through the mode of operation switches S1 and S2.

Lead breakage (LB) and short circuit (SC) monitoring can be selected or disabled by placing external resistors and by properly positioning switch S3 on the barrier. NAMUR proximity sensors, however, are designed with the LB and SC functions, making external resistors unnecessary. For a mechanical contact, LB monitoring can be selected by placing a 10 kΩ resistor across the mechanical contact in the field. In addition, SC monitoring is selected by placing a 400Ω - 2kΩ resistor in series with the mechanical contact and moving switch S3 to position 1 on the barrier. In case of a LB/SC fault, the signal output relay reverts to the de-energized state. If used in conjunction with UPR-05 and the KFD2-EB2, the collective error messaging feature can be utilized.

This unit features removable terminals for easy installation, and can be connected to P+F Power Rail eliminating daisy chain wiring.