



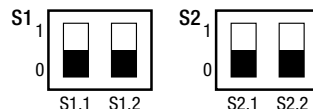


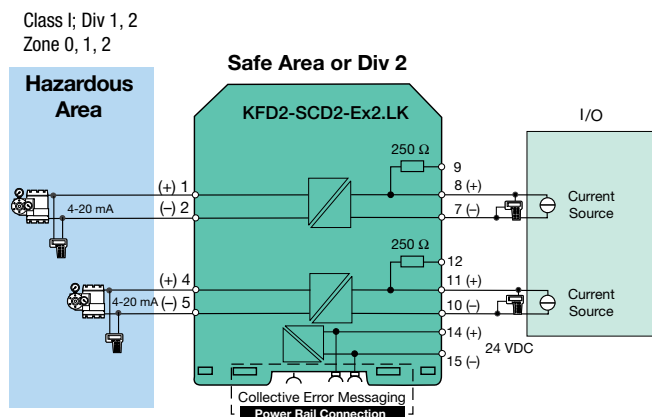
## Technical Data

<b>POWER SUPPLY</b>		Power Rail or terminals 14+, 15-
Nominal voltage		10-35 VDC
Power consumption		1.8 W
<b>INPUT (not intrinsically safe)</b>		Terminals 7-, 8+, (9+); 10-, 11+, (12+)
Current		4-20 mA limited to $\approx 25$ mA
Voltage drop		$\approx 4$ V or internal resistance $200 \Omega$ at 20 mA
Resistance		$> 100$ k $\Omega$ , when wiring resistance in the field $< 50 \Omega$ or $> 800 \Omega$ at 20 mA
<b>OUTPUT (intrinsically safe)</b>		Terminals 1+, 2-; 4+, 5-
Current		4-20 mA
Voltage		$\geq 14$ V at 20 mA
Load		100-700 $\Omega$
<b>TRANSFER CHARACTERISTICS</b>		
Calibration		$\leq 10 \mu\text{A}$ at 20°C incl. non-linearity, calibration, hysteresis, supply and load changes
Temperature drift		$\leq 1 \mu\text{A}/^\circ\text{C}$
Rise time		$< 100 \mu\text{s}$ (bounce from 10-90%)
<b>CERTIFICATES</b>		See page 184 for entity parameters
  	Zone 0, 1, 2	No. 116-0173
	Exida	BAS 00 ATEX 7240,  II (1) G D [Ex ia] IIC
		P+F 03/10-12 R014
<b>MECHANICAL</b>		
Housing		Type C see page 454
Dimensions		4.65" x 0.79" x 4.53" (118 x 20 x 115 mm)
Weight		3.5 oz. ( $\approx 100$ g)
<b>AMBIENT TEMPERATURE</b>		-4°F to +140°F (-20°C to +60°C)

Switch		Position	Function
Channel 1	Channel 2		
S1.1	S2.1	0 (OFF)	HART
S1.2	S2.2	0 (OFF)	
S1.1	S2.1	0 (OFF)	non HART
S1.2	S2.2	1 (ON)	
S1.1	S2.1	1 (ON)	
S1.2	S2.2	0 (OFF)	
S1.1	S2.1	1 (ON)	
S1.2	S2.2	1 (ON)	



## Connection Diagram



## 2-Channel SMART Current/Voltage Driver

Model Number

**KFD2-SCD2-Ex2.LK**

- 2-channel
- 24 VDC supply/Power Rail compatible
- Suitable for Division 2 mounting
- Lead breakage (LB) and short-circuit (SC) monitoring
- HART compatible
- SIL 2 according to IEC 61508; SIL 3 in a redundant structure

This unit drives SMART I/P converters, electrical valves and positioners in hazardous areas. The digital signals modulated on the analog values can be transmitted bidirectionally between a SMART (HART) field device and the SMART communicator. Voltage transferred across the DC/DC converter provides a proportional current at the output terminals. A minimum of 14 V is available at 20 mA for all supply voltages, allowing the unit to drive loads up to 700  $\Omega$ . A current source with low AC impedance may need to be connected to terminals 7- and 9+ for error-free HART transmission. This barrier is equipped with KF-STP-GN or KF-STP-BU terminals containing access holes for test probes, for the connection of a hand held terminal to the circuit. If used in conjunction with P+F's Power Rail system, the unique collective error messaging feature can be utilized.

### Lead Monitoring Input Characteristics:

During a lead breakage ( $> 800 \Omega$ ) or short circuit ( $< 50 \Omega$ ) condition, the input resistance is  $> 100$  k $\Omega$ , the field current is  $< 1$  mA and the red LED is flashing.

When using field instruments that do not require HART communication, set the switches to position 1 as shown in the chart.

### Front View

Housing type C (see system description)

