

SMART Current Driver

KCD2-SCD-1

- 1-channel signal conditioner
- 24 V DC supply (Power Rail)
- Current output up to 900 Ω load
- HART I/P and valve positioner Lead breakage monitoring
- Housing width 12.5 mm
- Up to SIL 2 acc. to IEC/EN 61508

(€ SIL2

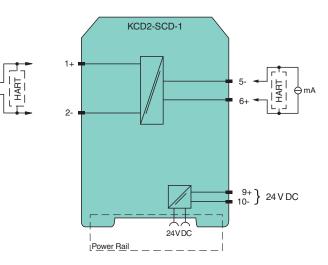
Function

This signal conditioner provides the galvanic isolation between field circuits and control circuits.

The device repeats the input signal from a control system to drive SMART I/P converters, electrical valves, and positioners located on the field side.

Digital signals are superimposed on the analog values at the field side or control side and are transferred bi-directionally. The current is transferred via a DC/DC converter and repeated at the output terminals. An open field circuit presents a high impedance to the control side to allow alarm conditions to be monitored by the control system. Test sockets for the connection of HART communicators are integrated into the terminals of the device.

Connection



Technical Data

General specifications		
Signal type		Analog output
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Supply		
Connection		Power Rail or terminals 9+, 10-
Rated voltage	Ur	19 30 V DC
Ripple		≤ 10 %
Rated current	l _r	≤ 30 mA at 24 V
Power dissipation		\leq 600 mW at 20 mA and 500 Ω load

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

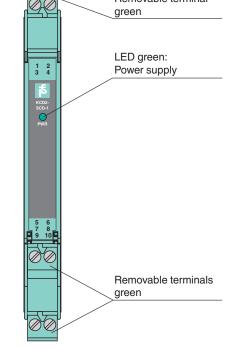
Germany: +49 621 776 2222 pa-info@de.pepperl-fuchs.com

Power consumption ≤ 700 mW	
Connection side control side	
Connection terminals 5-, 6+	
Input signal 4 20 mA , limited to approx. 26 mA	
Input voltage open loop voltage of the control system	< 30 V
Voltage drop approx. 6 V at 20 mA	
Input resistance $> 100 \text{ k}\Omega$, with field wiring open	
Output	
Connection side field side	
Connection terminals 1+, 2-	
Voltage ≥ 18 V at 20 mA	
Current 4 20 mA	
Load 0 900 Ω	
Ripple 20 mV _{rms}	
Transfer characteristics	
Deviation at 20 °C (68 °F), 4 20 mA < 0.1 % of full scale, incl. non-linearity ar	nd hysteresis
Influence of ambient temperature < 2 μA/K (-20 70 °C (-4 158 °F)); < 4	4 μΑ/Κ (-4020 °C (-404 °F))
Frequency range bandwidth at 0.5 V _{ss} signal 0 3 kHz (-3	3 dB)
Rise time10 to 90 % \leq 10 ms	
Galvanic isolation	
Input/Output basic insulation according to IEC/EN 610	010-1, rated insulation voltage 300 $V_{ m eff}$
Input/power supply basic insulation according to IEC/EN 610	010-1, rated insulation voltage 300 V_{eff}
Output/power supply reinforced insulation according to IEC/EI	N 61010-1, rated insulation voltage 300 V_{eff}
Indicators/settings	
Display elements LED	
Labeling space for labeling at the front	
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU EN 61326-1:2013 (industrial locations)	
Conformity	
Electromagnetic compatibility NE 21:2017 EN 61326-3-2:2018	
Degree of protection IEC 60529	
Ambient conditions	
Ambient temperature -40 70 °C (-40 158 °F)	
Mechanical specifications	
Degree of protection IP20	
Connection screw terminals	
Mass approx. 100 g	
Dimensions 12.5 x 124 x 114 mm (0.5 x 4.9 x 4.5 incl	h) (W x H x D) , housing type A2
Mounting on 35 mm DIN mounting rail acc. to EN 6	60715:2001
General information	
Supplementary information Observe the certificates, declarations of	conformity, instruction manuals, and manuals ww.pepperl-fuchs.com.

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

Pepperl+Fuchs Group www.pepperl-fuchs.com p

Assembly Front view Removable terminal green



Matching System Components

B	KFD2-EB2	Power Feed Module
	UPR-03	Universal Power Rail with end caps and cover, 3 conductors, length: 2 m
	UPR-03-M	Universal Power Rail with end caps and cover, 3 conductors, length: 1,6 m
	UPR-03-S	Universal Power Rail with end caps and cover, 3 conductors, length: 0.8 m
	K-DUCT-GY	Profile rail, wiring comb field side, gray
	K-DUCT-GY-UPR-03	Profile rail with UPR-03-* insert, 3 conductors, wiring comb field side, gray

Accessories					
	KC-ST-5GN	Terminal block for KC modules, 2-pin screw terminal, green			
*	KF-CP	Red coding pins, packaging unit: 20 x 6			

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