



SMART Current Driver KCD2-SCD-1.SP

- 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
- Connection via spring terminals with push-in connection technology
- Up to SIL 2 acc. to IEC/EN 61508

CE SIL2

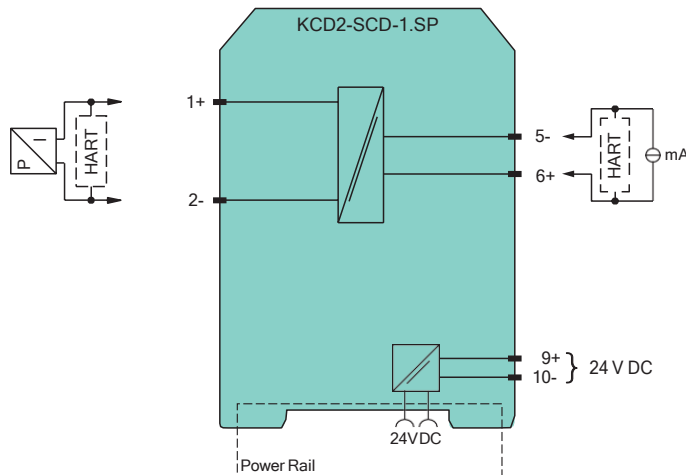
Function

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	U_r 19 ... 30 V DC
Ripple	≤ 10 %
Rated current	I_r ≤ 30 mA at 24 V
Power dissipation	≤ 600 mW at 20 mA and 500 Ω load

Pepperl+Fuchs Iran

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

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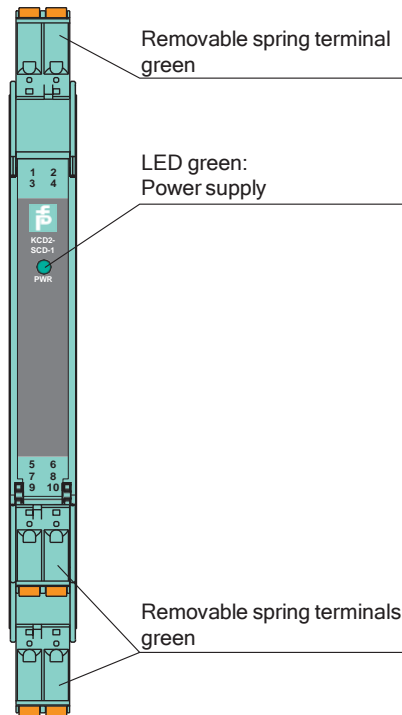
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Technical Data

Power consumption		≤ 700 mW
Input		
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 kΩ, 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 and hysteresis
Influence of ambient temperature		< 2 μA/K (-20 ... 70 °C (-4 ... 158 °F)); < 4 μA/K (-40 ... -20 °C (-40 ... -4 °F))
Frequency range		bandwidth at 0.5 V _{ss} signal 0 ... 3 kHz (-3 dB)
Rise time		10 to 90 % ≤ 10 ms
Galvanic isolation		
Input/Output		basic insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Input/power supply		basic insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Output/power supply		reinforced insulation according to IEC/EN 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		spring terminals
Mass		approx. 100 g
Dimensions		12.5 x 124 x 114 mm (0.5 x 4.9 x 4.5 inch) (W x H x D) , housing type A2
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

Assembly

Front view



Matching System Components

	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-CTT-5GN	Terminal block for KC modules, 2-pin spring terminal, with test sockets, green
	KF-CP	Red coding pins, packaging unit: 20 x 6