Features

- 2-channel isolated barrier
- 24 V DC supply (Power Rail)
- Input 2-wire and 3-wire SMART transmitters and 2-wire SMART current sources
- Output 0/4 mA ... 20 mA current sink/current source
- · Terminals with test points
- Up to SIL 2 acc. to IEC 61508

Function

This isolated barrier is used for intrinsic safety applications.

The device supplies 2-wire and 3-wire SMART transmitters, and can also be used with 2-wire SMART current sources.

It transfers the analog input signal to the safe area as an isolated current value.

Digital signals may be superimposed on the input signal in the hazardous or non-hazardous area and are transferred bidirectionally.

The device provides a sink mode or a source mode output on the safe area terminals.

The device has an internal resistor. Use this resistor if the HART communication resistance in the control circuit is too low.

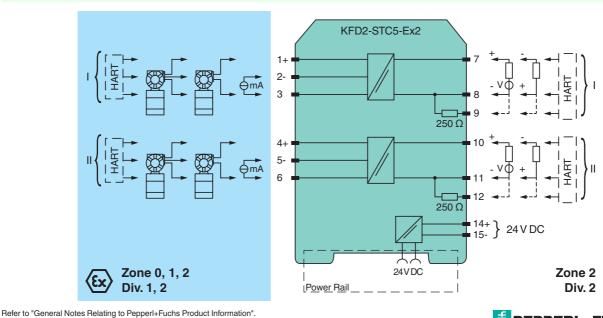
Test sockets for the connection of HART communicators are integrated into the terminals of the device.

Application

The device supports the following SMART protocols:

- HART
- BRAIN
- Foxboro

Connection



SIL 2

< x3</pre>

(6

Assembly

Front view

KFD2-STC5-Ex2

Pepperl+Fuchs Group USA: +1 3 www.pepperl-fuchs.com pa-info@us.p

USA: +1 330 486 0002 pa-info@us.pepperl-fuchs.com Germany: +49 621 776 2222 pa-info@de.pepperl-fuchs.com Singapore: +65 6779 9091 pa-info@sg.pepperl-fuchs.com



Signal top be Analog input Functional safety related parameters SL2 Stady integrity Lovel (SL) SL2 Suppit SL2 Granection Power Rail or terminals 14+, 15 Rated violage U, Bippit Within the suppity tolerance Power dissipation S.2.8 W at maximium load Power consumption S.2.8 W at maximium load Power consumption S.2.8 W at maximium load Connection side field side Connection side field side Connection side S.2.6 W at maximium load Input signal O.4		
Functional safety related parameters Safety Integrity Level (SIL) SIL 2 Supply Power Rail or terminals 14+, 15- Rada Voltage U, Rada Voltage U, Rada Voltage U, Rada Voltage U, Power dissipation 5 1.4 W at maximium load Power onsumption 5 2.8 W at maximium load Input Edit dis dis Connection field side Connection terminals 1+, 2, 3, 4+, 5 - 6 Input signal 04 20 mA Input resistance 5 65 01 terminals 1+, 3, 5+, 6 Connection side terminals 7+, 8 - 9, 10+, 11+, 12+ (source) Connection side control side Connection side terminals 7+, 8 - 9, 10+, 11+, 12+ (source) See additional information Load Connection side control side Connection side terminals 7+, 8 - 9+, 10+, 11+, 12+ (source) See additional information Load Connection 2.00 00 12 Using 17, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10	General specifications	Appleg input
Steply Supply Connection Power Rail or terminals 144, 15- Rated voltage U, Number of the supply tolerance Supply With the supply tolerance St. 4.W at maximum load Power dissipation < 5.4.6 W at maximum load	• •	Analog input
SupplyPower Rail or terminals 14+, 15-Connection1830 V DCRipplewithin the supply tolerancePower dissipation ≤ 1.4 W at maximium loadPower consumption ≤ 2.6 W at maximium loadPower consumption ≤ 2.6 W at maximium loadInputEled sideConnectionterminals 1+, 2, 3, 4+, 5, 6Input signal0/4 20 mAInput resistance ≤ 2.65 Conterninals 2, 3, 5-, 6, ≤ 3.30 Ω terminals 1+, 3, 4+, 6Outputconnection sideConnection sidecontrol sideConnection sidecontrol sideConnection sidecontrol sideConnection sidecontrol sideConnection sidecontrol sideConnection sidecontrol sideConnectionterminals 7-, 8, 9-, 10+, 11+, 12- (sink)terminals 7-, 8, 9-, 9-, 0/4 11+, 12- (sink)terminals 7-, 8, 9-, 0/4 11+, 12- (sink)terminals 7-, 8, 9-, 0/4 20 mAColiput signal0/4 20 mA (overload > 25 mA)Ripple $\leq 50 \mu$ A msExternal supply (loop)2 30 V DCTransfer characteristicsDeviationDeviationat 20 °C (68 °F), 0/4 20 mASotting ino $\geq 2.0 \pm \mu$ AKFrequency rangefield side into the control side: band width with 1 V _{pp} signal 0 7.5 kHz (-3 dB)sate are to hazardous area: band width with 1 V _{pp} signal 0 7.5 kHz (-3 dB)sate are to hazardous area: band width with 1 V _{pp} signal 0 7.5 kHz (-3 dB)Sotting ino20 µ JsRise timefalt time10		SH 2
Connection Power Rail or terminals 14+, 15- Rated voltage U, 1830 V DC Rated voltage U, 1830 V DC Ripple With the supply tolerance Power consumption ≤ 1.4 W at maximum load Power consumption ≤ 2.6 W at maximum load Input Eled side Connection side Ered side Connection side Ered side Connection side Connection side 14 ere 2, 3; 4, 4, 5, 6 Output signal 0/4 20 mA Input resistance < 265 0 terminals 2-, 3; 5, 6, < 330 terminals 1+, 3; 4+, 6 Connection side Connection terminals 7+, 8, 9; 10+, 11-, 12+ (sink) Connection side control side control side Connection Ered atom 2, 56, 9, 300 terminals 1+, 3; 4+, 6 Councel side control side control side Connection side control side control side Connection side Control side control side Connection side 0/4 20 mA see additional information Load 0600.2 see addition the control side: ban	, , ,	
Rated voltageUr t18 30 V DCRipplewithin the supply tolerancePower dissipation ≤ 1.4 W at maximium loadPower consumption ≤ 2.6 W at maximium loadConnection sidefield sideConnection aideterminals 1+, 2-, 3; 4+, 5-, 6Input signal0/4 20 mAInput resistance $\leq 285 \Omega$ terminals 2+, 3; 5-, 6, $\leq 330 \Omega$ terminals 1+, 3; 4+, 6Available voltage ≥ 16 V at 20 mA, terminals 1+, 3; 4+, 6Connection sidecontrol sideConnection ≤ 10 V At 20 mA, terminals 7+, 8+, 9+; 10+, 11+, 12+ (sink)terminals 7+, 8+, 9+; 10+, 11+, 12+ (source)see additional informationLoad0 600 Ω Output signal0/4 20 mA (coverload > 25 mA)Ripple ≤ 30 µ/A maExternal supply (top) 2 30 V DCTransfer characteristicsDeviationDeviation $a 20^{\circ} C (68^{\circ} F), 0/4 20 mAfrequency rangefield side into the control side: band width with 1 Vpp signal 0 7.5 kHz (-3 dB)safe area to hazardous area: band width with 1 Vpp signal 0 7.5 kHz (-3 dB)safe area to hazardous area: band width with 1 Vpp signal 0.$		Power Rail or terminals 14+. 15-
Pipple with the supply tolerance Power consumption ≤ 1.4 W at maximium load Power consumption ≤ 2.6 W at maximium load Fourt Field side Connection side field side Connection side terminals 1+, 2-, 3; 4+, 5, 6 Input signal 0420 mA Input resistance ≤ 265 D terminals 1+, 3; 5+, 6 ≤ 330 D terminals 1+, 3; 4+, 6 Output Connection side ontrol side Connection side ontrol side Connection side ontrol side Connection side 0600 Ω Output signal 0600 Ω Output signal 0800 Ω Influence of ambient temperature < 0.25 µArm		
Power dissipation ≤ 1.4 W at maximum load Power consumption ≤ 2.6 W at maximum load Input Connection side Connection side field side Connection side field side Connection side terminals 1+, 2+, 3; 4+, 5-, 6 Input resistance ≤ 265 12 terminals 2-, 3; 5-, 6, ≤ 330 Ω terminals 1+, 3; 4+, 6 Available voltage ≥ 16 V at 20 mA, terminals 1+, 3; 4+, 6 Output Connection side Connection side control side Connection side control side Connection side control side Connection side output Connection side output signal Load 0600 Ω Output signal 0420 mA (overload > 25 mA) Tarsfer characteristics at 20 °C (68 °F), 0420 mA Deviation ≤ 20 ± μArms Setting time 20 00 µms Frequency range field side into the control side: band width with 1 V _{pg} signal 0.37.5 kHz (^3 dB) Setting time 100 µs Galavanic isolation colo µs Directive controntly <td< td=""><td></td><td>within the supply tolerance</td></td<>		within the supply tolerance
Input Instrumentation Connection side field side Connection side Urminals 1+, 2-, 3; 4+, 5-, 6 Input signal 0/4 20 mA Input resistance ≤ 265 Ω terminals 2-, 3; 5-, 6, ≤ 330 Ω terminals 1+, 3; 4+, 6 Available voltage ≥ 16 V at 20 mA, terminals 2-, 3; 5-, 6, ≤ 330 Ω terminals 1+, 3; 4+, 6 Output Connection side control side Connection side control side control side Connection side control side control side Connection side control side control side Connection diminals 7+, 8+, 9+; 10+, 11+, 12+ (source) see additional information control side Load 0 600 Ω 0 600 Ω 0 600 Ω Output signal 0/4 20 mA (overload > 25 mA) set addition at 20 °C (68 °F), 0/4 20 mA External supply (loop) 2 30 V DC Transfer characteristics Deviation at 20 °C (68 °F), 0/4 20 mA set area to hazardous area: band width with 1 V _{Sp} signal 0 7.5 kHz (-3 dB) Satie area to hazardous area: band width with 1 V _{Sp} signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{Sp} signal 0 7.5 kHz (-3 dB)		
Connection side field side Connection terminals 1+, 2-, 3, 4+, 5-, 6 Input signal 04 20 mA Input resistance <265 Ω terminals 2-, 3; 5-, 6, <330 Ω terminals 1+, 3; 4+, 6	Power consumption	≤ 2.6 W at maximium load
Connectionterminals 1+, 2, 3; 4+, 5, 6Input signal0/4 20 mAInput resistance $\leq 265 \Omega$ terminals 2+, 3; 5, 6, $\leq 330 \Omega$ terminals 1+, 3; 4+, 6Available voltage $\geq 16 V$ at 20 mA, terminals 1+, 3; 4+, 6Output $\leq 265 \Omega$ terminals 7-, 8, 9: 10+, 11-, 12- (sink)Connection sidecontrol sideConnectionterminals 7-, 8+, 9: 10+, 11+, 12- (source)Load0 600 Ω Output signal0/4 20 mA (verteal 2 5 mA)Pilpple $\leq 50 \mu A$ msExternal supply (loop)2 30 V DCTransfer characteristicsDeviationat 20 °C (68 °F), 0/4 20 mA $\leq 10 \mu A$ incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltageInfluence of ambient temperature $\leq 0.25 \mu A/K$ Frequency rangefiled side into the control side: band width with 1 V _{pp} signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{pp} signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{pg} signal 0.3 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{pg} signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{pg} signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{pg} signal 0 7.5 kHz (-3 dB) 	Input	
Input signal 0/4 20 mA Input resistance ≤ 265 Ω terminals 2, 3; 5, 6, ≤ 330 Ω terminals 1+, 3; 4+, 6 Available voltage ≥ 16 V at 20 mA, terminals 1+, 3; 4+, 6 Connection side control side Connection side control side Connection side control side Connection terminals 7+, 8+, 9+; 10+, 11+, 12+ (source) see additional information Load 0 600 Ω Output signal 0.4 20 mA (overload > 25 mA) Ripple ≤ 50 µA ms External supply (loop) 2 30 ∨ DC Transfer characteristics Transfer characteristics Deviation at 20 °C (68 °F), 04 20 mA ≤ 0.25 µAK Frequency range field side into the control side: band width with 1 Vpp signal 0 7.5 kHz (-3 dB) sate area to hazardous area: band width with 1 Vpp signal 0 7.5 kHz (-3 dB) Setting time 100 µs Galvanic isolation 100 µs Galvanic isolation 100 µs Galvanic isolation 100 µs Directive conformity ENED Labeling space for labeling at the front	Connection side	field side
Input resistance ≤ 265 Ω terminals 2+, 3; 5+, 6, ≤ 330 Ω terminals 1+, 3; 4+, 6 Available voltage ≥ 10 V at 20 mA, terminals 1+, 3; 4+, 6 Output Connection side Connection side control side Connection terminals 7+, 8, 9-; 10+, 11+, 12+ (source) see additional information Load 0 600 Ω Output signal 04 20 mA (overload > 25 mA) Ripple ≤ 50 µA rms External supply (loop) 2 30 V DC Transfer characteristics Influence of ambient temperature Deviation at 20 °C (68 °F), 0/4 20 mA ≤ 10 µA Incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage Setting time 200 µs Rise time/fail time 100 µs Galvanic isolation 100 µs Galvanic isolation functional insulation, rated insulation voltage 50 V AC Output/Output functional insulation, rated insulation voltage 50 V AC Indicators/settings LED Display elements LED Labeling space for labeling at the front Directive conformity EN 61326-1:2013 (industrial locations)	Connection	terminals 1+, 2-, 3; 4+, 5-, 6
Available voltage ≥ 16 V at 20 mA, terminals 1+, 3; 4+, 6 Output Connection side Connection side control side Connection side control side Connection terminals 7+, 8+, 9+; 10+, 11+, 12+ (source) see additional information Load 0600 Ω Output signal 0/420 mA (overload > 25 mA) Ripple ≤50 µA ms External supply (loop) 230 V DC Tansfer characteristics Deviation at 20 °C (80 °F), 0/4 20 mA ≤ 10 µA inci. calibration, linearity, hysteresis, loads and fluctuations of supply voltage Influence of ambient temperature ≤ 0.25 µA/K Frequency range field side into the control side: band width with 1 V _{pp} signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{pp} signal 0 7.5 kHz (-3 dB) Setting time 200 µs Galvanci Isolation Output/power supply functional insulation, rated insulation voltage 50 V AC Output/Duput functional insulation, rated insulation voltage 50 V AC Indicars/settings LED Labeling space for labeling at the front Directive conformity FE 12:0212 Electormagnetic compatibility	Input signal	0/4 20 mA
Outputcontrol sideConnection sidecontrol sideConnectionterminals 7+, 8-, 9-; 10+, 11-, 12- (sink) terminals 7-, 8+, 9+; 10-, 11+, 12+ (source) see additional informationLoad0600 Ω Output signal0420 mA (overload > 25 mA)Ripple $\leq 50 \mu A_{rms}$ External supply (loop)230 V DCTransfer characteristicsDeviationat 20 °C (68 °F), 0/4 20 mA $\leq 10 \mu$ A incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltageInfluence of ambient temperature $\leq 0.25 \mu$ AKFrequency rangefield side into the control side: band width with 1 V _{pp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{pg} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{pg} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{SS} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{SS} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{SS} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{SS} signal 07.5 kHz (-3 dB)Setting time100 μ sGalvanic isolationfunctional insulation, rated insulation voltage 50 V AC Output/power supplyOutput/power supplyfunctional insulation, rated insulation voltage 50 V AC Output/power supplyDirective conformityEN 61326-1:2013 (industrial locations)Directive conformityEN 61326-3:2008Electormagnetic compatibilityNE 21:2012 EN 61326-3:2008Degree of protectionIEC 60529:2001 UL 6101-1:2012Portection against electrical s		\leq 265 Ω terminals 2-, 3; 5-, 6 , \leq 330 Ω terminals 1+, 3; 4+, 6
Connection side control side Connection terminals 7, 8, 9; 10+, 11-, 12- (sink) terminals 7, 8, 9; 10+, 11-, 12- (source) see additional information Load 0600 0 Output signal 0/420 mA (overload > 25 mA) Ripple <50 µA mms	Available voltage	\geq 16 V at 20 mA , terminals 1+, 3; 4+, 6
Connectionterminals 7+, 8-, 9+; 10+, 11+, 12- (sink) terminals 7-, 8+, 9+; 10-, 11+, 12+ (source) see additional informationLoad 0600 Output signal $0/420$ mA (overload > 25 mA)Ripple $\leq 50 \mu A_{ms}$ External supply (loop) $230 V DC$ Transfer characteristicsDeviationat 20 °C (68 °F), 0/420 mA $\leq 10 \mu$ Aincl. calibration, linearity, hysteresis, loads and fluctuations of supply voltageInfluence of ambient temperature $\leq 0.25 \mu$ /KFrequency rangefield side into the control side: band width with 1 V _{pp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 0.37.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 0.37.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 0.37.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{sp} signal 0.3	•	
terminals 7, 8+, 9+; 10, 11+, 12+ (source) see additional information Load 0600 Ω Output signal 0/420 mA (overload > 25 mA) Ripple ≤50 µA ms External supply (loop) 230 V DC Transfer characteristics		
Output signal $0/4 \dots 20 \text{ mA} (overload > 25 \text{ mA})$ Ripple $\leq 50 \mu A_{ms}$ External supply (loop) $2 \dots 30 V DC$ Transfer characteristicsDeviationat 20 °C (68 °F), 0/4 20 mA $\leq 10 \mu$ A incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltageInfluence of ambient temperature $\leq 0.25 \mu$ A/KFrequency rangefield side into the control side: band width with 1 Vpp signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 Vps signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 Vps signal 0 7.5 kHz (-3 dB)Settling time200 µsRise time/fall time100 µsGalvanic isolationOutput/Dower supplyfunctional insulation, rated insulation voltage 50 V AC functional insulation, rated insulation voltage 50 V ACDisplay elementsLED space for labeling at the frontLabelingspace for labeling at the frontDirective conformityEN 61326-1:2013 (industrial locations)ContormityNE 21:2012 EN 61326-3:2008Electromagnetic compatibilityNE 21:2012 EN 61326-3:2008Degree of protectionIEC 60529:2001Protection against electrical shockUL 61010-1:2012Ambient conditionsUL 61010-1:2012		terminals 7-, 8+, 9+; 10-, 11+, 12+ (source)
Ripple ≤ 50 μA mms External supply (loop) 2 30 V DC Transfer characteristics	Load	0600 Ω
External supply (loop) 230 V DC Transfer characteristics at 20 °C (68 °F), 0/4 20 mA ≤ 10 µA incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage Deviation at 20 °C (68 °F), 0/4 20 mA ≤ 10 µA incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage Influence of ambient temperature ≤ 0.25 µA/K Frequency range field side into the control side: band width with 1 V _{SS} signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{SS} signal 0.3 7.5 kHz (-3 dB) Settling time 200 µs Rise time/fall time 100 µs Galvanic isolation 00 µs Output/Power supply functional insulation, rated insulation voltage 50 V AC Output/Output functional insulation, rated insulation voltage 50 V AC Dutput/Output functional insulation, rated insulation voltage 50 V AC Dutput/Output functional insulation, rated insulation voltage 50 V AC Dutput/Output functional insulation, rated insulation voltage 50 V AC Directive conformity ELED Labeling space for labeling at the front Directive 2014/30/EU EN 61326-1:2013 (industrial locations) Conformity EN 61326-3:22008 Electromagnetic compatibility NE 2	Output signal	0/4 20 mA (overload > 25 mA)
Transfer characteristics Interview Deviation at 20 °C (68 °F), 0/4 20 mA ≤ 10 µA incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage Influence of ambient temperature ≤ 0.25 µA/K Frequency range field side into the control side: band width with 1 V _{pp} signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{ps} signal 0.3 7.5 kHz (-3 dB) Settling time 200 µs Rise time/fall time 100 µs Galvanic isolation functional insulation, rated insulation voltage 50 V AC Output/Dutput functional insulation, rated insulation voltage 50 V AC Indicators/settings LED Labeling space for labeling at the front Directive conformity Electromagnetic compatibility Directive 2014/30/EU EN 61326-1:2013 (industrial locations) Conformity IEC 60529:2001 Electromagnetic compatibility NE 21:2012 EN 61326-3:2:2008 Degree of protection IEC 60529:2001 Protection against electrical shock UL 61010-1:2012 Ambient conditions UL 61010-1:2012	Ripple	\leq 50 μ A _{rms}
Deviationat 20 °C (68 °F), 0/4 20 mA $\leq 10 \ \mu A$ incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltageInfluence of ambient temperature $\leq 0.25 \ \mu A/K$ Frequency rangefield side into the control side: band width with 1 V _{pp} signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V _{pp} signal 0 7.5 kHz (-3 dB)Settling time200 μ sRise time/fall time100 μ sGalvanic isolation0Output/power supplyfunctional insulation, rated insulation voltage 50 V ACOutput/Qutputfunctional insulation, rated insulation voltage 50 V ACIndicators/settingsEEDLabelingspace for labeling at the frontDirective conformityEN 61326-1:2013 (industrial locations)ConformityEN 61326-1:2013 (industrial locations)Degree of protectionIEC 60529:2001Protection against electrical shockUL 61010-1:2012Ambient conditionsUL 61010-1:2012	External supply (loop)	2 30 V DC
$ \leq 10 \ \mu A incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage \\ Influence of ambient temperature \leq 0.25 \ \mu A/K \\ Frequency range \\ field side into the control side: band width with 1 V_{pp} signal 0 7.5 kHz (-3 dB) safe area to hazardous area: band width with 1 V_{SS} signal 0.3 7.5 kHz (-3 dB) \\ safe area to hazardous area: band width with 1 V_{SS} signal 0.3 7.5 kHz (-3 dB) \\ safe area to hazardous area: band width with 1 V_{SS} signal 0.3 7.5 kHz (-3 dB) \\ safe area to hazardous area: band width with 1 V_{SS} signal 0.3 7.5 kHz (-3 dB) \\ safe area to hazardous area: band width with 1 V_{SS} signal 0.3 7.5 kHz (-3 dB) \\ safe area to hazardous area: band width with 1 V_{SS} signal 0.3 7.5 kHz (-3 dB) \\ Setting time \\ Coluput/power supply \\ functional insulation, rated insulation voltage 50 V AC \\ Output/power supply \\ functional insulation, rated insulation voltage 50 V AC \\ Output/Output \\ functional insulation, rated insulation voltage 50 V AC \\ Coluput/Output \\ functional insulation, rated insulation voltage 50 V AC \\ Indicators/settings \\ 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 \\ Electrom$	Transfer characteristics	
Frequency rangefield side into the control side: band width with 1 Vpp signal 07.5 kHz (-3 dB) safe area to hazardous area: band width with 1 VsS signal 0.37.5 kHz (-3 dB)Settling time200 μsRise time/fall time100 μsGalvanic isolationOutput/power supplyfunctional insulation, rated insulation voltage 50 V ACOutput/Outputfunctional insulation, rated insulation voltage 50 V ACIndicators/settingsDisplay elementsLEDLabelingspace for labeling at the frontDirective conformityEN 61326-1:2013 (industrial locations)ConformityNE 21:2012 EN 61326-3-2:2008Degree of protectionIEC 60529:2001Protection against electrical shockUL 61010-1:2012Ambient conditions		\leq 10 μA incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage
safe area to hazardous area: band width with 1 V _{SS} signal 0.3 7.5 kHz (-3 dB)Settling time200 μsRise time/fall time100 μsGalvanic isolationOutput/power supplyfunctional insulation, rated insulation voltage 50 V ACOutput/Outputfunctional insulation, rated insulation voltage 50 V ACIndicators/settingsDisplay elementsLEDLabelingspace for labeling at the frontDirective conformityEN 61326-1:2013 (industrial locations)ConformityNE 21:2012 EN 61326-3-2:2008Degree of protectionIEC 60529:2001Protection against electrical shockUL 61010-1:2012Ambient conditions	-	
Rise time/fall time100 μsGalvanic isolationInterioral insulation, rated insulation voltage 50 V ACOutput//outputfunctional insulation, rated insulation voltage 50 V ACIndicators/settingsInterioral insulation, rated insulation voltage 50 V ACDisplay elementsLEDLabelingspace for labeling at the frontDirective conformityEN 61326-1:2013 (industrial locations)ConformityEN 61326-3:2:008Degree of protectionIEC 60529:2001Protection against electrical shockUL 61010-1:2012Ambient conditionsInterior State St		safe area to hazardous area: band width with 1 V _{SS} signal 0.3 7.5 kHz (-3 dB)
Galvanic isolationIndicional insulation, rated insulation voltage 50 V ACOutput/Outputfunctional insulation, rated insulation voltage 50 V ACIndicators/settingsImage: Display elementsLEDLEDLabelingspace for labeling at the frontDirective conformityEN 61326-1:2013 (industrial locations)ConformityImage: Display-2:2008Electromagnetic compatibilityNE 21:2012 EN 61326-3-2:2008Degree of protectionIEC 60529:2001Protection against electrical shockUL 61010-1:2012Ambient conditionsImage: Display elements		
Output/power supplyfunctional insulation, rated insulation voltage 50 V ACOutput/Outputfunctional insulation, rated insulation voltage 50 V ACIndicators/settingsImage: Composition of the set of th		100 μs
Output/Outputfunctional insulation, rated insulation voltage 50 V ACIndicators/settingsLEDDisplay elementsLEDLabelingspace for labeling at the frontDirective conformityElectromagnetic compatibilityDirective 2014/30/EUEN 61326-1:2013 (industrial locations)ConformityNE 21:2012 EN 61326-3-2:2008Degree of protectionIEC 60529:2001Protection against electrical shockUL 61010-1:2012Ambient conditionsU		functional includion, acted includion values FOV AC
Indicators/settingsIEDDisplay elementsLEDLabelingspace for labeling at the frontDirective conformityElectromagnetic compatibilityDirective 2014/30/EUEN 61326-1:2013 (industrial locations)ConformityElectromagnetic compatibilityDirective 2014/30/EUEN 61326-3:2008Electromagnetic compatibilityNE 21:2012 EN 61326-3-2:2008Degree of protectionIEC 60529:2001Protection against electrical shockUL 61010-1:2012Ambient conditionsImage: Condition against electrical shock		
Display elementsLEDLabelingspace for labeling at the frontDirective conformityElectromagnetic compatibilityDirective 2014/30/EUEN 61326-1:2013 (industrial locations)ConformityElectromagnetic compatibilityNE 21:2012 EN 61326-3-2:2008Degree of protectionIEC 60529:2001Protection against electrical shockUL 61010-1:2012Ambient conditions	· ·	Turbulonal insulation, rated insulation voltage 50 v AO
Labelingspace for labeling at the frontDirective conformityElectromagnetic compatibilityEN 61326-1:2013 (industrial locations)ConformityElectromagnetic compatibilityElectromagnetic compatibilityNE 21:2012 EN 61326-3-2:2008Degree of protectionIEC 60529:2001Protection against electrical shockUL 61010-1:2012Ambient conditions	-	I ED
Directive conformityImage: ConformityElectromagnetic compatibilityEN 61326-1:2013 (industrial locations)Directive 2014/30/EUEN 61326-1:2013 (industrial locations)ConformityImage: ConformityElectromagnetic compatibilityNE 21:2012 EN 61326-3-2:2008Degree of protectionIEC 60529:2001Protection against electrical shockUL 61010-1:2012Ambient conditionsImage: Conformity	-1	
Electromagnetic compatibility EN 61326-1:2013 (industrial locations) Conformity NE 21:2012 EN 61326-3-2:2008 Degree of protection IEC 60529:2001 Protection against electrical shock UL 61010-1:2012		
Directive 2014/30/EU EN 61326-1:2013 (industrial locations) Conformity NE 21:2012 Electromagnetic compatibility NE 21:2012 EN 61326-3-2:2008 EN 61326-3-2:2008 Degree of protection IEC 60529:2001 Protection against electrical shock UL 61010-1:2012 Ambient conditions Image: Condition of the c	-	
Electromagnetic compatibility NE 21:2012 EN 61326-3-2:2008 Degree of protection IEC 60529:2001 Protection against electrical shock UL 61010-1:2012 Ambient conditions UL 61010-1:2012	• • •	EN 61326-1:2013 (industrial locations)
EN 61326-3-2:2008 Degree of protection IEC 60529:2001 Protection against electrical shock UL 61010-1:2012 Ambient conditions Image: Condition of the state of the st	Conformity	
Degree of protection IEC 60529:2001 Protection against electrical shock UL 61010-1:2012 Ambient conditions Image: Condition of the state of	c . ,	
Protection against electrical shock UL 61010-1:2012 Ambient conditions		
Ambient conditions	0 1	
	, and the second s	
Ambient temperature -20 60 °C (-4 140 °F)	Ambient temperature	-20 60 °C (-4 140 °F)
Mechanical specifications		
Degree of protection IP20	-	IP20
Connection screw terminals	Connection	screw terminals
Mass approx. 200 g	Mass	approx. 200 g
Dimensions 20 x 124 x 115 mm (0.8 x 4.9 x 4.5 inch) , housing type B2	Dimensions	20 x 124 x 115 mm (0.8 x 4.9 x 4.5 inch) , housing type B2
Mounting on 35 mm DIN mounting rail acc. to EN 60715:2001	Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with hazardous areas	with hazardous areas	
EU-Type Examination Certificate CML 17 ATEX 2031X	71	_
Marking (x) II (1)G [Ex ia Ga] IIC (x) II (1)D [Ex ia Da] IIIC (x) I (M1) [Ex ia Ma] I		🐼 II (1)D [Ex ia Da] IIIC
Input [Ex ia Ga] IIC, [Ex ia Da] IIC, [Ex ia Ma] I		
Supply		
Maximum safe voltage U _m 250 V (Attention! The rated voltage can be lower.)		250 V (Attention! The rated voltage can be lower.)
Equipment terminals 1+, 3-; 4+, 6-		
Voltage U _o 26.2 V		

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

 Pepperl+Fuchs Group
 USA: +1 330 486 0002
 General General

6 0002 Germany: +49 621 776 2222 fuchs.com pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091 n pa-info@sg.pepperl-fuchs.com PEPPERL+FUCHS

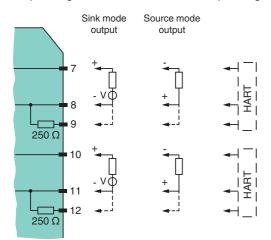
2

Voltage	Uq	27.25 V
Current	Ι _ο	93 mA
Power	Po	634 mW
Permissible connection values [EEx ia]		
Equipment		terminals 2-, 3+; 5-, 6+
Voltage	Ui	30 V
Current	li	115 mA
Power	Pi	max 1 W
Voltage	Uo	2 V
Current	Ι _ο	8.5 mA
Power	Po	4.3 mW
Permissible connection values [EEx ia]		
Equipment		terminals 1+, 2/3-; 4+, 5/6-
Voltage	Uo	26.2 V
Voltage	Uq	27.25 V
Current	I _o	115 mA
Power	Po	784 mW
Certificate		CML 17 ATEX 3030X
Marking		€x II 3G Ex ec IIC T4 Gc
Galvanic isolation		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11:2012, voltage peak value 375 V
Input/power supply		safe electrical isolation acc. to IEC/EN 60079-11:2012, voltage peak value 375 V
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013, EN 60079-11:2012, EN 60079-7:2015
International approvals		
UL approval		
Control drawing		116-0439 (cULus)
IECEx approval		IECEx CML 17.0016X
Approved for		[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I , Ex ec IIC T4 Gc
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com.
Accessories		
Optional accessories		- power feed module KFD2-EB2(.R4A.B)(.SP) - universal power rail UPR-03(-M)(-S) - profile rail K-DUCT-BU(-UPR-03)



Additional Information

The device provides 2 outputs on the control side terminals. These outputs can be operated in any combination of the current sink operating mode and current source operating mode. Please refer to the following diagram for connection.



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

Singapore: +65 6779 9091 pa-info@sg.pepperl-fuchs.com

