



- 1-channel
- Galvanically isolated output EEx ia IIC
- Suitable for HART communication
- Accuracy 0.1 %
- Device installation permissible in zone 2
- EMC acc. to NAMUR NE 21
- Up to SIL2 acc. to IEC 61508

HiC2031

Function

The SMART repeater transmits a 4 mA ... 20 mA current from the safe area to the hazardous area.

Digital signals can be superimposed on the analogue values in either the hazardous area or the safe area.

A bidirectional communication between a HART device in the field and the corresponding HART device in the safe area is possible.

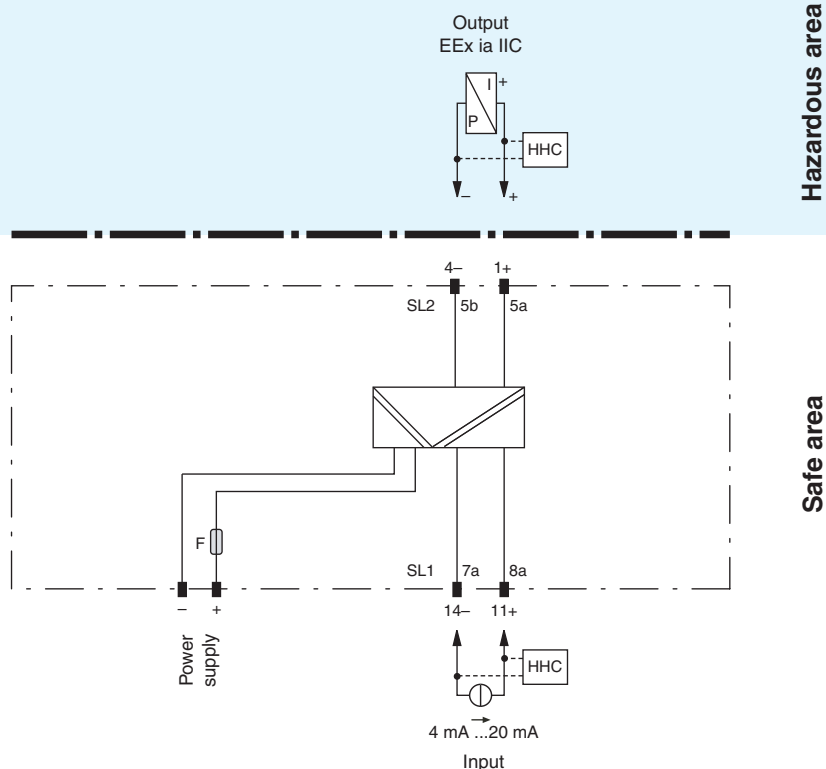
Handheld terminals (HHC) should be connected as shown in the block diagram.

A field open circuit presents a high impedance to the control device input to allow alarm conditions to be monitored.

Application

- Control of positioners in the hazardous area
- Transfer of a 4 mA ... 20 mA current signal (also with superimposed HART signal) from the safe area to the hazardous area.

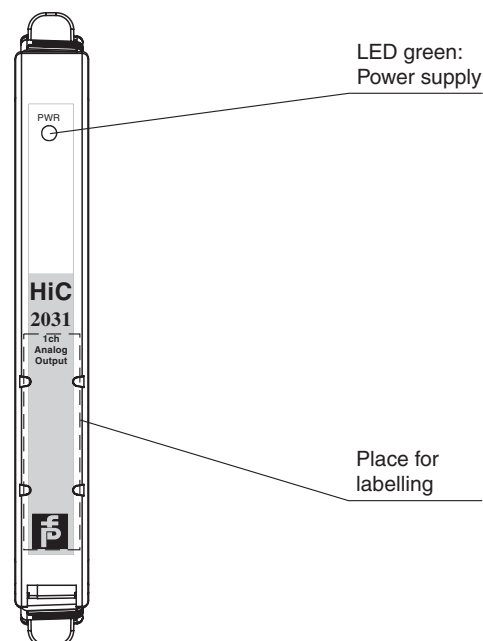
Connection



HHC = Hand Held Configurator

Composition

Front view



Supply	
Connection	SL1: 1a - 1b (-); 2a - 2b (+)
Rated voltage	19 ... 30 V DC
Ripple	≤ 10 %
Rated current	≤ 30 mA
Power loss	≤ 600 mW
Power consumption	≤ 700 mW
Input	
Connection	SL1: 8a (+), 7a (-)
Input signal	4 ... 20 mA limited to approx. 30 mA
Voltage drop U_d	approx. 6 V or internal resistance 300 Ω at 20 mA
Input resistance	> 100 kΩ at max. 23 V, with field wiring open
Output	
Connection	SL2: 5a (+), 5b (-)
Current	4 ... 20 mA
Load	0 ... 650 Ω
Ripple	20 mV rms
Transfer characteristics	
Deviation	at 20 °C (293 K), 4 ... 20 mA ≤ ± 0.1 % incl. non-linearity and hysteresis
Influence of ambient temperature	< 2 μA/°C (0 ... +60 °C); < 4 μA/°C (-20 ... 0 °C)
Frequency range	hazardous area into the safe area: bandwidth with 0.5 V _{pp} -signal 0 ... 3 kHz (-3 dB) safe area into the hazardous area: bandwidth with 0.5 V _{pp} -signal 0 ... 3 kHz (-3 dB)
Rise time	10 to 90 % ≤ 100 ms
Electrical isolation	
Input/output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Input/power supply	basic insulation acc. to DIN EN 50178, rated insulation voltage of AC 50 V
Output/power supply	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Indicators/settings	
LED PWR	green
Labelling	place for labelling on the front side
Directive conformity	
Electromagnetic compatibility	
Directive 89/336/EC	EN 61326
Conformity	
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 100 g
Dimensions	12.5 x 128 x 106 mm (0.5 x 5.1 x 4.2 in)
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	CESI 06 ATEX 017 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (1)GD [EEx ia] IIC, [Ex ia D] [circuit(s) in zone 0/1/2/20/21/22]
Output	Ex ia IIC, Ex iaD
Supply	
Safety maximum voltage U_m	253 V AC (Attention! U_m is no rated voltage.)
Equipment	
Voltage U_o	25.2 V
Current I_o	100 mA
Power P_o	630 mW
Internal capacitance C_i	5.7 nF
Internal inductance L_i	negligible
Permissible connection values [EEx ia]	
Explosion group	IIA IIB IIC
External capacitance	2.8 μF 0.81 μF 0.1 μF
External inductance	28 mH 14 mH 3.5 mH
Statement of conformity	
Group, category, type of protection, temperature classification	⊕ II 3G Ex nA II T4 X
Directive conformity	
Directive 94/9 EC	EN 50014, EN 50020, pr EN 61241-11, EN 50284, EN 60079-15 , EN 60079-0

General information

Supplementary information

EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com.