



- 8-channel
- Inputs EEx ia IIC
- Device installation in zone 1, zone 2 or zone 22
- Module can be exchanged under voltage in Zone 1 (hot swap)
- Inputs for 2-wire and 3-wire transmitters
- Transfer of HART signals into the hazardous area
- Lead breakage (LB) monitoring and short-circuit (SC) monitoring for each field circuit
- EMC acc. to NAMUR NE 21

Function

The RSD-CI-Ex8.H feeds up to eight 2- or 3-wire-transmitters in the hazardous area and transmits the analogue 0/4 mA ... 20 mA measurement values via the fieldbus to the safe area.

The inputs are galvanically isolated from the bus und the power supply.

In the hazardous area, at least 17 V are available for the transmitters at a current flow of 20 mA.

The integrated HART multiplexer allows a bidirectional HART communication and is transparent for HART commands of the revisions 3, 4 and 5.

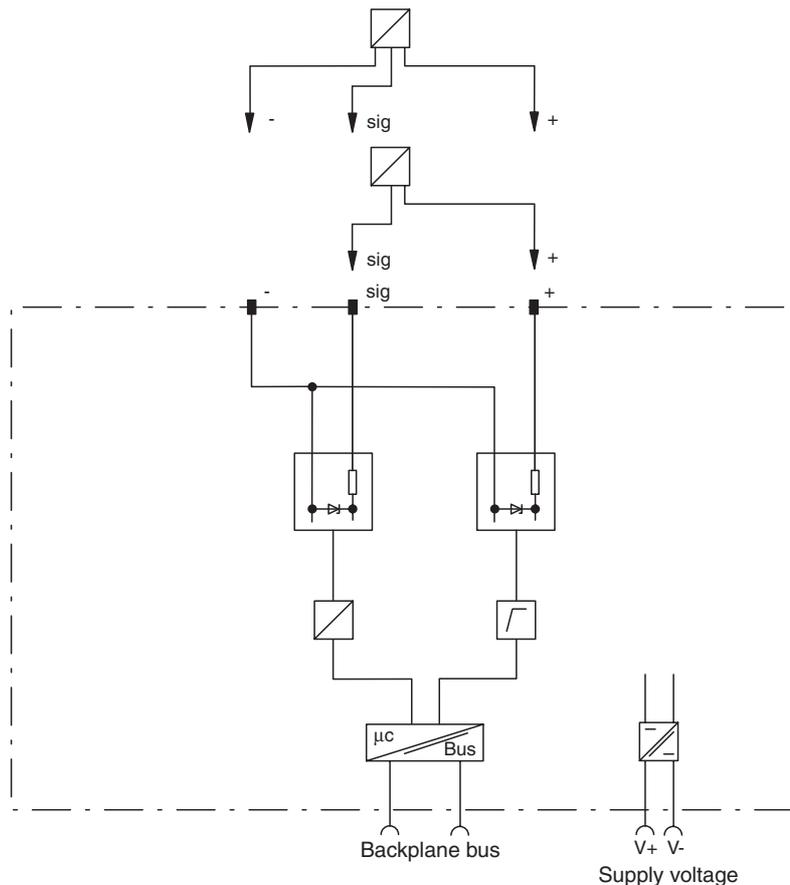
Additional HART multiplexer commands such as setting up loops (REBUILD) and cyclic loop status monitoring (LOOP STATUS) are supported.

By means of the HART readback function the analogue value of the module is compared with the digital process variable (PV) of the field device. In case of a deviation a status information is given.

Note

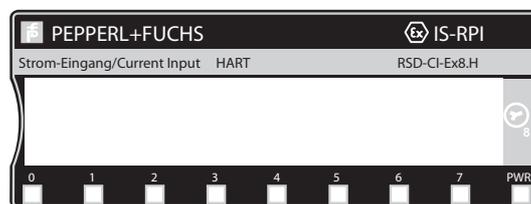
The RSD-CI-Ex8.H can exclusively be operated using the PROFIBUS gateways RSD-GW2-Ex1.PA.** and RSD-GW3-Ex2.DPE.*.

Connection



Composition

Front View



- LED PWR green: Power-ON
module is operating
flashing green: Power-ON
no connection to internal bus
- LED 0 ... 7 flashing red: lead breakage or short circuit
yellow: HART indicator
- LED 0 red: internal fault (module) or Power-ON test

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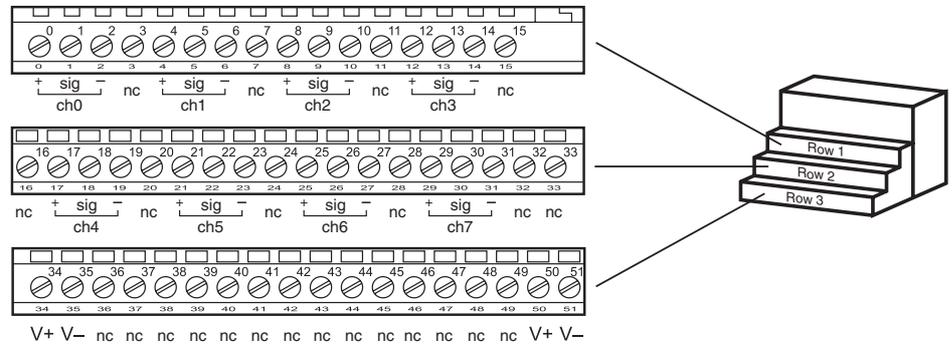
Supply		
Connection	terminals 34, 50 V+; 35, 51 V-	
Rated voltage	8.88 ... 9.5 V	
Power loss	3.9 W	
Power consumption	7 W	
Internal bus		
Connection	backplane bus	
Interface	manufacturer specific bus	
Cycle time	1.6 ms	
Input		
Connection	terminals 0+, 1 sig, 2-; 4+, 5 sig, 6-; 8+, 9 sig, 10-; 12+, 13 sig, 14-; 17+, 18 sig, 19-; 21+, 22 sig, 23-; 25+, 26 sig, 27-; 29+, 30 sig, 31-	
Input signal	0 ... 25 mA (3-wire) ; 4 ... 22 mA (2-wire)	
Transmitter supply voltage	17 V at 20 mA	
Lead monitoring	breakage $I \leq 2$ mA, short-circuit $I > 22$ mA	
Transfer characteristics		
Resolution	16 Bit	
Step response	60 ms (0 ... 90 % of the measured value by smallest filter setting)	
Deviation	0,1 % of input signal range at 25 °C (298 K)	
Influence of ambient temperature	0.005 %/K of output signal range	
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC	EN 61326-1:2006	
Explosion protection		
Directive 94/9/EC	EN 60079-0: 2006, EN 60079-11: 2007, EN 60079-26: 2007, EN 61241-0: 2006, EN 61241-11: 2006	
Standard conformity		
Insulation coordination	EN 50178	
Electrical isolation	EN 60079-11:2007	
Electromagnetic compatibility	NE 21	
Protection degree	IEC 60529	
Climatic conditions	IEC 60721	
Ambient conditions		
Classification	3K3	
Ambient temperature	-20 ... 70 °C (253 ... 343 K)	
Storage temperature	-20 ... 100 °C (253 ... 373 K)	
Relative humidity	95 % non-condensing	
Shock resistance	15 g peak, 11 ms period	
Vibration resistance	2 g , 10 ... 500 Hz according to IEC 60068-2-6	
Damaging gas	acc. to ISA-S71.04-1985, severity level G3	
Mechanical specifications		
Connection type	terminals	
Core cross-section	≤ 2.5 mm ²	
Protection degree	IP20, for in-situ installation a separate housing is required with a minimum of IP54	
Mass	approx. 250 g	
Mounting	DIN rail mounting	
Data for application in conjunction with hazardous areas		
EC-Type Examination Certificate	DMT 98 ATEX E 017 X , for additional certificates see www.pepperl-fuchs.com	
Group, category, type of protection	⊕ II (1)2G EEx ia/ib IIB/IIC II (1D)(2D)	
Temperature class	T4	
Supply	only in connection with the power units RSD2-PSD2-Ex4.34, RSA6-PSD-Ex4.34	
Input		
Voltage	U _o	24.4 V
Current	I _o	92.5 mA
Power	P _o	565 mW
External capacitance	C _o	119 nF
External inductance	L _o	4 mH
Internal capacitance	C _i	negligible
Internal inductance	L _i	negligible
Internal bus	customer specific	
Statement of conformity		
Group, category, type of protection, temperature classification	⊕ II 3D IP54 T 90°C	
Electrical isolation		

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Input/input	no electrical isolation
Input/power supply	safe electrical isolation acc. to EN 60079-11: 2007, voltage peak value 60 V
Input/Internal bus	safe electrical isolation acc. to EN 60079-11: 2007, voltage peak value 60 V
Internal bus/power supply	safe electrical isolation acc. to EN 60079-11: 2007, voltage peak value 60 V

Electrical connection

Terminal base assignment



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.

Application

- Feeding of 2- or 3-wire transmitters and transfer of the measurement current
- Supply of HART transmitters in the hazardous area and transfer of the analogue measurement current to the safe area
- The RSD-CI-Ex8.H allows bidirectional communication with a HART transmitter

Notes

- Signalling of lead break/short-circuit via the internal bus to the control system and red flashing fault-LEDs for each channel
- Lead break/short-circuit monitoring via the bus is disabled channel by channel
- Rated supply current range 4 mA ... 20 mA
- Total supply current range 0 mA ... 22 mA
- Input programmable
- Alarm for measuring overrange
- Alarm for measuring underrange
- Alarm for lead break
- Alarm display configurable for each individual channel
- 1 power supply channel for 1 module
- The inputs have a common supply (minus)
- The module has to be powered via the intrinsically safe power supplies RSD2-PSD2-Ex4.34 or RSA6-PSD-Ex4.34

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