- 8-channel
- Outputs EEx ia IIC
- Device installation in Zone 1, Zone 2, or Zone 22
- Module can be exchanged under voltage in Zone 1 (hot swap)
- Outputs for position controllers, I/P converters and valves
- Lead breakage (LB) monitoring for each field circuit
- Load 0 Ω ... 500 Ω
- EMC acc. to NAMUR NE 21

Function

In the analogue mode the RSD-UO-Ex8 transfers up to eight 0/4 mA ... 20 mA signals to the hazardous area.

Loads in a range of 0 Ω ... 500 Ω can be connected.

In the binary mode each output has the characteristics of a voltage source with 15 V, 182 Ω. The output is limited to 22 mA.

At a current of 22 mA at least 11 V are available to the field devices in the hazardous area.

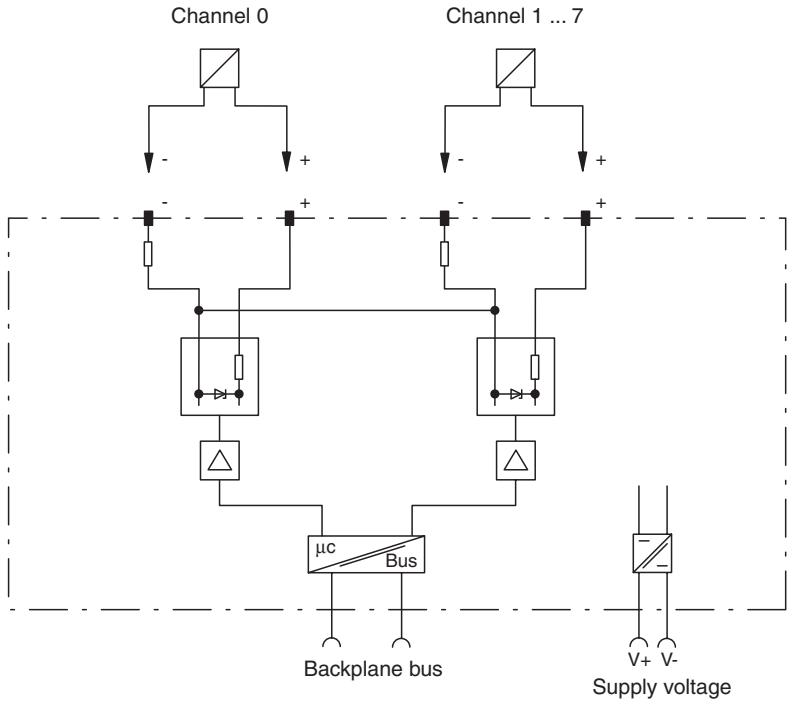
The outputs are galvanically isolated from the bus and the supply.

Messages concerning lead breakage of field circuits are transferred via the bus.

Application

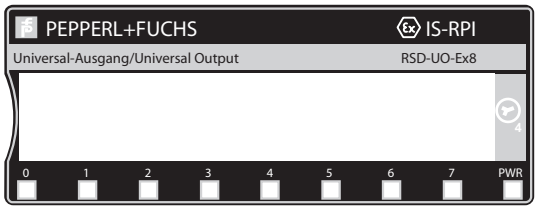
- Control of intrinsically safe solenoid valves in the hazardous area
- Control of intrinsically safe position controllers in the hazardous area

Connection



Composition

Front View



LED PWR	green: Power-ON module is operating
LED 0 ... 7	channels 0 ... 7 flashing red: lead breakage
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	5.4 W
Power consumption	8.5 W
Internal bus	
Connection	backplane bus
Interface	manufacturer specific bus
Cycle time	1.6 ms
Output	
Connection	terminals 0+, 1-; 4+, 5-; 8+, 9-; 12+, 13-; 17+, 18-; 21+, 22-; 25+, 26-; 29+, 30-
Analog mode	
Current	0 ... 22 mA
Load	0 ... 500 Ω
Lead monitoring	breakage: 2 mA
Binary mode	
Lead monitoring	breakage: 2 mA
Transfer characteristics	
Resolution	13 Bit
Step response	4 ms (0 ... 99 % of the output signal)
Deviation	0,1 % of output signal range at 25 °C (298 K)
Influence of ambient temperature	0.01 %/K from 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 21:2006
Protection degree	IEC 60529
Climatic conditions	IEC 60721
Ambient conditions	
Classification	3K3
Ambient temperature	-20 ... 70 °C (-4 ... 158 °F)
Storage temperature	-20 ... 100 °C (-4 ... 212 °F)
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 on-site installation a separate housing is required with a minimum of IP54
Mass	approx. 270 g
Mounting	DIN rail mounting
Data for application in connection with Ex-areas	
EC-Type Examination Certificate	DMT 00 ATEX E 040 X , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⟨Ex⟩ 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
Output	
External capacitance C_o	188 nF
External inductance L_o	2 mH
Voltage U_i	21 V
Current I_i	Ex ia: 100 mA , Ex ib: 27.3 mA
Power P_i	520 mW
Internal bus	customer specific
Statement of conformity	
Group, category, type of protection, temperature class	⟨Ex⟩ II 3D IP54 T 90°C
Electrical isolation	

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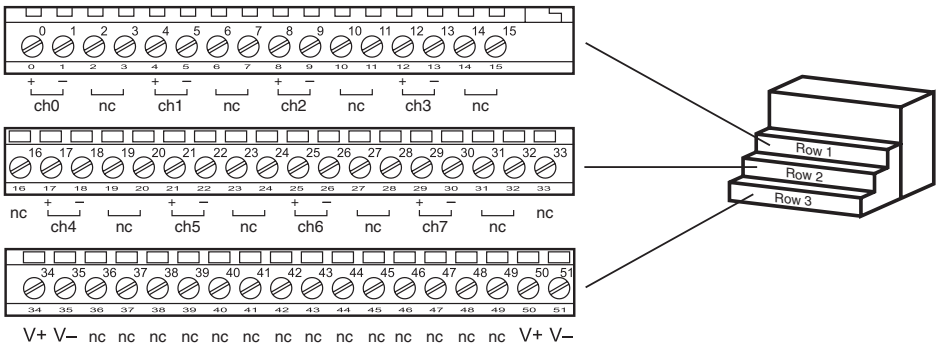
Internal bus/power supply	safe electrical isolation acc. to EN 60079-11: 2007, voltage peak value 60 V
Output/power supply	safe electrical isolation acc. to EN 60079-11: 2007, voltage peak value 60 V
Output/Internal Bus	safe electrical isolation acc. to EN 60079-11: 2007, voltage peak value 60 V
Output/Output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

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.

Notes

- Signalling of lead break via the internal bus to the control system and red flashing fault-LEDs for each channel
- Deactivation of lead break monitoring via the bus, channel by channel
- 1 power supply channel for 1 module
- The outputs have a common supply (minus)
- The module must be powered via the intrinsically safe power supplies RSD2-PSD2-Ex4.34 or RSA6-PSD-Ex4.34

Analogue mode

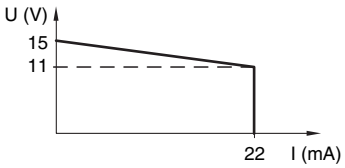
- Nominal output current range 4 mA ... 20 mA
- Total supply current range 0 mA...22 mA
- Safe status of the outputs can be configured for each channel
- Load 0 Ω ... 500 Ω

Binary mode

- Indication of the switching state via yellow LED
- Safe status of the outputs can be configured for each channel

In order to reach the EMC protection class screened power lines and screens for the individual channels have to be used. The electric strength of the wire insulation has to be ≥ 500 V.

Output characteristic



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Supported solenoid valves

Manufacturer	Coil	Valve model
ASCO		63000053
Parker Lucifer	492560	
Samsomatic		3701-42
Samsomatic		3776-1..1
Samsomatic		3776-1..2
Samsomatic		3963-11,12
Samsomatic		3964-11,12
Samson		3766-1.2, -1.3
Samson		3767-1.2, -1.3
Samson		3768-122, -123
Samson		3963-17
Seitz		PV 12F73
Telektron	Coil L (12 ... 14)	

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