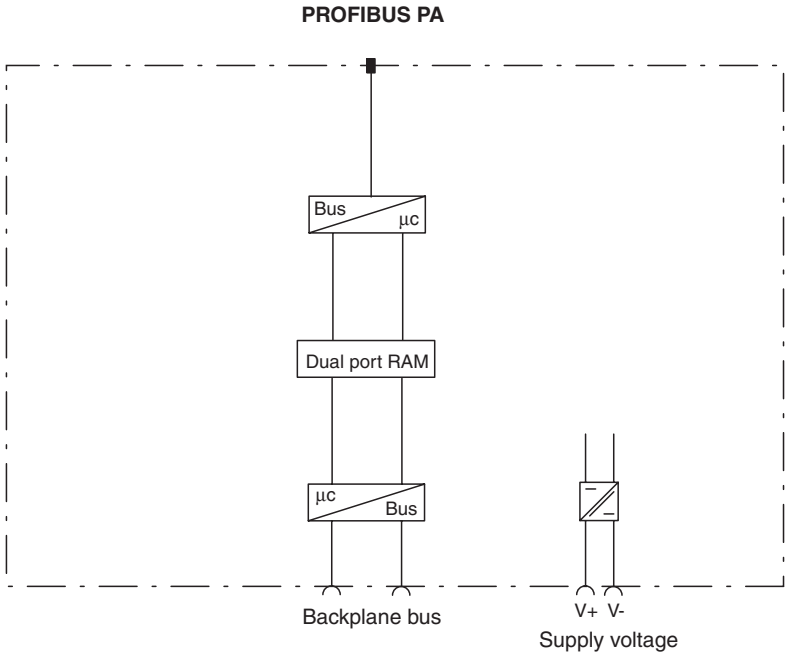
- Connects the IS-RPI system to the control system via PROFIBUS PA
- Fieldbus intrinsically safe EEx ia IIC
- Device installation in zone 1, zone 2 or zone 22
- Up to 6 gateways on one intrinsically safe bus network
- Transfer rate 31.25 kBits/s
- Up to 8 I/O modules on one gateway via the backplane bus
- PROFIBUS PA with intrinsically safe IEC 61158-2 transmission technology
- PROFIBUS PA interface in accordance with FISCO
- Transfer of HART signals
- LED status indication
- Channel specific PROFIBUS diagnosis
- Gateway can be replaced under voltage in zone 1 (hot swap)
- EMC acc. to NAMUR NE 21

Function

The RSD-GW2-Ex1.PA.ED gateway is the interface between the intrinsically safe external PROFIBUS PA and the internal bus. It converts the protocols of the internal bus to PROFIBUS PA protocols and vice versa. The connection to the RROFIBUS DP is made with a PROFIBUS DP/PA SK1 segment coupler (KFD2-BR-Ex1.3PA.93) or SK2 segment coupler (gateway KLD2-GT(R)-DP.*PA in combination with a power link KLD2-PL-Ex1.PA). Communication with the I/O modules is performed via the address and data lines of the backplane bus. Configuration and parameter assignment of the system can be performed by **PACT***ware*™. HART telegrams are received over the PROFIBUS DP-V1 by the gateway and are forwarded on to the corresponding HART field devices connected to the I/O modules. HART communication can also be performed with **PACT***ware*™.

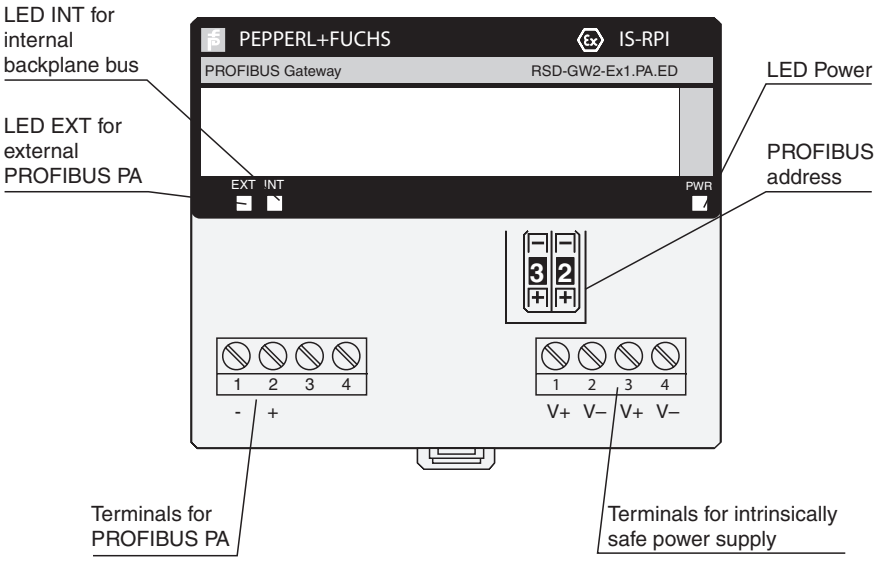
The internal and external buses are galvanically isolated from the power supply.

Connection



Composition

Front View



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Supply	
Connection	terminals V+, V-
Rated voltage	8.88 ... 9.5 V
Power loss	3.5 W
Power consumption	4.25 W
Internal bus	
Connection	backplane bus
Interface	manufacturer specific bus
Cycle time	1.6 ms
External bus	
Connection	terminals 1-, 2+
Rated voltage	≥ 9 V
Rated current	≤ 13.2 mA
FDE (Fault Disconnect Equipment)	≤ 9 mA
Interface	PROFIBUS PA with intrinsically safe IEC 61158-2 transfer technique
Transfer rate	31.25 kBit/s
Bus address	1 ... 99 , adjustable via switch
Directive conformity	
Electromagnetic compatibility	
Directive 89/336/EEC	EN 61326
Explosion protection	
Directive 94/9/EC	EN 50014, EN 50020, EN 50284, EN 50281-1-1
Standard conformity	
Insulation coordination	EN 50178
Electrical isolation	EN 50020
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. 305 g
Mounting	DIN rail mounting
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	DMT 99 ATEX E 001 X , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⟨Ex⟩ II (1)2G EEx ia/ib IIC II (1D)(2D)
Temperature class	T4
Supply	only in connection with the power units RSD2-PSD2-Ex4.34, RSA6-PSD-Ex4.34
External bus	
Voltage U_i	15.75 V
Current I_i	250 mA
Power P_i	1.93 W
Internal capacitance C_i	120 pF
Internal inductance L_i	negligible
Internal bus	customer specific
Statement of conformity	
Group, category, type of protection, temperature classification	⟨Ex⟩ II 3D IP54 T 90°C
Electrical isolation	
Internal/external bus	no electrical isolation
Internal bus/power supply	safe electrical isolation acc. to EN 50020, voltage peak value 60 V
External bus/power supply	safe electrical isolation acc. to EN 50020, voltage peak value 60 V

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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

- Connects conventional binary and analogue sensors as well as actuators via PROFIBUS PA
- HART communication with the field devices connected to the I/O modules
- Configuration via PROFIBUS DP

Notes

- Parameters are set for the I/O modules connected to the gateway acyclically via PROFIBUS DP V1
- Parameterisation of the I/O modules connected to the gateway via PROFIBUS DP "User Parameters"
- Transfer of gateway-specific, module-specific and channel-specific PROFIBUS diagnostics
- 1 power supply channel for 2 gateways
- With PROFIBUS PA, up to 1000 m lead length in the hazardous area
- LED "INT" for internal backplane bus; flashes if no communication is taking place with one or more modules or if the configuration in the master does not agree with the configuration in the modules
- LED "EXT" for external PROFIBUS; flashes if no communication is taking place on the external PROFIBUS
- The gateway must be powered via the intrinsically safe power supplies RSD2-PSD2-Ex4.34 or RSA6-PSD-Ex4.34

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