MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

PEPPERL+FUCHS

RSD-GW3-Ex2.DPE

REDUNDANT PROFIBUS DP V1 GATEWAY

Used with the applicable Pepperl Fuchs IS RPI configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Official Pepperl+Fuchs document: RSD-GW3-Ex2.DPE.pdf

- Connects the IS-RPI system with the control system via PROFIBUS DP
- Fieldbus intrinsically safe EEx ib IIC
- Device installation in Zone 1, Zone 2, or Zone 22
- Up to 10 gateways on one intrinsically safe bus network
- PROFIBUS DP V1 up to 1.5 MBit/s
- Up to 8 I/O modules on one gateway via the backplane bus
- PROFIBUS DP media redundancy
- Transfer of HART signals
- LED status indication
- Gateway can be replaced under voltage in zone 1 (hot swap)
- EMC acc. to NAMUR NE 21

Function

The RSD-GW3-Ex2.DPE gateway is the interface between the external PROFIBUS DP-V1 and the internal bus. It converts the protocol of the internal bus to PROFIBUS DP protocol and vice versa.

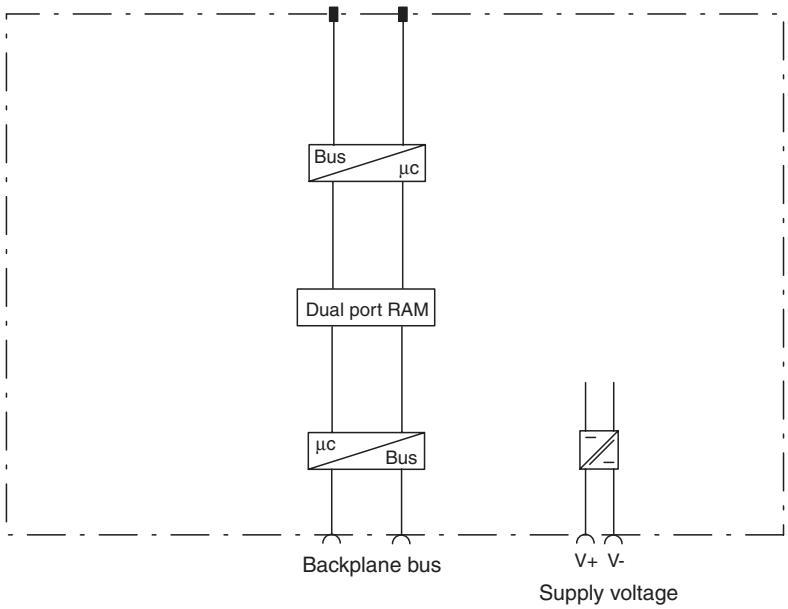
Up to 8 I/O modules can be connected to a gateway via the internal backplane bus. Communication with the I/O modules is performed via the address and data lines of the backplane bus.

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 HART field devices connected to the I/O modules. HART communication can also be performed with **PACT***ware*™. The gateway interface with the PROFIBUS DP is designed for media-redundant operation.

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

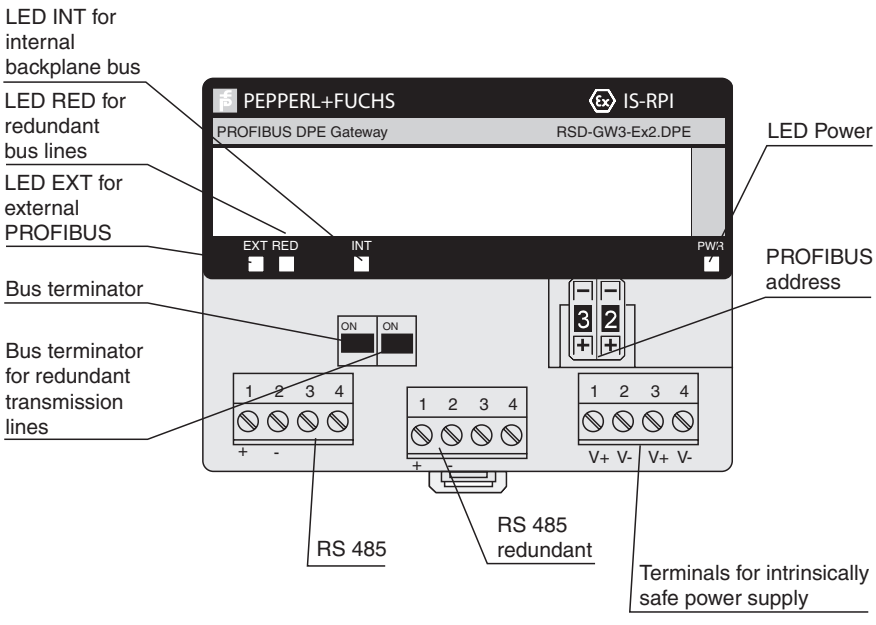
Connection

Redundant PROFIBUS DP



Composition

Front View



Release date 2010-03-08 13:01 Date of issue 2010-03-08 122622_ENG.xml

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Supply	
Connection	terminals V+, V-
Rated voltage	8.88 ... 9.5 V
Power loss	8 W
Power consumption	8.5 W
Internal bus	
Connection	backplane bus
Interface	manufacturer specific bus
Cycle time	1.6 ms
External bus	
Connection	terminals 1+, 2-
Interface	PROFIBUS with intrinsically safe RS 485 transfer technique
Transfer rate	9.6 ... 1500 kBit/s
Bus address	1 ... 99 , adjustable via switch
Terminating impedance	adjustable with sliding switch: I = OFF; ON = ON
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 61241-0:2006, EN 61241-1:2006
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 (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. 325 g
Mounting	DIN rail mounting
Data for application in connection with Ex-areas	
EC-Type Examination Certificate	DMT 00 ATEX 023 X , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⟨Ex⟩ II 2G EEx ib IIC II (2D)
Temperature class	T4
Supply	only in connection with the power units RSD2-PSD2-Ex4.34, RSA6-PSD-Ex4.34
External bus	
Voltage U_o	± 3.72 V
Current I_o	76.5 mA
Power P_o	103 mW
Voltage U_i	± 3.75 V
Internal capacitance C_i	negligible
Internal inductance L_i	negligible
External capacitance C_o	100 µF
External inductance L_o	1.5 mH
L/R-ratio	344 µH/Ω
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 60079-11:2007, voltage peak value 60 V
External bus/power supply	safe electrical isolation acc. to EN 60079-11:2007, voltage peak value 60 V

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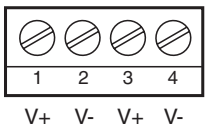
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Supplementary information

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

Electrical connection

Terminal assignment



Application

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

Notes

- Parameterisation of the I/O modules connected to the gateway via PROFIBUS DP V1
- Parameterisation of the I/O modules connected to the gateway via PROFIBUS DP "User Parameter"
- 1 power supply channel for 1 gateway
- 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
- LED "RED" for redundant bus line; flashes if no communication is taking place on the redundant transmission line
- The gateway must be powered via the intrinsically safe power supplies RSD2-PSD2-Ex4.34 or RSA6-PSD-Ex4.34

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