

Features

- Gateway PROFINET RT to 4 x PROFIBUS PA segments
- Up to 32 devices per PROFIBUS PA segment
- Installation in Zone 2/Class I, Div. 2
- Ring and system redundancy
- Integrated webserver for diagnostics

Function

The PROFINET to PROFIBUS PA gateway integrates communication of 4 PA segments into PROFINET I/O systems. The gateway is part of the FieldConnex® Power Hub system. The gateway operates with power supply modules connected to the same or a separate motherboard.

The gateway provides a PA master for each segment and thus enables short bus cycle times.

One single gateway supports S2 system redundancy and ring redundancy.

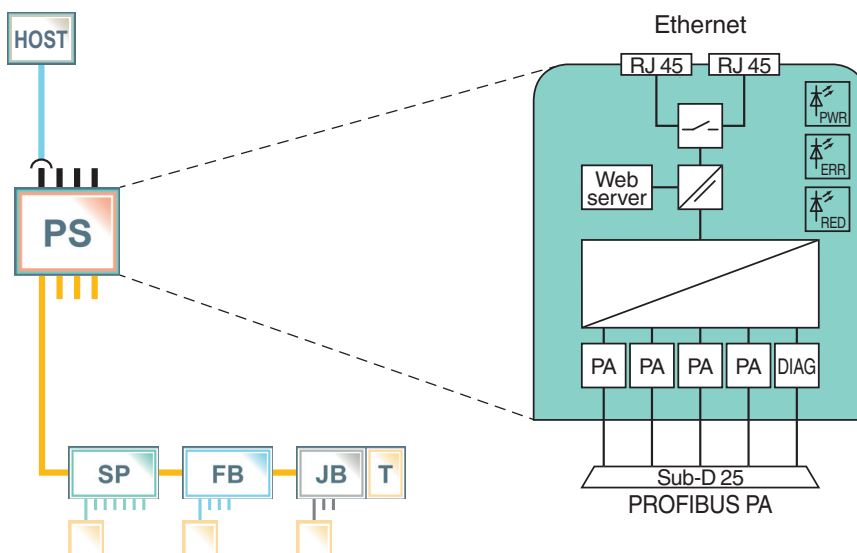
A complete toolchain supports the engineering for system integration. A gateway device type manager (DTM) and a webserver enable access to both status and diagnostics of the gateway. The gateway DTM enables communication for parameterization, diagnostics, and status information to PROFIBUS PA devices through vendors' DTMs. A library of STEP 7 software modules for integration into Siemens PCS7 is available.

The PROFINET gateway is an ideal solution for new plants and for upgrading existing PROFIBUS PA installations from PROFIBUS DP to PROFINET.

Assembly



Connection



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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

General specifications		
Design / Mounting		Motherboard based
Supply		
Rated voltage	U_r	19.2 ... 35 V SELV/PELV
Rated current	I_r	typ. 135 mA
Power dissipation		approx. 3.5 W
Fieldbus interface		
Number of segments		4
Number of devices per segment		≤ 32
Fieldbus type		PROFIBUS PA
Ethernet Interface		
Number of ports		2
Protocol		PROFINET
Ethernet Interface		Connector , 2x RJ45
Transfer rate		100 MBit/s
Redundancy		Ring (MRP) , System S2
Indicators/operating means		
LED ETH1 LINK		green: link status
LED ETH1 ACT		yellow: activity status
LED ETH2 LINK		green: link status
LED ETH2 ACT		yellow: activity status
LED ERR		red 2 Hz flashing: Ethernet error
LED Seg 1...4		red 2 Hz flashing: PA error, red and LED DP/ERR red: MAU error
LED PWR		green: Power on
LED DP/ERR		red 2 Hz flashing: DP error ; red: Hardware error
LED Red.		yellow: redundant operation primary device ; yellow 2 Hz flashing: synchronization or redundancy not available
Galvanic isolation		
CH/PROFIBUS DP		functional insulation acc. to IEC 61010, rated insulation voltage 50 V _{eff}
PROFIBUS DP/Supply		functional insulation acc. to IEC 61010, rated insulation voltage 50 V _{eff}
CH/CH		functional insulation acc. to IEC 61010, rated insulation voltage 50 V _{eff}
CH/Ethernet		functional insulation acc. to IEC 61010, rated insulation voltage 50 V _{eff}
All circuits/FE		functional insulation acc. to IEC 61010, rated insulation voltage 50 V _{eff}
Ethernet/Supply		functional insulation acc. to IEC 61010, rated insulation voltage 50 V _{eff}
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013
Standard conformity		
Electromagnetic compatibility		NE 21:2011
Degree of protection		IEC 60529
Fieldbus standard		IEC 61158-2
Shock resistance		EN 60068-2-27
Vibration resistance		EN 60068-2-6
Ambient conditions		
Ambient temperature		-40 ... 60 °C (-40 ... 140 °F) vertically mounted , -40 ... 70 °C (-40 ... 158 °F) horizontally mounted
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Relative humidity		< 95 % non-condensing
Shock resistance		15 g 11 ms
Vibration resistance		1 g , 10 ... 150 Hz
Pollution degree		max. 2, according to IEC 60664
Corrosion resistance		acc. to ISA-S71.04-1985, severity level G3
Mechanical specifications		
Housing material		Polycarbonate
Housing width		40 mm
Housing height		106 mm
Housing depth		128 mm
Degree of protection		IP20
Mass		250 g
Mounting		motherboard mounting
Data for application in connection with hazardous areas		
Certificate		TÜV 15 ATEX 7735 X
Marking		⊕ II 3 G Ex ec IIC T4 Gc
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012 , EN 60079-7:2015 , EN 60079-11:2012
International approvals		

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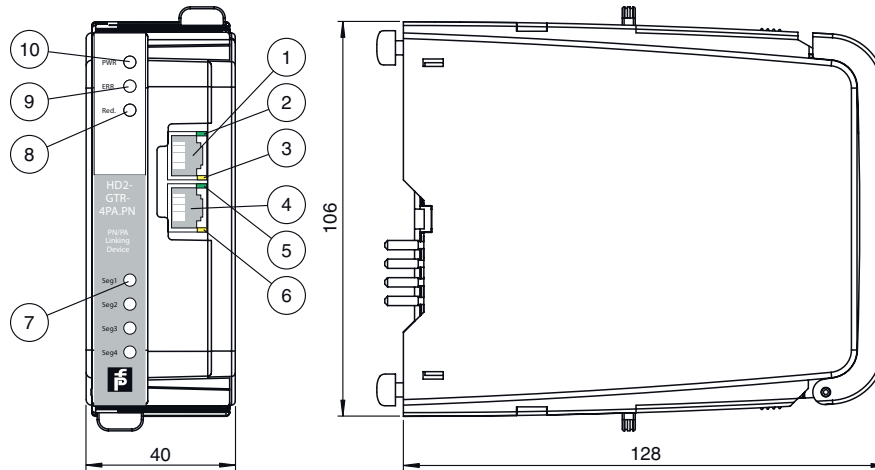
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IECEX approval	IECEX TUR 16.0007X
Approved for	Ex ec IIC T4 Gc
Certificates and approvals	
Marine approval	pending
General information	
Supplementary information	Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.

System Component Overview



Description:

- 1 Ethernet port 1
- 2 Ethernet port 1 LED, yellow: Activity status indicator
- 3 Ethernet port 1 LED, green: Link status indicator
- 4 Ethernet port 2
- 5 Ethernet port 2 LED, yellow: Activity status indicator
- 6 Ethernet port 2 LED, green: Link status indicator
- 7 LED Seg 1 ... Seg 4, red: PROFIBUS PA segment 1 ... 4 status
- 8 LED Red.: Redundancy status indicator
- 9 LED ERR: Error status indicator
- 10 LED PWR: Power status indicator

Available PROFIBUS and PROFINET Power Hub System Components

The following list describes all available PROFIBUS and PROFINET Power Hub system components as an overview and quick reference beyond the component described in this datasheet.

Type Code	Description
HD2-GTR-4PA	PROFIBUS DP to PROFIBUS PA gateway module, 4 PROFIBUS PA segments.
HD2-GTR-4PA.PN	PROFINET to PROFIBUS PA gateway module, 4 PROFIBUS PA segments.
HCD2-FBPS-1.500	Power supply module 30 V/500 mA.
HCD2-FBPS-1.23.500	Power supply module 23 V/500 mA.
HD2-DM-A*	Advanced physical layer diagnostic module.
HD2-DM-B	Basic diagnostic module.
MB-FB-GTR1	Motherboard for gateway redundancy, slots for 2 gateway modules.
MBHC-FB-4.GT*	Compact Power Hub motherboard for 4 segments, slots for 4 power supply modules, 1 diagnostic module, and 1 gateway module. Connector options: Removable screw terminals or spring terminals.
MBHC-FB-4.HSC*	Compact Power Hub motherboard for 4 segments, slots for 4 power supply modules and 1 diagnostic module. Connector options: Removable screw terminals or spring terminals.
MBHC-FB-4R.HSC*	Compact Power Hub motherboard for 4 redundant segments, slots for 8 power supply modules and 1 diagnostic module. Connector options: Removable screw terminals or spring terminals.
KT-MB-FB-D-4R.GEN	DART high-density Power Hub with generic interface for 4 redundant segments, slots for 8 power supply modules with 1 diagnostic module.

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Applicable Combinations of Gateway Motherboards, System Modules with Motherboards

		GW MBs	GW Modules		Power Supplies		Diagnostic Modules	
		MB-FB-GTR1	HD2-GTR-4PA	HD2-GTR-4PA.PN	HCD2-FBPS-1.23.500	HCD2-FBPS-1.500	HD2-DM-A*	HD2-DM-B
MBs or Power Hub Kits	MBHC-FB-4.HSC*	x			x	x	x	x
	MBHC-FB-4R.HSC*	x			x	x	x	x
	KT-MB-FB-D-4R.GEN	x					x	x
GW MBs	MB-FB-GTR1		x	x				
	MBHC-FB-4.GT		x	x	x	x	x	x

For more details on the components see respective datasheets.

Example: Power Hub with Redundancy for 4 Segments

No.	Product Component	Model Type/Order Number
1	Motherboard	MBHC-FB-4R.HSC
8	Power supply modules	HCD2-FBPS-1.500
4	Surge protectors	TPH-LBF-IA1.36.DE*
1	Earth bar for surge protectors	ACC-LBF-EB.4
1	Advanced diagnostic module	HD2-DM-A
1	Gateway motherboard	MB-FB-GTR1
2	PROFIBUS gateway module	HD2-GTR-4PA
1	or PROFINET gateway module	HD2-GTR-4PA.PN

Example: Simplex Power Hub for 4 Segments

The table lists the components of a typical Power Hub.
Optional accessories are also listed.

No.	Product Component	Model Type/Order Number
1	Motherboard	MBHC-FB-4.GT
4	Power supply modules	HCD2-FBPS-1.500
4	Surge protectors	TPH-LBF-IA1.36.DE*
1	Earth bar for surge protectors	ACC-LBF-EB.4
1	Advanced diagnostic module	HD2-DM-A
1	PROFIBUS or PROFINET gateway module	HD2-GTR-4PA*

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