



Model number

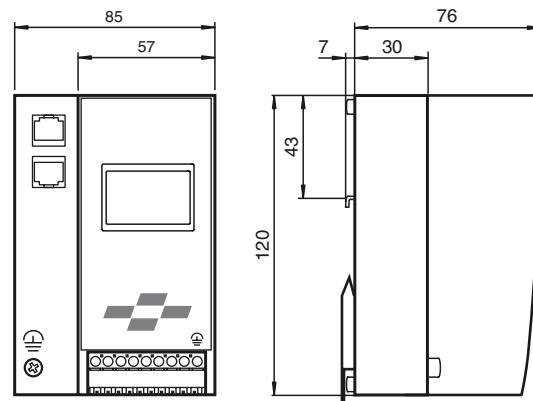
VBG-PN-K20-D-EV24

PROFINET Gateway with integrated switch

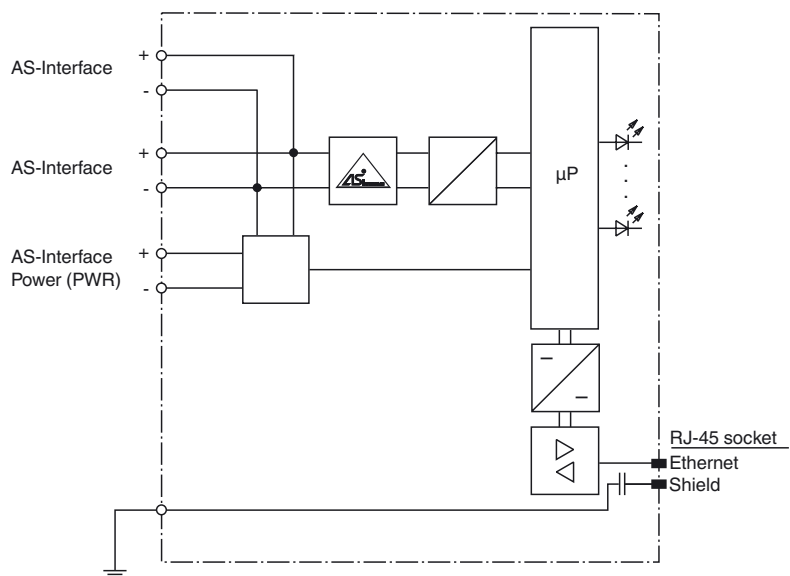
Features

- Connection to PROFINET IO
- Conformance Class B
- Easy commissioning by graphic display
- AS-Interface monitor or extended AS-Interface diagnostic read via display
- Duplicate addressing detection
- Earth fault detection
- AS-Interface noise detection
- All AS-Interface functions possible via Ethernet
- Ethernet diagnostic interface
- AS-Interface POWER24

Dimensions



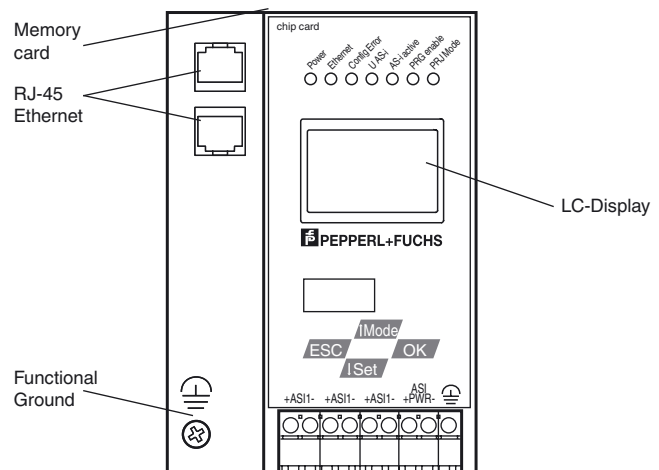
Electrical connection



At the cable for power supply no slaves or repeaters may be attached.

At the cable for AS-Interface circuit no power supplies or further masters may be attached.

Indicating / Operating means



Technical data

General specifications

AS-Interface specification	V3.0
Duplicate address detection	from AS-Interface slaves
Earth fault detection	EFD integrated
EMC monitoring	integrated
Diagnostics function	Extended function via display
Data decoupling	integrated
UL File Number	E223772 only from low voltage, limited energy source (SELV or PELV) or listed Class 2 source

Functional safety related parameters

MTTF _d	105 a at 30 °C
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Indicators/operating means

Display	Illuminated graphical LC display for addressing and error messages
LED ETHERNET	PROFINET communication active; LED green No PROFINET communication; LED red
LED AS-i ACTIVE	AS-Interface operation normal; LED green
LED CONFIG ERR	configuration error; LED red
LED PRG ENABLE	autom. programming; LED green
LED POWER	voltage ON; LED green
LED PRJ MODE	projecting mode active; LED yellow
LED U AS-i	AS-Interface voltage; LED green
Switch SET	Selection and setting of a slave address
OK button	Mode selection traditional-graphical/confirmation
Button MODE	Mode selection PRJ-operation/save configuration/cursor
ESC button	Mode selection traditional-graphical/cancel

Electrical specifications

Insulation voltage	U _i	≥ 500 V
Rated operating voltage	U _e	24 V DC (20 ... 31.6 V) safe isolated power supplies (PELV) Note 24 V power supply, max. segment length: 50 m Supply via AS-Interface power supply, max. segment length: 100 m
Rated operating current	I _e	approx. 250 mA
Power supply		max. 4 A per AS-Interface circuit

Interface 1

Interface type	PROFINET I / O device (IRT)
Physical	2 x RJ-45
Protocol	Media Redundancy Protocol (MRP)
Transfer rate	100 MBit/s

Interface 2

Interface type	Chip card slot
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Connection

PROFINET	RJ-45
AS-Interface	removable spring clamp terminals

Directive conformity

Electromagnetic compatibility	
Directive 2014/30/EU	EN 62026-2:2013 EN 61000-6-2:2005, EN 61000-6-4:2007

Standard conformity

Electromagnetic compatibility	EN 61000-6-2:2005, EN 61000-6-4:2007
Degree of protection	EN 60529:2000
AS-Interface	EN 62026-2:2013
Shock resistance	EN 61131-2:2004
Standards	EN 61000-6-2:2005, EN 61000-6-4:2007

Ambient conditions

Ambient temperature	0 ... 55 °C (32 ... 131 °F)
Storage temperature	-25 ... 85 °C (-13 ... 185 °F)

Mechanical specifications

Degree of protection	IP20
Mass	500 g
Construction type	Low profile housing , Stainless steel

Approvals and certificates

UL approval	An isolated source with a secondary open circuit voltage of ≤ 30 V _{DC} with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed. UL mark does not provide UL certification for any functional safety rating or aspects of the device.
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Notes

In an AS-Interface network only one device can be operated earth fault detection. If there are many devices in an AS-Interface network, this can lead to the earth fault monitoring response threshold becoming less sensitive.

Function

The VBG-PN-K20-D-EV24 is a PROFINET gateway according to AS-Interface specification 3.0.

The design of the K20 in stainless steel with IP20 is particularly suited for use in switching cabinets for snap on mounting on the 35 mm mounting rail.

The gateway in accordance with the AS-Interface specification V 3.0 is used to connect AS-Interface systems to a higher-level net. It acts as a master for the AS-Interface segment and as a slave for the higher-level net. During cyclic data exchange, the digital data of an AS-Interface segment is transferred. Analog values as well as the complete command set of the new AS-Interface specification are transferred using a command interface.

The address allocation and acceptance of the target configuration can be achieved via the keys. 7 LEDs fitted to the front panel indicate the actual state of the AS-Interface branch.

With the graphical display, the commissioning of the AS-Interface circuits and testing of the connected peripherals can take place completely separately from the commissioning of the higher-level network and the programming. With the 4 switches, all functions can be controlled and visualized on the display.

An RJ-45 Ethernet port provides a way of exporting data relating to the gateway, network and operation directly from the gateway for extended local diagnosis purposes.

The device has a card slot for a memory card for the storage of configuration data.

An integrated Switch and 2 RJ-45 sockets allow the design of a line topology without the use of an external Switch.

This device comes with a unique MAC ID. The device supports the assignment of an IP address statically over the keys and dynamically via DHCP (Dynamic Host Configuration Protocol).

The device can be operated with a 24 V power supply according to PELV.

Accessories

VAZ-SW-ACT32

Full version of the AS-I Control Tools including connection cable