



AS-Interface gateway VBG-PN-K20-D-EV24

- 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

PROFINET Gateway with integrated switch



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.

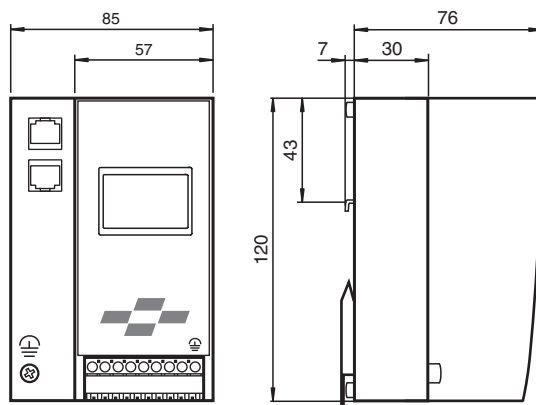
The device has a card slot for a memory card for the storage of configuration data.

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.

Dimensions



Technical Data

General specifications

AS-Interface specification

V3.0

Technical Data

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
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
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
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.

Release date: 2022-03-24 Date of issue: 2022-03-24 Filename: 274120_eng.pdf

Technical Data

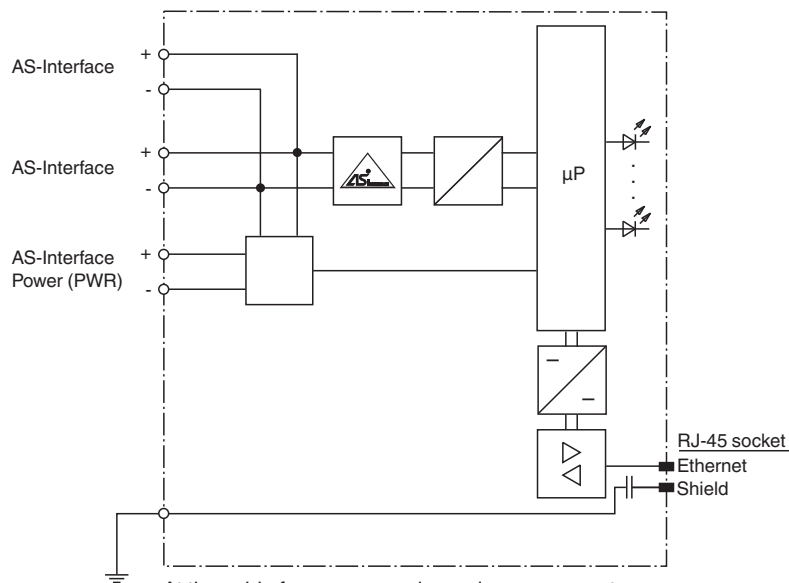
Ambient conditions

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

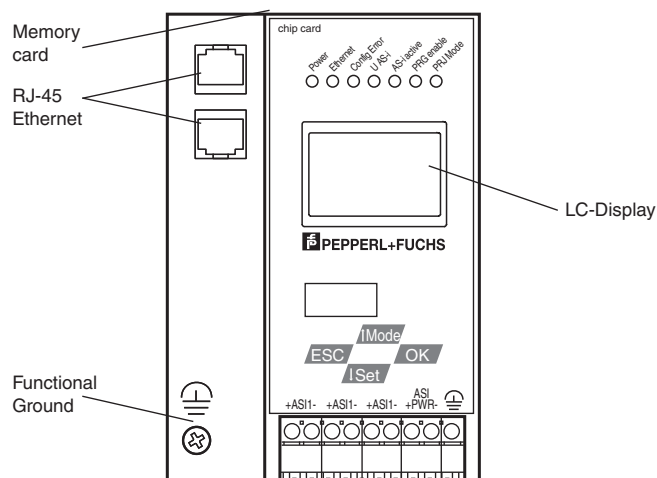
Connection



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.


Assembly



Operation

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.

Accessories

	VAZ-SW-ACT32	Full version of the AS-I Control Tools including connection cable
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