AS-Interface gateway
VBG-PN-K20-D

- Gateway compliant with AS-Interface specification 3.0
- Connection to PROFINET IO
- Fault diagnosis via LEDs and grafic display
- Easy commissioning by graphic display
- AS-Interface monitor or extended AS-Interface diagnostic read via display
- Dublicate addressing detection
- Earth fault detection
- AS-Interface noise detection
- All AS-Interface functions possible via Ethernet
- Commissioning, locally on the gateway or via AS-i Control Tools software
- Ethernet diagnostic interface

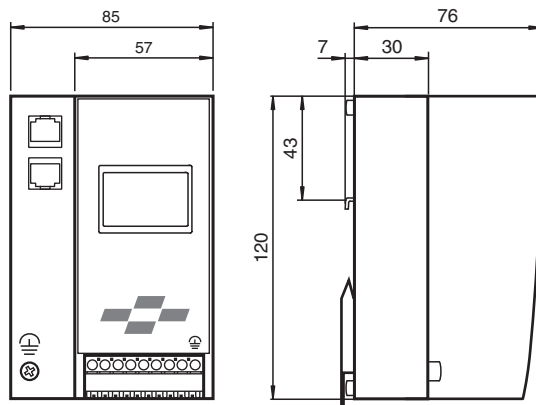PROFINET Gateway with integrated switch

Function

The VBG-PN-K20-D is a PROFINET Gateway in accordance with AS-Interface Specification 3.0, to IP20, and is used for the connection of AS-Interface systems to the higher level PROFINET controller. Its construction is particularly suitable for use in the control cabinet. The master is supplied from the AS-Interface cable.
On the AS-Interface gateway with graphics display, the commissioning of the AS-Interface circuit and also the test of the connected peripherals can be completely separated from the commissioning of the PROFINET and the programming. All the options available on the AS-Interface can be addressed via Ethernet. Local operation using the graphics displays and the 4 buttons enable all the functions to be represented on the display, which are covered by the other AS-Interface masters via the AS-i Control Tools software. An additional RS 232 socket provides the option of reading out data via gateway, network and function, direct from the gateway in the context of an extended local diagnosis. 7 LEDs, which are mounted on the front, indicate the current status of the AS-Interface network.
Every PROFINET gateway is supplied with a unique MAC-ID and supports the assignment of an IP address statically (via keypad) and dynamically (DHCP, Dynamic Host Configuration Protocol).

Dimensions

Technical Data

General specifications

AS-Interface specification		V3.0
Duplicate address detection		from AS-Interface slaves
Earth fault detection	EFD	integrated
EMC monitoring		integrated

PEPPERL+FUCHS

Technical Data

Diagnostics function		Extended function via display
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		ethernet active; LED green
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$_e$	from AS-Interface
Rated operating current	I$_e$	≤ 300 mA from AS-Interface
Interface 1		
Interface type		PROFINET IO device (IRT)
Physical		2 x RJ-45
Protocol		Media Redundancy Protocol (MRP)
Transfer rate		10 MBit/s / 100 MBit/s , Automatic baud rate detection
Interface 2		
Interface type		RS 232, serial Diagnostic Interface
Transfer rate		19,2 kBit/s
Interface 3		
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.
Ambient conditions		
Ambient temperature		0 ... 55 °C (32 ... 131 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)
Mechanical specifications		

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

Pepperl+Fuchs Group   USA: +1 330 486 0001   Germany: +49 621 776 1111   Singapore: +65 6779 9091
www.pepperl-fuchs.com   fa-info@us.pepperl-fuchs.com   fa-info@de.pepperl-fuchs.com   fa-info@sg.pepperl-fuchs.com   PEPPERL+FUCHS   2

Technical Data

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

Accessories

	VAZ-SW-ACT32	Full version of the AS-I Control Tools including connection cable
	USB-0,8M-PVC ABG-SUBD9	Interface converter USB/RS 232

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

Pepperl+Fuchs Group
www.pepperl-fuchs.com | USA: +1 330 486 0001
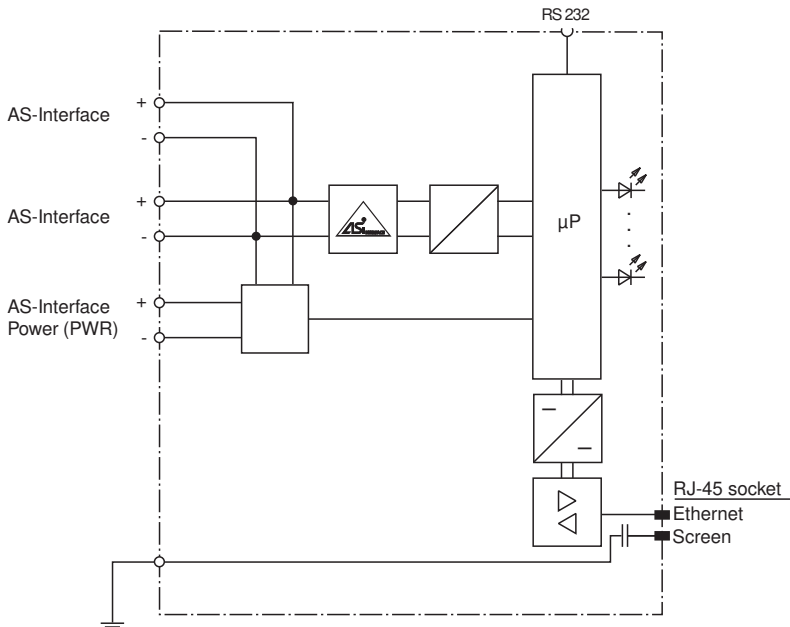fa-info@us.pepperl-fuchs.com | Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com | Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com | PEPPERL+FUCHS | 3

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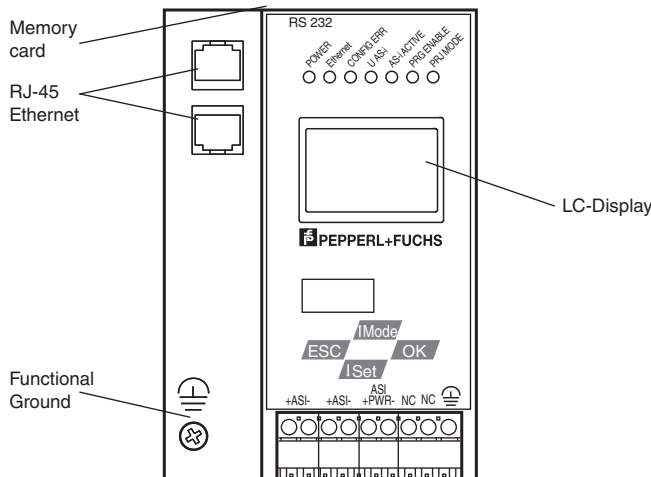
In an AS-Interface network only one device can be operated earth fault detection. If there are many devices in an AS-Interface network, this can lead to the earth fault monitoring response threshold becoming less sensitive.

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

Pepperl+Fuchs Group   USA: +1 330 486 0001   Germany: +49 621 776 1111   Singapore: +65 6779 9091
www.pepperl-fuchs.com   fa-info@us.pepperl-fuchs.com   fa-info@de.pepperl-fuchs.com   fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

4