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.
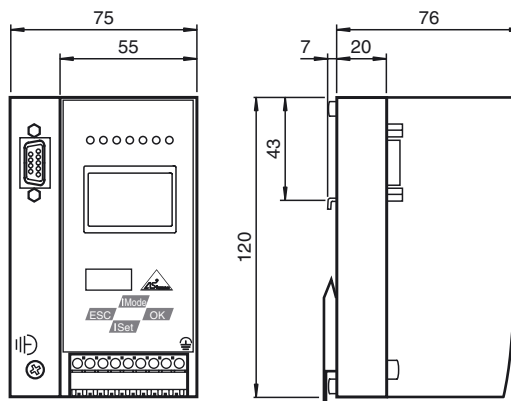
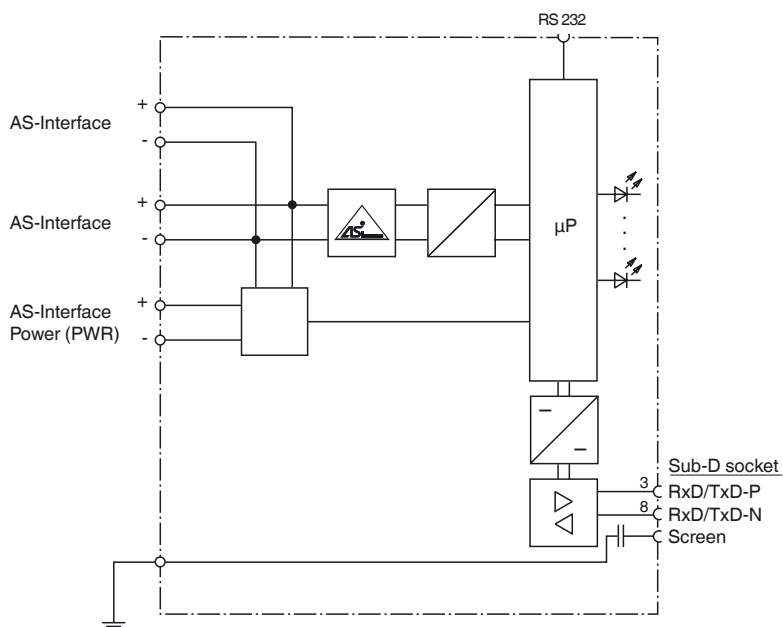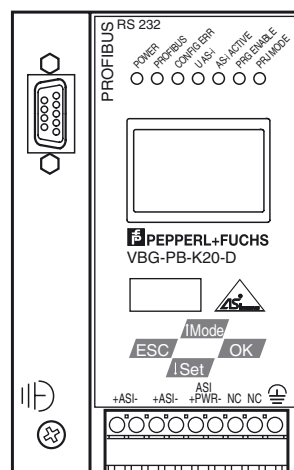## Model number

VBG-PB-K20-D

PROFIBUS gateway

Features

• Connection to PROFIBUS DP

• Easy commissioning and fault diagnosis via LEDs and graphic display

• PROFIBUS DP V1 support

• Dublicate addressing detection

• Earth fault detection

• AS-Interface noise detection

• RS 232 diagnosis interface

Spec. 3.0

Indicating / Operating means

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

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Technical data

General specifications

AS-Interface specification		V3.0
PLC-Functionality		activateable
Duplicate address detection		from AS-Interface slaves
Earth fault detection	EFD	integrated
EMC monitoring		integrated
Diagnostics function		Extended function via display
UL File Number		E223772

Functional safety related parameters

MTTF$_d$	80 a at 30 °C

Indicators/operating means

Display	Illuminated graphical LC display for addressing and error messages
LED PROFIBUS	PROFIBUS master detected; 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$_e$	≤ 180 mA from AS-Interface

Interface 1

Interface type	RS 485
Protocol	PROFIBUS DP V1
Transfer rate	9.6 kBit/s / 12 MBit/s , Automatic baud rate detection

Interface 2

Interface type	RS 232, serial Diagnostic Interface
Transfer rate	19,2 kBit/s

Connection

PROFIBUS	Sub-D interface
AS-Interface	spring terminals, removable

Ambient conditions

Ambient temperature	0 ... 55 °C (32 ... 131 °F)
Storage temperature	-15 ... 75 °C (5 ... 167 °F)

Mechanical specifications

Protection degree	IP20
Mass	420 g
Construction type	Low profile housing , Stainless steel

Compliance with standards and directives

Standard conformity	
Electromagnetic compatibility	EN 61326:2003
AS-Interface	EN 50295:1999
Protection degree	EN 60529:2000

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-PB-K20-D is a PROFIBUS Gateway in accordance with AS-Interface specification 3.0 in IP20. The design is especially suitable for use in the switch cabinet.

The VBG-PB-K20-D is a modular PROFIBUS slave. This means that the user can use the PROFIBUS configuration tool to specify what data will be transferred via the PROFIBUS. This makes it possible to adjust the amount of data to be transferred via PROFIBUS.

In addition, this gateway supports acyclical communication of the PROFIBUSDP V1. These acyclical services can be used to access a mailbox in the gateway that provides access to all the data made available by the AS-Interface/PROFIBUS Gateway.

A push button can be used to accept the target configuration and to adjust the PROFIBUS address and baud rate. There are 7 LEDs on the front panel, showing the current status of the AS-Interface line.

In the case of the AS-Interface Gateway with graphical display, the AS-Interface circuit can be placed in service and the test of the connected periphery can be kept entirely separate from the commissioning of the PROFIBUS and the programming. On-site operation with the aid of the graphical display and 4 push buttons makes it possible to show all functions on the display that are covered by the AS-i Control Tools software for other AS-Interface masters. An additional RS 232-socket offers the option of reading data via gateway, network and function as part of advanced local diagnostics directly from the gateway.

PLC functionality

Optionally the gateway is also available with PLC-functionality. Therefor you can order a code key VAZ-CTR additionally.

Software

The device is supplied with the configuration data files (GSD) as well as a restricted version of the AS-i Control Tools software. The software performs the addressing, programming and monitoring of the AS-Interface network. The full version of the AS-i Control Tool is available as an accessory and features an expanded diagnostics monitor as well as a larger program memory for AS-Interface Control which makes it possible to detect faulty telegrams of slaves.

A GSD file can be easily created for the PROFIBUS DP using the GSD assistant, whereby the size of the I/O windows can be conveniently adapted to the AS-Interface circuit's load and the AS-Interface configuration can be stored within the GSD file. A text file is also created, which documents the status of AS-Interface data in the gateway's I/O window.

Note:

The VAZ-PB-SIM accessory is required for the AS-i Control Tool.

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Accessories

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

VAZ-PB-SIM
PROFIBUS master simulator

USB-0,8M-PVC ABG-SUBD9
Interface converter USB/RS 232

VAZ-PB-DB9-W
PROFIBUS Sub-D Connector with switchable terminal resistance

Release date: 2013-10-02 10:29   Date of issue: 2014-01-13   189930_eng.xml

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

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