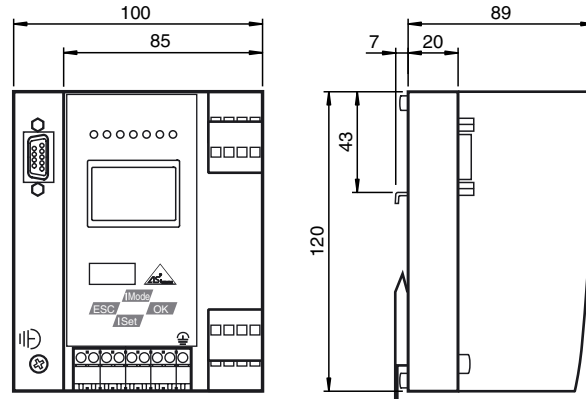




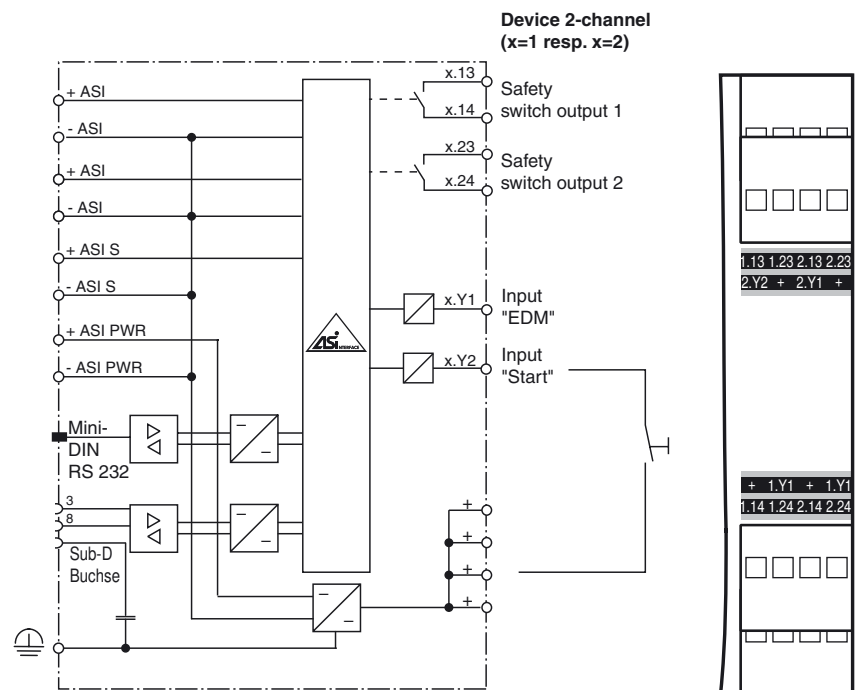
Dimensions



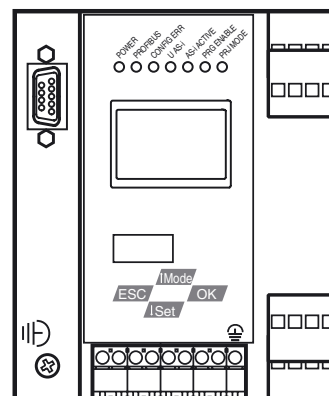
Electrical connection

Model number
VBG-PB-K30-D-S
 Gateway with integrated Safety Monitor

- Features**
- Gateway and safety monitor in one housing
 - Gateway compliant with AS-Interface specification 3.0
 - Connection to PROFIBUS DP
 - AS-Interface safety monitor with extended range of functions
 - Certified up to SIL 3 according to IEC 61508 and EN 62061 and up to PL_e according to EN 13849
 - Memory card for configuration data
 - Ethernet diagnostic interface
 - Control of decentralized, secure outputs in the field
 - 2-channel release circuit



Indicating / Operating means



Release date: 2019-01-09 10:02 Date of issue: 2019-01-09 202305_eng.xml

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
Switch-on delay	< 10 s
Response delay	< 40 ms
UL File Number	E223772 only from low voltage, limited energy source (SELV or PELV) or listed Class 2 source

Functional safety related parameters

Safety Integrity Level (SIL)	SIL 3
Performance level (PL)	PL e
MTTF _d	200 a
B _{10d}	2 E+7

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
Button	
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	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

Interface 3

Interface type	Chip card slot
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Input

Number/Type	2 EDM inputs: Inputs for external device monitoring circuits 1 and 2 (protection control) 2 Start inputs: Output circuits 1 and 2: Static switching current 4 mA at 24 V, dynamic 30 mA at 24 V (T=100 μs)
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Output

Safety output	2 x 2 output switch elements: Output circuits 1 and 2 max. contact loading: 3 A DC-13 at 30 V DC, 3 A AC-15 at 30 V AC
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Connection

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

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
Fieldbus standard	PROFIBUS according to DIN 19245 Part 3
AS-Interface	EN 62026-2:2013
Standards	EN 61000-6-2:2005, EN 61000-6-4:2007 EN 954-1:1996 (up to Kategorie 4), IEC 61508:2001 and EN 62061:2005 (up to SIL3) EN 13849:2008 (PL e)

Ambient conditions

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

Mechanical specifications

Degree of protection	IP20
Connection	screw terminals

Function

The VBG-PB-K30-D-S is an IP20-rated PROFIBUS gateway with an integral AS-Interface specification 3.0 safety monitor. The VBG-PB-K30-D-S has four inputs and four outputs. Two inputs are used for extended EDM device monitoring. The K30 model is particularly suitable for installation in a control cabinet.

The VBG-PB-K30-D-S is a combined full-specification AS-Interface PROFIBUS gateway and safety monitor. The product allows a gateway and a safety monitor to be used in a single device.

Two safety relays provide a safe interface to the connected consumers. The AS-Interface 3.0 PROFIBUS gateways are used to connect AS-I systems to a higher-level PROFIBUS. They act as a master for the AS-I segment and as a slave for the PROFIBUS.

The AS-I functions are made available on both a cyclic and acyclic basis through PROFIBUS-

DP V1. During cyclic data exchange, up to 32 bytes of I/O data (this amount is variable) are transferred as the digital data of an AS-I segment. In addition, analog values as well as the complete command set of the new AS-I specification can be transferred via PROFIBUS using a command interface. Monitoring of the AS-Interface data can be carried out online via PROFIBUS-DP V1 using the serial PROFIBUS master and the AS-I Control Tools.

Address assignment, the transfer of the desired configuration and the setting of the Profibus address and baud rate can all be performed using switches. Seven LEDs located on the front panel indicate the current status of the AS-Interface segment.

If the AS-Interface gateway has a graphical display, the commissioning of the AS-Interface circuit and testing of the connected peripherals can take place completely separately from the commissioning of PROFIBUS and the programming. Local operation using the graphical display and the four switches allows all the functions covered on the other AS-Interface masters by AS-i Control Tools software to be visualized on the display. An additional RS 232 socket provides a way of exporting data relating to the gateway, network and operation directly from the gateway for extended local diagnosis purposes.

Accessories

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

VAZ-SW-SIMON+
Software for configuration of K30 Master Monitors/K31 and KE4 Safety Monitors

VAZ-SIMON+-R2-1,8M-PS/2
Interface cable for connecting the K30/K31 Safety Monitor to a PC

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

Mass	800 g
Construction type	Low profile housing , Stainless steel

Approvals and certificates

UL approval	An isolated source with a secondary open circuit voltage of $\leq 30 V_{DC}$ 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.