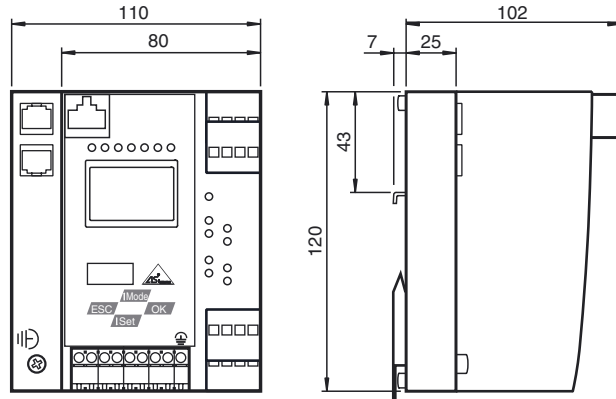
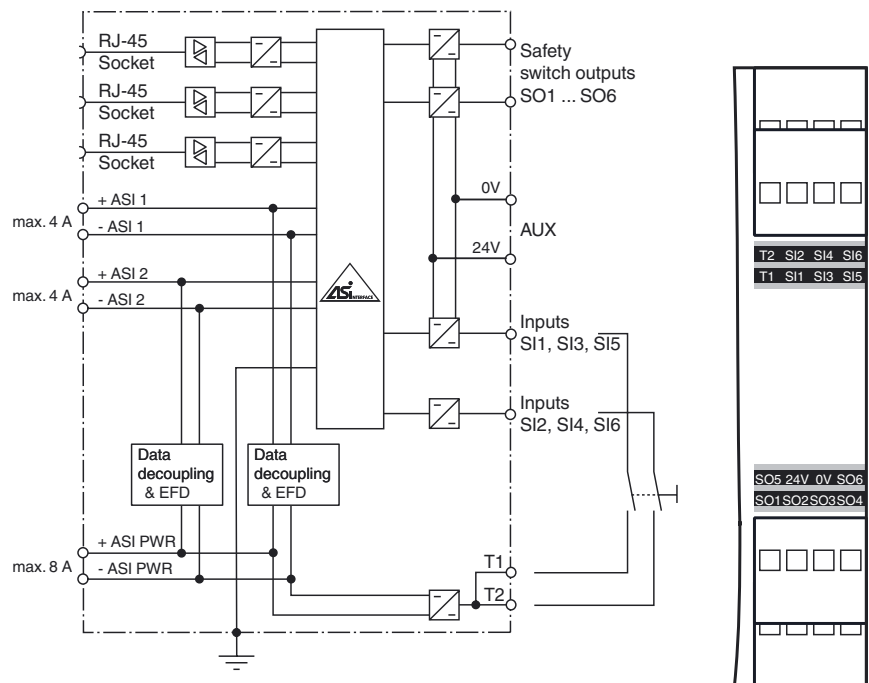




Dimensions



Electrical connection



Model number

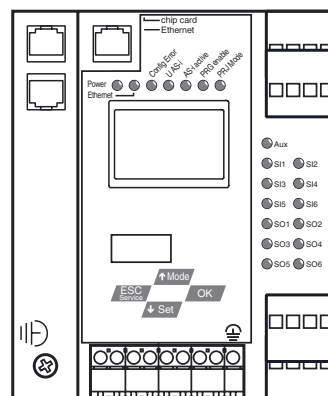
VBG-PN-K30-DMD-S32-EV

PROFINET com unit with integrated safety monitor, double master for 2 AS-Interface networks, power supply input with decoupling coils

Features

- Gateway and safety monitor in one housing
- Connection to PROFINET IO
- SafeLink
- Certified up to SIL 3 according to IEC 61508 and EN 62061 and up to PL_e according to EN 13849
- 2 AS-Interface networks
- Six safe electronic outputs
- Integrated data decoupling
- Duplicate addressing detection
- Earth fault detection
- AS-Interface noise detection
- Ethernet diagnostic interface

Indicating / Operating means



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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	100 a
B _{10d}	2.5 E+5

Indicators/operating means

Display	Illuminated graphical LC display for addressing and error messages
LED ETHERNET	PROFINET 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
LED AUX	ext. auxiliary voltage U _{AUX} ; LED green
LED IN	6 x LED green
LED OUT	Output circuit closed; 6 x green LEDs
Button	4
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	26.5 ... 31.6 V from AS-Interface; 24 V _{DC}
Rated operating current	I _e	approx. 300 mA PELV

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	RJ-45 Ethernet Diagnostic Interface
Transfer rate	10 MBit/s

Interface 3

Interface type	Chip card slot
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Input

Number/Type	6 inputs Safety: 3 x 2 channels Or 6 standard inputs
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Output

Safety output	6 semiconductor outputs Output circuits: 6 PNP transistor outputs Max. contact load: 1.2 A _{DC-13} at 30 V _{DC} , Σ = 7.2 A in total (see derating)
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Connection

PROFINET	RJ-45
AS-Interface	spring terminals, removable

Ambient conditions

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

Mechanical specifications

Degree of protection	IP20
Material	
Housing	Stainless steel
Mass	800 g
Construction type	Low profile housing

Compliance with standards and directives

Directive conformity	
Machinery Directive 2006/42/EC	EN 61508:2010 EN ISO 13849-1/AC:2009 EN 62061:2005+A1:2013

Function

The VBG-PN-K30-DMD-S32-EV is a PROFINET gateway with an integrated safety monitor and a double master according to AS-Interface specification 3.0.

The gateway is used to connect AS-Interface systems to a higher-level PROFINET. It acts as a master for the AS-Interface segment and as a slave for the PROFINET. The AS-Interface functions are made available on both a cyclic and acyclic basis via PROFINET DP V1. The binary data of an AS-Interface segment is transferred cyclically. In addition, analog values and the complete command set of the new AS-Interface specification are transferred to PROFINET using a command interface.

The gateway has six inputs and outputs. The six inputs are used for extended EDM device monitoring or as start inputs. The six outputs are semiconductor outputs and switch circuits 1 and 2. The K30 model is especially suitable for installation in a control cabinet.

The device can be configured using buttons. Seven LEDs located on the front panel indicate the current status of the AS-Interface segment. One LED shows the power supply via AUX. Additional LEDs indicate the status of the inputs and outputs.

Via the graphics display, the commissioning of the AS-Interface circuit and testing of the connected peripherals can take place completely independently of the commissioning of the higher-level network and programming. All functions can be controlled and shown on the display using the four buttons.

An additional RJ45 Ethernet interface provides a way of exporting data relating to the gateway, network, and operation directly from the gateway for extended local diagnostic purposes.

Up to 31 devices can reliably cross-communicate via the RJ45 Ethernet diagnostics interface.

The integrated data decoupling function enables two AS-Interface circuits to be operated with just one standard power supply.

The device features a chip card slot for storage of configuration data.

Accessories**VAZ-SW-SIMON+**

Software for configuration of K30 Master Monitors/K31 and KE4 Safety Monitors

EMC Directive 2004/108/EC	EN 61000-6-2/AC:2005, EN 61000-6-4:2007+A1:2011
Standard conformity	
Noise immunity	EN 61000-6-2/AC:2005
Emitted interference	EN 61000-6-4:2007/A1:2011
AS-Interface	EN 50295:1999
Functional safety	EN ISO 13849-1:2008/AC:2009, EN ISO 13849-2:2012 (up to PL e), EN 61508:2010 and EN 62061:2005+A1:2013 (up to SIL3)
Degree of protection	EN 60529:2000
Shock and impact resistance	EN 61131-2:2004

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.

Derating output current

