AS-Interface gateway

VBG-MOD-K20-D

- Connection to MODBUS RTU
- Easy commissioning and fault diagnosis via LEDs and graphic display
- Dublicate addressing detection
- Earth fault detection
- AS-Interface noise detection
- RS 232 diagnosis interface

MODBUS RTU gateway

Function

The VBG-MOD-K20-D is a MODBUS RTU gateway in accordance with AS-Interface- Specification 3.0 in IP20. The design makes it particularly suitable for use in control cabinets.

The AS-Interface data can be used in many varied ways and for a variety of purposes. All the important data are available in both binary form as well as packed and unpacked via a register. So that the AS-Interface gateways can be operated with the MODBUS slave interface by the most varied of MODBUS masters, without having to resort to expensive adaptions. The gateway is supplied from the AS-Interface cable.
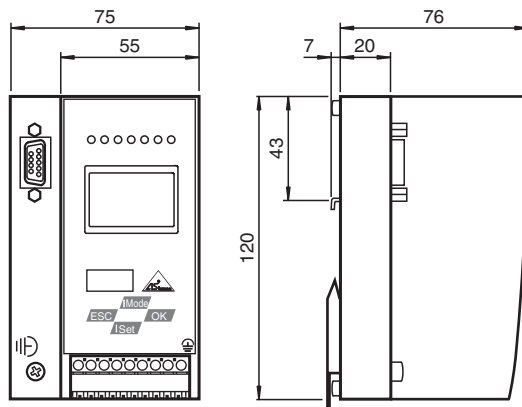
The assignment of addresses and the acceptance of the set configuration is possible by means of push button keys. 7 LEDs, arranged on the front of the device, indicate the current status of the AS-Interface network.

On the AS-Interface Gateway, with graphic display, the commissioning of the AS-Interface circuit and the testing of the connected peripherals can be completely separated from the commissioning of the MODBUS and the programming. On-site operation using the graphics display and the 4 buttons enable all the functions to be depicted on the display that 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 directly from the gateway, on gateway, network and function in the context of an extended on-site diagnosis.

PLC Functionality

Optionally, the gateway can be supplied with PLC functionality. Therefor you can order a code key VAZ-CTR additionally.

Dimensions

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

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

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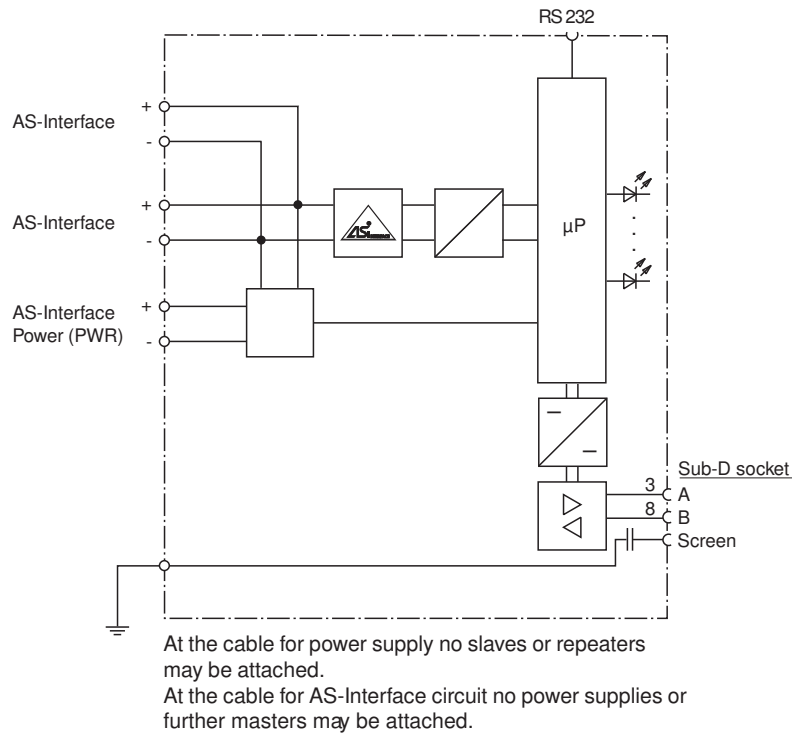Germany: +49 621 776 1111
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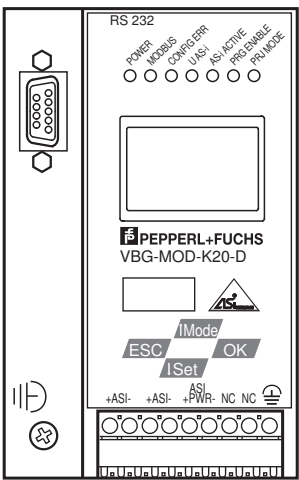fa-info@sg.pepperl-fuchs.com

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Technical Data

Diagnostics function		Extended function via display
UL File Number		E223772
Functional safety related parameters		
$MTTF_d$		90 a at 30 °C
Indicators/operating means		
Display		Illuminated graphical LC display for addressing and error messages
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 MODBUS		MODBUS interface in operation, 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		MODBUS RTU (Remote Terminal Unit)
Interface 2		
Interface type		RS 232, serial Diagnostic Interface
Transfer rate		19,2 kBit/s
Connection		
AS-Interface		spring terminals, removable
MODBUS		RS 485 interface
Standard conformity		
Degree of protection		EN 60529:2000
Ambient conditions		
Ambient temperature		0 ... 55 °C (32 ... 131 °F)
Storage temperature		-15 ... 75 °C (5 ... 167 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		420 g
Construction type		Low profile housing , Stainless steel

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Connection

RS 232

AS-Interface +/−

AS-Interface +/−

AS-Interface Power (PWR) +/−

μP

Sub-D socket
3 A
8 B
Screen

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

RS 232

POWER MODBUS CONFIG ERR U ASI ASI ACTIVE PRG ENABLE PRJ MODE

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VBG-MOD-K20-D

↑Mode
ESC   OK
↓Set

+ASI− +ASI− +PWR− NC NC
ASI

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.

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

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Commissioning

The AS-i Control Tools software is supplied as restricted version together with the documentation. The software performs addressing, programming and monitoring of the AS-Interface network. In addition, it contains an editor that creates programs for the integrated PLC functionality. 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.

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

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