AS-Interface gateway

VBG-ENX-K20-DMD

- Gateway compliant with AS-Interface specification 3.0
- Connection to Ethernet Modbus TCP/IP
- 2 AS-Interface networks
- Dublicate addressing detection
- Integrated webserver
- Earth fault detection
- AS-Interface noise detection
- Ethernet diagnostic interface
- Integrated switch allows line topology
- DLR technology supports ring topology

EtherNet/IP + Modbus TCP Gateway, double master for 2 AS-Interface networks

Function

The VBG-ENX-K20-DMD is an Ethernet/IP + Modbus TCP gateway with 2 AS-Interface masters in accordance with AS-Interface specification 3.0. This means that data can be transferred from 2 parallel AS-Interface branches via one IP address.
The design of the K20 in stainless steel with IP20 is particularly suited for use in switching cabinets for snap on mounting on the 35 mm mounting rail.
The gateway in accordance with the AS-Interface specification V 3.0 is used to connect AS-Interface systems to a higher-level net. It acts as a master for the AS-Interface segment and as a slave for the higher-level net. During cyclic data exchange, the digital data of an AS-Interface segment is transferred. Analog values as well as the complete command set of the new AS-Interface specification are transferred using a command interface.
The address allocation and acceptance of the target configuration can be achieved via the keys. 7 LEDs fitted to the front panel indicate the actual state of the AS-Interface branch.
With the graphical display, the commissioning of the AS-Interface circuits and testing of the connected peripherals can take place completely separately from the commissioning of the higher-level network and the programming. With the 4 switches, all functions can be controlled and visualized on the display.
The device has a card slot for a memory card for the storage of configuration data.
An integrated Switch and 2 RJ-45 sockets allow the design of a line topology without the use of an external Switch.
The device level ring protocol DLR increases the reliability of a ring topology at the device level, thus optimizing the machine running times.
An integrated webserver allows to administrate the device and The AS-interface network without additional hard and/or software via a browser interface.
The redundant power supply guarantees that the double master remains in function and is diagnosticable, when a failure of a power supply unit in one of the two AS-interfaces circles occures. Also communication with the superior field bus is not disturbed by the failure of a power supply.

PLC Functionality

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

Operation

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.

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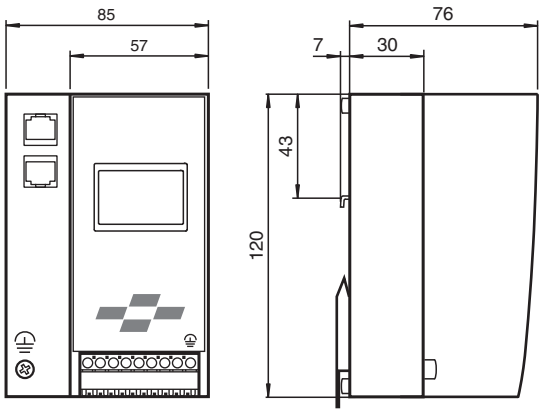
Dimensions



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
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		
$MTTF_d$		100 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
Button		4
Electrical specifications		
Insulation voltage	U_i	≥ 500 V
Rated operating voltage	U_e	from AS-Interface 30 V DC
Rated operating current	I_e	≤ 200 mA from AS-Interface circuit 1 ≤ 70 mA from AS-Interface segment 2
Interface 1		
Interface type		2 x RJ-45
Protocol		EtherNet/IP + MODBUS TCP/IP acc. to IEEE 802.3 supports device level ring protocol DLR
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		

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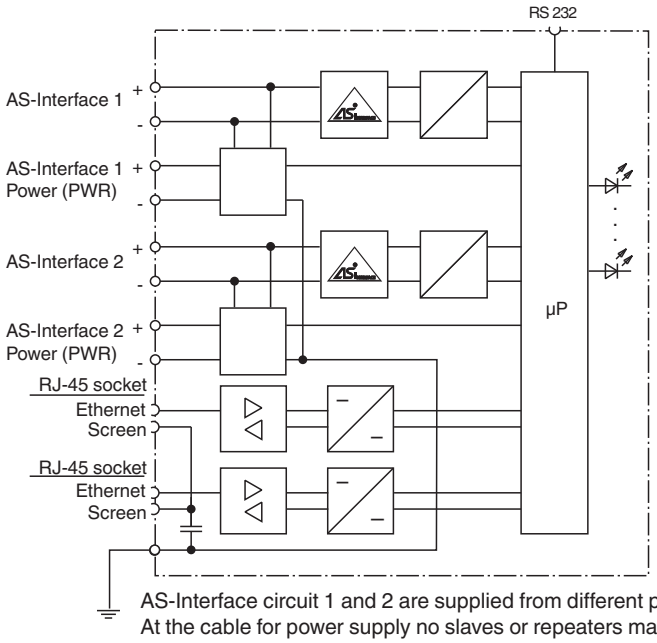
Technical Data

Ethernet		RJ-45
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
AS-Interface		EN 62026-2:2013
Shock resistance		EN 61131-2:2004
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)
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		
Degree of protection		IP20
Mass		500 g
Construction type		Low profile housing , Stainless steel

Connection



AS-Interface circuit 1 and 2 are supplied from different power supplies.
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.

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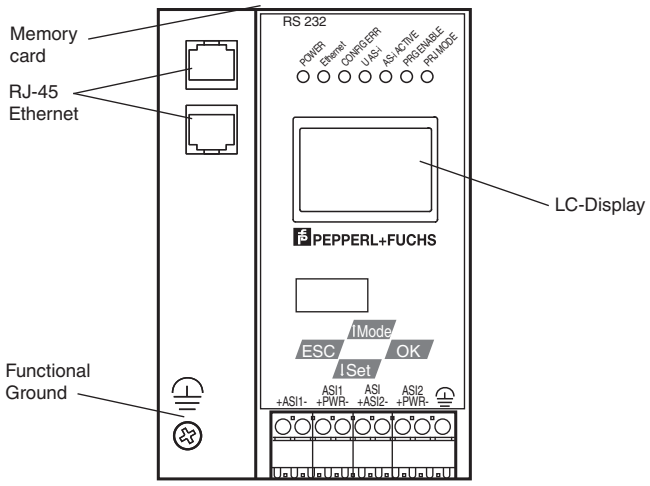
Assembly



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

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