



AS-Interface gateway VBG-ENX-K20-D-EV24

- Connection to Ethernet Modbus TCP/IP
- Duplicate addressing detection
- Earth fault detection
- AS-Interface noise detection
- Ethernet diagnostic interface
- Integrated switch allows line topology
- DLR technology supports ring topology
- AS-Interface POWER24

EtherNet/IP + Modbus TCP Gateway



EtherNet/IP



Function

The VBG-ENX-K20-D-EV24 is an Ethernet/IP+Modbus TCP gateway according to AS-Interface specification 3.0.

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.

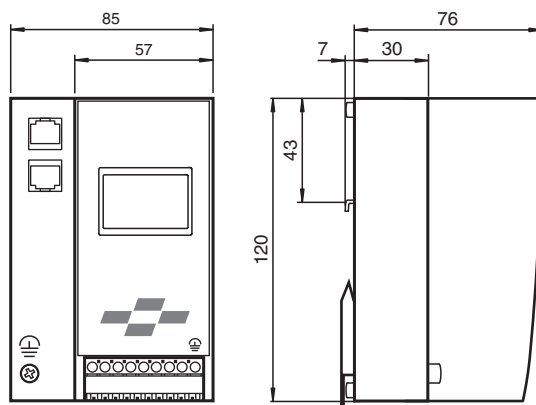
An integrated Switch and 2 RJ-45 sockets allow the design of a line topology without the use of an external Switch.

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 device can be operated with a 24 V power supply according to PELV.

Dimensions



Technical Data

General specifications

| | |
|----------------------------|--------------|
| AS-Interface specification | V3.0 |
| PLC-Functionality | activateable |

Release date: 2020-05-11 Date of issue: 2020-05-11 Filename: 274121_eng.pdf

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

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Technical Data

| | | |
|---|----------------|---|
| Duplicate address detection | | from AS-Interface slaves |
| Earth fault detection | EFD | integrated |
| EMC monitoring | | integrated |
| Diagnostics function | | Extended function via display |
| Data decoupling | | integrated |
| 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 | | 105 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 |
| 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 | 24 V DC (20 ... 31.6 V) safe isolated power supplies (PELV) Note 24 V power supply, max. segment length: 50 m Supply via AS-Interface power supply, max. segment length: 100 m |
| Rated operating current | I _e | approx. 250 mA |
| Power supply | | max. 4 A per AS-Interface circuit |
| 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 | | 100 MBit/s |
| Interface 2 | | |
| Interface type | | RJ-45 Ethernet Programming and diagnostics interface |
| Interface 3 | | |
| Interface type | | Chip card slot |
| Connection | | |
| 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 | | |

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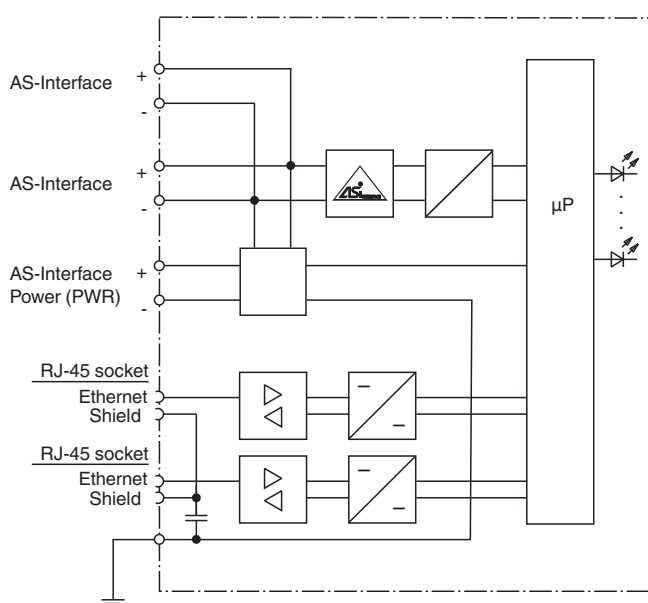
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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Technical Data

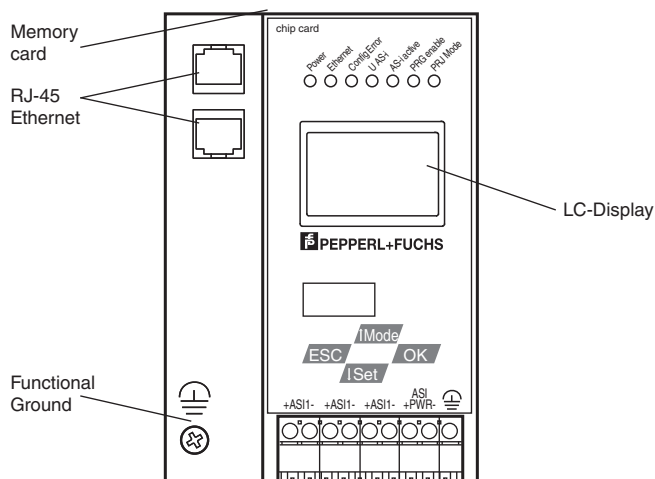
| | |
|----------------------------------|---|
| UL approval | An isolated source with a secondary open circuit voltage of $\leq 30 V_{DC}$ with a 3 A maximum over current protection. Over current protection is not required when a Class 2 source is employed. UL mark does not provide UL certification for any functional safety rating or aspects of the device. |
| 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




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



Accessories

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

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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.