

# AS-Interface sensor module

## VBA-2E-G10-ZEJ-1M-2V1-W



- Ultra-compact enclosure
- Gold-plated and machined contacts
- One piece housing
- Degree of protection IP68 / IP69K
- Direct connection via cable outlet

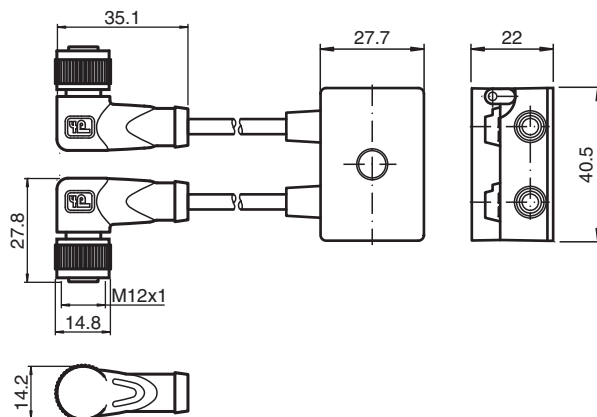
G10 ultra compact module, 2 inputs, 2 x M12 socket



### Function

The AS-Interface G10 ultra-compact module is suitable for the remote connection of sensors within very limited space. The one-piece enclosure has the protection degree IP68/IP69K. The AS-Interface flat cable is contacted via pointy, gold-plated contact pins. The exact location of the pins on the lead is ensured by the swivel mechanism. Sensors are connected to the module via M12 sockets. Multiple LEDs indicate the current status of the AS-Interface strand and the inputs and are used for diagnosis. The ultra-compact module is powered from the AS-Interface strand.

### Dimensions



### Technical Data

#### General specifications

|                                |                                                |
|--------------------------------|------------------------------------------------|
| Node type                      | A/B node                                       |
| AS-Interface specification     | V3.0                                           |
| Required gateway specification | ≥ V2.0                                         |
| Profile                        | S-0.A.2                                        |
| IO code                        | 0                                              |
| ID code                        | A                                              |
| ID1 code                       | 7                                              |
| ID2 code                       | 2                                              |
| UL File Number                 | E223772 "For use in NFPA 79 Applications only" |

#### Indicators/operating means

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

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## Technical Data

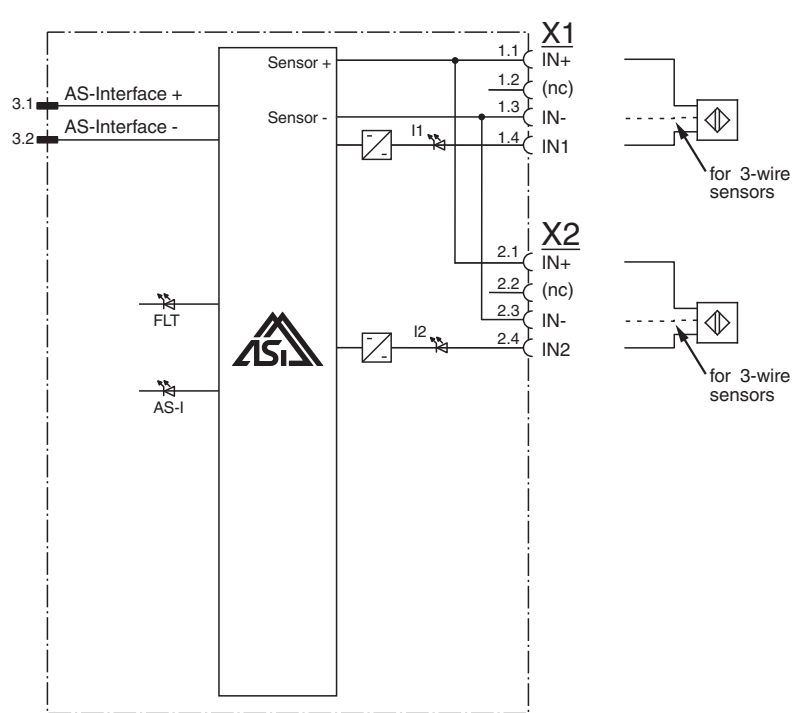
|                                         |       |                                                                                                                                                  |
|-----------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| LED FAULT                               |       | error display; LED red<br>red: communication error or address is 0<br>red flashing: overload of sensor power supply or outputs                   |
| LED AS-i                                |       | AS-Interface voltage; LED green                                                                                                                  |
| LED IN                                  |       | switching state (input); 2 LED yellow                                                                                                            |
| <b>Electrical specifications</b>        |       |                                                                                                                                                  |
| Rated operating voltage                 | $U_e$ | 18.5 ... 31.6 V from AS-Interface                                                                                                                |
| Rated operating current                 | $I_e$ | ≤ 40 mA (without sensors) / max. 120 mA                                                                                                          |
| Protection class                        |       | III                                                                                                                                              |
| <b>Input</b>                            |       |                                                                                                                                                  |
| Number/Type                             |       | 2 inputs for 2- or 3-wire sensors (PNP), DC                                                                                                      |
| Supply                                  |       | from AS-Interface                                                                                                                                |
| Voltage                                 |       | 21 ... 31 V                                                                                                                                      |
| Current loading capacity                |       | 75 mA at $T_B \leq 40^\circ\text{C}$ (104 °F)<br>60 mA at $T_B \leq 75^\circ\text{C}$ (167 °F)<br>overload and short-circuit resistant           |
| Input current                           |       | ≤ 9 mA (limited internally)                                                                                                                      |
| Switching point                         |       | according to DIN EN 61131-2 (Type 2)                                                                                                             |
| 0 (unattenuated)                        |       | ≤ 3 mA                                                                                                                                           |
| 1 (attenuated)                          |       | ≥ 5 mA                                                                                                                                           |
| Signal delay                            |       | < 1 ms (input/AS-Interface)                                                                                                                      |
| <b>Directive conformity</b>             |       |                                                                                                                                                  |
| Electromagnetic compatibility           |       |                                                                                                                                                  |
| Directive 2014/30/EU                    |       | EN 62026-2:2013                                                                                                                                  |
| <b>Standard conformity</b>              |       |                                                                                                                                                  |
| Degree of protection                    |       | EN 60529:2000                                                                                                                                    |
| Fieldbus standard                       |       | EN 62026-2:2013                                                                                                                                  |
| Input                                   |       | EN 61131-2:2007                                                                                                                                  |
| Emitted interference                    |       | EN 61000-6-4:2007                                                                                                                                |
| AS-Interface                            |       | EN 62026-2:2013                                                                                                                                  |
| Noise immunity                          |       | EN 61000-6-2:2005, EN 61326-1:2006, EN 62026-2:2013                                                                                              |
| <b>Approvals and certificates</b>       |       |                                                                                                                                                  |
| UL approval                             |       | cULus Listed, Type 1 enclosure                                                                                                                   |
| Maximum permissible ambient temperature |       | max. 65 °C (max. 149 °F)                                                                                                                         |
| <b>Ambient conditions</b>               |       |                                                                                                                                                  |
| Ambient temperature                     |       | -25 ... 70 °C (-13 ... 158 °F)                                                                                                                   |
| Storage temperature                     |       | -25 ... 85 °C (-13 ... 185 °F)                                                                                                                   |
| Shock and impact resistance             |       | 30 g, 11 ms in 6 spatial directions 3 shocks<br>10 g, 16 ms in 6 spatial directions 1000 shocks                                                  |
| Vibration resistance                    |       | 0.75 mm 10 ... 57 Hz, 5 g 57 ... 150 Hz, 20 cycles                                                                                               |
| <b>Mechanical specifications</b>        |       |                                                                                                                                                  |
| Degree of protection                    |       | housing: IP67<br>IP67 / IP68 / IP69K with flat cable VAZ-FK-S-<br>M12 socket: IP67/IP68/IP69K                                                    |
| Connection                              |       | AS-Interface: AS-Interface flat cable<br>Inputs & matching connector: X1 & X2, M12 plug, 4-pin, A-coded, in accordance with IEC 61076-2-101:2012 |
| <b>Material</b>                         |       |                                                                                                                                                  |
| Contacts                                |       | CuSn / Au                                                                                                                                        |
| Housing                                 |       | PBT PC                                                                                                                                           |
| Body                                    |       | PUR, black                                                                                                                                       |
| Cable                                   |       | PUR                                                                                                                                              |
| Mounting screw                          |       | Stainless steel 1.4305 / AISI 303                                                                                                                |
| <b>Cable</b>                            |       |                                                                                                                                                  |
| Sheath diameter                         |       | Ø4,3 mm                                                                                                                                          |
| Color                                   |       | black                                                                                                                                            |

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Technical Data

|                                     |   |              |
|-------------------------------------|---|--------------|
| Cores                               |   | 4 x 0.34 mm² |
| Length                              | L | 1 m          |
| Mass                                |   | 100 g        |
| Tightening torque, fastening screws |   | 1.65 Nm      |
| Tightening torque, cable gland      |   | 0.4 Nm       |

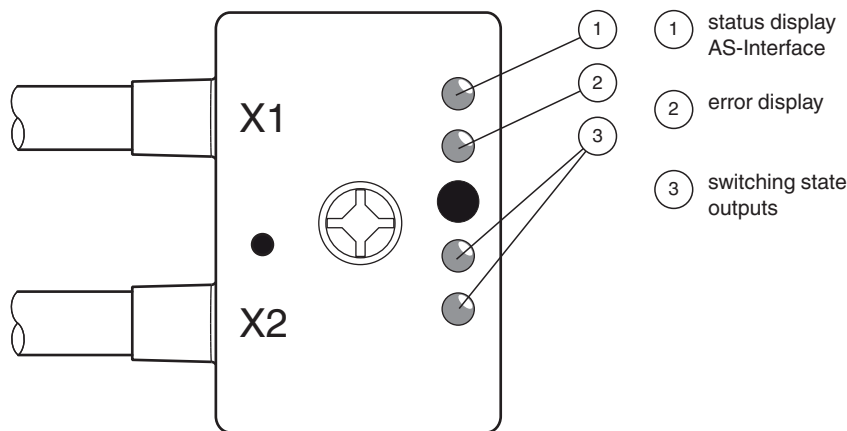
Connection



Connection

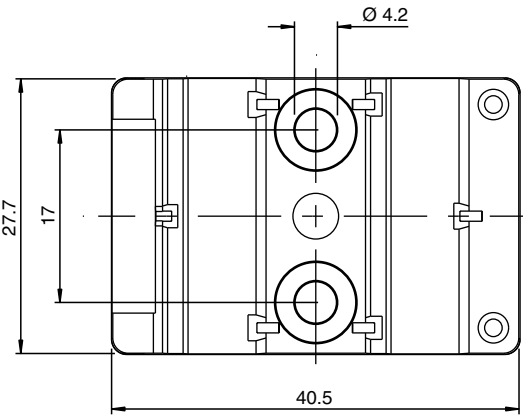
Do not connect inputs and outputs, which are supplied via the module from AS-interface or via auxiliary power, with power supply and signal circuits with external potentials.

Assembly



Release date: 2023-03-28 Date of issue: 2023-03-28 Filename: 233665\_eng.pdf

Mounting



You may screw the device onto a level mounting surface using two M4 attachment screws. The attachment screws are not included.

Programming

**Data bits**  
(Function via AS-Interface)

| Data bit | Input | Output |
|----------|-------|--------|
| D0       | IN1   | -      |
| D1       | IN2   | -      |
| D2       | -     | -      |
| D3       | -     | -      |

**Parameter bit**  
(programmable via AS-Interface)

| Parameter bit | Function                                                                                   |
|---------------|--------------------------------------------------------------------------------------------|
| P0            | not used                                                                                   |
| P1            | Input filter<br>P1=0 filter on, pulse suppr. ≤ 2 ms<br>P1=1 filter off, default setting    |
| P2            | Synchronous mode<br>P2=0 Synchronous mode on<br>P2=1 Synchronous mode off, default setting |
| P3            | not used                                                                                   |

Accessories

|                                                                                     |                            |                                                       |
|-------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------|
|  | <b>VAZ-PK-FK-0,2M-V1-W</b> | Adapter cable G10 module/hand-held programming device |
|-------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------|