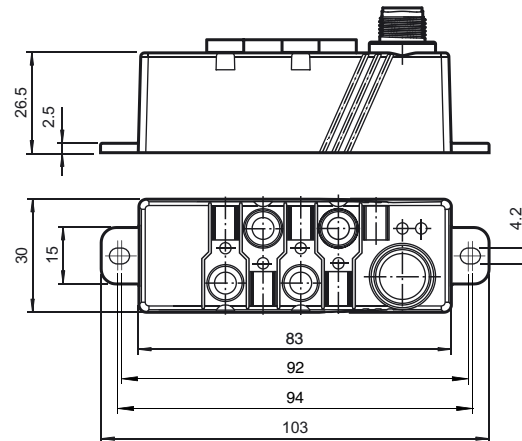
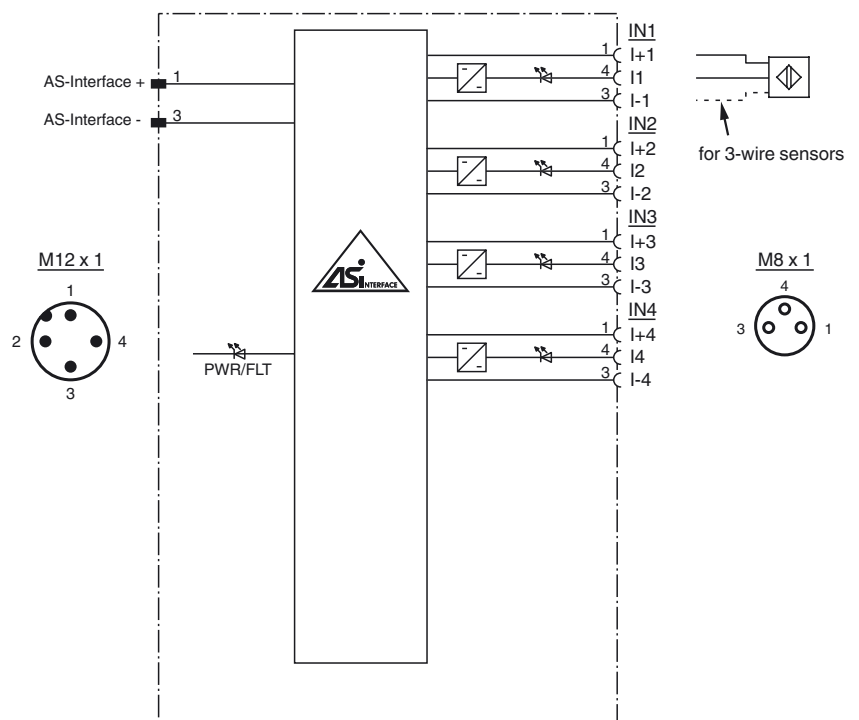
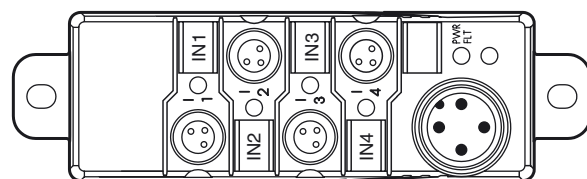


Spec.  
3.0**Model number****VBA-4E-G16-ZEJ**G16 compact module  
4 inputs (PNP)**Features**

- Compact design
- Connections via round connector
- AS-Interface connection via M12 metal threaded insert with SPEEDCON
- Function display for bus and inputs
- Degree of protection IP67 / IP68 / IP69K
- Inputs for 2- and 3-wire sensors
- Supply for inputs from AS-Interface
- Communication monitoring
- Detection of overload on sensor supply

**Dimensions****Electrical connection****Indicating / Operating means**

**Technical data****General specifications**

|                               |           |
|-------------------------------|-----------|
| Slave type                    | A/B slave |
| AS-Interface specification    | V3.0      |
| Required master specification | ≥ V2.1    |
| UL File Number                | E223772   |

**Functional safety related parameters**

|                                |       |
|--------------------------------|-------|
| MTTF <sub>d</sub>              | 390 a |
| Mission Time (T <sub>M</sub> ) | 20 a  |
| Diagnostic Coverage (DC)       | 0 %   |

**Indicators/operating means**

|               |                                                                                                                                                                         |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LED PWR/FAULT | Status display; multi-colour LED<br>Green: normal operation<br>Red: communication fault<br>Flashing yellow/red: address 0<br>Flashing green/red: sensor supply overload |
| LED IN        | switching state (input); 4 LED yellow                                                                                                                                   |

**Electrical specifications**

|                         |                |                                                                                 |
|-------------------------|----------------|---------------------------------------------------------------------------------|
| Rated operating voltage | U <sub>e</sub> | 26.5 ... 31.6 V from AS-Interface                                               |
| Rated operating current | I <sub>e</sub> | ≤ 40 mA (without sensors) / max. 240 mA                                         |
| Protection class        |                | III                                                                             |
| Surge protection        |                | U <sub>e</sub> : Over voltage category III, safe isolated power supplies (PELV) |

**Input**

|                          |                                                                                                                     |
|--------------------------|---------------------------------------------------------------------------------------------------------------------|
| Number/Type              | 4 inputs for 2- or 3-wire sensors (PNP), DC                                                                         |
| Supply                   | from AS-Interface                                                                                                   |
| Voltage                  | 21 ... 31 V                                                                                                         |
| Current loading capacity | ≤ 200 mA (T <sub>B</sub> ≤ 40 °C),<br>≤ 150 mA (T <sub>B</sub> ≤ 70 °C), overload-proof and short-circuit protected |
| 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)                                                                                         |

**Directive conformity**

|                               |                                                      |
|-------------------------------|------------------------------------------------------|
| Electromagnetic compatibility |                                                      |
| Directive 2014/30/EU          | EN 62026-2:2013 EN 61000-6-2:2005, EN 61000-6-4:2007 |

**Standard conformity**

|                      |                                   |
|----------------------|-----------------------------------|
| Degree of protection | EN 60529:2000                     |
| Fieldbus standard    | EN 62026-2:2013                   |
| Input                | EN 61131-2                        |
| Emitted interference | EN 61000-6-4:2007                 |
| AS-Interface         | EN 62026-2:2013                   |
| Noise immunity       | EN 61000-6-2:2005 EN 62026-2:2013 |

**Programming instructions**

|          |         |
|----------|---------|
| Profile  | S-0.A.0 |
| IO code  | 0       |
| ID code  | A       |
| ID1 code | 7       |
| ID2 code | 0       |

| Data bits (function via AS-Interface) | input | output |
|---------------------------------------|-------|--------|
| D0                                    | IN1   | -      |
| D1                                    | IN2   | -      |
| D2                                    | IN3   | -      |
| D3                                    | IN4   | -      |

**Parameter bits (programmable via AS-i) function**

|    |                                                                                                                |
|----|----------------------------------------------------------------------------------------------------------------|
| P0 | not used                                                                                                       |
| P1 | Input filter<br>P1 = 0 input filter on, pulse suppression ≤ 2 ms<br>P1 = 1 input filter off (default settings) |
| P2 | Synchronous mode<br>P2 = 0 synchronous mode on<br>P2 = 1 synchronous mode off (default settings)               |
| P3 | not used                                                                                                       |

**Ambient conditions**

|                             |                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------|
| Ambient temperature         | -25 ... 70 °C (-13 ... 158 °F)                                                                  |
| Storage temperature         | -25 ... 85 °C (-13 ... 185 °F)                                                                  |
| Relative humidity           | 85 % , noncondensing                                                                            |
| Climatic conditions         | For indoor use only                                                                             |
| Altitude                    | ≤ 2000 m above MSL                                                                              |
| 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                                             |
| Pollution degree            | 3                                                                                               |

**Mechanical specifications**

|                                |                                                                              |
|--------------------------------|------------------------------------------------------------------------------|
| Degree of protection           | IP67 / IP68 / IP69k                                                          |
| Connection                     | AS-Interface: M12 x 1 quick disconnect<br>actuators: M8 x 1 quick disconnect |
| Material                       |                                                                              |
| Housing                        | PBT                                                                          |
| Mass                           | 100 g                                                                        |
| Tightening torque, cable gland | 0.4 Nm (M12 connector),<br>0.2 Nm (M8 connector)                             |
| Mounting                       | screw mounting                                                               |

**Function**

The VBA-4E-G16-ZEJ is an AS-Interface compact module with 4 inputs. 2- and 3-wire sensors as well as mechanical contacts can be connected to the plus switching electronic inputs.

The particularly slim design with 30 mm is ideally suited for the common profile widths with simple sliding block mounting or screw fitting in narrow shafts. To guarantee the protection category the electronics is compound-filled.

All module connections are implemented with metal inserts for high stability. The connection to the AS-Interface cable is achieved via a M12 x 1 circular connector with SPEEDCON quick locking option. The advantage of the plug-connection is that no separate base is required. For addressing a standard cable with M12 x 1 screw connections can also be used. The connections to the sensors are made via M8 x 1 screw connections.

The inputs and the connected sensors are supplied via the internal power supply of the module (from AS-Interface).

To indicate the current switching state there is an LED for each channel fitted to the top of the module.

An LED to indicate the AS-Interface voltage, to monitor the AS-Interface communication, and to indicate that the module has an address of 0, is also available.

The module can be fitted in any position using two screws.

**Accessories****VBP-HH1-V3.0-KIT**

AS-Interface Handheld with accessory

**VAZ-T1-FK-0,3M-PUR-V1-G**

Splitter box AS-Interface to 1x M12 round connector

**V1-G**

Female connector, M12, 4-pin, field attachable

**VAZ-V3-B**

Blind plug for M8 sockets

**VBP-HH1-V3.0**

AS-Interface Handheld