

## Compact I/O Modules

- Potted water tight housing, IP69K
- AS-Interface and I/O quick disconnect
- Smallest field mountable housing available
- Short circuit indication output

### Compact Module Overview

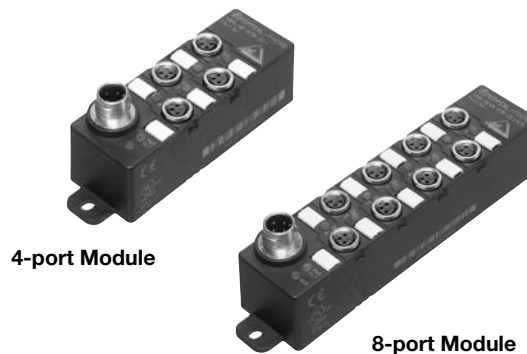
AS-Interface offers advantages for many areas of automation. Many of the modules commonly available on the market are too large for robotics and material handling applications. Circuit boards are an alternative but are expensive to protect from rigorous industrial environmental conditions. Pepperl+Fuchs offers these compact modules as a cost-effective solution.

Our compact modules connect to field devices through the use of Nano (M8x1) quick disconnects. These small modules are rated IP69K and are ideal for rugged industrial environments. The unique mounting hole arrangement enables the module to be mounted in almost any location.

Compact modules use V1 M12x1 quick disconnects to attach AS-Interface and external power. The VAZ-2T1-FK-... adapter connects both the yellow (AS-Interface) and black (external 24 VDC) flat cables.

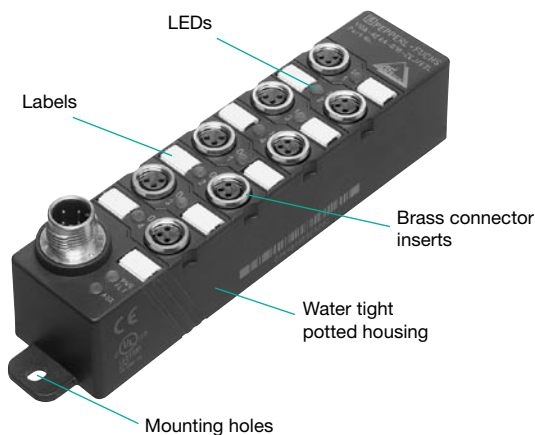
The same adapter can also be used for the 4 input modules, but because no external power is required for input-only modules, the VAZ-T1-FK-... is the preferred option. The VAZ-2T5-G2 adapter allows connection of up to five compact modules using standard V1 (M12x1) extension cables.

The VBP-HH1-... hand-held addressing device uses a V1 (M12x1) quick disconnect and a V1-G-2M-PVC-V1-G cable to connect to the compact module. The VBP-HH1-... enables the user to address the compact module before or during installation.



4-port Module

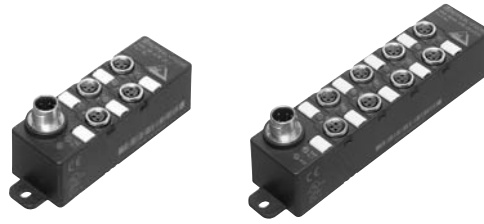
8-port Module







See page 90 for Compact Module wiring and dimensions.

### Common Specifications

OPERATING VOLTAGE AS-i	26.5-31.6 V
OPERATING VOLTAGE, V <sub>AUX</sub>	20-30 VDC
INPUT SWITCHING FREQUENCY	≤ 1 kHz
INPUT DELAY	≤ 1 ms from Input to AS-i
PROTECTION	IP69K
HOUSING MATERIAL	PBT
TEMPERATURE RANGE	Working -13 °F to +158 °F (-25 °C to +70 °C)
	Storage -13 °F to +185 °F (-25 °C to +85 °C)
APPROVALS	CE cUL <sub>us</sub> AS



Specifications		4-in	4-in/4-out
<b>INPUTS/OUTPUTS</b>		<b>4-in</b>	<b>4-in/4-out</b>
<b>MODEL NUMBER(S)*</b>		<b>VBA-4E-G16-ZEJ</b> ⚡	<b>VBA-4E4A-G16-ZEJ/E2L</b> ⚡
<b>EXTENDED ADDRESSING (62 NODES)</b>		Yes	Yes
<b>REQUIRED MASTER SPEC.</b>		–	M4
<b>AS-i OPERATING CURRENT</b>		40-240 mA	40-240 mA
<b>AUXILIARY CURRENT LIMIT</b>		–	4 A
<b>INPUTS</b>		PNP, AS-i powered	PNP, AS-i powered
–ZEJ		–	–
TYPE		2- or 3-wire	2- or 3-wire
SUPPLY VOLTAGE		21-31 V from AS-Interface	21-31 V from AS-Interface
MAXIMUM CURRENT		150 mA, 200 mA (T ≤ 104 °F)	150 mA, 200 mA (T ≤ 104 °F)
SWITCH POINT		OFF ≤ 3 mA, ON ≥ 5 mA	OFF ≤ 3 mA, ON ≥ 5 mA
LOAD CURRENT		≤ 9 mA	≤ 9 mA
<b>OUTPUTS</b>		–	PNP, auxiliary powered
E2L		–	≥ (V <sub>AUX</sub> -0.5 V)
SUPPLY VOLTAGE		–	≥ 1 A
CURRENT PER OUTPUT		–	–
<b>DATA BITS</b>			
D0		IN1	IN1/OUT1
D1		IN2	IN2/OUT2
D2		IN3	IN3/OUT3
D3		IN4	IN4/OUT4
<b>PARAMETER BITS</b>			
P0		–	Watchdog on/off
P1		2 ms input filtering on/off†	2 ms input filtering on/off†
P2		Synchronization on/off†	Synchronization on/off†
<b>PERIPHERAL FAULT BIT</b>		Input overload	Input/output overload
<b>PROFILE</b>		S-0.A.7.0	S-7.A.7.7
S-10.ID.ID1.ID2			
<b>WEIGHT</b>		100 g (3.5 oz)	150 g (5.3 oz)
<b>AS-INTERFACE CONNECTION</b>		 M12 quick disconnect	 M12 quick disconnect
<b>AUXILIARY POWER CONNECTION</b>		–	
<b>I/O CONNECTION</b>		 M8 quick disconnect	 M8 quick disconnect

† Default setting

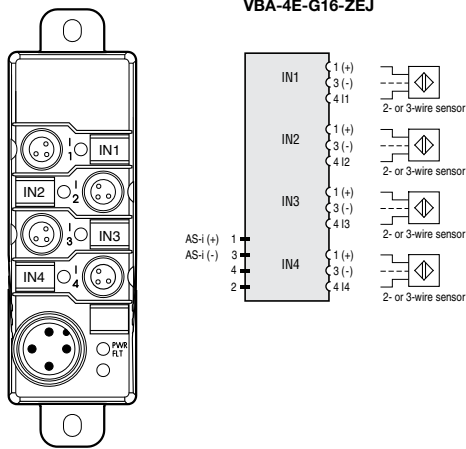
⚡ Stocked item  
Consult factory for all other models

## \*Also Available

INPUTS/OUTPUTS	Model Number	Bases	Required Master Spec.	Profile S-10.ID.ID1.ID2	Extended Addressing	Special Features
4-in/4-out	VAA-4E4A-G16-ZEJ/E2L ⚡	–	–	S-7.0.F.E	No	

Wiring Diagrams

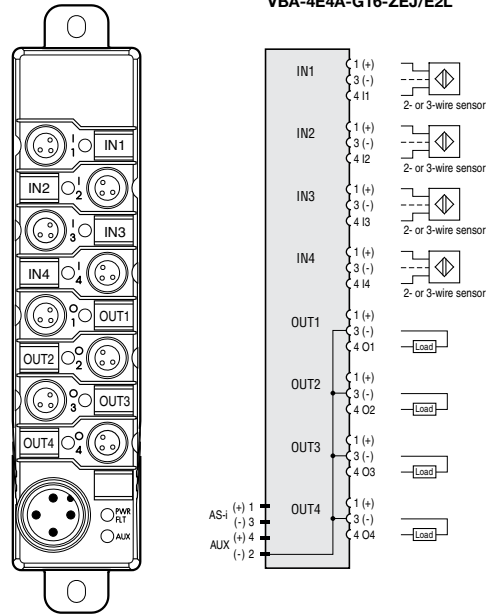
Note: Wiring Diagrams show quick disconnect pin numbers.



LED Indicators

- I: Yellow: Input on
- PWR/FLT: Green (solid): AS-Interface powered  
Red (solid): Communication error  
Yellow/Red (flashing): Address 0  
Green/Red (flashing): Overload of input power

VBA-4E4A-G16-ZEJ/E2L

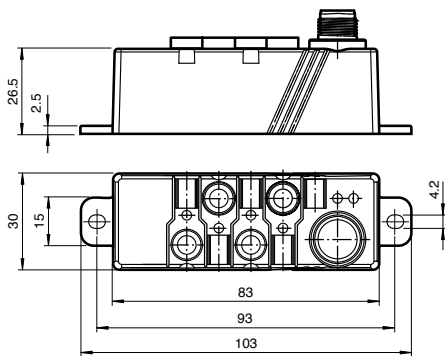


LED Indicators

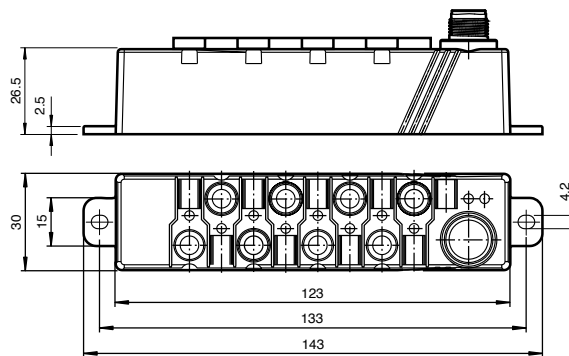
- I: Yellow: Input on
- O: Yellow: Output on, Red: Output overload
- PWR/FLT: Green (solid): AS-Interface powered  
Red (solid): Communication error  
Yellow/Red (flashing): Address 0  
Green/Red (flashing): Overload of input power or outputs
- AUX: Green: Auxiliary powered  
Red: Reverse polarity

Dimensions (mm)

VBA-4E-G16-ZEJ



VBA-4E4A-G16-ZEJ/E2L



Accessories

VAZ-V3-B  
V3 (M8 x 1) protective cover



See pages 201-216 for complete AS-Interface accessory listing.