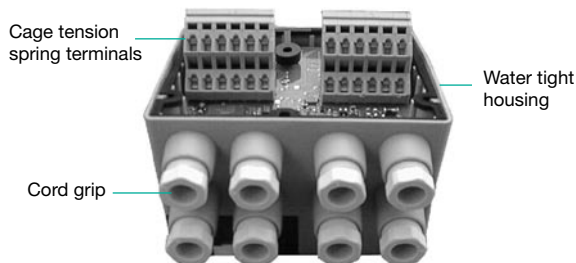


Field Mountable I/O Modules

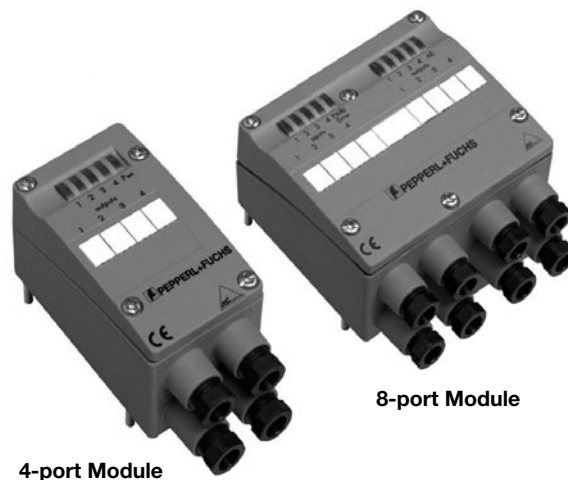
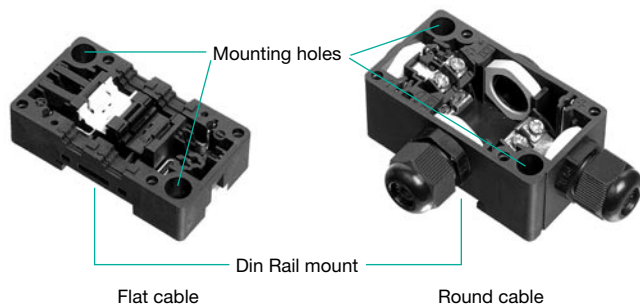
- Cord grips allow input cable to be cut to length
- Module fits directly on top of programmer without cable
- Flat or round cable AS-Interface connection through base
- Mounting through holes or DIN rail
- Field-mount housing

Field Module Overview

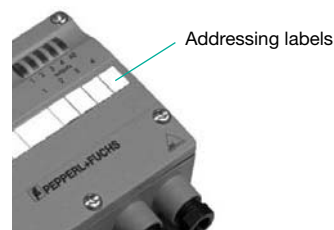
These watertight modules were developed in response to customer requests for a rugged, water tight housing. They can withstand high vibration applications such as valve positioning and actuation. The following is an overview of the G4 module key features:



Sensors and actuators are connected to the field module using the included cord grips for the cable connection and cage tension spring terminals for the electrical connection. By eliminating the quick disconnect, I/O connections are inexpensive and offer a water tight, more compact installation. Custom molded cables of differing lengths are no longer required because these field modules accept cable that can be cut to any length, eliminating waste and coiled leads. Below are the two AS-Interface cable options.



The field modules are connected to the AS-Interface cable using standard bases. These bases allow connection of AS-Interface flat or round cable. Also, the U-G1FFA base has an integrated addressing jack that eliminates the need to unscrew the cover or use a master for addressing.




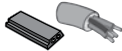






See pages 86-87 for Field Module wiring and dimensions.

Common Specifications

OPERATING VOLTAGE AS-i	26.5-31.6 V
OPERATING VOLTAGE, V _{AUX}	21.4-27.6 VDC
INPUT SWITCHING FREQUENCY	≤ 250 Hz
INPUT DELAY	≤ 2 ms from input to AS-i
HOUSING MATERIAL	PA 6 GF30
TEMPERATURE RANGE	Working -13 °F to +140 °F (-25 °C to +60 °C)
	Storage -13 °F to +185 °F (-25 °C to +85 °C)
APPROVALS	CE cUL _{us} 45°



Specifications		4-in	2-in/2-out	4-in/4-out
INPUTS/OUTPUTS		4-in	2-in/2-out	4-in/4-out
MODEL NUMBER(S)*		VBA-4E-G4-ZE ⚡	VBA-2E2A-G4-ZE/E2 ⚡	VBA-4E4A-G4-ZE/E2 ⚡
BASES		U-G1FFA, U-G1PP	U-G1FFA, U-G1PP	U-G1FFA, U-G1PP
EXTENDED ADDRESSING (62 NODES)		Yes	Yes	Yes
REQUIRED MASTER SPEC.		–	M3, M4	M4
AS-i OPERATING CURRENT		40-190 mA	30-140 mA	30-230 mA
AUXILIARY CURRENT LIMIT		–	2 A	4 A
INPUTS	-ZE	PNP, AS-i powered	PNP, AS-i powered	PNP, AS-i powered
		–	–	–
	TYPE	2-, 3-wire	2-, 3-wire	2-, 3-wire
	SUPPLY VOLTAGE	21-31 V from AS-Interface	21-31 V from AS-Interface	21-31 V from AS-Interface
	MAXIMUM CURRENT	120 mA, 150 mA (T ≤ 104 °F)	75 mA, 100 mA (T ≤ 104 °F)	160 mA, 200 mA (T ≤ 104 °F)
	SWITCH POINT	OFF ≤ 2 mA, ON ≥ 4 mA	OFF ≤ 2 mA, ON ≥ 4 mA	OFF ≤ 3 mA, ON ≥ 5 mA
	LOAD CURRENT	≤ 8 mA	≤ 8 mA	≤ 9 mA
OUTPUTS	E2	–	PNP, auxiliary powered	PNP, auxiliary powered
	SUPPLY VOLTAGE	–	≥ (V _{AUX} -0.5 V)	≥ (V _{AUX} -0.5 V)
	CURRENT PER OUTPUT	–	≤ 1 A	≤ 1 A
DATA BITS	D0	IN1	OUT1	IN1/OUT1
	D1	IN2	OUT2	IN2/OUT2
	D2	IN3	IN3	IN3/OUT3
	D3	IN4	IN4	IN4/OUT4
PARAMETER BITS	P0	–	–	Watchdog on/off
	P1	–	–	–
	P2	–	–	–
PERIPHERAL FAULT BIT		Input overload	Input/output overload	Input/output overload
PROFILE	S-IO.ID.ID1.ID2	S-O.A.7.0	S-B-A.7.0	S-7.A.7.7
PROTECTION		IP67	IP67	IP65
WEIGHT		180 g (6.3 oz)	180 g (6.3 oz)	312 g (11 oz)
AS-INTERFACE CONNECTION		 Flat yellow or round cable	 Flat yellow or round cable	 Flat yellow or round cable
AUXILIARY POWER CONNECTION		–	 Flat black or round cable	 Flat black or round cable
I/O CONNECTION		 Cage tension spring terminals	 Cage tension spring terminals	 Cage tension spring terminals

† Default setting

⚡ Stocked item
Consult factory for all other models

*Also Available

INPUTS/OUTPUTS	Model Number	Bases	Required Master Spec.	Profile S-IO.ID.ID1.ID2	Extended Addressing	Special Features
4-in	VAA-4E-G4-ZE	U-G1FFA, U-G1PP	–	S-0.0.FE	No	
4-in/3-out	VBA-4E3A-G4-ZE/E2	U-G1FFA, U-G1PP	M3, M4	S-7.A.7.0	Yes	
4-in/4-out	VAA-4E4A-G4-ZE/E2 ⚡	U-G1FFA, U-G1PP	–	S-7.0.FE	No	

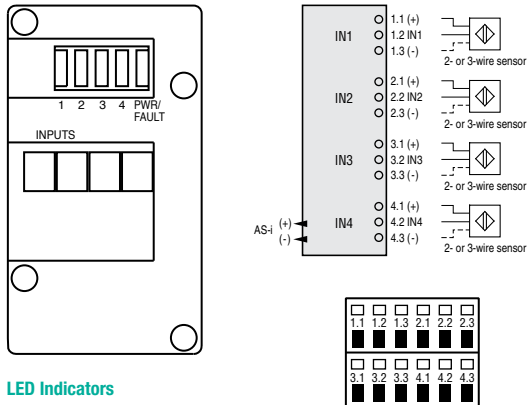
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SENSING YOUR NEEDS

Wiring Diagrams

VBA-4E-G4-ZE



LED Indicators

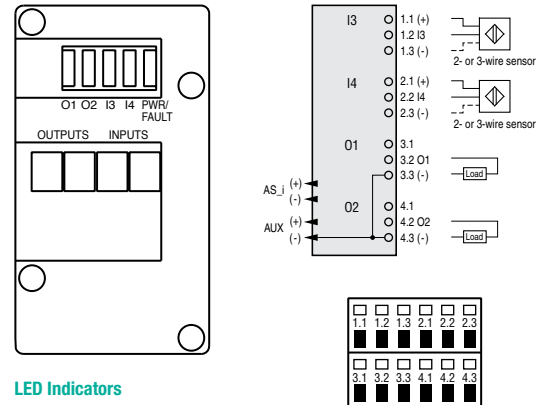
INPUTS: Yellow: Input on

PWR/FAULT: Green: AS-Interface powered

Red (solid): Address 0 or no communication

Green/Red (flashing): Overload of input power

VBA-2E2A-G4-ZE/E2



LED Indicators

I: Yellow: Input on

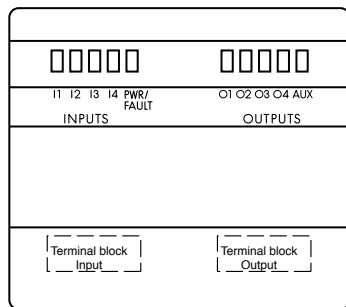
O: Yellow: Output on

PWR/FAULT: Green: AS-Interface powered

Red (solid): Address 0 or no communication

Green/Red (flashing): Overload of input power or outputs

VBA-4E4A-G4-ZE/E2



LED Indicators

I: Yellow: Input on

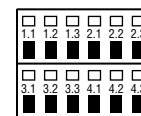
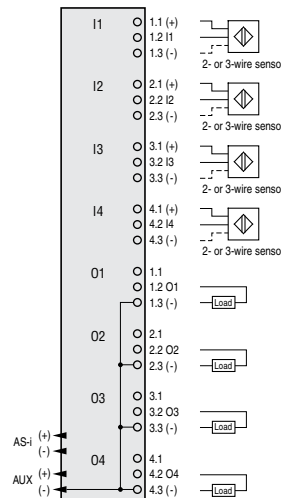
O: Yellow: Output on

PWR/FAULT: Green: AS-Interface powered

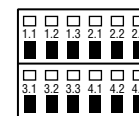
Red (solid): Address 0 or no communication

Green/Red (flashing): Overload of input power or outputs

AUX: Green: Auxiliary powered



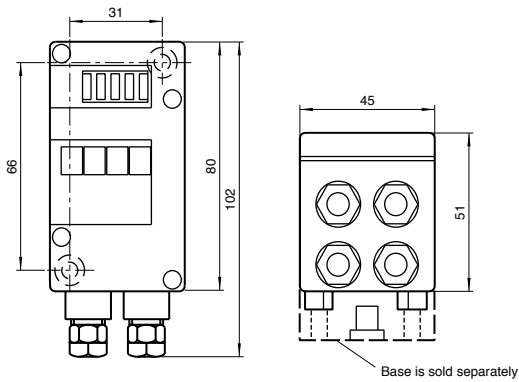
INPUTS



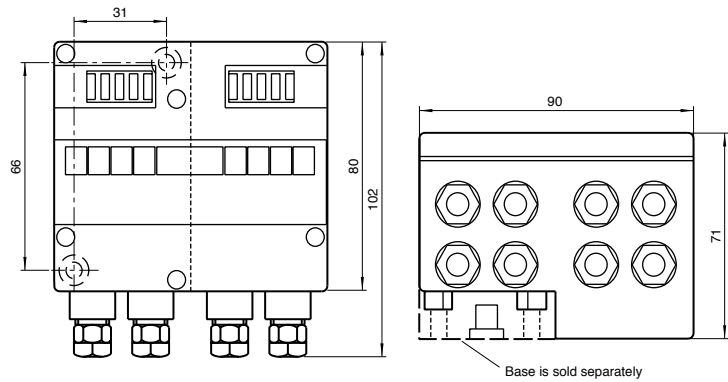
OUTPUTS

Dimensions (mm)

VBA-4E-G4-ZE
VBA-2E2A-G4-ZE/E2



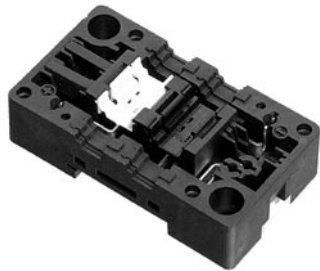
VBA-4E4A-G4-ZE/E2



Accessories

U-G1FFA

Flat cable mounting base for black and yellow cables with addressing jack

**U-G1PP**

Round cable base with external power terminals

**PG11 CORD GRIP**

PG11 cord grip, includes nut and round cable grommet

**PG11-1/2NPT**

PG11 male to 1/2" NPT female conduit adapter



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