

Low-Profile Flat with SPEEDCON I/O Modules

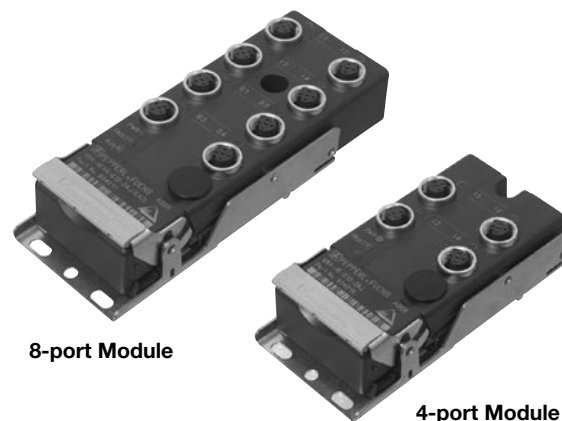
- Low-profile flat housing—30 mm high
- Standard and DIN rail mount integrated in base
- Built in addressing jack
- SPEEDCON M12 quick disconnect for all I/O
- Flat cable AS-Interface connections

Flat Module with SPEEDCON Overview

High-end G12 modules are ideal for applications requiring fast and flexible installation, easy access to diagnostic feedback, and long service lives. The G12 features a stainless steel installation bar that pulls the module safely onto the stainless steel base. Once the installation bar has been closed, a “click” tells the user that the module has been installed properly and securely. I/O connections are achieved with a single ½-turn using our SPEEDCON M12 solution. These M12 I/O connectors can be used with both standard cables as well as SPEEDCON versions.

G12 comes in a number of I/O mixes and two distinct housing sizes. Both housing sizes use the same rugged stainless steel mounting base. With the stainless steel mounting base, changing the I/O count is as simple as replacing one module top with another, without having to remount the base and AS-Interface cable.

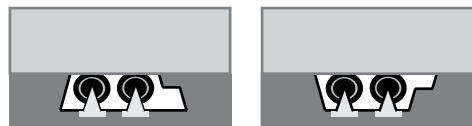
Diagnostic feedback is provided with an output-specific overload indication right on the module. Under normal operating conditions, the multicolor LEDs display the state of the output. Short-circuited and overloaded outputs are provided at the PLC via the peripheral fault bit. This allows maintenance personnel to quickly determine which module has a problem. The overloaded output is directly indicated via a red LED. Faster problem resolution results in higher machine up-time.



8-port Module

4-port Module

Gold-plated piercing contacts ensure long-term, AS-Interface performance. Our machined, gold-plated contacts offer corrosion resistance that is superior to stamped (flat) contacts plated with non-precious metals.

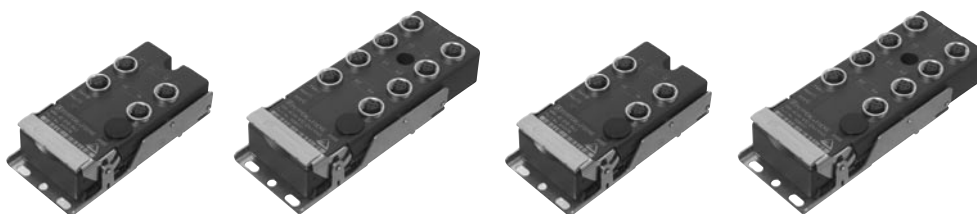












The G12 also features an integrated DIN clip for DIN rail mounting. With the integrated DIN clip, stainless steel mounting base customers do not have to choose ahead of time how G12 is mounted. Less to consider means faster planning, ordering, and installation.

See pages 82-83 for Flat Module with SPEEDCON wiring and dimensions.

Common Specifications

OPERATING VOLTAGE AS-i	26.5-31.6 V
OPERATING VOLTAGE, V _{AUX}	20.4-27.6 VDC
INPUT SWITCHING FREQUENCY	≤ 1 kHz
INPUT DELAY	≤ 1 ms from input to AS-i
PROTECTION	IP67
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 cULus



Specifications		4-in	8-in	2-in/2-out	4-in/4-out
INPUTS/OUTPUTS		4-in	8-in	2-in/2-out	4-in/4-out
MODEL NUMBER(S)*		VBA-4E-G12-ZAJ ⚡	VBA-4E4E-G12-ZAJ ⚡	VBA-2E2A-G12-ZAJ/EA2L ⚡	VBA-4E4A-G12-ZAJ/EA2L ⚡
BASE		Included	Included	Included	Included
EXTENDED ADDRESSING (62 NODES)		Yes	Yes (2 addresses)	Yes	Yes
REQUIRED MASTER SPEC.		–	–	M3, M4	M4
AS-i OPERATING CURRENT		40-240 mA	80-280 mA	40-240 mA	40-240 mA
AUXILIARY CURRENT LIMIT		–	–	4 A	4 A, 6 A (T ≤ 104 °F)
INPUTS	-ZAJ	PNP, AS-i powered	PNP, AS-i powered	PNP, AS-i powered	PNP, AS-i powered
		–	–	–	–
	TYPE	2-, 3-, or 4-wire	2-, 3-, or 4-wire	2-, 3-, or 4-wire	2-, 3-, or 4-wire
	SUPPLY VOLTAGE	21-31 V from AS-Interface	21-31 V from AS-Interface	21-31 V from AS-Interface	21-31 V from AS-Interface
	MAXIMUM CURRENT	200 mA	200 mA	200 mA	200 mA
	SWITCH POINT	OFF ≤ 2 mA, ON ≥ 4 mA	OFF ≤ 2 mA, ON ≥ 4 mA	OFF ≤ 2 mA, ON ≥ 4 mA	OFF ≤ 2 mA, ON ≥ 4 mA
	LOAD CURRENT	≤ 8 mA	≤ 8 mA	≤ 8 mA	≤ 8 mA
OUTPUTS	EA2L	–	–	PNP, auxiliary powered	PNP, auxiliary powered
	SUPPLY VOLTAGE	–	–	≥ (V _{AUX} -0.5 V)	≥ (V _{AUX} -0.5 V)
	CURRENT PER OUTPUT	–	–	≤ 2 A	≤ 2 A
DATA BITS	D0	IN1	IN1.1, IN2.1	OUT1	IN1/OUT1
	D1	IN2	IN1.2, IN2.2	OUT2	IN2/OUT2
	D2	IN3	IN1.3, IN2.3	IN3	IN3/OUT3
	D3	IN4	IN1.4, IN2.4	IN4	IN4/OUT4
PARAMETER BITS	P0	–	–	Watchdog on/off	Watchdog on/off
	P1	2 ms input filtering on/off†	2 ms input filtering on/off†	2 ms input filtering on/off†	2 ms input filtering on/off†
	P2	Synchronization on/off†	Synchronization on/off†	Synchronization on/off†	Synchronization on/off†
PERIPHERAL FAULT BIT		Input overload	Input overload	Input/output overload	Input/output overload
PROFILE	S-IO.ID.ID1.ID2	S-0.A.7.2	S-0.A.1.2, S-0.A.2.2	S-B.A.7.2	S-7.A.7.7
WEIGHT		200 g (7.1 oz)	230 g (8.1 oz)	200 g (7.1 oz)	230 g (8.1 oz)
AS-INTERFACE CONNECTION		 Flat yellow cable	 Flat yellow cable	 Flat yellow cable	 Flat yellow cable
AUXILIARY POWER CONNECTION		–	–	 Flat black cable	 Flat black cable
I/O CONNECTION		 M12 SPEEDCON	 M12 SPEEDCON	 M12 SPEEDCON	 M12 SPEEDCON

† Default setting

⚡ Stocked item
Consult factory for all other models

*Also Available

INPUTS/OUTPUTS	Model Number	Base	Required Master Spec.	Profile S-IO.ID.ID1.ID2	Extended Addressing	Special Features
4-in	VBA-4E-G12-ZAL	Included	–	S-0.A.7.2	Yes	Auxiliary powered inputs
4-in/3-out	VBA-4E3A-G12-ZAJ/EA2L	Included	M3, M4	S-7.A.7.2	Yes	
4-in/4-out	VAA-4E4A-G12-ZAJ/EA2L ⚡	Included	–	S-7.F.F.E	No	
	VAA-4E4A-G12-ZAL/EA2L	Included	–	S-7.F.F.E	No	Auxiliary powered inputs and outputs
4-out	VAA-4A-G12-EA2L ⚡	Included	–	S-8.1.F.E	No	

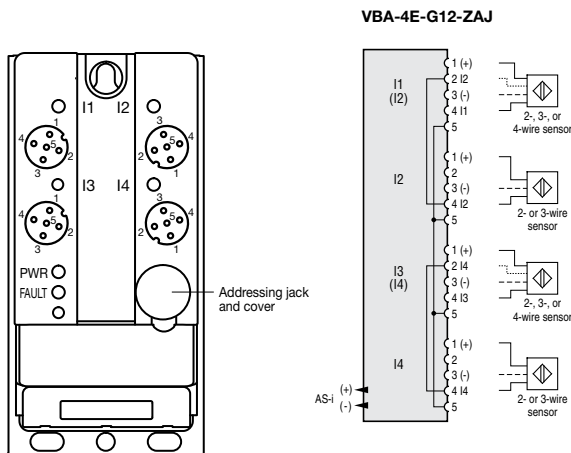
Subject to modifications without notice

Pepperl+Fuchs Group
www.pepperl-fuchs.comUSA: +1 330 486 0001
fa-info@us.pepperl-fuchs.comGermany: +49 621 776-4411
fa-info@de.pepperl-fuchs.comCopyright Pepperl+Fuchs
Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS
SENSING YOUR NEEDS

Wiring Diagrams

Note: Wiring Diagrams show quick disconnect pin numbers.

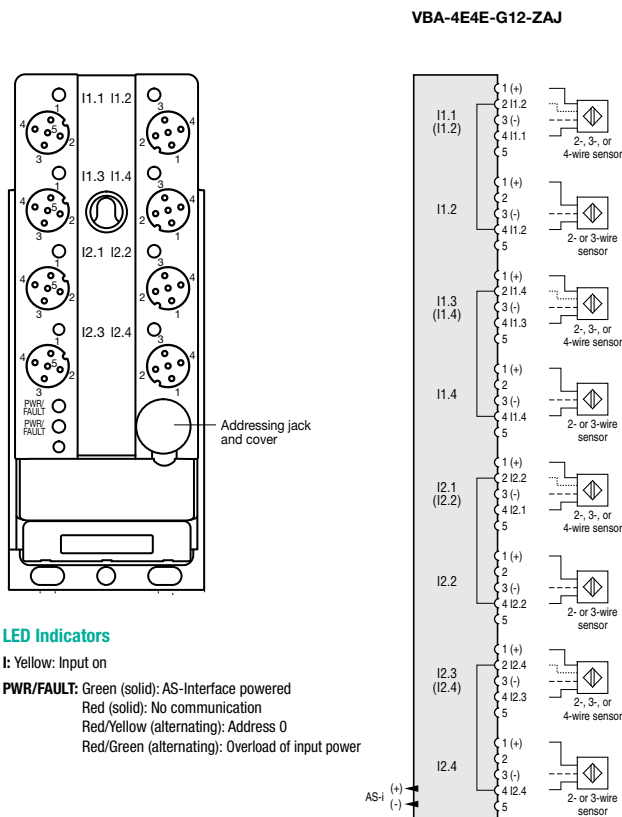


LED Indicators

I: Yellow: Input on

PWR: Green (solid): AS-Interface powered
Green (flashing): Address 0

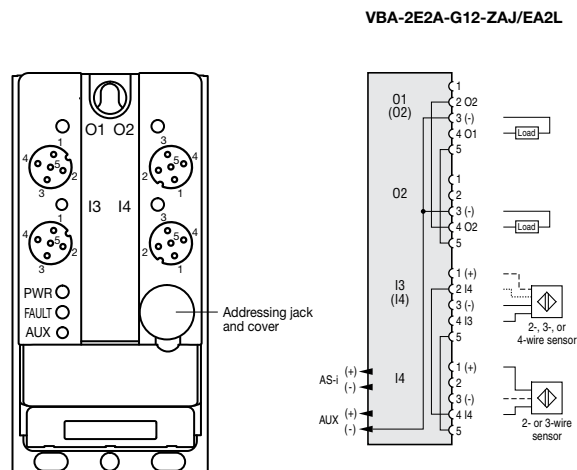
FAULT: Red (solid): Address 0 or no communication
Red (flashing): Overload of input power



LED Indicators

I: Yellow: Input on

PWR/FAULT: Green (solid): AS-Interface powered
Red (solid): No communication
Red/Yellow (alternating): Address 0
Red/Green (alternating): Overload of input power



LED Indicators

I: Yellow: Input on

O: Yellow: Output on
Red: Output overload

PWR: Green (solid): AS-Interface powered
Green (flashing): Address 0

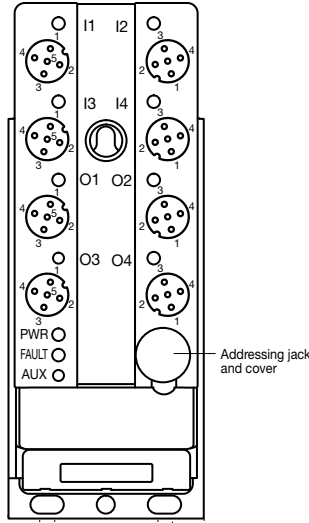
FAULT: Red (solid): Address 0 or no communication
Red (flashing): Overload of input power or outputs

AUX: Green: Auxiliary powered
Red: Reverse polarity

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

Wiring Diagrams

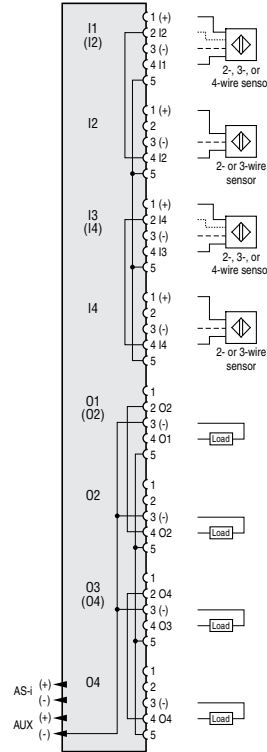
Note: Wiring Diagrams show quick disconnect pin numbers.



LED Indicators

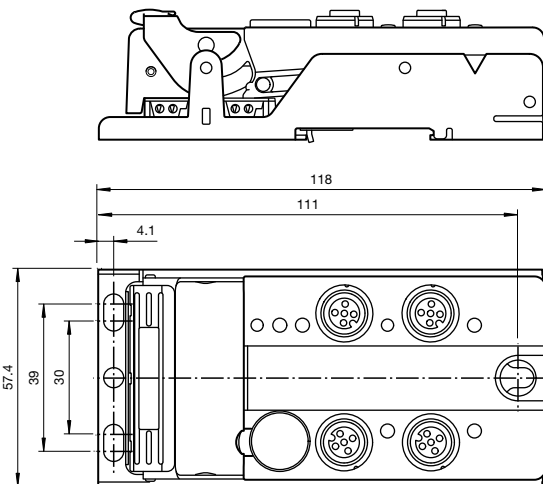
- I:** Yellow: Input on
- O:** Yellow: Output on
Red: Output overload
- PWR:** Green (solid): AS-Interface powered
Green (flashing): Address 0
- FAULT:** Red (solid): Address 0 or no communication
Red (flashing): Overload of input power or outputs
- AUX:** Green: Auxiliary powered
Red: Reverse polarity

VBA-4E4A-G12-ZAJ/EA2L

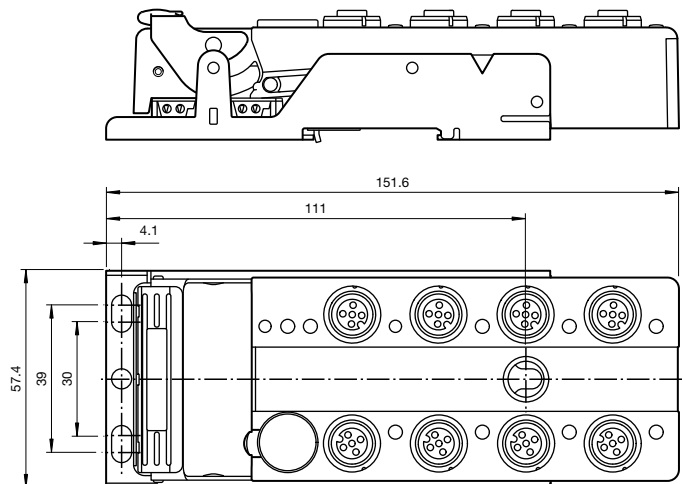


Dimensions (mm)

VBA-4E-G12-ZAJ
VBA-2E2A-G12-ZAJ/EA2L



VBA-4E4E-G12-ZAJ
VBA-4E4A-G12-ZAJ/EA2L



I/O Modules Low-Profile Flat with SPEEDCON

Subject to modifications without notice

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776-4411
fa-info@de.pepperl-fuchs.com

Copyright Pepperl+Fuchs
Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PF PEPPERL+FUCHS
SENSING YOUR NEEDS