



ECOLAB

Model number

VBA-2E1A-G10-ZAL/E2L-P1

G10 ultra compact module
2 inputs and 1 output

Features

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

Function

The AS-Interface G10 ultra-compact module is suitable for the remote connection of sensors and actuators 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 and actuators are connected to the module via M8 sockets.

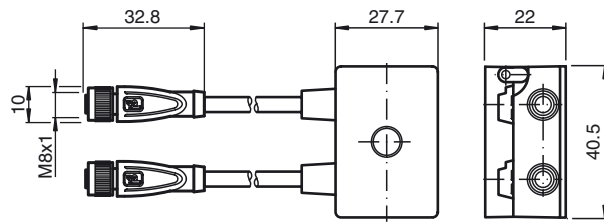
Multiple LEDs indicate the current status of the AS-Interface strand and the inputs and outputs and are used for diagnosis. The ultra-compact module is powered from U_{AUX} .

Accessories

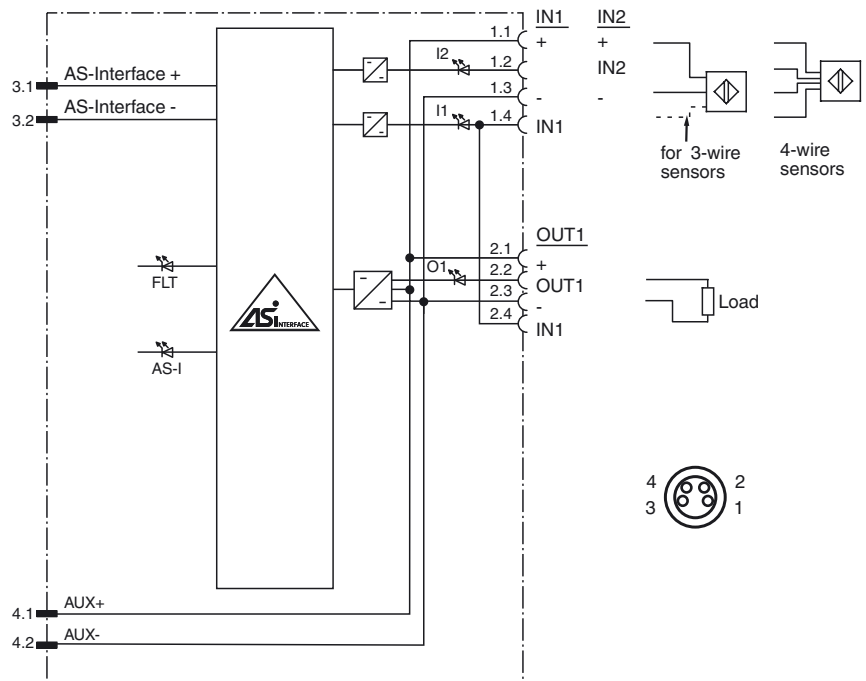
VAZ-PK-FK-0,2M-V1-W

Adapter cable G10 module/hand-held programming device

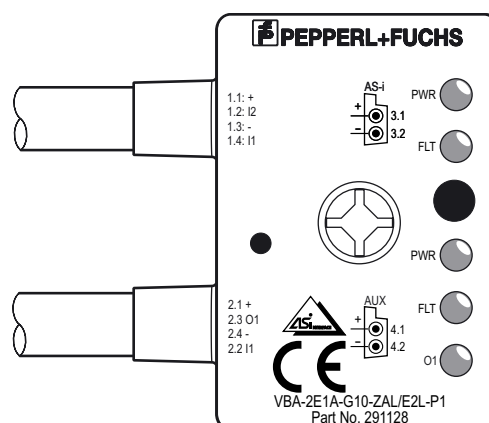
Dimensions



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 "For use in NFPA 79 Applications only"

Indicators/operating means

LED FAULT	error display; LED red red: communication error or address is 0 red flashing: overload of sensor power supply or overload of outputs or external auxiliary voltage U_{AUX} missing
LED AS-i	AS-Interface voltage; LED green
LED IN	switching state (input); 2 LED yellow
LED OUT	Switching state (output); LED yellow

Electrical specifications

Auxiliary voltage	U_{AUX}	20 ... 30 V DC PELV
Rated operating voltage	U_e	18.5 ... 31.6 V from AS-Interface
Rated operating current	I_e	≤ 40 mA / max. 60 mA
Protection class		III
Surge protection		U_{AUX} , U_{in} : Over voltage category III, safe isolated power supplies (PELV)

Input

Number/Type	2 inputs for 2- or 3-wire sensors (PNP), DC option 1 input for 4-wire sensor (PNP), DC
Supply	from external auxiliary voltage U_{AUX}
Voltage	20 ... 30 V
Current loading capacity	≤ 1000 mA 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)

Output

Number/Type	1 electronic output, PNP,
Supply	from external auxiliary voltage U_{AUX}
Voltage	≥ (U_{AUX} - 0.5 V)
Current loading capacity	≤ 1000 mA overload and short-circuit resistant

Directive conformity

Electromagnetic compatibility	
Directive 2014/30/EU	EN 62026-2:2013

Standard conformity

Degree of protection	EN 60529:2000
Fieldbus standard	EN 62026-2:2013
Input	EN 61131-2:2007
Emitted interference	EN 61000-6-4:2011
AS-Interface	EN 62026-2:2013
Noise immunity	EN 61000-6-2:2005 , EN 62026-2:2013

Programming instructions

Profile	S-7.A.E
IO code	7
ID code	A
ID1 code	7
ID2 code	E

Data bits (function via AS-Interface)	input	output
D0	IN1	O1
D1	IN2	-
D2	-	-
D3	-	-

Parameter bits (programmable via AS-i) function

P0	communication monitoring P0 = 1 (default settings), monitoring = ON, i.e. if communication fails, the outputs are de-energised P0 = 0, monitoring = OFF, if communication fails, the outputs maintain their condition
P1	Input filter P1 = 0 input filter on, pulse suppression ≤ 2 ms P1 = 1 input filter off (default settings)
P2	Synchronous mode P2 = 0 synchronous mode on 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)
Shock and impact resistance	30 g, 11 ms in 6 spatial directions 3 shocks 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

Mechanical specifications

Degree of protection	IP67 IP67 / IP68 / IP69K with flat cable VAZ-FK-S*
Connection	AS-Interface/U _{AUX} : AS-Interface flat cable In-/outputs & matching connector: M8 round connector, 4-pin, A-coded, according to IEC 61076-2-104
Material	
Contacts	CuSn / Au
Housing	PBT PC
Body	black PUR
Cable	PUR
Mounting screw	Stainless steel 1.4305 / AISI 303
Cable	
Sheath diameter	Ø4,3 mm
Color	black
Cores	4 x 0.34 mm ²
Length	L 0.35 m
Mass	100 g
Tightening torque, fastening screws	1.65 Nm
Tightening torque, cable gland	0.4 Nm

Approvals and certificates

UL approval	cULus Listed, Type 1 enclosure
Maximum permissible ambient temperature	≤ 65 °C (≤ 149 °F)

Notes

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.

Mounting instructions

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

