AS-Interface analog module

VBA-2A-G4-I

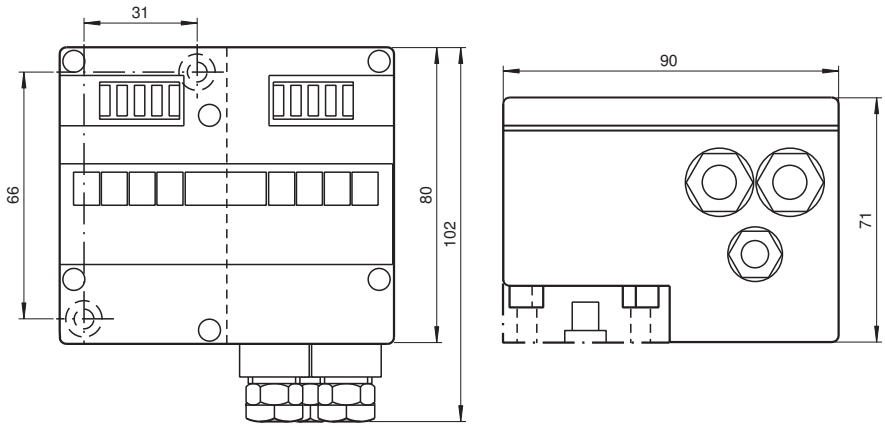
- Degree of protection IP65
- Flat or round cable connection (via standardized EEMS base, not included with delivery)
- Cable piercing method for flat cable
- Function display for bus, external auxiliary voltage and outputs
- Power supply of outputs external or from the module, as required

G4 module IP652 analog outputs (current)

Function

The VBA-2A-G4-I analogue module has two analogue current outputs 0 mA ... 20 mA. Measured value conversion and data transmission are performed asynchronously in accordance with AS-Interface profile 7.3. Depending on how the plug-in jumpers are wired, the outputs can be powered from the AS-Interface or the external auxiliary power through the black flat wire. The resolution of analog values is 13 bits.
The G4 module in IP65 is particularly suitable for hard field use. The connection to the outputs is established by screwed connections and cage-clamp terminals. This makes the installation especially user friendly. The module can be plugged directly onto the adapter of the VBP-HH1 of the hand held programming device for pre-addressing.
The connection to the AS-Interface transmission line and the external 24 V DC power supply can be made with flat wire or round cable. If AS-Interface flat wire is used, the lower part of the U-G1FF should be used. The contact to the two lines is made with the EEMS interface standardised for AS-Interface, i. e. using the insulation penetration technique.
For a round cable, the U-G1PP base should be used. Here as well, it is possible to connect both the AS-Interface lead and the external power supply in the base.

Dimensions



Technical Data

General specifications		
Node type		Standard node
AS-Interface specification		V2.1
Required gateway specification		≥ V2.1
UL File Number		E223772
Functional safety related parameters		
$MTTF_d$		145 a at 30 °C

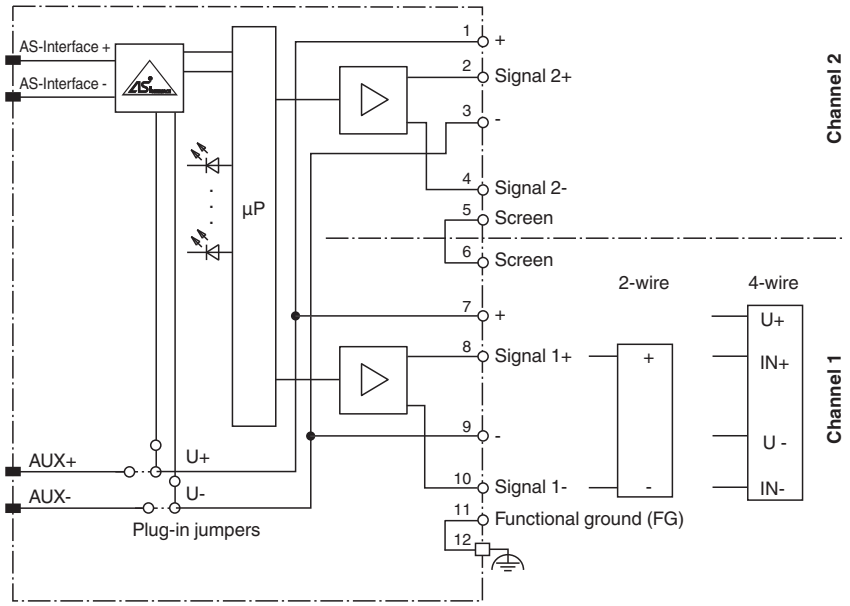
Release date: 2021-09-28 Date of issue: 2021-09-28 Filename: 112479_eng.pdf

Technical Data

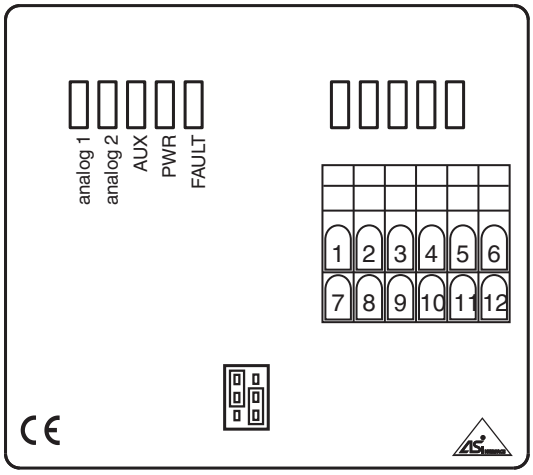
Indicators/operating means		
LED FAULT		error display; LED red red: communication error red flashing: peripheral error
LED PWR		AS-Interface voltage; LED green
LED ANALOG		status output signal; LED green green: 0 mA ≤ I ≤ 23 mA green flashing: I > 23 mA (peripheral error)
LED AUX		ext. auxiliary voltage U_{AUX}; LED green
Electrical specifications		
Auxiliary voltage (output)	U_{AUX}	24 V DC ± 15 % PELV
Rated operating voltage	U_e	26.5 ... 31.6 V from AS-Interface
Rated operating current	I_e	≤ 80 mA
Protection class		III
Output		
Number/Type		2 analog outputs (current), 0 ... 20 mA
Supply		from AS-Interface or from external auxiliary voltage as required U_{AUX}
Resolution		13 Bit / 1 µA
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 62026-2:2013
Standard conformity		
Degree of protection		EN 60529:2000
AS-Interface		EN 62026-2:2013
Programming instructions		
Profile		S-7.3.5
IO code		7
ID code		3
ID2 code		5
Data bits (function via AS-Interface)		The transfer of the data value is based on AS-Interface Profile 7.3.
Parameter bits (programmable via AS-i)		**function**
P0		not used
P1		projecting of the 2nd channel P1=1, channel 2 is projected P1=0, channel 2 is not projected
P2		Message of peripheral error P2=1, peripheral error is reported P2=0, peripheral error is not reported
P3		not used
Ambient conditions		
Ambient temperature		0 ... 70 °C (32 ... 158 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)
Mechanical specifications		
Degree of protection		IP65
Connection		cable piercing method or terminal compartment yellow flat cable/black flat cable or standard round cable inputs/outputs: 2 x M16 x 1.5 cable glands and cage tension spring terminals, 1 x M12 x 1.5 cable gland (not used)
Material		
Housing		PA 6 GF30
Mass		350 g
Mounting		DIN mounting rail

Release date: 2021-09-28 Date of issue: 2021-09-28 Filename: 112479_eng.pdf

Connection



Assembly



Spring terminal block:

1:	24V ext.	7:	24V ext.
2:	Sig.+ Ch. 2	2:	Sig.+ Ch. 1
3:	0 V ext.	9:	0 V ext.
4:	Sig.- Ch. 2	10:	Sig.- Ch. 1
5:	Shield	11:	FG
6:	Shield	12:	FG

Plug-in jumper:


Power supply of outputs from the external auxiliary power


Power supply of outputs from the module (AS-Interface)

Connection

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.

Matching System Components

	**U-G1FF**	AS-Interface module mounting base for connection to flat cable (AS-Interface and external auxiliary power)
	**U-G1FFA**	AS-Interface module mounting base with adressing jack for connection to flat cable (AS-Interface and external auxiliary power)
	**U-G1PP**	AS-Interface module mounting base for connection to round cable (AS-Interface and external auxiliary power)

Release date: 2021-09-28 Date of issue: 2021-09-28 Filename: 112479_eng.pdf

Accessories

	**VBP-HH1-V3.0-KIT**	AS-Interface Handheld with accessory
	**VAZ-G4-B1**	Blind plug M12

Release date: 2021-09-28 Date of issue: 2021-09-28 Filename: 112479_eng.pdf