

Analogue output module XMP-GA-8-AO / HAND

Fields of application

- Controlling of valves and ventilation shutters
- for P-, PI-, PD- or PID-control or cascade control by combination of two or more PID

Functions, properties, options

- RS485 interface
- Hardware addressing via micro switches
- 8 analog outputs (AO1 – AO8), short circuit-proof
- output values: 0-10V DC, 0-20mA, 4-20mA
- 8 Bit resolution (corresponds to 70mV in the range 0-10V)
- diagnosis of communication status via 2 LED's
- 8 displaying LED's for indication of the output state
- all outputs directed via separating terminals
- **Option: XMP-GA-8-AO-HAND** with manual operating panel → 8 switches and potentiometers (for manual operation)

Technical data

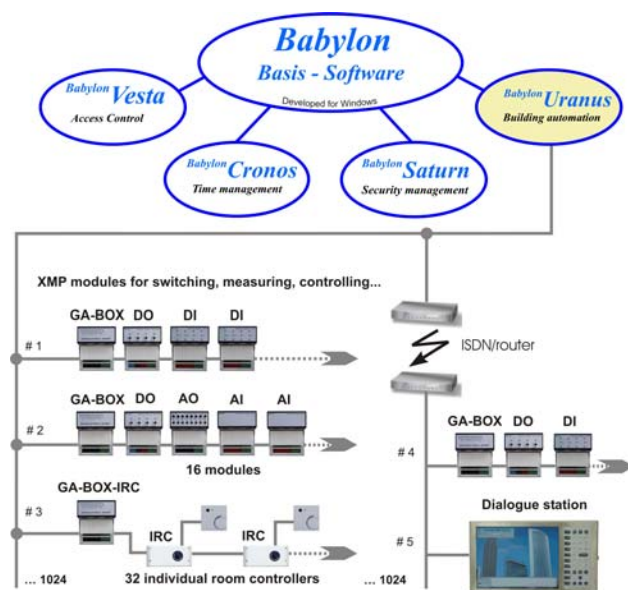
Power supply:	24 V AC ±10%
	(for voltage supply of the field devices aseparat power supply must be used)
Current consumption:	max. 100 mA for 24 V AC (in idle state)
Power consumption:	approx. 2.5 W in idle state (dependent on external wiring max. 10 W)
Max. burden:	600 Ω
Interfaces:	1 x RS485 9600 Baud asynchronous 19200 Baud asynchronous
Processor:	AT89C51
Ambiance conditions:	in operation: 0 to 50°C (32 to 122°F) storage: -40 to 70°C (- 40 to 158°F) 5 - 95% relative humidity, not condensing
Dimensions:	(HxWxL) 150 x 114.5 x 135 mm 160 x 114.5 x 135 mm (/HAND)
Weight:	approx. 0.54 kg approx. 0.56 kg (/HAND)

Module for controlling of 8 analogue outputs (without or with manual operating panel)



XMP-GA-8-AO

XMP-GA-8-AO-HAND



Scheme for the connection possibilities of the XMP-GA modules to BABYLON/NT

XMP-GA-BOX	GA controller module for the GA input and output modules as well as for the individual room controllers (special firmware!)
XMP-GA-12-DI	12 times binary input
XMP-GA-12-DO	12 times binary output
XMP-GA-12-DO-HAND	12 times binary output with manual operating panel
XMP-GA-4-DO	4 times binary output
XMP-GA-4-DO-HAND	4 times binary output with manual operation panel
XMP-GA-8-AI	8 times analogue input
XMP-GA-8-AO	8 times analogue output
XMP-GA-8-AO-HAND	8 times analogue output with manual operating panel
XMP-GA-IRC-001	Individual room controller

Order number: **XMP-GA-8-AO**
XMP-GA-8-AO-HAND

XMP-GA-8-AO-HAND specifications

The flexible URANUS-modules offer the optimal solution for the planning of building specific automation systems. The **XMP-GA-8-AO modules** are used for controlling of active analog field devices.

With the eight switches which are integrated in the **XMP-GA-8-AO-Hand** module the eight analog outputs can be adjusted to AUTOMATIK (controlled by the system) or to HAND (manual operation). There are eight potentiometers on the AO module for the manual operation of the single outputs. With the potentiometers the output signal can be adjusted.

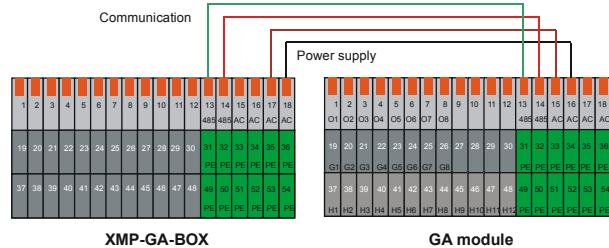
Connection terminals

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
O1	O2	O3	O4	O5	O6	O7	O8					485	485	AC1	AC1	AC2	AC2
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
G1	G2	G3	G4	G5	G6	G7	G8					PE	PE	PE	PE	PE	PE
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
												PE	PE	PE	PE	PE	PE

Legend: O1-O8: Ouput
 G1-G8: Ground
 AC1 / AC2: 24 V / AC
 485: RS485 interface
 PE: Protected earth

The terminal occupancy of the XMP-GA-8-AO (-HAND)

Terminal No.	13	14	15	16	17	18
Function	RX Communication RS485	TX Communication RS485	AC1 Operation voltage module	AC1 Operation voltage module	AC2 Voltage transfer to the next module	AC2 Voltage transfer to the next module



Hints for wiring:

The operation voltage for every module is connected from outside via the connection terminals. It is possible to connect the communication lines from one module to the other by using the enclosed connector device or using the connection terminals (13,14) of the modules. Data cable need to be twisted paired and shielded! (For example: Y-STY or better).

Attention!
 The field-devices must be supplied by a separate power supply **absolutely!**
That means: The power supply for the operation of the XMP-GA Modules and those of the field devices must not be the same! The ignoring of this hint can effect serious damages on the XMP-GA Module.

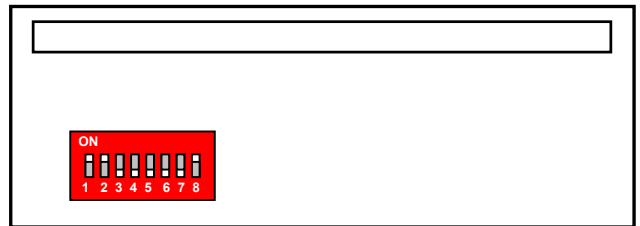
Configuration possibilities:

The value range of the outputs is 0-10V DC. The resolution (8 Bit ADC) corresponds to ±70 mV within the voltage range from 0-10V DC.

The following terminal occupancy must be considered:

Analog output	Termination pairs
AO1	(1 / 19)
AO2	(2 / 20)
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AO7	(7 / 25)
AO8	(8 / 26)

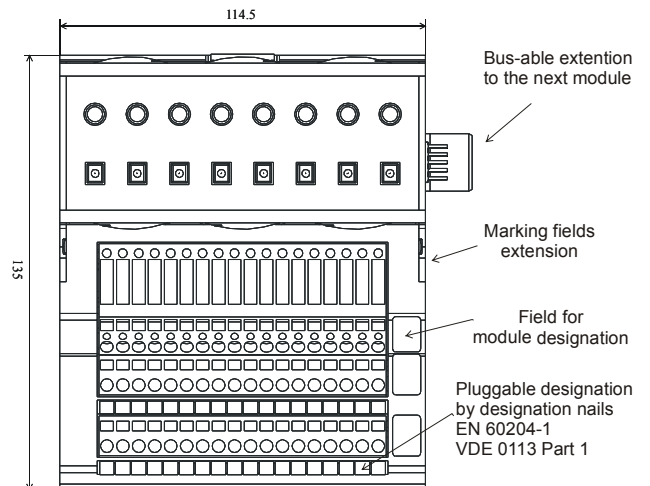
Adjusting the micro switches:



SW1: Adjusting the hardware address of the AO module:

Micro switches 1..4	Adjusting the hardware address (0..15) of the XMP-GA-8-AO Example: 1 2 3 4 1 0 0 0 = addr. 1 0 0 1 1 = addr. 12
Micro switches 5..8	Baudrate (Since Software GA-AO-V1.4) 0 0 0 0 → 9600 Baud 0 0 0 1 → 19200 Baud

Dimensions:



All module types are encoded mechanically on the clamp socket for mix-up prevention !

