B-AO8-01 – 8 analog outputs

- **bit address = 16 * (word address – 1) + 1**

Supported Modbus functions:
01 Read Coils – read bits
02 Read Discrete Inputs – read bits
03 Read Holding Registers – read words
04 Read Input Registers – read words
15 Write Multiple Coils – write bits
16 Write Multiple Registers – write words

Register type:
R – register is read only
W – register is write only
RW – register is read/write
RWE (default value) – register is read from EEPROM, written to EEPROM,
    default value in brackets

name	address	type	description	note
value of channel AO1	1	RW	value range is 0000hex – 0FFFhex (0dec – 4095dec)	
value of channel AO2	2	RW	0000hex – 0V 0FFFhex – 10V	
value of channel AO3	3	RW		
value of channel AO4	4	RW		
value of channel AO5	5	RW		
value of channel AO6	6	RW		
value of channel AO7	7	RW		
value of channel AO8	8	RW		
firmware version	1000	R	firmware version	FW version is **always** the same as this document version
module ID	1001	R	module identification number	module ID is F00Fhex

status LSB	1002 LSB	RW	module status – low byte **bit 0** – enable write to EEPROM **bit 1** – enable SW reset **bit 4** – EEPROM initialization **bit 5** – disable write to all RW registers	**EEPROM initialization:** 1) start device in init mode (address DIP switch is all high – 255 – at start) 2) set DIP switch to any other value than 255 3) set status LSB bit 4, initialization is indicated in status MSB bit 2 **SW reset:** set bit 1, then write any non-zero value to reg. 1002

status MSB	1002 MSB	R	module status – high byte
			bit 0 - 0 normal mode
			    - 1 init mode
			bit 1 - 1 next write to EEPROM register causes writing of **all** data to EEPROM
			    - 0 next write to register is to RAM only
			bit 2 – 1 – EEPROM initialized
			bit 3 – write to all RW registers disabled
			bit 4 – 0
			bit 5 - SW reset enabled
			bit 6 - 0
			bit 7 – 1
				bit 1 ... indication that command given by bit 0 in status LSB was accepted
				
				bit 2 ... indication that command given by bit 4 in status LSB was accepted
				
				bit 3 ... indication that command given by bit 5 in status LSB was accepted
				
				bit 5 ... indication that command given by bit 1 in status LSB was accepted

address	1003	RWE (1)	modbus address of the module	registers change immediately, communication parameters change after restart (data must be written to EEPROM)
baud rate	1004	RWE (13)	10_{dec} ... 1 200bps 11_{dec} ... 2 400bps 12_{dec} ... 4 800bps 13_{dec} ... 9 600bps 14_{dec} ... 19 200bps 15_{dec} ... 38 400bps 16_{dec} ... 57 600bps 17_{dec} ... 115 200bps	

serial port settings	1005	RWE (0)	**bits 0, 1** – parity
			    0 none
			    1 even
			    2 odd
			bit 2 – stopbits
			    0 one stopbit
			    1 two stopbits	

up time	1006 1007	R	time in seconds since last restart or power up	
serial number	1008 1009	RWE (unique)	module serial number, can be written if it is zero	not implemented yet
EEPROM writes	1010	R	EEPROM writes counter	counter 0 …. FFFEh, counting stops at value FFFEh

SW reset	1011	RW	if **status LSB bit 1** (and status MSB bit 5) is set, writing non-zero value causes SW reset	
dip switch	1100	R	actual DIP switch value	