

MODBUS TABLE ORGANIZATION

Starting Address of the Group Registers (Dec)	Starting Address of the Group Registers (Hex)	System Version (Release)	System Version (Build)	Group Name (Text)	Group Code (Hex)	Group Complexity (Hex)	Group Version (Hex)	Object Code
9472	2500	01	16	Alarms	25 00	10	01 00	
0	0000	01	16	Modbus Settings	00 01	10	01 00	
144	0090	03	16	Date & Time	00 90	10	01 00	

MODBUS PROTOCOL DETAILS

Function Code (Dec)	Exception Codes (Dec)	Data Encoding
2 (Read Discrete Inputs)	1, 2, 3	"Big Endian" (most significant byte first)
1 (Read Coils)	1, 2, 3	"Big Endian" (most significant byte first)
5/15 (Write Single/Multiple Coils)	1, 2, 3	"Big Endian" (most significant byte first)
4 (Read Input Registers)	1, 2, 3	"Big Endian" (most significant byte first)
3 (Read Holding register)	1, 2, 3	"Big Endian" (most significant byte first)
6/16 (Write Single/Multiple Holding register)	1, 2, 3	"Big Endian" (most significant byte first)

MODBUS OVER SERIAL DETAILS

Physical Layer	Trasmission Modes	Device Addressing	Baud Rates (bit/s)	Data Bits	Data bits trasmission sequence	Parity	Stop Bits
standard EIA/TIA 485 (RS-485) two-wire configuration	RTU	1÷247	programmable (1200, 2400, 4800, 9600, 19200, 38400)	8	Least significant bit first	NONE	1

MASTER/SLAVE COMMUNICATION TIMING

Timer Description	Timer Value (msec)
Inter-character time-out	< 1,5 character times
Response delay (from master request)	-
Delay Time (between two master trasmissions)	-

REFER ALSO TO:

www.modbus.org

- MODBUS over serial line specification and implementation guide V1.02

- MODBUS APPLICATION PROTOCOL SPECIFICATION V1.1b

NOTE:

File and printed copies of this document are not subject to document change control.

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [bit]	Description	Note	Read Function Codes (Dec)	Data Storing
1	0	0000	2	Modbus Settings			
1	0	0	1	Remote configuration enabled	See Note 1	2	
2	1	1	1	Automatic setting configuration enabled	See Note 1	2	

Note 1
bit = 0 : NO
bit = 1 : YES

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [bit]	Description	Note	Read Function Codes (Dec)	Write Function Codes (Dec)	Data Storing
(no COILS availables)								

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing
1	0	0000	9		Modbus Settings							
1	0	0	1		Modbus Address		-	-	1÷246		4	
2	1	1	1		Baudrate		0,1	kbps			4	
3	2	2	1		Parity		-	-	0, 1, 2	See Note 3	4	
4	3	3	1		Mode		-	-	0, 1	See Note 4	4	
5	4	4	1		Stop Bit		-	-	0, 1	See Note 5	4	
6	5	5	1		"Point to point" min answer time		1	ms	-		4	
7	6	6	1		"Point to point" max answer time		1	ms	-		4	
8	7	7	1		"No Answers" Min Waiting Time		1	ms	-		4	
9	8	8	1		Point to point min response time		1	ms	-		4	
9473	9472	2500	100		Alarms							
9473	9472	2500	5		Alarm 1 (most recent)		-	-	-	See Note 6	4	
9478	9477	2505	5		Alarm 2		-	-	-	See Note 6	4	
9483	9482	250A	5		Alarm 3		-	-	-	See Note 6	4	
9488	9487	250F	5		Alarm 4		-	-	-	See Note 6	4	
9493	9492	2514	5		Alarm 5		-	-	-	See Note 6	4	
9498	9497	2519	5		Alarm 6		-	-	-	See Note 6	4	
9503	9502	251E	5		Alarm 7		-	-	-	See Note 6	4	
9508	9507	2523	5		Alarm 8		-	-	-	See Note 6	4	
9513	9512	2528	5		Alarm 9		-	-	-	See Note 6	4	
9518	9517	252D	5		Alarm 10		-	-	-	See Note 6	4	
9523	9522	2532	5		Alarm 11		-	-	-	See Note 6	4	
9528	9527	2537	5		Alarm 12		-	-	-	See Note 6	4	
9533	9532	253C	5		Alarm 13		-	-	-	See Note 6	4	
9538	9537	2541	5		Alarm 14		-	-	-	See Note 6	4	
9543	9542	2546	5		Alarm 15		-	-	-	See Note 6	4	
9548	9547	254B	5		Alarm 16		-	-	-	See Note 6	4	
9553	9552	2550	5		Alarm 17		-	-	-	See Note 6	4	
9558	9557	2555	5		Alarm 18		-	-	-	See Note 6	4	
9563	9562	255A	5		Alarm 19		-	-	-	See Note 6	4	
9568	9567	255F	5		Alarm 20 (older)		-	-	-	See Note 6	4	

Note 3
0 = None 1 = Odd 2 = Even (default)
Note 4
0 = RTU (default) 1 = ASCII
Note 5
0 = 1 stop bit (default) 1 = 2 stop bits

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Code (Dec)	Data Storing
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Note 6												
WORD 4 MSB = year LSB = month												
WORD 3 MSB = day LSB = hour												
WORD 2 MSB = minute LSB = seconds												
WORD 1 MSB = Modbus Address of the module in alarm LSB = Map ID (01: input bit, 02: coils, 03: input register, 04: holding register, 05: error code)												
WORD 0 = register's address or error code 0001 = Wrong Configuration 1 0002 = Wrong Configuration 2 0003 = No Communication 0004 = Double Functionality 0005 = Devices Number exceeded 0006 = "Link Functionality" error												

Register Number	Register Address (Dec)	Register Address (Hex)	Dimension [word]	Bit Position	Description	Type	Scale	Unit	Range	Note	Read Function Codes (Dec)	Write Function Codes (Dec)	Data Storing
145	144	0090	3										
145	144	90	3		Date & Time		-	-	-	See Note 1	3	16	

Note 1

The device returns current data & time in the following format:

- WORD2: "year" (MSB) and "month" (LSB)
- WORD1: "day" (MSB) and "hour" (LSB)
- WORD0: "minutes" (MSB) and "seconds" (LSB)

ex. 10th October 2020, 12:25:00
Tx: ADDR 03 0090 0003
Rx: ADDR 03 06 14 0A 0A 0C 19 00

To Write Data & Time:
ex. 13th October 2020, 10:00:00
Tx: ADDR 10 0090 0003 06 14 0A 0D 0A 00 00