

AutoMate Resolution

Automate Resolution # 858PRG
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Problem to be solved:

Q: How to use the command interface in Modbus in iEM3000 series?

A: When using command interface in Modbus, the commands must be sent in block, which means to send all registers at the same time. For the registers marked as reserved, he can set value 0 or random but in one block.

See examples below, for more information about Modbus implementation please refer to iEM3000 series user manual Ref: DOCA0005EN-05

Example 1:

How to use the command interface to set Date/Time 11/12/2014 13:00:00

Command list

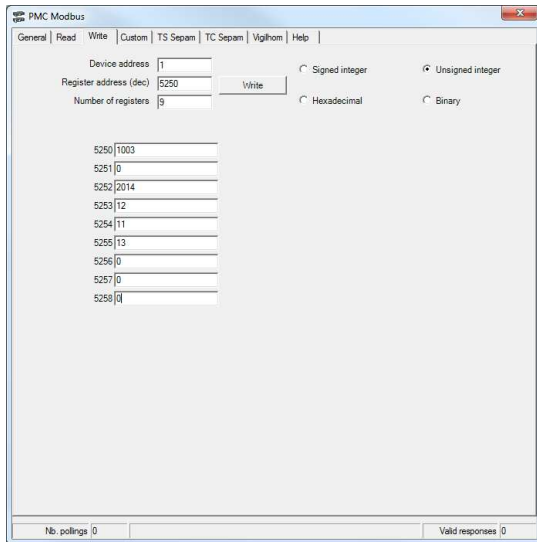
Set Date/Time

Command Number	Action (R/W)	Size	Type	Unit	Range	Description
1003	W	1	UInt16	—	—	(Reserved)
	W	1	UInt16	—	2000–2099	Year
	W	1	UInt16	—	1–12	Month
	W	1	UInt16	—	1–31	Day
	W	1	UInt16	—	23	Hour
	W	1	UInt16	—	0–59	Minute
	W	1	UInt16	—	0–59	Second
	W	1	UInt16	—	—	(Reserved)

Values to send

Register	Values	Description
5250	1003	Command
5251	0	Reserved (Included in parameter information)
5252	2014	Year
5253	12	Month
5254	11	Day
5255	13	Hour
5256	0	Minute
5257	0	Second
5258	0	Reserved

I will use PMCMdbus that allows me to send all the information in 1 block



Checking the command result

Command result

The command result can be obtained by reading registers 5375 and 5376.

The following table describes the command result:

Register Address	Content	Size (Int16)	Data (example)
5375	Requested Command Number	1	2008 (Set Tariff)
5376	Result Command result codes: – 0 = Valid Operation – 3000 = Invalid Command – 3001 = Invalid Parameter – 3002 = Invalid Number of Parameters – 3007 = Operation Not Performed	1	0 (Valid Operation)



After 1 couple of minutes checking in the meter



Example 2

How to use the command interface to set pulse width to 300

	**	←	↑	↓	←	←	(Reserved)
2038	W	1	UInt16	—	—	—	(Reserved)
	W	1	UInt16	—	—	—	(Reserved)
	W	1	UInt16	ms	50, 100, 200, 300	—	Pulse width

Register	Values	Description
5250	2038	Command
5251	0	Reserved (Included in parameter information)
5252	0	Reserved (Included in parameter information)
5253	300	Pulse width

PMC Modbus

General | Read | Write | Custom | TS Sepam | TC Sepam | Vigilhom | Help

Device address: 1

Register address (dec): 5250

Number of registers: 4

Write

Signed integer
 Unsigned integer
 Hexadecimal
 Binary

5250	2038
5251	0
5252	0
5253	300

Nb. pollings: 1304

Valid responses: 1306

Nevertheless, you should enable the Pulse Output (command 2003)

PMC Modbus

General | Read | Write | Custom | TS Sepam | TC Sepam | Vigilhom | Help

Device address: 1

Register address (dec): 5375

Number of registers: 2

Start

Stop

Signed integer
 Unsigned integer
 Hexadecimal
 Binary

Address	Value	Address	Value	Address	Value
5375	2038				
5376	0				

Nb. pollings: 1344

Valid responses: 1348

Verifying command result



Note: You should enable the Pulse Output (command 2003)*

This document is available on <http://www.tscautomate.com>

All information provided in this document is correct to the best knowledge of the author. This approach was designed and tested in laboratory conditions. The environment influences behavior of electronic devices and therefore the user takes full responsibility for applying presented solutions.