

## R710 Modbus – digital counter module

- **bit address = 16 \* (word address -1) +1**
- **supported modbus functions – F01, F03, F15, F16**

name	address	type (def)	description	note
module ID	1 LSB 1 MSB	R	Module identification	Module ID: 8071hex
firmware MSB	2 LSB 2 MSB	R	Firmware version	FW version (in dec) corresponds with version of this document
status LSB	3 LSB	R, W RAM	module status lower byte <b>bit 0</b> – enable EEPROM write <b>bit 1</b> – SW reset enable <b>bit 4</b> – enable EEPROM init <b>bit 5</b> – central write disable (all RW registers)	<b>EEPROM init</b> is enabled when the INIT switch was ON at power-up, and switched OFF before bit 4 was set to 1 (indicated by bit 2 in status MSB) <b>SW reset</b> enables device restart (see register 1002)
status MSB	3 MSB	R	module status upper byte <b>bit 0</b> - 0 normal mode - 1 init mode <b>bit 1</b> - 1 at the next write attempt received data will be written to <b>EEPROM</b> - 0 at the next write attempt received data will be written to <b>RAM only</b> <b>bit 2</b> – EEPROM init <b>bit 3</b> – central write disable indication <b>bit 4</b> – 0 <b>bit 5</b> – SW reset enable <b>bit 6</b> – 0 <b>bit 7</b> – 1	
address	4 LSB	R, W EEPROM (1)	modbus module address	<b>!!!</b> The changes will become active only after module restart (the register is written immediately, but the new address is effective after restart)

baud rate (comm speed)	4 MSB	R, W EEPROM (13)	10dec ... 1 200bps 11dec ... 2 400bps 12dec ... 4 800bps 13dec ... 9 600bps 14dec ... 19 200bps 15dec ... 38 400bps 16dec ... 57 600bps 17dec ... 115 200bps	!!! The changes will become active only after module restart (the register is written immediately, but the new baud rate is effective after restart)
count1	5 LSB 5 MSB 6 LSB 6 MSB	R, W NVRAM	input CNT1 counter	pulse counter; if power failure occurs the register value is kept
count2	7 LSB 7 MSB 8 LSB 8 MSB	R, W NVRAM	input CNT2 counter synchronization input for 15 min period	pulse counter, sync. input for 15 min period; if power failure occurs the register value is kept
actual	9 LSB 9 MSB 10 LSB 10 MSB	R, W NVRAM	number of pulses counted in actual 15 min. period; if pulse on input CNT2 occurs register value will be written in reg. <b>last</b> and reg. <b>actual</b> will be zeroed	if power failure occurs the register value is kept, after power up it continues to count until next sync. pulse
last	11 LSB 11 MSB 12 LSB 12 MSB	R, W NVRAM	number of counter pulses in last 15 min. period	if power failure occurs the register value is kept
time 1/4	13 LSB 13 MSB 14 LSB 14 MSB	R, W NVRAM	time [in sec] in actual 15 min. period	pulse counter; if power failure occurs the register value is kept, after power up it continues to count
count3	15 LSB 15 MSB 16 LSB 16 MSB	R, W NVRAM	input CNT3 counter	pulse counter; if power failure occurs the register value is kept
count4	17 LSB 17 MSB 18 LSB 18 MSB	R, W NVRAM	input CNT4 counter	pulse counter; if power failure occurs the register value is kept
up time	19 LSB 19 MSB 20 LSB 20 MSB	R	Time [in seconds] since module power-up or reset	
number EE writes	21 LSB 21 MSB	R	number of EEPROM writing cycles	Counter 0 ... FFFEH; no overflow, when FFFEH is reached, the counter stops

uptime	1000 LSB 1000 MSB 1001 LSB 1001 MSB	R	Uptime [s]	
SW reset	1002 LSB 1002 MSB	R, W RAM	Writing of a non-zero value executes software restart (function must be enabled in Status LSB bit 1).	
serial number	1003 LSB 1003 MSB 1004 LSB 1004 MSB	R, W OTP EEPROM	Module serial number (one-time programmable only, at production)	
serial port settings	1005 LSB	R,W EEPROM (0)	Serial port settings <b>bits 0,1</b> – parity 0 none 1 even 2 odd <b>bit 2</b> – 0 one stopbit 1 two stopbits	<b>!!!</b> The changes will become active only after module restart (the register is written immediately, but the new settings are effective after restart)
reserved	1005 MSB	R		
dip switch	1006 LSB	R	Actual value of the addressing DIP switch	
reserved	1006 MSB	R		

Revision:

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