MODBUS RTU MC608 CMD03+CMD16

MODBUS REGISTER COMMAND 03

CMD03 – Read Holding Register

MODBUS REGISTER	MODBUS ADDRESS	num. bytes	Data Type	description	DATA TYPE	Access (Read/Write) CMD16 (*)
4:1002	1001	2	uint	Firmware version FW	0207hex=2.07	R
4:1003	1002	2	uint	hardware version HW	0501hex=5.01	R
4:1004	1003	2	uint	baudrate RS485	Default 9600	R
4:1005	1004	2	byte	n° dispositive MODBUS 1÷255	Default 1	R
4:1006	1005	2	bool	format float on MODBUS	0=float (default) 1=reverse float	R/W
4:1011	1010	2	byte	Reserved	Reserved	R/W
4:1012	1011	2	uint	Reserved	Reserved	R/W
4:1015	1014	8	ascii	manufacturer	“EUROMAG”	R
4:1020	1019	8	ascii	Converter model	8 digits - es.:“MC 608B”	R
4:1024	1023	10	ascii	Converter’s part number	Factory value (9 digits)	R
4:1029	1028	4	ulong	Converter’s serial number	progressive production number	R
4:1031	1030	12	uint	Coupled sensor model	12 digits - es.: “MUT1100J”	R
4:1037	1036	10	ascii	Sensor’s part number	Factory value (9 digits)	R
4:1042	1041	2	uint	Coupled sensor’s diameter	diameter (1 ÷ 4000) mm	R
4:1043	1042	2	byte	Empty pipe	1=available; 0=not available	R
4:1045	1044	20	byte	note	Internal references	R
4:1055	1054	4	float	Full scale m^3/h	Referent value alarms/display	R/W
4:1061	1060	2	byte	percentage back light level display	0 ÷ 100 %	R/W
4:1062	1061	2	byte	time-out back light display	0 ÷ 30 secondi >30 sempre ON	R/W
4:1063	1062	2	byte	LCD contrast	24 ÷ 50	R/W
4:1064	1063	2	byte	language display	0=english 1=italian 2=spanish 3=portugues *4=french	R/W
4:1065	1064	2	byte	Set last line of the display	0=total positive counters; 1=partial positive counters; 2= total negative counters; 3=partial negative counters; *4=date; *5 = Exp	R/W

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4:1066	1065	2	byte	TU flow rate volume	See chart VolumeTechnical units	R/W
4:1067	1066	2	byte	time base flow rate time	See chart time units	R/W
4:1068	1067	2	byte	TU totalizers volume	See chart VolumeTechnical units	R/W
4:1069	1068	2	uint	* liquid specific weight value	kg/m^3	R/W
4:1070	1069	2	Byte	* Technical unit temperature	0 = °C 1 = °F	R/W
4:1071	1070	2	byte	TU visualized pulses on display	See chart VolumeTechnical units	R/W
4:1072	1071	4	float	Pulse volume in ml	value x 0,1 * value	R/W
4:1074	1073	2	uint	Pulses time ON	(value +1) x 0,5 ms * 1 ÷ 1999 ms (def 10)	R/W
4:1077	1076	2	Byte	* pulses/frequency output Mode	0= Out pulses + Out Freq : PWM 1 = only frequency Out	R/W
4:1078	1077	2	Byte	* Enable pulses also with negative flow	0 = Off 1= On	R/W
4:1081	1080	2	byte	Programmable input setup	*0=disabled* *1=set zero P-* *2=set zero P+* *3=set zero P+ e P-*	R/W
4:1082	1081	2	byte	Programmable output setup	0=desabled 1=reverse flow 2= max flow threshold 3= min flow threshold 4= max/min threshold *5= Dosage *6 = Excitation failure *7 = Empty pipe alarm	R/W
4:1083	1082	2	uint	Frequency out full scale	100 ÷ 10000 Hz	R/W
4:1084	1083	2	Byte	* Programmable output logic	0 = Norm. Open 1 = Norm. Closed	R/W
4:1085	1084	4	Float	* Dosage volume	1 ÷ 1000000 (TU Counters)	R/W
4:1101	1100	2	unit	**Damping Filter (average number of samples visualized)	5 ÷ 500 * 1 ÷ 500	R/W
4:1102	1101	2	byte	percentage cut-off	0 ÷ 50 % FS (def 2%)	R/W
4:1103	1102	2	byte	percentage by-pass filter	2 ÷ 95 % FS (def 10%)	R/W
4:1104	1103	2	byte	Percentage peak-cut	1 ÷ 25 % FS (def 5%)	R/W
4:1105	1104	2	Byte	Freq Line 50hz/60Hz	50Hz , 60Hz	R/W
4:1106	1105	2	uint	Average filter	1 ÷ **Damping	R/W
4:1111	1110	2	byte	Flow rate alarm (MAX) on the FS	5% ÷ 100% *(MIN + 5%) ÷ 100% 255 = OFF	R/W
4:1112	1111	2	byte	Flow rate alarm (MIN) on the FS	1% ÷ (MAX – 5%) *0% ÷ (MAX – 5%) 255 = OFF	R/W
4:1132	1131	2	byte	Datalogger sampling frequency	value (1 ÷ 240) x 4 sec * 1 ÷ 120 minuti	R/W
4:1666	1665	2	byte	Reset partial totalizers	22031 Reset Positive 22041 Reset Negative	R/W

(*) FW version 3.00 and latest

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FS = Full scale

TU = Technical Unit

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VOLUME AND TIME BASE UNITS CHARTS

VolumeTechnical units	1	2	3	4	5	6	7	8	9	10	11	12	13
	ml	cl	dl	l	dal	hl	m^3	Ml	in^3	ft^3	gal	bbl	oz

Time units	1	2	3	4
	/s	/min	/h	/GG

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Address 1005 - FLOAT ON MODBUS FORMAT

This setting inverts the order of the two words making up the 32-bit float and allows you to read and write data as float or float reverse

Address 1005=03EDh Reading required description

Query chart

address	*function*	*register word 03EDhex*		*data count word 0001hex*		*CRC 16 word*	
		data start address HI	*data start address LOW*	*data byte count HI*	*data byte count LOW*	*CRC LOW*	*CRC HI*
ID dispositive (1÷255)	***03***	***03h***	***EDh***	***00***	***1***	***CRC16***	

3.1 Read response explanation

Response example chart

address	*function*	*data byte count*	*register 00AFhex word value*		*CRC 16 word*	
			data byte HI	*data byte LOW*	*CRC LOW*	*CRC HI*
ID dispositivo	***03***	***2***	***00***	***0=float 1=float reverse***	***CRC16***	

3.2 Write request description

Query chart

address	*function*	*register word 03EDhex*		*data count word 0001hex*		*data byte count*	*register 00AFhex word value*		*CRC 16 word*	
		data start address HI	*data start address LOW*	*data byte count HI*	*data byte count LOW*		*data byte HI*	*data byte LOW*	*CRC LOW*	*CRC HI*
ID dispositivo (1÷255)	***16***	***03h***	***EDh***	***00***	***01h***	***2h***	***00***	***0=float 1=float reverse***	***CRC16***	

3.3 Write response explanation

Response example chart

address	*function*	*register word 03EDhex*		*data count word 0001hex*		*CRC 16 word*	
		data start address HI	*data start address LOW*	*data byte count HI*	*data byte count LOW*	*CRC LOW*	*CRC HI*
ID dispositivo	***16***	***03h***	***EDh***	***00***	***01h***	***CRC16***	

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Example R/W Byte Register

Address 1010 – AUTOMATIC POWER OFF TIME (batteries)

This value represents the time (in seconds) of the automatic power-off, exclusively for the version with battery power supply

Address 1010=03F2h *Read request description*

Query chart

address	*function*	*register word 03F2hex*		*data count word 0001hex*		*CRC 16 word*	
		data start address HI	*data start address LOW*	*data byte count HI*	*data byte count LOW*	*CRC LOW*	*CRC HI*
ID dispositivo (1÷255)	***03***	***03h***	***F2h***	***00***	***1***	***CRC16***	

4.2 Write request description

Response example chart

address	*function*	*data byte count*	*register 03F2hex word value*		*CRC 16 word*	
			data byte HI	*data byte LOW*	*CRC LOW*	*CRC HI*
ID dispositivo	***03***	***2***	***00***	***20 ÷ 240 s***	***CRC16***	

4.3 Write request description

Query chart

address	*function*	*register word 03F2hex*		*data count word 0001hex*		*data byte count*	*register 03F2hex word value*		*CRC 16 word*	
		data start address HI	*data start address LOW*	*data byte count HI*	*data byte count LOW*		*data byte HI*	*data byte LOW*	*CRC LOW*	*CRC HI*
ID dispositivo (1÷255)	***16***	***03h***	***F2h***	***00***	***01h***	***2h***	***00***	***20 ÷ 240 s***	***CRC16***	

4.4 Write request description

Response example chart

address	*function*	*register word 03F2hex*		*data count word 0001hex*		*CRC 16 word*	
		data start address HI	*data start address LOW*	*data byte count HI*	*data byte count LOW*	*CRC LOW*	*CRC HI*
ID dispositivo	***16***	***03h***	***F2h***	***00***	***01h***	***CRC16***	

Example R/W Unit Register

Address 1041 – SETTING THE COUPLED SENSOR DIAMETER

This value indicates the diameter of the coupled sensor in mm

Address 1041=0411h Read request description

Query chart

address	function	register word 0411hex		data count word 0001hex		CRC 16 word	
		data start address HI	data start address LOW	data byte count HI	data byte count LOW	CRC LOW	CRC HI
ID dispositivo (1÷255)	**03**	**04h**	**11h**	**00**	**1**	**CRC16**	

5.2 Read request description

Response example chart

address	function	data byte count	register 0411hex word value		CRC 16 word	
			data byte HI	data byte LOW	CRC LOW	CRC HI
ID dispositivo	**03**	**2**	**1 ÷ 4000 mm**		**CRC16**	

5.3 Write request description

Query chart

address	function	register word 0411hex		data count word 0001hex		data byte count	register 0411hex word value		CRC 16 word	
		data start address HI	data start address LOW	data byte count HI	data byte count LOW		data byte HI	data byte LOW	CRC LOW	CRC HI
ID dispositivo (1÷255)	**16**	**04h**	**11h**	**00**	**01h**	**2h**	**1 ÷ 4000 mm**		**CRC16**	

5.4 Write request description

Response example chart

address	function	register word 0411hex		data count word 0001hex		CRC 16 word	
		data start address HI	data start address LOW	data byte count HI	data byte count LOW	CRC LOW	CRC HI
ID dispositivo	**16**	**04h**	**11h**	**00**	**01h**	**CRC16**	

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Ecample R/W Float Register

Address 1054 – FULL SCALE m^3/h

The purpose of this function is to set the FS full scale (always expressed in m^3/h), to which all the settings relative to the latter will make reference.

Address 1054=041Eh Read request description

Query chart

address	*function*	*register word 041Ehex*		*data count word 0001hex*		*CRC 16 word*	
		data start address HI	*data start address LOW*	*data byte count HI*	*data byte count LOW*	*CRC LOW*	*CRC HI*
ID dispositivo (1÷255)	***03***	***04h***	***1Eh***	***00***	***2***	***CRC16***	

6.2 Read request description

Response example chart

address	*function*	*data byte count*	*register 041Ehex word value*		*register 041Fhex word value*		*CRC 16 word*	
			data byte HI	*data byte LOW*	*data byte HI*	*data byte LOW*	*CRC LOW*	*CRC HI*
ID dispositivo	***03***	***4***	***word LOW word HI (float reverse)***		***word HI word LOW (float reverse)***		***CRC16***	

6.3 Write request description

Query chart

address	*function*	*register word 041Ehex*		*data count word 0002hex*		*data byte count*	*register 041Ehex word value*		*register 041Fhex word value*		*CRC 16 word*	
		data start address HI	*data start address LOW*	*data byte count HI*	*data byte count LOW*		*data byte HI*	*data byte LOW*	*data byte HI*	*data byte LOW*	*CRC LOW*	*CRC HI*
ID dispositivo (1÷255)	***16***	***04h***	***1Eh***	***00***	***02h***	***4h***	***word LOW word HI (float reverse)***		***word HI word LOW (float reverse)***		***CRC16***	

6.4 Write request description

Response example chart

address	*function*	*register word 041Ehex*		*data count word 0002hex*		*CRC 16 word*	
		data start address HI	*data start address LOW*	*data byte count HI*	*data byte count LOW*	*CRC LOW*	*CRC HI*
ID dispositivo	***16***	***04h***	***1Eh***	***00***	***02h***	***CRC16***	