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LOVATO ELECTRIC S.P.A.
24020 GORLE (BERGAMO) ITALIA
VIA DON E. MAZZA, 12
TEL. 035 4282111
E-mail info@LovatoElectric.com
Web www.LovatoElectric.com

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(GB) **POWER ANALYZERS**

Modbus manual

(I) **ANALIZZATORI DI RETE**

Manuale modbus

DMG7000-7500-8000-9000
EXS40000-EXS4001

CE UK CA

INTRODUCTION

The DMG series power analyzers and the EXS4… current measuring modules support the modbus protocol in the variants RTU, ASCII and TCP. The protocols differ mainly in the structure of the messages, although the information content is equivalent, and in some constraints which make them suitable for different communication buses.

RTU

Message structure:

Pause	Modbus node	Function	Data	CRC16	Pause
3,5 characters	1 byte	1 byte	2N bytes	2 bytes	3,5 characters

Bit timing is critical, therefore the RTU variant is suitable for serial buses (RS485).

ASCII

Message structure:

Character	Modbus node	Function	Data	CRC16	Characters
:	2 chars	2 chars	2N chars	2 chars	CR LF

The beginning and end of a message are marked by specific bytes and there are no time constraints, so the ASCII variant is suitable for buses with non-deterministic timings (for example, modems).

TCP

Message structure:

Transaction ID	Protocol ID	Length	Modbus node	Function	Data
2 bytes	00 00 (2 bytes)	2 bytes	1 byte	1 byte	2N bytes

The messages are marked by an identifier which lets the association between a specific query of the master and the relevant response of the slave, therefore the TCP variant is suitable for buses in which the sequence of messages is not guaranteed (ethernet).

MODBUS NODE NUMBER

The modbus node number identifies the device within modbus RTU and ASCII networks, while it is only an information value (therefore not significant) in modbus TCP networks. Consequently, the power analyzers behave differently when they receive a message with a modbus node value equal to 0 (broadcast).

- Modbus RTU: no response, only messages with function 0x06 are processed.
- Modbus TCP: response provided normally (node 0 is considered a non-significant value, being considered the IP address to distinguish servers).
- Modbus TCP/RTU gateway: response normally provided without propagation to the slaves on the RS485 bus.

PROTOCOL SPECIFICATIONS

- Byte and word order: big endian (high word first, high byte first), except for CRC which is a little endian (low byte first) register.
- A maximum of 120 registers can be contained in the data.
- Max connection number supported on Modbus TCP: 2 for the built-in communication port (DMG8000, DMG9000).
- Supported functions:

Function	Query data content	Reply data content
0x03 (Read holding register) 0x04 (Read input register)	Address (2 bytes) Register number R (2 bytes)	Replied registers byte number (1 byte) Registers (2R bytes)
0x06 (Preset single register)	Address (2 bytes) Register (2 bytes)	Address (2 bytes) Register (2 bytes)
0x10 (Preset multiple registers)	Address (2 bytes) Register number R (2 bytes) Registers (2R bytes)	Address (2 bytes) Writen bytes number
0x11 (Slave ID)	-	Replied registers byte number (1 byte) Model code (1 byte) Firmware revision (1 byte) Hardware revision (1 byte) Parameter revision (1 byte) 0x11 0x00 0x00 0x00

Model code:

DMG7000: 0x70
DMG7500: 0x75
DMG8000: 0x80
DMG9000: 0x90
EXS4…: 0x40

In the event of an error, the reply involves modifying the function code by raising the most significant bit (for example, if the error occurs with function 0x04, the function code in the response is 0x84) and the

INTRODUZIONE

Gli analizzatori di rete della serie DMG e i moduli di misura correnti EXS4… supportano il protocollo modbus nelle tre varianti RTU, ASCII e TCP. I tre protocolli si differenziano principalmente per la struttura dei messaggi, benché il contenuto informativo sia equivalente, e per alcuni vincoli che li rendono adatti a diversi bus di comunicazione.

RTU

Struttura messaggio:

Pausa	Nodo modbus	Funzione	Dati	CRC16	Pausa
3,5 caratteri	1 byte	1 byte	2N byte	2 byte	3,5 caratteri

La temporizzazione dei bit è fondamentale, perciò la variante RTU è adatta a bus seriali (RS485).

ASCII

Struttura messaggio:

Carattere	Nodo modbus	Funzione	Dati	LRC	Caratteri
:	2 char	2 char	2N char	2 char	CR LF

L'inizio e la fine di un messaggio sono scanditi da byte specifici e non ci sono vincoli temporali, dunque la variante ASCII è adatta a bus con tempistiche non deterministiche (ad esempio modem).

TCP

Struttura messaggio:

ID transazione	ID protocollo	Lunghezza	Nodo modbus	Funzione	Dati
2 byte	00 00 (2 byte)	2 byte	1 byte	1 byte	2N byte

I messaggi sono marcati da un identificatore che permette l'associazione tra una specifica query del master e la risposta relativa dello slave, perciò la variante TCP è adatta a bus in cui non è garantita la sequenza dei messaggi (ethernet).

NUMERO DI NODO MODBUS

Il numero di nodo modbus è identificativo del dispositivo all'interno di reti modbus RTU e ASCII, mentre è solo una valore informativo (quindi non significativo) nelle reti modbus TCP. Di conseguenza gli analizzatori di rete si comportano in modo diverso quando ricevono un messaggio con valore nodo modbus uguale a 0 (broadcast).

- Modbus RTU: nessuna risposta, vengono processati solo i messaggi con funzione 0x06.
- Modbus TCP: risposta fornita normalmente (nodo 0 è considerato un non-significant value, essendo considerato l'indirizzo IP per distinguere i server).
- Gateway modbus TCP/RTU: risposta fornita normalmente senza propagazione agli slave su bus RS485.

SPECIFICHE PROTOCOLLO

- Ordine byte e word: big endian (high word first, high byte first), tranne CRC che è un registro little endian (low byte first).
- Nei dati possono essere contenuti al massimo 120 registri.
- Massimo numero di connessioni supportate su Modbus TCP: 2 per porta di comunicazione integrata (DMG8000, DMG9000).
- Funzioni supportate:

Funzione	Contenuto Dati Query	Contenuto Dati Reply
0x03 (Read holding register) 0x04 (Read input register)	Indirizzo (2 byte) Numero registri R (2 byte)	Numero byte registri restituiti (1 byte) Registri (2R byte)
0x06 (Preset single register)	Indirizzo (2 byte) Registro (2 byte)	Indirizzo (2 byte) Registro (2 byte)
0x10 (Preset multiple registers)	Indirizzo (2 byte) Numero registri R (2 byte) Registri (2R byte)	Indirizzo (2 byte) Numero byte scritti
0x11 (Slave ID)	-	Numero byte registri restituiti (1 byte) Codice modello (1 byte) Revisione firmware (1 byte) Revisione hardware (1 byte) Revisione parametri (1 byte) 0x11 0x00 0x00 0x00

Codice modello:

DMG7000: 0x70
DMG7500: 0x75
DMG8000: 0x80
DMG9000: 0x90
EXS4…: 0x40

In caso di errore, la replica prevede la modifica del codice funzione alzando il bit più significativo (ad esempio se l'errore avviene con la funzione 0x04, il codice funzione nella risposta è 0x84) e i dati sono

data consists only of 1 byte for the exception code:

Error code	Description
0x01	Function is not valid
0x02	Address is not valid
0x03	Value is out of range
0x04	Operation not valid
0x06	Slave busy

CRC COMPUTATION EXAMPLE

Frame = 0207h

CRC initialization	1111	1111	1111	1111
Load the first byte			0000	0010
Execute xor with the first Byte of the frame	1111	1111	1111	1101
Execute 1st right shift	0111	1111	1111	1110 **1**
Carry=1, load polynomial	1010	0000	0000	0001
Execute xor with the polynomial	1101	1111	1111	1111
Execute 2nd right shift	0110	1111	1111	1111 **1**
Carry=1, load polynomial	1010	0000	0000	0001
Execute xor with the polynomial	1100	1111	1111	1110
Execute 3rd right shift	0110	0111	1111	1111 **0**
Execute 4th right shift	0011	0011	1111	1111 **1**
Carry=1, load polynomial	1010	0000	0000	0001
Execute xor with the polynomial	1001	0011	1111	1110
Execute 5th right shift	0100	1001	1111	1111 **0**
Execute 6th right shift	0010	0100	1111	1111 **1**
Carry=1, load polynomial	1010	0000	0000	0001
Execute xor with the polynomial	1000	0100	1111	1110
Execute 7th right shift	0100	0010	0111	1111 **0**
Execute 8th right shift	0010	0001	0011	1111 **1**
Carry=1, load polynomial	1010	0000	0000	0001
Load the second byte of the frame			0000	0111
Execute xor with the Second byte of the frame	1000	0001	0011	1001
Execute 1st right shift	0100	0000	1001	1100 **1**
Carry=1,load polynomial	1010	0000	0000	0001
Execute xor with the polynomial	1110	0000	1001	1101
Execute 2nd right shift	0111	0000	0100	1110 **1**
Carry=1,load polynomial	1010	0000	0000	0001
Execute xor with the polynomial	1101	0000	0100	1111
Execute 3rd right shift	0110	1000	0010	0111 **1**
Carry=1,load polynomial	1010	0000	0000	0001
Execute xor with the polynomial	1100	1000	0010	0110
Execute 4th right shift	0110	0100	0001	0011 **0**
Execute 5th right shift	0010	0100	0000	1001 **1**
Carry=1,load polynomial	1010	0000	0000	0001
Execute xor with the polynomial	1001	0010	0000	1000
Execute 6th right shift	0100	1001	0000	0100 **0**
Execute 7th right shift	0010	0100	1000	0010 **0**
Execute 8th right shift	0001	0010	0100	0001 **0**
CRC Result	0001	0010	0100	0001
	0x12		**0x41**	

LRC COMPUTATION EXAMPLE

Address	01	00000001
Function	04	00000100
Start address hi.	00	00000000
Start address lo.	00	00000000
Register number	08	00001000
	Sum	00001101
	Complement to 1	11110010
	+ 1	00000001
	Complement to 2	11110101

LRC result **F5**

MODBUS REGISTERS

FUNCTION 0x03 – 0x04

The system consisting of a DMG power analyzer and EXS4 ... current measurement modules (EASY BRANCH) is seen by the master as a series of independent devices each with its own modbus node and belonging to the same communication channel used to connect to the DMG. As default setting, the power analyzers have modbus node 1, while the EASY BRANCH measuring points assume an incremental value based on their ordering in the system. For example, if there were 3 EASY BRANCH points:

- DMG modbus node: 1
- Modbus node BRN01 (first measurement point identified and visible on the DMG display): 2
- Modbus node BRN02: 3
- Modbus node BRN03: 4

However, if necessary, the modbus nodes can be individually set by accessing on the DMG parameter P07.n.01 for the DMG and P20.n.05 for the measurement point of interest.

costituiti solo da 1 byte per il codice eccezione:

Codice errore	Descrizione
0x01	Funzione non valida
0x02	Indirizzo non valido
0x03	Valore fuori range
0x04	Operazione non valida
0x06	Slave occupato

ESEMPIO DI CALCOLO CRC

Frame = 0x0207

Inizializzazione CRC	1111	1111	1111	1111
Carica primo byte			0000	0010
Esegue xor con il primo Byte della frame	1111	1111	1111	1101
Esegue primo shift a dx	0111	1111	1111	1110 **1**
Carry=1,carica polinomio	1010	0000	0000	0001
Esegue xor con il polinomio	1101	1111	1111	1111
Esegue secondo shift dx	0110	1111	1111	1111 **1**
Carry=1,carica polinomio	1010	0000	0000	0001
Esegue xor con il polinomio	1100	1111	1111	1110
Esegue terzo shift	0110	0111	1111	1111 **0**
Esegue quarto shift	0011	0011	1111	1111 **1**
Carry=1, carica polinomio	1010	0000	0000	0001
Esegue xor con il Polinomio	1001	0011	1111	1110
Esegue quinto shift dx	0100	1001	1111	1111 **0**
Esegue sesto shift dx	0010	0100	1111	1111 **1**
Carry=1, carica polinomio	1010	0000	0000	0001
Esegue xor con polinomio	1000	0100	1111	1110
Esegue settimo shift dx	0100	0010	0111	1111 **0**
Esegue ottavo shift dx	0010	0001	0011	1111 **1**
Carry=1, carica polinomio	1010	0000	0000	0001
Carica secondo byte della frame			0000	0111
Esegue xor con il Secondo byte della frame	1000	0001	0011	1001
Esegue primo shift dx	0100	0000	1001	1100 **1**
Carry=1, carica polinomio	1010	0000	0000	0001
Esegue xor con il polinomio	1110	0000	1001	1101
Esegue secondo shift dx	0111	0000	0100	1110 **1**
Carry=1, carica polinomio	1010	0000	0000	0001
Esegue xor con il polinomio	1101	0000	0100	1111
Esegue terzo shift dx	0110	1000	0010	0111 **1**
Carry=1, carica polinomio	1010	0000	0000	0001
Esegue xor con il polinomio	1100	1000	0010	0110
Esegue quarto shift dx	0110	0100	0001	0011 **0**
Esegue quinto shift dx	0010	0100	0000	1001 **1**
Carry=1, carica polinomio	1010	0000	0000	0001
Esegue xor con il polinomio	1001	0010	0000	1000
Esegue sesto shift dx	0100	1001	0000	0100 **0**
Esegue settimo shift dx	0010	0100	1000	0010 **0**
Esegue ottavo shift dx	0001	0010	0100	0001 **0**
Risultato CRC	0001	0010	0100	0001
	0x12		**0x41**	

ESEMPIO DI CALCOLO LRC

Indirizzo	01	00000001
Funzione	04	00000100
Start address hi.	00	00000000
Start address lo.	00	00000000
Numero registri	08	00001000
	Somma	00001101
	Complemento a 1	11110010
	+ 1	00000001
	Complemento a 2	11110101

Risultato LRC **F5**

REGISTRI MODBUS

FUNZIONI 0x03 – 0x04

Il sistema costituito da un analizzatore di rete DMG e da moduli di misura di correnti EXS4... (EASY BRANCH) è visto dal master come una serie di dispositivi indipendenti ciascuno con il proprio nodo modbus e appartenenti allo stesso canale di comunicazione utilizzato per collegarsi al DMG. Come impostazione di base, gli analizzatori di rete hanno nodo modbus 1, mentre i punti di misura EASY BRANCH assumon o un valore incrementale in base al loro ordinamento nel sistema. Ad esempio, se ci fossero 3 punti EASY BRANCH:

- Nodo modbus DMG: 1
- Nodo modbus BRN01 (primo punto di misura identificato e visibile sul display del DMG): 2
- Nodo modbus BRN02: 3
- Nodo modbus BRN03: 4

Tuttavia, in caso di necessità i nodi modbus possono essere singolarmente impostati accedendo sui DMG al parametro P07.n.01 per il DMG e P20.n.05 per il punto di misura di interesse.

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato	Available for EXS4 Presente su EXS4
0x0002	2	L1 Phase Voltage	Tensione Di Fase L1	V/100	Unsigned Long	•
0x0004	2	L2 Phase Voltage	Tensione Di Fase L2	V/100	Unsigned Long	•
0x0006	2	L3 Phase Voltage	Tensione Di Fase L3	V/100	Unsigned Long	•
0x0008	2	L1 Current	Corrente Di Fase L1	A/10000	Unsigned Long	•
0x000A	2	L2 Current	Corrente Di Fase L2	A/10000	Unsigned Long	•
0x000C	2	L3 Current	Corrente Di Fase L3	A/10000	Unsigned Long	•
0x000E	2	L1-L2 Voltage	Tensione L1-L2	V/100	Unsigned Long	•
0x0010	2	L2-L3 Voltage	Tensione L2-L3	V/100	Unsigned Long	•
0x0012	2	L3-L1 Voltage	Tensione L3-L1	V/100	Unsigned Long	•
0x0014	2	L1 Active Power	Potenza Attiva L1	kW/100000	Signed Long	•
0x0016	2	L2 Active Power	Potenza Attiva L2	kW/100000	Signed Long	•
0x0018	2	L3 Active Power	Potenza Attiva L3	kW/100000	Signed Long	•
0x001A	2	L1 Reactive Power	Potenza Reattiva L1	kvar/100000	Signed Long	•
0x001C	2	L2 Reactive Power	Potenza Reattiva L2	kvar/100000	Signed Long	•
0x001E	2	L3 Reactive Power	Potenza Reattiva L3	kvar/100000	Signed Long	•
0x0020	2	L1 Apparent Power	Potenza Apparente L1	kVA/100000	Unsigned Long	•
0x0022	2	L2 Apparent Power	Potenza Apparente L2	kVA/100000	Unsigned Long	•
0x0024	2	L3 Apparent Power	Potenza Apparente L3	kVA/100000	Unsigned Long	•
0x0026	2	L1 Power Factor	Fattore Di Potenza L1	/10000	Signed Long	•
0x0028	2	L2 Power Factor	Fattore Di Potenza L2	/10000	Signed Long	•
0x002A	2	L3 Power Factor	Fattore Di Potenza L3	/10000	Signed Long	•
0x002C	2	L1 Dpf	Cosf L1	/10000	Unsigned Long	
0x002E	2	L2 Dpf	Cosf L2	/10000	Unsigned Long	
0x0030	2	L3 Dpf	Cosf L3	/10000	Unsigned Long	
0x0032	2	Frequency	Frequenza	Hz/1000	Unsigned Long	•
0x0034	2	Eqv Phase Voltage	Tensione Di Fase Equivalente	V/100	Unsigned Long	•
0x0036	2	Eqv Phase-To-Phase Voltage	Tensione Di Linea Equivalente	V/100	Unsigned Long	•
0x0038	2	Eqv Current	Corrente Equivalente	A/10000	Unsigned Long	•
0x003A	2	Eqv Active Power	Potenza Attiva Equivalente	kW/100000	Signed Long	•
0x003C	2	Eqv Reactive Power	Potenza Reattiva Equivalente	kvar/100000	Signed Long	•
0x003E	2	Eqv Apparent Power	Potenza Apparente Equivalente	kVA/100000	Unsigned Long	•
0x0040	2	Eqv Power Factor	Fattore Di Potenza Equivalente	/10000	Signed Long	•
0x0042	2	VLL Unbalance	Asimmetria VLL	%/100	Unsigned Long	•
0x0044	2	VLN Unbalance	Asimmetria VLN	%/100	Unsigned Long	•
0x0046	2	Current Unbalance	Asimmetria Di Corrente	%/100	Unsigned Long	•
0x0054	2	Thd L1 Voltage	Thd Tensione L1	%/100	Unsigned Long	•
0x0056	2	Thd L2 Voltage	Thd Tensione L2	%/100	Unsigned Long	•
0x0058	2	Thd L3 Voltage	Thd Tensione L3	%/100	Unsigned Long	•
0x005A	2	THD L1 Current	THD Corrente L1	%/100	Unsigned Long	•
0x005C	2	THD L2 Current	THD Corrente L2	%/100	Unsigned Long	•
0x005E	2	THD L3 Current	THD Corrente L3	%/100	Unsigned Long	•
0x0060	2	Thd L1-2 Voltage	Thd Tensione L1-2	%/100	Unsigned Long	•
0x0062	2	Thd L2-3 Voltage	Thd Tensione L2-3	%/100	Unsigned Long	•
0x0064	2	Thd L3-1 Voltage	Thd Tensione L3-1	%/100	Unsigned Long	•
0x0066	2	THD V4 (DMG9000)	THD V4 (DMG9000)	%/100	Unsigned Long	
0x0068	2	THD I4	THD I4	%/100	Unsigned Long	
0x006A	2	Voltage V4-N (DMG9000)	Tensione V4-N (DMG9000)	V/100	Unsigned Long	
0x006C	2	Current I4 (DMG9000)	Corrente I4 (DMG9000)	A/10000	Unsigned Long	•
0x0080	2	Reactive power fund L1	Potenza reattiva fond L1	kvar/10000	Unsigned Long	
0x0082	2	Reactive power fund L2	Potenza reattiva fond L2	kvar/10000	Unsigned Long	
0x0084	2	Reactive power fund L3	Potenza reattiva fond L3	kvar/10000	Unsigned Long	
0x0086	2	VL1 peak	Picco VL1	V/100	Unsigned Long	
0x0088	2	VL2 peak	Picco VL2	V/100	Unsigned Long	
0x008A	2	VL3 peak	Picco VL3	V/100	Unsigned Long	
0x008C	2	VL4 peak	Picco VL4	V/100	Unsigned Long	
0x008E	2	VL1-L2 peak	Picco VL1-L2	V/100	Unsigned Long	
0x0090	2	VL2-L3 peak	Picco VL2-L3	V/100	Unsigned Long	
0x0092	2	VL3-L1 peak	Picco VL3-L1	V/100	Unsigned Long	
0x0094	2	Peak I1	Picco I1	A/10000	Unsigned Long	
0x0096	2	Peak I2	Picco I2	A/10000	Unsigned Long	
0x0098	2	Peak I3	Picco I3	A/10000	Unsigned Long	
0x009A	2	Peak I4	Picco I4	A/10000	Unsigned Long	
0x009C	2	Fundamental VL1	Fondamentale VL1	V/100	Unsigned Long	
0x009E	2	Fundamental VL2	Fondamentale VL2	V/100	Unsigned Long	
0x00A0	2	Fundamental VL3	Fondamentale VL3	V/100	Unsigned Long	
0x00A2	2	Fundamental VL4 (DMG9000)	Fondamentale VL4 (DMG9000)	V/100	Unsigned Long	
0x00A4	2	Fundamental I1	Fondamentale I1	A/10000	Unsigned Long	
0x00A6	2	Fundamental I2	Fondamentale I2	A/10000	Unsigned Long	
0x00A8	2	Fundamental I3	Fondamentale I3	A/10000	Unsigned Long	
0x00AA	2	Fundamental I4	Fondamentale I4	A/10000	Unsigned Long	
0x00AC	2	Fundamental VL1-L2	Fondamentale VL1-L2	V/100	Unsigned Long	
0x00AE	2	Fundamental VL2-L3	Fondamentale VL2-L3	V/100	Unsigned Long	
0x00B0	2	Fundamental VL3-L1	Fondamentale VL3-L1	V/100	Unsigned Long	
0x00B2	2	VL1-I1 angle	Angolo VL1-I1	°/100	Unsigned Long	
0x00B4	2	VL2-I2 angle	Angolo VL2-I2	°/100	Unsigned Long	
0x00B6	2	VL3-I3 angle	Angolo VL3-I3	°/100	Unsigned Long	
0x00B8	2	VL1-L2 angle	Angolo VL1-L2	°/100	Unsigned Long	
0x00BA	2	VL2-L3 angle	Angolo VL2-L3	°/100	Unsigned Long	
0x00BC	2	VL3-L1 angle	Angolo VL3-L1	°/100	Unsigned Long	
0x00BE	2	I1-2 angle	Angolo I1-2	°/100	Unsigned Long	
0x00C0	2	I2-3 angle	Angolo I2-3	°/100	Unsigned Long	
0x00C2	2	I3-1 angle	Angolo I3-1	°/100	Unsigned Long	
0x00C4	2	Crest factor L1	Fattore di cresta L1	/1000	Unsigned Long	
0x00C6	2	Crest factor L2	Fattore di cresta L2	/1000	Unsigned Long	
0x00C8	2	Crest factor L3	Fattore di cresta L3	/1000	Unsigned Long	
0x00CA	2	Crest factor I1	Fattore di cresta I1	/1000	Unsigned Long	
0x00CC	2	Crest factor I2	Fattore di cresta I2	/1000	Unsigned Long	
0x00CE	2	Crest factor I3	Fattore di cresta I3	/1000	Unsigned Long	
0x00D0	2	Crest factor VL1-L2	Fattore di cresta VL1-L2	/1000	Unsigned Long	

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato	Available for EXS4 Presente su EXS4
0x00D2	2	Crest factor VL2-L3	Fattore di cresta VL2-L3	/1000	Unsigned Long	
0x00D4	2	Crest factor VL3-L1	Fattore di cresta VL3-L1	/1000	Unsigned Long	
0x00D6	2	I4 calculated	I4 calcolata	A/10000	Unsigned Long	•
0x00D8	2	THD I4 calculated	THD I4 calcolata	%/100	Unsigned Long	•
0x00DA	2	Earth current (DMG9000)	Corrente di terra (DMG9000)	A/10000	Unsigned Long	
0x00DC	2	THD neutral current	THD corrente di neutro	%/100	Unsigned Long	•
0x00DE	2	THD earth current (DMG9000)	THD corrente di terra (DMG9000)	%/100	Unsigned Long	
0x00E0	2	Average weekly power factor	Fattore di potenza medio settimanale	/10000	Unsigned Long	
0x00E2	2	Average weekly Tanfi	Tanfi medio settimanale	/10000	Unsigned Long	
0x00E4	2	k-factor I1	k-factor I1	/1000	Unsigned Long	
0x00E6	2	k-factor I2	k-factor I2	/1000	Unsigned Long	
0x00E8	2	k-factor I3	k-factor I3	/1000	Unsigned Long	
0x00EA	2	Maximum value of phase voltages	Valore massimo tensioni di fase	V/100	Unsigned Long	
0x00EC	2	Minimum value of phase voltages	Valore minimo tensioni di fase	V/100	Unsigned Long	
0x00EE	2	Maximum value of phase-to-phase voltages	Valore massimo tensioni concatenate	V/100	Unsigned Long	
0x00F0	2	Minimum value of phase-to-phase voltages	Valore minimo tensioni concatenate	V/100	Unsigned Long	
0x00F2	2	Maximum current values	Valore massimo correnti	A/10000	Unsigned Long	
0x00F4	2	Minimum current value	Valore minimo correnti	A/10000	Unsigned Long	
0x00F6	2	Crest factor VL4 (DMG9000)	Fattore di cresta VL4 (DMG9000)	/1000	Unsigned Long	
0x0F50	2	Analog Input 1	Ingresso Analogico 1	/100	Signed Long	
0x0F52	2	Analog Input 2	Ingresso Analogico 2	/100	Signed Long	
0x0F54	2	Analog Input 3	Ingresso Analogico 3	/100	Signed Long	
0x0F56	2	Analog Input 4	Ingresso Analogico 4	/100	Signed Long	
0x0F58	2	Analog Input 5	Ingresso Analogico 5	/100	Signed Long	
0x0F5A	2	Analog Input 6	Ingresso Analogico 6	/100	Signed Long	
0x1D00	2	Counters 01	Contatore 01	/1	Unsigned Long	
0x1D02	2	Counters 02	Contatore 02	/1	Unsigned Long	
0x1D04	2	Counters 03	Contatore 03	/1	Unsigned Long	
0x1D06	2	Counters 04	Contatore 04	/1	Unsigned Long	
0x1D08	2	Counters 05	Contatore 05	/1	Unsigned Long	
0x1D0A	2	Counters 06	Contatore 06	/1	Unsigned Long	
0x1D0C	2	Counters 07	Contatore 07	/1	Unsigned Long	
0x1D0E	2	Counters 08	Contatore 08	/1	Unsigned Long	
0x1E00	2	Hour counter	Contaore	s/1	Unsigned Long	
0x1E02	2	Hour counter 2	Contaore 2	s/1	Unsigned Long	
0x1E04	2	Hour counter 3	Contaore 3	s/1	Unsigned Long	
0x1E06	2	Hour counter 4	Contaore 4	s/1	Unsigned Long	
0x1FF0	2	Serial number	Numero di serie	/1	Unsigned Long	•

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato	Available for EXS4 Presente su EXS4
0x0400	2	High Voltage L1	Tensione L1 Massima	V/100	Unsigned Long	•
0x0402	2	High Voltage L2	Tensione L2 Massima	V/100	Unsigned Long	•
0x0404	2	High Voltage L3	Tensione L3 Massima	V/100	Unsigned Long	•
0x0406	2	High Current L1	Corrente L1 Massima	A/10000	Unsigned Long	•
0x0408	2	High Current L2	Corrente L2 Massima	A/10000	Unsigned Long	•
0x040A	2	High Current L3	Corrente L3 Massima	A/10000	Unsigned Long	•
0x040C	2	High Voltage L1L2	Tensione L1L2 Massima	V/100	Unsigned Long	•
0x040E	2	High Voltage L2L3	Tensione L2L3 Massima	V/100	Unsigned Long	•
0x0410	2	High Voltage L3L1	Tensione L3L1 Massima	V/100	Unsigned Long	•
0x0412	2	High Active Power L1	Potenza Attiva L1 Massima	kW/100000	Signed Long	•
0x0414	2	High Active Power L2	Potenza Attiva L2 Massima	kW/100000	Signed Long	•
0x0416	2	High Active Power L3	Potenza Attiva L3 Massima	kW/100000	Signed Long	•
0x0418	2	High Reactive Power L1	Potenza Reattiva L1 Massima	kvar/100000	Signed Long	•
0x041A	2	High Reactive Power L2	Potenza Reattiva L2 Massima	kvar/100000	Signed Long	•
0x041C	2	High Reactive Power L3	Potenza Reattiva L3 Massima	kvar/100000	Signed Long	•
0x041E	2	High Apparent Power L1	Potenza Apparente L1 Massima	kVA/100000	Unsigned Long	•
0x0420	2	High Apparent Power L2	Potenza Apparente L2 Massima	kVA/100000	Unsigned Long	•
0x0422	2	High Apparent Power L3	Potenza Apparente L3 Massima	kVA/100000	Unsigned Long	•
0x0424	2	High Power Factor L1	Power Factor L1 Massimo	/10000	Signed Long	•
0x0426	2	High Power Factor L2	Power Factor L2 Massimo	/10000	Signed Long	•
0x0428	2	High Power Factor L3	Power Factor L3 Massimo	/10000	Signed Long	•
0x0430	2	High Frequency	Frequenza Massima	Hz/1000	Unsigned Long	•
0x0432	2	High Voltage Ln Eqv	Tensione Ln Eqv Massima	V/100	Unsigned Long	•
0x0434	2	High Voltage LL Eqv	Tensione LL Eqv Massima	V/100	Unsigned Long	•
0x0436	2	High Current Eqv	Corrente Eqv Massima	A/10000	Unsigned Long	•
0x0438	2	High Active Power Tot	Potenza Attiva Tot Massima	kW/100000	Signed Long	•
0x043A	2	High Reactive Power Tot	Potenza Reattiva Tot Massima	kvar/100000	Signed Long	•
0x043C	2	High Apparent Power Tot	Potenza Apparente Tot Massima	kVA/100000	Unsigned Long	•
0x043E	2	High Power Factor Tot	Power Factor Tot Massimo	/10000	Signed Long	•
0x0440	2	High VII Unbalance	Asimmetria VII Massima	V/100	Unsigned Long	•
0x0442	2	High VIn Unbalance	Asimmetria VIn Massima	V/100	Unsigned Long	•
0x0444	2	High Current Unbalance	Asimmetria Corrente Massima	A/10000	Unsigned Long	•
0x0446	2	High Neutral Current	Corrente Di Neutro Massima	A/10000	Unsigned Long	•
0x0452	2	High Thd L1	Thd L1 Massimo	%/100	Unsigned Long	•
0x0454	2	High Thd L2	Thd L2 Massimo	%/100	Unsigned Long	•
0x0456	2	High Thd L3	Thd L3 Massimo	%/100	Unsigned Long	•
0x0458	2	High THD I1	THD I1 Max	%/100	Unsigned Long	•
0x045A	2	High THD I2	THD I2 Max	%/100	Unsigned Long	•
0x045C	2	High THD I3	THD I3 Max	%/100	Unsigned Long	•
0x045E	2	High Thd L12	Thd L12 Massimo	%/100	Unsigned Long	•
0x0460	2	High Thd L23	Thd L23 Massimo	%/100	Unsigned Long	•
0x0462	2	High Thd L31	Thd L31 Massimo	%/100	Unsigned Long	•
0x0600	2	Low Voltage L1	Tensione L1 Minima	V/100	Unsigned Long	•
0x0602	2	Low Voltage L2	Tensione L2 Minima	V/100	Unsigned Long	•
0x0604	2	Low Voltage L3	Tensione L3 Minima	V/100	Unsigned Long	•
0x0606	2	Low Current L1	Corrente L1 Minima	A/10000	Unsigned Long	•
0x0608	2	Low Current L2	Corrente L2 Minima	A/10000	Unsigned Long	•

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato	Available for EXS4 Presente su EXS4
0x060A	2	Low Current L3	Corrente L3 Minima	A/10000	Unsigned Long	•
0x060C	2	Low Voltage L1L2	Tensione L1L2 Minima	V/100	Unsigned Long	•
0x060E	2	Low Voltage L2L3	Tensione L2L3 Minima	V/100	Unsigned Long	•
0x0610	2	Low Voltage L3L1	Tensione L3L1 Minima	V/100	Unsigned Long	•
0x0612	2	Low Active Power L1	Potenza Attiva L1 Minima	kW/100000	Signed Long	•
0x0614	2	Low Active Power L2	Potenza Attiva L2 Minima	kW/100000	Signed Long	•
0x0616	2	Low Active Power L3	Potenza Attiva L3 Minima	kW/100000	Signed Long	•
0x0618	2	Low Reactive Power L1	Potenza Reattiva L1 Minima	kvar/100000	Signed Long	•
0x061A	2	Low Reactive Power L2	Potenza Reattiva L2 Minima	kvar/100000	Signed Long	•
0x061C	2	Low Reactive Power L3	Potenza Reattiva L3 Minima	kvar/100000	Signed Long	•
0x061E	2	Low Apparent Power L1	Potenza Apparente L1 Minima	kVA/100000	Unsigned Long	•
0x0620	2	Low Apparent Power L2	Potenza Apparente L2 Minima	kVA/100000	Unsigned Long	•
0x0622	2	Low Apparent Power L3	Potenza Apparente L3 Minima	kVA/100000	Unsigned Long	•
0x0624	2	Low Power Factor L1	Power Factor L1 Minimo	/10000	Signed Long	•
0x0626	2	Low Power Factor L2	Power Factor L2 Minimo	/10000	Signed Long	•
0x0628	2	Low Power Factor L3	Power Factor L3 Minimo	/10000	Signed Long	•
0x0630	2	Low Frequency	Frequenza Minima	Hz/1000	Unsigned Long	•
0x0632	2	Low Voltage Ln Eqv	Tensione Ln Eqv Minima	V/100	Unsigned Long	•
0x0634	2	Low Voltage Ll Eqv	Tensione Ll Eqv Minima	V/100	Unsigned Long	•
0x0636	2	Low Current Eqv	Corrente Eqv Minima	A/10000	Unsigned Long	•
0x0638	2	Low Active Power Tot	Potenza Attiva Tot Minima	kW/100000	Signed Long	•
0x063A	2	Low Reactive Power Tot	Potenza Reattiva Tot Minima	kvar/100000	Signed Long	•
0x063C	2	Low Apparent Power Tot	Potenza Apparente Tot Minima	kVA/100000	Unsigned Long	•
0x063E	2	Low Power Factor Tot	Power Factor Tot Minimo	/10000	Signed Long	•
0x0640	2	Low Vll Unbalance	Asimmetria Vll Minima	V/100	Unsigned Long	•
0x0642	2	Low Vln Unbalance	Asimmetria Vln Minima	V/100	Unsigned Long	•
0x0644	2	Low Current Unbalance	Asimmetria Corrente Minima	A/10000	Unsigned Long	•
0x0646	2	Low Neutral Current	Corrente Di Neutro Minima	A/10000	Unsigned Long	•
0x0652	2	Low Thd L1	Thd L1 Minimo	%/100	Unsigned Long	•
0x0654	2	Low Thd L2	Thd L2 Minimo	%/100	Unsigned Long	•
0x0656	2	Low Thd L3	Thd L3 Minimo	%/100	Unsigned Long	•
0x0658	2	Low Thd I1	Thd I1 Minimo	%/100	Unsigned Long	•
0x065A	2	Low Thd I2	Thd I2 Minimo	%/100	Unsigned Long	•
0x065C	2	Low Thd I3	Thd I3 Minimo	%/100	Unsigned Long	•
0x065E	2	Low Thd L12	Thd L12 Minimo	%/100	Unsigned Long	•
0x0660	2	Low Thd L23	Thd L23 Minimo	%/100	Unsigned Long	•
0x0662	2	Low Thd L31	Thd L31 Minimo	%/100	Unsigned Long	•
0x0800	2	Average Voltage L1	Tensione L1 Media	V/100	Unsigned Long	•
0x0802	2	Average Voltage L2	Tensione L2 Media	V/100	Unsigned Long	•
0x0804	2	Average Voltage L3	Tensione L3 Media	V/100	Unsigned Long	•
0x0806	2	Average Current L1	Corrente L1 Media	A/10000	Unsigned Long	•
0x0808	2	Average Current L2	Corrente L2 Media	A/10000	Unsigned Long	•
0x080A	2	Average Current L3	Corrente L3 Media	A/10000	Unsigned Long	•
0x080C	2	Average Voltage L1L2	Tensione L1L2 Media	V/100	Unsigned Long	•
0x080E	2	Average Voltage L2L3	Tensione L2L3 Media	V/100	Unsigned Long	•
0x0810	2	Average Voltage L3L1	Tensione L3L1 Media	V/100	Unsigned Long	•
0x0812	2	Average Active Power L1	Potenza Attiva L1 Media	kW/100000	Signed Long	•
0x0814	2	Average Active Power L2	Potenza Attiva L2 Media	kW/100000	Signed Long	•
0x0816	2	Average Active Power L3	Potenza Attiva L3 Media	kW/100000	Signed Long	•
0x0818	2	Average Reactive Power L1	Potenza Reattiva L1 Media	kvar/100000	Signed Long	•
0x081A	2	Average Reactive Power L2	Potenza Reattiva L2 Media	kvar/100000	Signed Long	•
0x081C	2	Average Reactive Power L3	Potenza Reattiva L3 Media	kvar/100000	Signed Long	•
0x081E	2	Average Apparent Power L1	Potenza Apparente L1 Media	kVA/100000	Unsigned Long	•
0x0820	2	Average Apparent Power L2	Potenza Apparente L2 Media	kVA/100000	Unsigned Long	•
0x0822	2	Average Apparent Power L3	Potenza Apparente L3 Media	kVA/100000	Unsigned Long	•
0x0824	2	Average Power Factor L1	Power Factor L1 Medio	/10000	Signed Long	•
0x0826	2	Average Power Factor L2	Power Factor L2 Medio	/10000	Signed Long	•
0x0828	2	Average Power Factor L3	Power Factor L3 Medio	/10000	Signed Long	•
0x0830	2	Average Frequency	Frequenza Media	Hz/1000	Unsigned Long	•
0x0832	2	Average Voltage Ln Eqv	Tensione Ln Eqv Media	V/100	Unsigned Long	•
0x0834	2	Average Voltage Ll Eqv	Tensione Ll Eqv Media	V/100	Unsigned Long	•
0x0836	2	Average Current Eqv	Corrente Eqv Media	A/10000	Unsigned Long	•
0x0838	2	Average Active Power Tot	Potenza Attiva Tot Media	kW/100000	Signed Long	•
0x083A	2	Average Reactive Power Tot	Potenza Reattiva Tot Media	kvar/100000	Signed Long	•
0x083C	2	Average Apparent Power Tot	Potenza Apparente Tot Media	kVA/100000	Unsigned Long	•
0x083E	2	Average Power Factor Tot	Power Factor Tot Medio	/10000	Signed Long	•
0x0840	2	Average Vll Unbalance	Asimmetria Vll Media	V/100	Unsigned Long	•
0x0842	2	Average Vln Unbalance	Asimmetria Vln Media	V/100	Unsigned Long	•
0x0844	2	Average Current Unbalance	Asimmetria Corrente Media	A/10000	Unsigned Long	•
0x0846	2	Average Neutral Current	Corrente Di Neutro Media	A/10000	Unsigned Long	•
0x0852	2	Average Thd L1	Thd L1 Medio	%/100	Unsigned Long	•
0x0854	2	Average Thd L2	Thd L2 Medio	%/100	Unsigned Long	•
0x0856	2	Average Thd L3	Thd L3 Medio	%/100	Unsigned Long	•
0x0858	2	Average Thd I1	Thd I1 Medio	%/100	Unsigned Long	•
0x085A	2	Average Thd I2	Thd I2 Medio	%/100	Unsigned Long	•
0x085C	2	Average Thd I3	Thd I3 Medio	%/100	Unsigned Long	•
0x085E	2	Average Thd L12	Thd L12 Medio	%/100	Unsigned Long	•
0x0860	2	Average Thd L23	Thd L23 Medio	%/100	Unsigned Long	•
0x0862	2	Average Thd L31	Thd L31 Medio	%/100	Unsigned Long	•
0x0A00	2	Max Demand Voltage L1	Max Demand Tensione L1	V/100	Unsigned Long	•
0x0A02	2	Max Demand Voltage L2	Max Demand Tensione L2	V/100	Unsigned Long	•
0x0A04	2	Max Demand Voltage L3	Max Demand Tensione L3	V/100	Unsigned Long	•
0x0A06	2	Max Demand Current L1	Max Demand Corrente L1	A/10000	Unsigned Long	•
0x0A08	2	Max Demand Current L2	Max Demand Corrente L2	A/10000	Unsigned Long	•
0x0A0A	2	Max Demand Current L3	Max Demand Corrente L3	A/10000	Unsigned Long	•
0x0A0C	2	Max Demand Voltage L1L2	Max Demand Tensione L1L2	V/100	Unsigned Long	•
0x0A0E	2	Max Demand Voltage L2L3	Max Demand Tensione L2L3	V/100	Unsigned Long	•
0x0A10	2	Max Demand Voltage L3L1	Max Demand Tensione L3L1	V/100	Unsigned Long	•
0x0A12	2	Max Demand Active Power L1	Max Demand Potenza Attiva L1	kW/100000	Signed Long	•

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato	Available for EXS4 Presente su EXS4
0x0A14	2	Max Demand Active Power L2	Max Demand Potenza Attiva L2	kW/100000	Signed Long	•
0x0A16	2	Max Demand Active Power L3	Max Demand Potenza Attiva L3	kW/100000	Signed Long	•
0x0A18	2	Max Demand Reactive Power L1	Max Demand Potenza Reattiva L1	kvar/100000	Signed Long	•
0x0A1A	2	Max Demand Reactive Power L2	Max Demand Potenza Reattiva L2	kvar/100000	Signed Long	•
0x0A1C	2	Max Demand Reactive Power L3	Max Demand Potenza Reattiva L3	kvar/100000	Signed Long	•
0x0A1E	2	Max Demand Apparent Power L1	Max Demand Potenza Apparente L1	kVA/100000	Unsigned Long	•
0x0A20	2	Max Demand Apparent Power L2	Max Demand Potenza Apparente L2	kVA/100000	Unsigned Long	•
0x0A22	2	Max Demand Apparent Power L3	Max Demand Potenza Apparente L3	kVA/100000	Unsigned Long	•
0x0A24	2	Max Demand Power Factor L1	Max Demand Power Factor L1	/10000	Signed Long	•
0x0A26	2	Max Demand Power Factor L2	Max Demand Power Factor L2	/10000	Signed Long	•
0x0A28	2	Max Demand Power Factor L3	Max Demand Power Factor L3	/10000	Signed Long	•
0x0A30	2	Max Demand Frequency	Max Demand Frequenza	Hz/1000	Unsigned Long	•
0x0A32	2	Max Demand Voltage Ln Eqv	Max Demand Tensione Ln Eqv	V/100	Unsigned Long	•
0x0A34	2	Max Demand Voltage Ll Eqv	Max Demand Tensione Ll Eqv	V/100	Unsigned Long	•
0x0A36	2	Max Demand Current Eqv	Max Demand Corrente Eqv	A/10000	Unsigned Long	•
0x0A38	2	Max Demand Active Power Tot	Max Demand Potenza Attiva Tot	kW/100000	Signed Long	•
0x0A3A	2	Max Demand Reactive Power Tot	Max Demand Potenza Reattiva Tot	kvar/100000	Signed Long	•
0x0A3C	2	Max Demand Apparent Power Tot	Max Demand Potenza Apparente Tot	kVA/100000	Unsigned Long	•

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato	Available for EXS4 Presente su EXS4
0x1B20	4	Active Energy - Import	Energia Attiva Importata	kWh/100	Unsigned Long	•
0x1B24	4	Active Energy - Export	Energia Attiva Esportata	kWh/100	Signed Long	•
0x1B28	4	Reactive Energy - Import	Energia Reattiva Importata	kvarh/100	Unsigned Long	•
0x1B2C	4	Reactive Energy - Export	Energia Reattiva Esportata	kvarh/100	Signed Long	•
0x1B30	4	Apparent Energy	Energia Apparente	kVAh/100	Unsigned Long	•
0x1B34	4	Partial Active Energy - Import	Energia Attiva Importata Parziale	kWh/100	Unsigned Long	•
0x1B38	4	Partial Active Energy - Export	Energia Attiva Esportata Parziale	kWh/100	Signed Long	•
0x1B3C	4	Partial Reactive Energy - Import	Energia Reattiva Importata Parziale	kvarh/100	Unsigned Long	•
0x1B40	4	Partial Reactive Energy - Export	Energia Reattiva Esportata Parziale	kvarh/100	Signed Long	•
0x1B44	4	Partial Apparent Energy	Energia Apparente Parziale	kVAh/100	Unsigned Long	•
0x1B48	4	T1 Active Energy (Imp)	Tariffa 1 Energia Attiva (Imp)	kWh/100	Unsigned Long	
0x1B4C	4	T1 Active Energy (Exp)	Tariffa 1 Energia Attiva (Esp)	kWh/100	Unsigned Long	
0x1B50	4	T1 Reactive Energy (Imp)	Tariffa 1 Energia Reattiva (Imp)	kvarh/100	Unsigned Long	
0x1B54	4	T1 Reactive Energy (Exp)	Tariffa 1 Energia Reattiva (Esp)	kvarh/100	Unsigned Long	
0x1B58	4	T1 Apparent Energy	Tariffa 1 Energia Apparente	kVAh/100	Unsigned Long	
0x1B5C	4	T2 Active Energy (Imp)	Tariffa 2 Energia Attiva (Imp)	kWh/100	Unsigned Long	
0x1B60	4	T2 Active Energy (Exp)	Tariffa 2 Energia Attiva (Esp)	kWh/100	Unsigned Long	
0x1B64	4	T2 Reactive Energy (Imp)	Tariffa 2 Energia Reattiva (Imp)	kvarh/100	Unsigned Long	
0x1B68	4	T2 Reactive Energy (Exp)	Tariffa 2 Energia Reattiva (Esp)	kvarh/100	Unsigned Long	
0x1B6C	4	T2 Apparent Energy	Tariffa 2 Energia Apparente	kVAh/100	Unsigned Long	
0x1B70	4	T3 Active Energy (Imp)	Tariffa 3 Energia Attiva (Imp)	kWh/100	Unsigned Long	
0x1B74	4	T3 Active Energy (Exp)	Tariffa 3 Energia Attiva (Esp)	kWh/100	Unsigned Long	
0x1B78	4	T3 Reactive Energy (Imp)	Tariffa 3 Energia Reattiva (Imp)	kvarh/100	Unsigned Long	
0x1B7C	4	T3 Reactive Energy (Exp)	Tariffa 3 Energia Reattiva (Esp)	kvarh/100	Unsigned Long	
0x1B80	4	T3 Apparent Energy	Tariffa 3 Energia Apparente	kVAh/100	Unsigned Long	
0x1B84	4	T4 Active Energy (Imp)	Tariffa 4 Energia Attiva (Imp)	kWh/100	Unsigned Long	
0x1B88	4	T4 Active Energy (Exp)	Tariffa 4 Energia Attiva (Esp)	kWh/100	Unsigned Long	
0x1B8C	4	T4 Reactive Energy (Imp)	Tariffa 4 Energia Reattiva (Imp)	kvarh/100	Unsigned Long	
0x1B90	4	T4 Reactive Energy (Exp)	Tariffa 4 Energia Reattiva (Esp)	kvarh/100	Unsigned Long	
0x1B94	4	T4 Apparent Energy	Tariffa 4 Energia Apparente	kVAh/100	Unsigned Long	
0x1B98	4	L1 Active Energy - Import	Energia Attiva Importata L1	kWh/100	Unsigned Long	•
0x1B9C	4	L1 Active Energy - Export	Energia Attiva Esportata L1	kWh/100	Unsigned Long	•
0x1BA0	4	L1 Reactive Energy - Import	Energia Reattiva Importata L1	kvarh/100	Unsigned Long	•
0x1BA4	4	L1 Reactive Energy - Export	Energia Reattiva Esportata L1	kvarh/100	Unsigned Long	•
0x1BA8	4	L1 Apparent Energy	Energia Apparente L1	kVAh/100	Unsigned Long	•
0x1BAC	4	L2 Active Energy - Import	Energia Attiva Importata L2	kWh/100	Unsigned Long	•
0x1BB0	4	L2 Active Energy - Export	Energia Attiva Esportata L2	kWh/100	Unsigned Long	•
0x1BB4	4	L2 Reactive Energy - Import	Energia Reattiva Importata L2	kvarh/100	Unsigned Long	•
0x1BB8	4	L2 Reactive Energy - Export	Energia Reattiva Esportata L2	kvarh/100	Unsigned Long	•
0x1BBC	4	L2 Apparent Energy	Energia Apparente L2	kVAh/100	Unsigned Long	•
0x1BC0	4	L3 Active Energy - Import	Energia Attiva Importata L3	kWh/100	Unsigned Long	•
0x1BC4	4	L3 Active Energy - Export	Energia Attiva Esportata L3	kWh/100	Unsigned Long	•
0x1BC8	4	L3 Reactive Energy - Import	Energia Reattiva Importata L3	kvarh/100	Unsigned Long	•
0x1BCC	4	L3 Reactive Energy - Export	Energia Reattiva Esportata L3	kvarh/100	Unsigned Long	•
0x1BD0	4	L3 Apparent Energy	Energia Apparente L3	kVAh/100	Unsigned Long	•
0x1BD4	4	Partial L1 Active Energy - Import	Energia Attiva Importata L1 Parziale	kWh/100	Unsigned Long	•
0x1BD8	4	Partial L1 Active Energy - Export	Energia Attiva Esportata L1 Parziale	kWh/100	Unsigned Long	•
0x1BDC	4	Partial L1 Reactive Energy - Import	Energia Reattiva Importata L1 Parziale	kvarh/100	Unsigned Long	•
0x1BE0	4	Partial L1 Reactive Energy - Export	Energia Reattiva Esportata L1 Parziale	kvarh/100	Unsigned Long	•
0x1BE4	4	Partial L1 Apparent Energy	Energia Apparente L1 Parziale	kVAh/100	Unsigned Long	•
0x1BE8	4	Partial L2 Active Energy - Import	Energia Attiva Importata L2 Parziale	kWh/100	Unsigned Long	•
0x1BEC	4	Partial L2 Active Energy - Export	Energia Attiva Esportata L2 Parziale	kWh/100	Unsigned Long	•
0x1BF0	4	Partial L2 Reactive Energy - Import	Energia Reattiva Importata L2 Parziale	kvarh/100	Unsigned Long	•
0x1BF4	4	Partial L2 Reactive Energy - Export	Energia Reattiva Esportata L2 Parziale	kvarh/100	Unsigned Long	•
0x1BF8	4	Partial L2 Apparent Energy	Energia Apparente L2 Parziale	kVAh/100	Unsigned Long	•
0x1BFC	4	Partial L3 Active Energy - Import	Energia Attiva Importata L3 Parziale	kWh/100	Unsigned Long	•
0x1C00	4	Partial L3 Active Energy - Export	Energia Attiva Esportata L3 Parziale	kWh/100	Unsigned Long	•
0x1C04	4	Partial L3 Reactive Energy - Import	Energia Reattiva Importata L3 Parziale	kvarh/100	Unsigned Long	•
0x1C08	4	Partial L3 Reactive Energy - Export	Energia Reattiva Esportata L3 Parziale	kvarh/100	Unsigned Long	•
0x1C0C	4	Partial L3 Apparent Energy	Energia Apparente L3 Parziale	kVAh/100	Unsigned Long	•
0x1C10	4	T1 Active Energy (Imp) L1	Tariffa 1 Energia Attiva (Imp) L1	kWh/100	Unsigned Long	•
0x1C14	4	T1 Active Energy (Exp) L1	Tariffa 1 Energia Attiva (Esp) L1	kWh/100	Unsigned Long	•
0x1C18	4	T1 Reactive Energy (Imp) L1	Tariffa 1 Energia Reattiva (Imp) L1	kvarh/100	Unsigned Long	•
0x1C1C	4	T1 Reactive Energy (Exp) L1	Tariffa 1 Energia Reattiva (Esp) L1	kvarh/100	Unsigned Long	•
0x1C20	4	T1 Apparent Energy L1	Tariffa 1 Energia Apparente L1	kVAh/100	Unsigned Long	•
0x1C24	4	T1 Active Energy (Imp) L2	Tariffa 1 Energia Attiva (Imp) L2	kWh/100	Unsigned Long	•
0x1C28	4	T1 Active Energy (Exp) L2	Tariffa 1 Energia Attiva (Esp) L2	kWh/100	Unsigned Long	•

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato	Available for EXS4 Presente su EXS4
0x1C2C	4	T1 Reactive Energy (Imp) L2	Tariffa 1 Energia Reattiva (Imp) L2	kvarh/100	Unsigned Long	•
0x1C30	4	T1 Reactive Energy (Exp) L2	Tariffa 1 Energia Reattiva (Esp) L2	kvarh/100	Unsigned Long	•
0x1C34	4	T1 Apparent Energy L2	Tariffa 1 Energia Apparente L2	kVAh/100	Unsigned Long	•
0x1C38	4	T1 Active Energy (Imp) L3	Tariffa 1 Energia Attiva (Imp) L3	kWh/100	Unsigned Long	•
0x1C3C	4	T1 Active Energy (Exp) L3	Tariffa 1 Energia Attiva (Esp) L3	kWh/100	Unsigned Long	•
0x1C40	4	T1 Reactive Energy (Imp) L3	Tariffa 1 Energia Reattiva (Imp) L3	kvarh/100	Unsigned Long	•
0x1C44	4	T1 Reactive Energy (Exp) L3	Tariffa 1 Energia Reattiva (Esp) L3	kvarh/100	Unsigned Long	•
0x1C48	4	T1 Apparent Energy L3	Tariffa 1 Energia Apparente L3	kVAh/100	Unsigned Long	•
0x1C4C	4	T2 Active Energy (Imp) L1	Tariffa 2 Energia Attiva (Imp) L1	kWh/100	Unsigned Long	•
0x1C50	4	T2 Active Energy (Exp) L1	Tariffa 2 Energia Attiva (Esp) L1	kWh/100	Unsigned Long	•
0x1C54	4	T2 Reactive Energy (Imp) L1	Tariffa 2 Energia Reattiva (Imp) L1	kvarh/100	Unsigned Long	•
0x1C58	4	T2 Reactive Energy (Exp) L1	Tariffa 2 Energia Reattiva (Esp) L1	kvarh/100	Unsigned Long	•
0x1C5C	4	T2 Apparent Energy L1	Tariffa 2 Energia Apparente L1	kVAh/100	Unsigned Long	•
0x1C60	4	T2 Active Energy (Imp) L2	Tariffa 2 Energia Attiva (Imp) L2	kWh/100	Unsigned Long	•
0x1C64	4	T2 Active Energy (Exp) L2	Tariffa 2 Energia Attiva (Esp) L2	kWh/100	Unsigned Long	•
0x1C68	4	T2 Reactive Energy (Imp) L2	Tariffa 2 Energia Reattiva (Imp) L2	kvarh/100	Unsigned Long	•
0x1C6C	4	T2 Reactive Energy (Exp) L2	Tariffa 2 Energia Reattiva (Esp) L2	kvarh/100	Unsigned Long	•
0x1C70	4	T2 Apparent Energy L2	Tariffa 2 Energia Apparente L2	kVAh/100	Unsigned Long	•
0x1C74	4	T2 Active Energy (Imp) L3	Tariffa 2 Energia Attiva (Imp) L3	kWh/100	Unsigned Long	•
0x1C78	4	T2 Active Energy (Exp) L3	Tariffa 2 Energia Attiva (Esp) L3	kWh/100	Unsigned Long	•
0x1C7C	4	T2 Reactive Energy (Imp) L3	Tariffa 2 Energia Reattiva (Imp) L3	kvarh/100	Unsigned Long	•
0x1C80	4	T2 Reactive Energy (Exp) L3	Tariffa 2 Energia Reattiva (Esp) L3	kvarh/100	Unsigned Long	•
0x1C84	4	T2 Apparent Energy L3	Tariffa 2 Energia Apparente L3	kVAh/100	Unsigned Long	•
0x1C88	4	T3 Active Energy (Imp) L1	Tariffa 3 Energia Attiva (Imp) L1	kWh/100	Unsigned Long	•
0x1C8C	4	T3 Active Energy (Exp) L1	Tariffa 3 Energia Attiva (Esp) L1	kWh/100	Unsigned Long	•
0x1C90	4	T3 Reactive Energy (Imp) L1	Tariffa 3 Energia Reattiva (Imp) L1	kvarh/100	Unsigned Long	•
0x1C94	4	T3 Reactive Energy (Exp) L1	Tariffa 3 Energia Reattiva (Esp) L1	kvarh/100	Unsigned Long	•
0x1C98	4	T3 Apparent Energy L1	Tariffa 3 Energia Apparente L1	kVAh/100	Unsigned Long	•
0x1C9C	4	T3 Active Energy (Imp) L2	Tariffa 3 Energia Attiva (Imp) L2	kWh/100	Unsigned Long	•
0x1CA0	4	T3 Active Energy (Exp) L2	Tariffa 3 Energia Attiva (Esp) L2	kWh/100	Unsigned Long	•
0x1CA4	4	T3 Reactive Energy (Imp) L2	Tariffa 3 Energia Reattiva (Imp) L2	kvarh/100	Unsigned Long	•
0x1CA8	4	T3 Reactive Energy (Exp) L2	Tariffa 3 Energia Reattiva (Esp) L2	kvarh/100	Unsigned Long	•
0x1CAC	4	T3 Apparent Energy L2	Tariffa 3 Energia Apparente L2	kVAh/100	Unsigned Long	•
0x1CB0	4	T3 Active Energy (Imp) L3	Tariffa 3 Energia Attiva (Imp) L3	kWh/100	Unsigned Long	•
0x1CB4	4	T3 Active Energy (Exp) L3	Tariffa 3 Energia Attiva (Esp) L3	kWh/100	Unsigned Long	•
0x1CB8	4	T3 Reactive Energy (Imp) L3	Tariffa 3 Energia Reattiva (Imp) L3	kvarh/100	Unsigned Long	•
0x1CBC	4	T3 Reactive Energy (Exp) L3	Tariffa 3 Energia Reattiva (Esp) L3	kvarh/100	Unsigned Long	•
0x1CC0	4	T3 Apparent Energy L3	Tariffa 3 Energia Apparente L3	kVAh/100	Unsigned Long	•
0x1CC4	4	T4 Active Energy (Imp) L1	Tariffa 4 Energia Attiva (Imp) L1	kWh/100	Unsigned Long	•
0x1CC8	4	T4 Active Energy (Exp) L1	Tariffa 4 Energia Attiva (Esp) L1	kWh/100	Unsigned Long	•
0x1CCC	4	T4 Reactive Energy (Imp) L1	Tariffa 4 Energia Reattiva (Imp) L1	kvarh/100	Unsigned Long	•
0x1CD0	4	T4 Reactive Energy (Exp) L1	Tariffa 4 Energia Reattiva (Esp) L1	kvarh/100	Unsigned Long	•
0x1CD4	4	T4 Apparent Energy L1	Tariffa 4 Energia Apparente L1	kVAh/100	Unsigned Long	•
0x1CD8	4	T4 Active Energy (Imp) L2	Tariffa 4 Energia Attiva (Imp) L2	kWh/100	Unsigned Long	•
0x1CDC	4	T4 Active Energy (Exp) L2	Tariffa 4 Energia Attiva (Esp) L2	kWh/100	Unsigned Long	•
0x1CE0	4	T4 Reactive Energy (Imp) L2	Tariffa 4 Energia Reattiva (Imp) L2	kvarh/100	Unsigned Long	•
0x1CE4	4	T4 Reactive Energy (Exp) L2	Tariffa 4 Energia Reattiva (Esp) L2	kvarh/100	Unsigned Long	•
0x1CE8	4	T4 Apparent Energy L2	Tariffa 4 Energia Apparente L2	kVAh/100	Unsigned Long	•
0x1CEC	4	T4 Active Energy (Imp) L3	Tariffa 4 Energia Attiva (Imp) L3	kWh/100	Unsigned Long	•
0x1CF0	4	T4 Active Energy (Exp) L3	Tariffa 4 Energia Attiva (Esp) L3	kWh/100	Unsigned Long	•
0x1CF4	4	T4 Reactive Energy (Imp) L3	Tariffa 4 Energia Reattiva (Imp) L3	kvarh/100	Unsigned Long	•
0x1CF8	4	T4 Reactive Energy (Exp) L3	Tariffa 4 Energia Reattiva (Esp) L3	kvarh/100	Unsigned Long	•
0x1CFC	4	T4 Apparent Energy L3	Tariffa 4 Energia Apparente L3	kVAh/100	Unsigned Long	•

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato	Available for EXS4 Presente su EXS4
0x0C00	2	Harmonic 2 VL1	Armonica 2 VL1	/100	Unsigned Long	•
0x0C02	2	Harmonic 3 VL1	Armonica 3 VL1	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x0C3F	2	Harmonic 33 VL1	Armonica 33 VL1	/100	Unsigned Long	•
0x1000	2	Harmonic 34 VL1	Armonica 34 VL1	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x103A	2	Harmonic 63 VL1	Armonica 63 VL1	/100	Unsigned Long	•
0x0C40	2	Harmonic 2 VL2	Armonica 2 VL2	/100	Unsigned Long	•
0x0C42	2	Harmonic 3 VL2	Armonica 3 VL2	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x0C7F	2	Harmonic 33 VL2	Armonica 33 VL2	/100	Unsigned Long	•
0x1040	2	Harmonic 34 VL2	Armonica 34 VL2	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x107A	2	Harmonic 63 VL2	Armonica 63 VL2	/100	Unsigned Long	•
0x0C80	2	Harmonic 2 VL3	Armonica 2 VL3	/100	Unsigned Long	•
0x0C82	2	Harmonic 3 VL3	Armonica 3 VL3	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x0CBF	2	Harmonic 33 VL3	Armonica 33 VL3	/100	Unsigned Long	•
0x1080	2	Harmonic 34 VL3	Armonica 34 VL3	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x10BA	2	Harmonic 63 VL3	Armonica 63 VL3	/100	Unsigned Long	•
0x0CC0	2	Harmonic 2 I1	Armonica 2 I1	/100	Unsigned Long	•
0x0CC2	2	Harmonic 3 I1	Armonica 3 I1	/100	Unsigned Long	•
…	2	…	…	…	…	•
0x0CFF	2	Harmonic 33 I1	Armonica 33 I1	/100	Unsigned Long	•
0x10C0	2	Harmonic 34 I1	Armonica 34 I1	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x10FA	2	Harmonic 63 I1	Armonica 63 I1	/100	Unsigned Long	•
0x0D00	2	Harmonic 2 I2	Armonica 2 I2	/100	Unsigned Long	•
0x0D02	2	Harmonic 3 I2	Armonica 3 I2	/100	Unsigned Long	•
…	2	…	…	…	…	•
0x0D3F	2	Harmonic 33 I2	Armonica 33 I2	/100	Unsigned Long	•

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato	Available for EXS4 Presente su EXS4
0x1100	2	Harmonic 34 I2	Armonica 34 I2	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x113A	2	Harmonic 63 I2	Armonica 63 I2	/100	Unsigned Long	•
0x0D40	2	Harmonic 2 I3	Armonica 2 I3	/100	Unsigned Long	•
0x0D42	2	Harmonic 3 I3	Armonica 3 I3	/100	Unsigned Long	•
…	2	…	…	…	…	•
0x0D7F	2	Harmonic 33 I3	Armonica 33 I3	/100	Unsigned Long	•
0x1140	2	Harmonic 34 I3	Armonica 34 I3	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x117A	2	Harmonic 63 I3	Armonica 63 I3	/100	Unsigned Long	•
0x0D80	2	Harmonic 2 VL12	Armonica 2 VL12	/100	Unsigned Long	•
0x0D82	2	Harmonic 3 VL12	Armonica 3 VL12	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x0DBF	2	Harmonic 33 VL12	Armonica 33 VL12	/100	Unsigned Long	•
0x1180	2	Harmonic 34 VL12	Armonica 34 VL12	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x11BA	2	Harmonic 63 VL12	Armonica 63 VL12	/100	Unsigned Long	•
0x0DC0	2	Harmonic 2 VL23	Armonica 2 VL23	/100	Unsigned Long	•
0x0DC2	2	Harmonic 3 VL23	Armonica 3 VL23	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x0DFF	2	Harmonic 33 VL23	Armonica 33 VL23	/100	Unsigned Long	•
0x11C0	2	Harmonic 34 VL23	Armonica 34 VL23	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x11FA	2	Harmonic 63 VL23	Armonica 63 VL23	/100	Unsigned Long	•
0x0E00	2	Harmonic 2 VL31	Armonica 2 VL31	/100	Unsigned Long	•
0x0E02	2	Harmonic 3 VL31	Armonica 3 VL31	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x0E3F	2	Harmonic 33 VL31	Armonica 33 VL31	/100	Unsigned Long	•
0x1200	2	Harmonic 34 VL31	Armonica 34 VL31	/100	Unsigned Long	•
…	…	…	…	…	…	•
0x123A	2	Harmonic 63 VL31	Armonica 63 VL31	/100	Unsigned Long	•

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato
0x2100	1	Input 1 (bit 0) - 12 (bit 11)	Ingresso 1 (bit 0) - 12 (bit 11)	/1	Unsigned Int
0x2110	1	Output 1 (bit 0) - 12 (bit 11)	Uscita 1 (bit 0) - 12 (bit 11)	/1	Unsigned Int
0x2120	3	Alarm 1 (bit 0) - 40 (bit 39)	Allarme 1 (bit 0) - 40 (bit 39)	/1	Unsigned Int
0x2130	3	PLC 1 (bit 0) - 40 (bit 39)	PLC 1 (bit 0) - 40 (bit 39)	/1	Unsigned Int
0x2140	3	Limit 1 (bit 0) - 40 (bit 39)	Limite 1 (bit 0) - 40 (bit 39)	/1	Unsigned Int
0x4F00	3	Remote variable 1 (bit 0) - 40 (bit 39)	Variabile remota 1 (bit 0) - 40 (bit 39)	/1	Unsigned Int

REAL TIME CLOCK
FUNCTION 0x03 – 0x04 – 0X06 – 0x10

OROLOGIO
FUNZIONI 0x03 – 0x04 – 0X06 – 0x10

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato
0x28F0	1	Year	Anno	/1	Unsigned Int
0x28F1	1	Month	Mese	/1	Unsigned Int
0x28F2	1	Day	Giorno	/1	Unsigned Int
0x28F3	1	Hour	Ora	/1	Unsigned Int
0x28F4	1	Minutes	Minuti	/1	Unsigned Int
0x28F5	1	Seconds	Secondi	/1	Unsigned Int

Write all the registers with a valid value. The new clock value must be applied by writing (command 0x06) the value 1 to 0x28FA address
Scrivere tutti i registri con valori validi. Il nuovo valore di orologio deve essere applicato scrivendo (comando 0x06) il valore 1 all'indirizzo 0x28FA.
Example – Esempio: 01 06 28 F9 00 01 91 9B

The following registers are available for DMG9000 only

I registry seguenti sono disponibili solo per DMG9000

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato
0x1800	2	Dip	Buchi (Dip)	/1	Unsigned Long
0x1802	2	Swell	Sovratensione (Swell)	/1000	Signed Long
0x1804	2	Interruptions	Interruzioni	/1	Unsigned Long
0x1806	2	Interruptions > 180S	Interruzioni > 180S	/1	Unsigned Long
0x1808	2	Voltage variation NHI	Variazione di tensione NHI	/1	Unsigned Long
0x180A	2	Voltage variation HI	Variazione di tensione HI	/1	Unsigned Long
0x180C	2	Voltage variation NLOW	Variazione di tensione NLOW	/1	Unsigned Long
0x180E	2	Voltage variation LOW	Variazione di tensione LOW	/1	Unsigned Long
0x1810	2	THD	THD	/1	Unsigned Long
0x1812	2	Asymmetry	Asimmetria	/1	Unsigned Long
0x1814	2	Frequency variation NHI	Variazione di frequenza NHI	/1	Unsigned Long
0x1816	2	Frequency variation HI	Variazione di frequenza HI	/1	Unsigned Long
0x1818	2	Frequency variation NLOW	Variazione di frequenza NLOW	/1	Unsigned Long
0x181A	2	Frequency variation LOW	Variazione di frequenza LOW	/1	Unsigned Long
0x181C	2	Harmonics	Armoniche	/1	Unsigned Long
0x33E0	1	Overvoltage (Weekly)	Sovratensione (Settimanale)	%/10	Unsigned Long
0x33E1	1	Undervoltage (Weekly)	Sottotensione (Settimanale)	%/10	Unsigned Long
0x33E3	1	Voltage asymmetry (Weekly)	Asimmetria tensione (Settimanale)	%/10	Unsigned Long
0x33E4	1	Overfrequency (Weekly)	Sovrafrequenza (Settimanale)	%/10	Unsigned Long
0x33E5	1	Underfrequency (Weekly)	Sottofrequenza (Settimanale)	%/10	Unsigned Long
0x33E5	1	Voltage THD (Weekly)	THD tensione (Settimanale)	%/10	Unsigned Long
0x33E6	1	Voltage single harmonics (Weekly)	Singole armoniche di tensione (Settimanale)	%/10	Unsigned Long
0x3770	1	Overvoltage (Yearly)	Sovratensione (Annuale)	%/10	Unsigned Long
0x3771	1	Undervoltage (Yearly)	Sottotensione (Annuale)	%/10	Unsigned Long
0x3772	1	Voltage THD (Yearly)	THD tensione (Annuale)	%/10	Unsigned Long
0x3773	1	Voltage asymmetry (Yearly)	Asimmetria tensione (Annuale)	%/10	Unsigned Long

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato
0x3774	1	Overfrequency (Yearly)	Sovrafrequenza (Annuale)	%/10	Unsigned Long
0x3775	1	Underfrequency (Yearly)	Sottofrequenza (Annuale)	%/10	Unsigned Long
0x3776	1	Voltage single harmonics (Yearly)	Singole armoniche di tensione (Annuale)	%/10	Unsigned Long

EASY Branch configuration

Configurazione EASY Branch

Address Indirizzo	Word	Description	Descrizione	Unit Unità	Format Formato
0x1A00	2	EXS1…/EXS3… primary value when automatically detected	Valori primario di EXS1…/EXS3… dopo il riconoscimento automatico	/1	Unsigned Long
0x1A06	2	Tipo di modulo misura correnti 0x30: EXS4000 0x31: EXS4001	Current measuring module type: 0x30: EXS4000 0x31: EXS4001	/1	Unsigned Long

PARAMETERS SETUP
FUNCTION 0x06 – 0x10
The parameters are read and modified according to the following rules.

IMPOSTAZIONE PARAMETRI
FUNZIONI 0x06 – 0x10
I parametri vengono letti e modificati applicando la seguente regola.

Address *Indirizzo*	Word	Meaning *Significato*	Function *Funzione*	Example *Esempio*
0x5000	1	Menu number selection *Selezione numero menu*	0x04 read 0x06 write	Write value 1 to select the menu number 1 *Per selezionare il menu 1 scrivere il valore 1*
0x5001	1	Submenu number selection *Selezione numero sottomenu*	0x04 read 0x06 write	Write value 4 to select the submenu number 4. If the submenu number is not required, write 0. *Per selezionare il sottomenu 4 scrivere il valore 4. Se il sottomenu non è presente, scrivere 0.*
0x5002	1	Parameter number selection *Selezione numero parametro*	0x04 read 0x06 write	Write value 2 to select the parameter number 2 *Per selezionare il parametro 2 scrivere il valore 2*
0x5004	1…28	Parameter value Valore parametro	0x04 read 0x06 write 0x10 multi-write	
0x2F03	1	Save to flash memory Salvataggio in memoria	0x06 write	Value=5 *Valore=5*

Example: language setting from menu M02 – Utility, P02.01
Menu 02: 01 06 4F FF 00 02 2E EF
Submenu: not necessary
Parameter P02.01 (Language): 01 06 50 01 00 01 08 CA
Parameter value (Language=Spanish): 01 06 50 03 00 03 28 CB
Example: alarm n.2 source from menu M09 – Alarms, P09.02.01
Menu 09: 01 06 4F FF 00 09 6F 28
Submenu 02: 01 06 50 00 00 02 19 0B
Parameter P09.02.01: 01 06 50 01 00 01 08 CA
Parameter value (LIM=1): 01 06 50 03 00 01 A9 0A
Save
01 06 2F 02 00 05 E0 DD
The device saves and reboots (no response modbus protocol message will be received).

Esempio: impostazione lingua dal menu M02 – Utilità, P02.01
Menu 02: 01 06 4F FF 00 02 2E EF
Sottomenu: non necessario
Parametro P02.01 (Lingua): 01 06 50 01 00 01 08 CA
Valore parametro (Lingua=Spagnolo): 01 06 50 03 00 03 28 CB
Esempio: impostazione sorgente allarme numero 2 dal menu M09 – Allarmi, P09.02.01
Menu 09: 01 06 4F FF 00 09 6F 28
Sottomenu 02: 01 06 50 00 00 02 19 0B
Parametro P09.02.01: 01 06 50 01 00 01 08 CA
Valore parametro (LIM=1): 01 06 50 03 00 01 A9 0A
Salvataggio
01 06 2F 02 00 05 E0 DD
Il dispositivo effettua il salvataggio dei parametri ed esegue il reboot (non si riceve nessuna risposta da modbus).

COMMANDS
FUNCTION 0x06

COMANDI
FUNZIONE 0x06

Address *Indirizzo*	Word	Value *Valore*	Format Formato	Description	Descrizione	Available for EXS4 Presente su EXS4
0x2FF0	1	0x00	Unsigned int	Reset MAX-MIN	Azzeramento MAX-MIN	•
0x2FF0	1	0x01	Unsigned int	Reset MAX demand	Azzeramento MAX demand	•
0x2FF0	1	0x02	Unsigned int	Reset partial and tariff energy counters	Azzeramento contatori di energia parziali e tariffe	•
0x2FF0	1	0x03	Unsigned int	Reset partial hour counters	Azzeramento contaore parziali	
0x2FF0	1	0x04	Unsigned int	Reset counters	Azzeramento contatori	
0x2FF0	1	0x05	Unsigned int	Reset alarms	Azzeramento allarmi	
0x2FF0	1	0x06	Unsigned int	Reset limit thresholds	Azzeramento limiti	
0x2FF0	1	0x08	Unsigned int	Setup to default (run a system reboot after this command)	Ripristino valori di fabbrica per i parametri (riavviare il sistema dopo questo comando)	
0x2FF0	1	0x0C	Unsigned int	Reset event list	Azzeramento lista eventi	
0x2FF0	1	0xFF	Unsigned int	Reset energy quality counters (DMG9000)	Azzeramento contatori qualità dell'energia (DMG9000)	
0x2FF0	1	0x10	Unsigned int	Reset energy quality statistics (DMG9000)	Azzeramento statistiche qualità dell'energia (DMG9000)	
0x4200	1	0x01	Unsigned int	Set energy tariff 1	Imposta tariffa energia 1	
0x4200	1	0x02	Unsigned int	Set energy tariff 2	Imposta tariffa energia 2	
0x4200	1	0x03	Unsigned int	Set energy tariff 3	Imposta tariffa energia 3	
0x4200	1	0x04	Unsigned int	Set energy tariff 4	Imposta tariffa energia 4	
0x2F03	1	0x05	Unsigned int	System reboot	Riavvio sistema	
0x4F00	1	0xAA	Unsigned int	Set REM1 to ON	Imposta REM1 su ON	
0x4F01	1	0xAA	Unsigned int	Set REM2 to ON	Imposta REM2 su ON	
…	…	…	…	…	…	
0x4F27	1	0xAA	Unsigned int	Set REM40 to OFF	Imposta REM40 su OFF	
0x4F00	1	0xBB	Unsigned int	Set REM1 to OFF	Imposta REM1 su OFF	
0x4F01	1	0xBB	Unsigned int	Set REM2 to OFF	Imposta REM2 su OFF	
…	…	…	…	…	…	
0x4F27	1	0xBB	Unsigned int	Set REM40 to OFF	Imposta REM40 su OFF	