

MODBUS Address-table MMI7000 - V1.3
Function code 3 (Register 3000)

Address			Register name	Info / Range of values														
DEC	HEX	H/L																
2996	0B B4	W	L1	Unsigned 16bit integer. Valid values: 0..1000. Unit ‰ $\frac{I_{MAX}}{I_{eff}} \cdot 1000$ (per measuring interval of 1s)														
2997	0B B5	W	L2 Current difference															
2998	0B B6	W	L3															
2999	0B B7	W	Record interval	Unsigned 16bit integer. Valid values 0, 1, 10, 60, 900 . Unit sec 0= Stopped, > 0 recording interval in sec														
3000	0B B8	H	Software version	Divide by 10 to get software version. exp: 10 = V1.0														
		L	Device type		70 = MC7000 / BR7000													
3001	0B B9	W	Power-Scaling-Factor (PSF)	Multiplier for values of address 3002 .. 3017 Valid values: 1, 10, 100, 1000														
3002	0B BA	W	L1	Unsigned 16bit integer. Unit var Exp.: 1000 * PSF = 10000var (If PSF = 10)														
3003	0B BB	W	L2 Reactive power															
3004	0B BC	W	L3															
3005	0B BD	W	SUM															
3006	0B BE	W	L1															
3007	0B BF	W	L2 Active power	Signed 16bit integer. Unit W Exp.: 1000 * PSF = 10000W (If PSF = 10) Negative values: supply (4-quadrant-mode)														
3008	0B C0	W	L3															
3009	0B C1	W	SUM															
3010	0B C2	W	L1															
3011	0B C3	W	L2 Apparent power	Unsigned 16bit integer. Unit VA Exp.: 1000 * PSF = 10000VA (If PSF = 10)														
3012	0B C4	W	L3															
3013	0B C5	W	SUM															
3014	0B C6	W	L1															
3015	0B C7	W	L2 Differential reactive power	Unsigned 16bit integer. Unit var Exp.: 1000 * PSF = 10000var (If PSF = 10)														
3016	0B C8	W	L3															
3017	0B C9	W	SUM															
3018	0B CA	W	L1	Unsigned 16bit integer. Unit V Exp.: 230 = 230V														
3019	0B CB	W	L2 Measuring voltage															
3020	0B CC	W	L3															
3021	0B CD	W	L1	Unsigned 16bit integer. Unit A Exp.: 1000 = 1000A														
3022	0B CE	W	L2 Measuring current															
3023	0B CF	W	L3															
3024	0B D0	W	L1	signed 16bit integer. Unit 1. Examples: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Value</th> <th rowspan="2">Value of powerfactor / Cos-phi</th> </tr> <tr> <th>Hex</th> <th>Decimal</th> </tr> </thead> <tbody> <tr> <td>0h0320</td> <td>800</td> <td>0.800 ind</td> </tr> <tr> <td>0h03E8</td> <td>1000</td> <td>1.000</td> </tr> <tr> <td>0hFCE0</td> <td>-800</td> <td>0.800 cap</td> </tr> </tbody> </table> Valid decimal range -999 .. 0 .. 1000	Value		Value of powerfactor / Cos-phi	Hex	Decimal	0h0320	800	0.800 ind	0h03E8	1000	1.000	0hFCE0	-800	0.800 cap
Value		Value of powerfactor / Cos-phi																
Hex	Decimal																	
0h0320	800	0.800 ind																
0h03E8	1000	1.000																
0hFCE0	-800	0.800 cap																
3025	0B D1	W	L2 Powerfactor															
3026	0B D2	W	L3 Cos-phi															
3027	0B D3	W	SUM															

3028	0B D4	L	L1	Unsigned 8bit byte. Unit Hz Exp: 50 = 50Hz																											
3029	0B D5	L	L2 Frequency																												
3030	0B D6	L	L3																												
3031	0B D7	W	Temperature in °C	signed 16bit integer. Unit °C. Examples: <table border="1"> <thead> <tr> <th>Hex value</th> <th>Temp.</th> <th>Hex value</th> <th>Temp.</th> </tr> </thead> <tbody> <tr> <td>0h000A</td> <td>10°C</td> <td>0hFFFF</td> <td>-1°C</td> </tr> <tr> <td>0h0001</td> <td>1°C</td> <td>0hFFF6</td> <td>-10°C</td> </tr> </tbody> </table>	Hex value	Temp.	Hex value	Temp.	0h000A	10°C	0hFFFF	-1°C	0h0001	1°C	0hFFF6	-10°C															
Hex value	Temp.	Hex value	Temp.																												
0h000A	10°C	0hFFFF	-1°C																												
0h0001	1°C	0hFFF6	-10°C																												
3032	0B D8																														
3033	0B D9																														
3034	0B DA																														
3035	0B DB	L	Output relays	<table border="1"> <thead> <tr> <th>Bit</th> <th>7</th> <th>6</th> <th>5</th> <th>4</th> <th>3</th> <th>2</th> <th>1</th> <th>0</th> </tr> </thead> <tbody> <tr> <td>Stage</td> <td>-</td> <td>-</td> <td>-</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> <td>-</td> </tr> </tbody> </table> 0 = Relay off / 1 = Relay on	Bit	7	6	5	4	3	2	1	0	Stage	-	-	-	4	3	2	1	-									
Bit	7	6	5	4	3	2	1	0																							
Stage	-	-	-	4	3	2	1	-																							
3036	0B DC																														
3037	0B DD	H L	L2 Error L1	<table border="1"> <thead> <tr> <th>Decimal value</th> <th>Bit</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>No measuring voltage</td> </tr> <tr> <td>2</td> <td>1</td> <td>Over voltage</td> </tr> <tr> <td>4</td> <td>2</td> <td></td> </tr> <tr> <td>8</td> <td>3</td> <td></td> </tr> <tr> <td>16</td> <td>4</td> <td></td> </tr> <tr> <td>32</td> <td>5</td> <td></td> </tr> <tr> <td>64</td> <td>6</td> <td>Over current</td> </tr> <tr> <td>128</td> <td>7</td> <td>Under voltage</td> </tr> </tbody> </table>	Decimal value	Bit	Description	1	0	No measuring voltage	2	1	Over voltage	4	2		8	3		16	4		32	5		64	6	Over current	128	7	Under voltage
Decimal value	Bit	Description																													
1	0	No measuring voltage																													
2	1	Over voltage																													
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64	6	Over current																													
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3038	0B DE	H L	SUM Error L3																												
3039	0B DF																														
3040	0B E0																														
3041	0B E1																														
3042	0B E2																														
3043	0B E3	H L	Internal Clock - Minute Internal Clock - Second	Unsigned 8bit byte. Valid values: 1 .. 59 – Unit min Unsigned 8bit byte. Valid values: 1 .. 59 – Unit sec																											
3044	0B E4	H L	Intern. Calendar - Day Internal Clock - Hour	Unsigned 8bit byte. Valid values: 1 .. 31 – Unit d Unsigned 8bit byte. Valid values: 0 .. 24 – Unit hr																											
3045	0B E5	H L	Intern. Calendar - Year Intern. Calendar - Month	Unsigned 8bit byte. Valid values: 00 .. 99 – Unit yr Add 2000 to get real Year. exp: 10 = 2010 Unsigned 8bit byte. Valid values: 1 .. 12 – Unit mm																											
3046	0B E6	W	Last pressed key -1-	<table border="1"> <thead> <tr> <th>Value</th> <th>Key</th> </tr> </thead> <tbody> <tr> <td>1234</td> <td>AUTO</td> </tr> <tr> <td>2345</td> <td>ENTER</td> </tr> <tr> <td>3456</td> <td>HELP</td> </tr> <tr> <td>4567</td> <td>ESC</td> </tr> </tbody> </table>	Value	Key	1234	AUTO	2345	ENTER	3456	HELP	4567	ESC																	
Value	Key																														
1234	AUTO																														
2345	ENTER																														
3456	HELP																														
4567	ESC																														
3047	0B E7	L	Last pressed key -2-	<table border="1"> <thead> <tr> <th>Value</th> <th>Key</th> </tr> </thead> <tbody> <tr> <td>Reg.Value +1</td> <td>PLUS</td> </tr> <tr> <td>Reg.Value -1</td> <td>MINUS</td> </tr> </tbody> </table>	Value	Key	Reg.Value +1	PLUS	Reg.Value -1	MINUS																					
Value	Key																														
Reg.Value +1	PLUS																														
Reg.Value -1	MINUS																														

3048	0B E8	L	Test state	<table border="1"> <thead> <tr> <th>Bit</th> <th>Taste</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>After manual-calibration</td> </tr> <tr> <td>7</td> <td>After calibration at test stand</td> </tr> </tbody> </table> <p>Register value 0 = main-reset executed</p>	Bit	Taste	6	After manual-calibration	7	After calibration at test stand				
Bit	Taste													
6	After manual-calibration													
7	After calibration at test stand													
3073.. 3087	0C 01 0C 0F	W	L1 Voltage	Unsigned 16bit integer * 0.1 . Unit % Exp.: 100 * 0.1 = 10.0%										
3088.. 3102	0C 10 0C 1E	W	L2 3 rd .. 31 st											
3103.. 3117	0C 1F 0C 2D	W	L3 Harmonics											
3118.. 3132	0C 2E 0C 3C	W	L1 Current											
3133.. 3147	0C 3D 0C 4B	W	L2 3 rd .. 31 st	Unsigned 16bit integer * 0.1 . Unit % Exp.: 100 * 0.1 = 10.0%										
3148.. 3162	0C 4C 0C 5A	W	L3 Harmonics											
3163	0C 5B	W	L1											
3164	0C 5C	W	L2 Voltage THD	Unsigned 16bit integer * 0.1 . Unit % Exp.: 100 * 0.1 = 10.0%										
3165	0C 5D	W	L3											
3166	0C 5E	W	L1	Unsigned 16bit integer * 0.1 . Unit % Exp.: 100 * 0.1 = 10.0%										
3167	0C 5F	W	L2 Current THD											
3168	0C 60	W	L3											
3169.. 3213	0C 61 0C 8D		Controller Settings											
3214	0C 8E	L	Start-up picture	<table border="1"> <thead> <tr> <th>Value</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>EPC</td> </tr> <tr> <td>1</td> <td>EBE</td> </tr> <tr> <td>2</td> <td>MDL</td> </tr> <tr> <td>3</td> <td>ESK</td> </tr> </tbody> </table>	Value	Name	0	EPC	1	EBE	2	MDL	3	ESK
Value	Name													
0	EPC													
1	EBE													
2	MDL													
3	ESK													
3215.. 3217	0C 8F 0C 91													
3218	0C 92	W	Number of Harmonics	Unsigned 16bit integer * 2 + 1 . Unit 1 Exp.: 7 * 2 + 1 = 15 → Measuring 3..15 Harmonic										
3219.. 3226	0C 93 0C 9A													
3226	0C 9A	WW	L1 Timestamp	<table border="1"> <thead> <tr> <th>Bit</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0 .. 16</td> <td>Time in seconds per Day (0 .. 86399)</td> </tr> <tr> <td>17 .. 21</td> <td>Day</td> </tr> <tr> <td>22 .. 25</td> <td>Month</td> </tr> <tr> <td>26 .. 31</td> <td>Year + 2000 (Exp: 10 → 2010)</td> </tr> </tbody> </table>	Bit	Description	0 .. 16	Time in seconds per Day (0 .. 86399)	17 .. 21	Day	22 .. 25	Month	26 .. 31	Year + 2000 (Exp: 10 → 2010)
Bit	Description													
0 .. 16	Time in seconds per Day (0 .. 86399)													
17 .. 21	Day													
22 .. 25	Month													
26 .. 31	Year + 2000 (Exp: 10 → 2010)													
3228	0C 9C	WW	L2 Maximum											
3230	0C 9E	WW	L3 Voltage											
3232	0C A0	WW	L1 Timestamp											
3234	0C A2	WW	L2 Maximum											
3236	0C A4	WW	L3 Current											
3238	0C A6	WW	L1 Timestamp											
3240	0C A8	WW	L2 Maximum											
3242	0C AA	WW	L3 Reactive power											
3244	0C AC	WW	L1 Timestamp											
3246	0C AE	WW	L2 Maximum											
3248	0C B0	WW	L3 Active power											

					<i>Bit</i>	<i>Description</i>												
3250	0C	B2	WW	L1	Timestamp	0 .. 16 Time in seconds per Day (0 .. 86399) 17 .. 21 Day 22 .. 25 Month 26 .. 31 Year + 2000 (Exp: 10 → 2010)												
3252	0C	B4	WW	L2	Maximum													
3254	0C	B6	WW	L3	Apparent power													
3256	0C	B8	WW	L1	Timestamp													
3258	0C	BA	WW	L2	Maximum													
3260	0C	BC	WW	L3	Frequency													
3262	0C	BE	WW		Timestamp max. Temperature													
3264	0C	C0	WW	L1	Timestamp													
3266	0C	C2	WW	L2	Maximum													
3268	0C	C4	WW	L3	Voltage THD													
3270	0C	C6	WW	L1	Timestamp													
3272	0C	C8	WW	L2	Maximum													
3274	0C	CA	WW	L3	Current THD													
3276	0C	CC	W	L1	Minimum Voltage	Unsigned 16bit integer. Unit V Exp.: 230 = 230V												
3277	0C	CD	W	L2														
3278	0C	CE	W	L3														
3279	0C	CF	W	L1	Maximum Voltage	Unsigned 16bit integer. Unit V Exp.: 230 = 230V												
3280	0C	D0	W	L2														
3281	0C	D1	W	L3														
3282	0C	D2	W	L1	Maximum Current	Unsigned 16bit integer. Unit A Exp.: 100 = 100V												
3283	0C	D3	W	L2														
3284	0C	D4	W	L3														
3285	0C	D5	W		Maximum Power-Scaling-Factor (MPSF)	Multiplier for values of address 3286 .. 3297 Valid values: 1, 10, 100, 1000												
3286	0C	D6	W	L1	Maximum Reactive power	Unsigned 16bit integer. Unit var Exp.: 1000 * MPSF = 10000var (If MPSF = 10)												
3287	0C	D7	W	L2														
3288	0C	D8	W	L3														
3289	0C	D9																
3290	0C	DA	W	L1	Maximum Active power	Unsigned 16bit integer. Unit W Exp.: 1000 * MPSF = 10000W (If MPSF = 10)												
3291	0C	DB	W	L2														
3292	0C	DC	W	L3														
3293	0C	DD																
3294	0C	DE	W	L1	Maximum Apparent power	Unsigned 16bit integer. Unit VA Exp.: 1000 * MPSF = 10000VA (If MPSF = 10)												
3295	0C	DF	W	L2														
3296	0C	E0	W	L3														
3297	0C	E1																
3298	0C	E2	W		Maximum Temperature	Signed 16bit integer. Unit °C. Examples: <table border="1"> <thead> <tr> <th>Hex value</th> <th>Temp.</th> <th>Hex value</th> <th>Temp.</th> </tr> </thead> <tbody> <tr> <td>0h000A</td> <td>10°C</td> <td>0hFFFF</td> <td>-1°C</td> </tr> <tr> <td>0h0001</td> <td>1°C</td> <td>0hFFF6</td> <td>-10°C</td> </tr> </tbody> </table>	Hex value	Temp.	Hex value	Temp.	0h000A	10°C	0hFFFF	-1°C	0h0001	1°C	0hFFF6	-10°C
Hex value	Temp.	Hex value	Temp.															
0h000A	10°C	0hFFFF	-1°C															
0h0001	1°C	0hFFF6	-10°C															

3299	0C	E3	W	L1		
3300	0C	E4	W	L2	Maximum Voltage THD	Unsigned 16bit integer * 0.1 . Unit % Exp.: 100 * 0.1 = 10.0%
3301	0C	E5	W	L3		
3302	0C	E6	W	L1		
3303	0C	E7	W	L2	Maximum Current THD	Unsigned 16bit integer * 0.1 . Unit % Exp.: 100 * 0.1 = 10.0%
3304	0C	E8	W	L3		
3305	0C	E9	WW	IND	Reactive Energy	Unsigned 32bit long. Unit kvarh Exp.: 100 = 100kvarh
3307	0C	EB	WW	CAP		
3309	0C	ED	WW	+	Energy	Unsigned 32bit long. Unit kWh Exp.: 100 = 100kWh
3311	0C	EF	WW	-		
3841..	0F	01	W	L1	Voltage	Unsigned 16bit integer * 0.1 . Unit % Exp.: 100 * 0.1 = 10.0%
3850	0F	0A	W	L2		
3851..	0F	0B	W	L2	33 rd .. 51 st Harmonics	
3860	0F	14	W	L2		
3861	0F	15	W	L3		
3870	0F	1E	W	L3		
3871..	0F	1F	W	L1	Current	
3880	0F	28	W	L1		
3881..	0F	29	W	L2	33 rd .. 51 st Harmonics	
3890	0F	32	W	L2		
3891	0F	33	W	L3		
3900	0F	3C	W	L3		

Energy values, new at devices with firmware version 1.10

[Function code 3 \(Register 6000\)](#)

Address			Register name	Info / Range of values
DEC	HEX	H/L		
6021	17 85	WW	+	Unsigned 32bit long. Unit kvarh Exp.: 100 = 100kvarh Unsigned 32bit long. Unit kWh Exp.: 100 = 100kWh
6023	17 87	WW	- Energy	
6025	17 89	WW	IND	
6027	17 8B	WW	CAP	
6029	17 8D	WW	+	Unsigned 32bit long. Unit vars Exp.: 100 = 100vars Unsigned 32bit long. Unit Ws Exp.: 100 = 100Ws
6031	17 8F	WW	- Rest Energy	
6033	17 91	WW	IND	
6035	17 93	WW	CAP	

Floating point values, new at devices with firmware version 1.8

[Function code 3 \(Register 8000\)](#)

Address			Register name	Info / Range of values
DEC	HEX	H/L		
8000	1F 40	WW	L1	32bit single Unit var
8002	1F 42	WW	L2 Reactive power (floating point)	
8004	1F 44	WW	L3	
8006	1F 46	WW	L1	32bit single Unit W
8008	1F 48	WW	L2 Active power (floating point)	
8010	1F 4A	WW	L3	
8012	1F 4C	WW	L1	32bit single Unit VA
8014	1F 4E	WW	L2 Apparent power (floating point)	
8016	1F 50	WW	L3	
8018	1F 52	WW	L1	32bit single Unit V
8020	1F 54	WW	L2 Voltage (floating point)	
8022	1F 56	WW	L3	
8024	1F 58	WW	L1	32bit single Unit A
8026	1F 5A	WW	L2 Current (floating point)	
8028	1F 5C	WW	L3	
8030	1F 5E	WW	L1 Powerfactor	32bit single Unit 1 Range: 0... 1, positive values → ind, negative values → cap
8032	1F 60	WW	L2 Cos-phi (floating point)	
8034	1F 62	WW	L3	
8036	1F 64	WW	SUM Cos phi (float)	32bit single, Unit 1, Range: 0...1, pos. → ind, neg. → cap
8038	1F 66	WW	SUM Reactive pwr (float)	32bit single, Unit var
8040	1F 68	WW	SUM Active pwr (float)	32bit single, Unit W
8042	1F 6A	WW	SUM Apparent pwr (float)	32bit single, Unit VA

Controller settings (read / write)

Address		H/L	Register name	Description / Range of values / Examples																				
Code R= 3	Code W= 6																							
3173	101	H	Language	0= German, 1= English, 2= Spanish, 3= Turkish, 4= Russian																				
		L	L1	<table border="1"> <thead> <tr> <th>Valid values</th> <th>Start</th> <th>End</th> <th>Step width</th> </tr> </thead> <tbody> <tr> <td>1 .. 50</td> <td>5A</td> <td>250A</td> <td>5A</td> </tr> </tbody> </table>	Valid values	Start	End	Step width	1 .. 50	5A	250A	5A												
Valid values	Start	End	Step width																					
1 .. 50	5A	250A	5A																					
3174	102	H	L2 Primary current converter	51 .. 175 176 .. 185																				
		L		L3	186 .. 245 246 .. 255																			
3175	103	H	Secondary current converter	Valid values: 0 = 1A / 1 = 5A																				
		L	Measuring voltage L-L	Byte, valid range: 10 .. 152 - Unit 5V Range: 50V .. 760V E.g.: Byte * 5V = Measuring voltage → 100 * 5V = 500V																				
3176	104	H	Voltage converter	<table border="1"> <thead> <tr> <th>Valid values</th> <th>Start</th> <th>End</th> <th>Step width</th> </tr> </thead> <tbody> <tr> <td>0</td> <td colspan="3">not used</td> </tr> <tr> <td>1 .. 59</td> <td>410</td> <td>1kV</td> <td>10V</td> </tr> <tr> <td>60 .. 189</td> <td>1.1kV</td> <td>14kV</td> <td>100V</td> </tr> <tr> <td>190 .. 255</td> <td>15kV</td> <td>79kV</td> <td>1000V</td> </tr> </tbody> </table>	Valid values	Start	End	Step width	0	not used			1 .. 59	410	1kV	10V	60 .. 189	1.1kV	14kV	100V	190 .. 255	15kV	79kV	1000V
		Valid values	Start	End	Step width																			
0	not used																							
1 .. 59	410	1kV	10V																					
60 .. 189	1.1kV	14kV	100V																					
190 .. 255	15kV	79kV	1000V																					
L	Maximal harmonic ordinal number	Byte, valid range: 3 .. 25 - Unit 1 Range: 7 th – 51 th harmonic E.g.: Byte = 7 → 2 * 7 + 1 = 15 th																						
3177	105	H	Clock – Hour	Not used																				
		L	Clock – Minute	Not used																				
3178	106	H	Calendar – Day	Not used																				
		L	Calendar – Month	Not used																				
3179	107	H	Calendar – Year	Not used																				
		L	Frequency range	Byte, valid range: 0..2 0= 42..80Hz; 1= 50Hz; 2= 60Hz																				
3180	108	H	Display contrast	Byte, valid range: 1..10																				
		L	Basic settings	Not used (0)																				
3181	109	H	Start-up picture	<table border="1"> <thead> <tr> <th>Value</th> <th>Name</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>EPC</td> </tr> <tr> <td>1</td> <td>EBE</td> </tr> <tr> <td>2</td> <td>MDL</td> </tr> <tr> <td>3</td> <td>ESK</td> </tr> </tbody> </table>	Value	Name	0	EPC	1	EBE	2	MDL	3	ESK										
		Value	Name																					
0	EPC																							
1	EBE																							
2	MDL																							
3	ESK																							
L	Not used																							

3182	110		Not used					
3183	111	H	Function	<i>Byte</i>	<i>Function</i>	<i>Byte</i>	<i>Function</i>	
		L	Relays	0	OFF	20	Active power Sum	
3184	112	H	Trigger level ON	1	Voltage L1-N	21	Apparent power L1	
		L	1	Trigger level OFF	2	Voltage L2-N	22	Apparent power L2
3185	113	H	Delay	3	Voltage L3-N	23	Apparent power L3	
		L	2	Function	4	Volt. asymmetrical	24	Apparent power Sum
3186	114	H	Relays	5	Current L1	25	Frequency L1	
		L	2	Trigger level ON	6	Current L2	26	Frequency L2
3187	115	H	1	Trigger level OFF	7	Current L3	27	Frequency L3
		L	2	Delay	8	Cur. asymmetrical	28	Temperature
3188	116	H	2	Function	9	cos phi L1	29	THD-V L1
		L	3	Trigger level ON	10	cos phi L2	30	THD-V L2
3189	117	H	3	Trigger level OFF	11	cos phi L3	31	THD-V L3
		L	4	Delay	12	cos phi Sum	32	THD-V L1..L3 max
3190	118	H	4	Function	13	Reactive power L1	33	THD-I L1
		L	5	Trigger level ON	14	Reactive power L2	34	THD-I L2
3191	119	H	5	Trigger level OFF	15	Reactive power L3	35	THD-I L3
		L	4	Delay	16	Reactive power Sum	36	THD-I L1..L3 max
3192	120	H	5	Function	17	Active power L1	37	ON
		L	5	Trigger level OFF	18	Active power L2		
3193	121	H	5	Trigger level OFF	19	Active power L3		
		L	5	Delay				
3194.. 3202	122.. 130	H	4	Trigger level OFF	Trigger ON / OFF: Byte, valid range: 0..200, Unit: 0.5%, +/-1% of max. value			
		L	5	Delay	Delay: Byte, valid range: 1..255, Unit: 1sec, E.g.: Byte = 10 → 10 sec			
3191	119	H	Transistor output	Byte, Valid range: 0..5				
		L	Energy scaling factor	<i>Byte</i>	<i>Function</i>			
3192	120	H	Function of input 1	0	OFF			
		L	Function of input 2	1	Reactive power IND, Unit: kvarh (+)			
3193	121	H	Function of input 3	2	Reactive power CAP, Unit: kvarh (-)			
		L	Function of input 4	3	Active power, Unit: kWh (+)			
3194.. 3202	122.. 130	H	Function of input 3	4	Active power supply, Unit: kWh (-)			
		L	Function of input 4	5	ON			
3203	131	H	REC – Interval	Byte, Valid range: 0..2				
		L	REC – Mode	<i>Byte</i>	<i>Function</i>			
3204	132	H	REC – Starting time hour	0	1Impulse per 1 kWh or 1 kvarh			
		L	REC – Starting time minute	1	1Impulse per 10 kWh or 10 kvarh			
3205	133	H	REC – Starting time day	2	1Impulse per 100 kWh or 100 kvarh			
		L	REC – Starting time month	0= No function, 1= 2 nd energy meter, 3= operating time counter				
3203	131	H	REC – Starting time hour	0= No function, 1= operating time counter				
		L	REC – Starting time minute	Byte, valid values: 0= Stop, 1= Start, 2= Timer, 3= Series				
3204	132	H	REC – Starting time hour	Unsigned 8bit byte. Valid values: 0 .. 24 – Unit hr				
		L	REC – Starting time minute	Unsigned 8bit byte. Valid values: 1 .. 59 – Unit min				
3205	133	H	REC – Starting time day	Unsigned 8bit byte. Valid values: 1 .. 31 – Unit d				
		L	REC – Starting time month	Unsigned 8bit byte. Valid values: 1 .. 12 – Unit mm				

3206	134	H	REC – Starting time year	Unsigned 8bit byte. Valid values: 00 .. 99 – Unit yr Add 2000 to get real Year. exp: 10 = 2010										
		L	REC – Stop time hour	Unsigned 8bit byte. Valid values: 0 .. 24 – Unit hr										
3207	135	H	REC – Stop time minute	Unsigned 8bit byte. Valid values: 1 .. 59 – Unit min										
		L	REC – Stop time day	Unsigned 8bit byte. Valid values: 1 .. 31 – Unit d										
3208	136	H	REC – Stop time month	Unsigned 8bit byte. Valid values: 1 .. 12 – Unit mm										
		L	REC – Stop time year	Unsigned 8bit byte. Valid values: 00 .. 99 – Unit yr Add 2000 to get real Year. exp: 10 = 2010										
	137.. 199													
-	200	W	Reset controller memory registers	<table border="1"> <thead> <tr> <th><i>Valid values</i></th> <th><i>Reset</i></th> </tr> </thead> <tbody> <tr> <td>0x3333</td> <td>Max. grid parameters</td> </tr> <tr> <td>0x5555</td> <td>Operation time</td> </tr> <tr> <td>0xAAAA</td> <td>Max. grid parameters</td> </tr> <tr> <td>0xCCCC</td> <td>Energy meter</td> </tr> </tbody> </table>	<i>Valid values</i>	<i>Reset</i>	0x3333	Max. grid parameters	0x5555	Operation time	0xAAAA	Max. grid parameters	0xCCCC	Energy meter
<i>Valid values</i>	<i>Reset</i>													
0x3333	Max. grid parameters													
0x5555	Operation time													
0xAAAA	Max. grid parameters													
0xCCCC	Energy meter													

History

V1.0

- Initial Version

V1.1

- Update read-register 3177... 3182

- Update write-register 105...1110

V1.2

- Add new register range (8000) with floating point numbers

V1.3

- Add new register range (6000) with Energy in kW/Kvar and ws/vars