

MODBUS – Address table BR7000 – V1.5
[Grid parameters, stage information \(read only\)](#)

Address			Register name	Description / Range of values / Examples														
DEC	HEX	H/L																
3000	0B B8	H	Software version	Divide by 10 to get software version. e.g: 10 = V1.0														
		L	Device type	70 = 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	Reactive power Signed 16bit integer. Unit var E.g.: 1000 * PSF = 10000var (If PSF = 10) → Negative values: over compensated														
3003	0B BB	W	L2															
3004	0B BC	W	L3															
3005	0B BD	W	SUM															
3006	0B BE	W	L1	Active power Signed 16bit integer. Unit W E.g.: 1000 * PSF = 10000W (If PSF = 10) → Negative values: energy supply (4-quadrant-mode)														
3007	0B BF	W	L2															
3008	0B C0	W	L3															
3009	0B C1	W	SUM															
3010	0B C2	W	L1	Apparent power Unsigned 16bit integer. Unit VA E.g.: 1000 * PSF = 10000VA (If PSF = 10)														
3011	0B C3	W	L2															
3012	0B C4	W	L3															
3013	0B C5	W	SUM															
3014	0B C6	W	L1	Differential reactive power Signed 16bit integer. Unit var E.g.: 1000 * PSF = 10000var (If PSF = 10) → Negative values: over compensated														
3015	0B C7	W	L2															
3016	0B C8	W	L3															
3017	0B C9	W	SUM															
3018	0B CA	W	L1	Measuring voltage Unsigned 16bit integer. Unit V E.g.: 230 = 230V														
3019	0B CB	W	L2															
3020	0B CC	W	L3															
3021	0B CD	W	L1	Measuring current Unsigned 16bit integer. Unit A E.g.: 1000 = 1000A														
3022	0B CE	W	L2															
3023	0B CF	W	L3															
3024	0B D0	W	L1	Power factor cos-phi 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 power factor / 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 range -999 .. 0 .. 1000	Value		Value of power factor / cos-phi	Hex	Decimal	0h0320	800	0.800 ind	0h03E8	1000	1.000	0hFCE0	-800	0.800 cap
Value		Value of power factor / cos-phi																
Hex	Decimal																	
0h0320	800	0.800 ind																
0h03E8	1000	1.000																
0hFCE0	-800	0.800 cap																
3025	0B D1	W	L2															
3026	0B D2	W	L3															
3027	0B D3	W	SUM															
3028	0B D4	L	L1	Frequency Byte Unit Hz E.g.: 50 = 50Hz														
3029	0B D5	L	L2															
3030	0B D6	L	L3															

3031	0B D7	W		Temperature in °C	Signed 16bit integer - Unit °C. Examples:								
					<i>Hex value</i>	<i>Temp.</i>	<i>Hex value</i>	<i>Temp.</i>					
					0h0010	10°C	0hFFFF	-1°C					
					0h0001	1°C	0hFFF6	-10°C					
3032	0B D8	W		L1	High-Byte								
					<i>Bit</i>	15	14	13	12	11	10	9	8
3033	0B D9	W		L2	<i>Stage</i>	15	14	13	12	11	10	9	8
				Output relays	Low-Byte								
3034	0B DA	W		L3	<i>Bit</i>	7	6	5	4	3	2	1	0
					<i>Stage</i>	7	6	5	4	3	2	1	-
3035	0B DB	W		SUM	0 = Stage off / 1 = Stage on (connected)								
3036	0B DC	L		Control direction	<i>Bit</i>	7	6	5	4	3	2	1	0
					<i>Phase</i>	SUM		L3		L2		L1	
					<i>Dec.</i>				<i>Description</i>				
					0	0	0	-					
					1	0	1	Switch-off					
					2	1	0	Stop					
					3	1	1	Switch-on					
3037	0B DD	H		L2	<i>Decimal value</i>	<i>Bit number</i>	<i>Description</i>						
		L		L1	1	Bit0	No measuring voltage						
				Error	2	Bit1	Over voltage						
					4	Bit2	Over compensated						
					8	Bit3	Under compensated						
3038	0B DE	H		1Ph	16	Bit4	Exceed THD-V limit						
		L		L3	32	Bit5	Over temperature						
					64	Bit6	Over current						
					128	Bit7	Under voltage						
					1Ph = 1phase measuring / controlling								
3039	0B DF	H		L2	<i>Decimal value</i>	<i>Bit number</i>	<i>Description</i>						
		L		L1	1	Bit0	Exceed switching cycle limit						
				Warning	2	Bit1	Under current						
					4	Bit2	MODBUS-Error						
					8	Bit3	MMI-Error						
3040	0B E0	H		1Ph	16	Bit4	Remote – switch-off						
		L		L3	32	Bit5	Remote – stop						
					64	Bit6	Remote – switch-on						
					128	Bit7	Remote – active						
					1ph = 1phase measuring / controlling								
3041	0B E1	L		Messages register	<i>dec</i>	<i>Bit</i>	<i>Description</i>						
					1	0	System current < ? (no system current)						
					2	1	Bus error (KTR-Mode)						
					4	2	Defect capacitor detected						
					8	3	System current >0 (System current is not 0 but cap.-system is off. e.g. relay is defect)						
					16	4	System overload						
					32	5	External error (from ext. input)						
					64	6	Capacitor defect (C stays off)						
					128	7	Error during auto initialisation						

				<i>Bit</i>	<i>Description</i>										
3042	0B E2	W		Device state	0,1 Setting 2nd cos phi: 0= Off, 1= Timer, 2= export energy 2 Timer ON (timer is between ON and OFF time) 3 Export energy flag L1 4 Export energy flag L2 5 Export energy flag L3 6 Export energy flag SUM 7 2nd parameter set active 8 External input active 9 Input status of external MMI (remote meas. mode)										
3043	0B E3	H		Internal Clock - Minute	Byte, valid range: 1 .. 59 – Unit min										
		L		Internal Clock - Second	Byte, valid range: 1 .. 59 – Unit sec										
3044	0B E4	H		Intern. Calendar - Day	Byte, valid range: 1 .. 31 – Unit d										
		L		Internal Clock - Hour	Byte, valid range: 0 .. 24 – Unit hr										
3045	0B E5	H		Intern. Calendar - Year	Byte, valid range: 00 .. 99 – Unit yr Add 2000 to get real Year. e.g.: 10 = 2010										
		L		Intern. Calendar - Month	Byte, valid values: 1 .. 12 – Unit month										
3046	0B E6	W		Last pressed key -1-	<table border="1"> <thead> <tr> <th><i>Value</i></th> <th><i>Key</i></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>	<i>Value</i>	<i>Key</i>	1234	AUTO	2345	ENTER	3456	HELP	4567	ESC
<i>Value</i>	<i>Key</i>														
1234	AUTO														
2345	ENTER														
3456	HELP														
4567	ESC														
3047	0B E7	L		Last pressed key -2-	<table border="1"> <thead> <tr> <th><i>Value</i></th> <th><i>Key</i></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>	<i>Value</i>	<i>Key</i>	Reg.Value +1	PLUS	Reg.Value -1	MINUS				
<i>Value</i>	<i>Key</i>														
Reg.Value +1	PLUS														
Reg.Value -1	MINUS														
3048	0B E8	L		Test state	<table border="1"> <thead> <tr> <th><i>Bit</i></th> <th><i>Taste</i></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> Register value 0 = main-reset executed	<i>Bit</i>	<i>Taste</i>	6	After manual-calibration	7	After calibration at test stand				
<i>Bit</i>	<i>Taste</i>														
6	After manual-calibration														
7	After calibration at test stand														
3049.. 3072	0B E7 0C 00														
3073.. 3087	0C 01 0C 0F	W	L1	Voltage	Unsigned 16bit integer Unit 0.1 % E.g.: 100 * 0.1 = 10.0%										
3088.. 3102	0C 10 0C 1E	W	L2	3 rd .. 31 st Harmonics											
3103.. 3117	0C 1F 0C 2D	W	L3												
3118.. 3132	0C 2E 0C 3C	W	L1	Current	Unsigned 16bit integer Unit 0.1 % E.g.: 100 * 0.1 = 10.0%										
3133.. 3147	0C 3D 0C 4B	W	L2	3 rd .. 31 st Harmonics											
3148.. 3162	0C 4C 0C 5A	W	L3												
3163	0C 5B	W	L1	THD-V	Unsigned 16bit integer Unit 0.1 % E.g.: 100 * 0.1 = 10.0%										
3164	0C 5C	W	L2												
3165	0C 5D	W	L3												
3166	0C 5E	W	L1	THD-I	Unsigned 16bit integer Unit 0.1 % E.g.: 100 * 0.1 = 10.0%										
3167	0C 5F	W	L2												
3168	0C 60	W	L3												

3169.. 3213	0C 61 0C 8D														
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..	0C 93														
3226	0C 9A	WW	L1	Timestamp											
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											
3250	0C B2	WW	L1	Timestamp											
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												
3277	0C CD	W	L2	Minimum Voltage	Unsigned 16bit integer. Unit V E.g.: 230 = 230V										
3278	0C CE	W	L3												
3279	0C CF	W	L1												
3280	0C D0	W	L2	Maximum Voltage	Unsigned 16bit integer. Unit V E.g.: 230 = 230V										
3281	0C D1	W	L3												
3282	0C D2	W	L1												
3283	0C D3	W	L2	Maximum Current	Unsigned 16bit integer. Unit A E.g.: 100 = 100V										
3284	0C D4	W	L3												

3285	0C	D5	W		Max. 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 E.g.: 1000 * MPSF = 10000var (If MPSF = 10)																																																																																	
3287	0C	D7	W	L2																																																																																			
3288	0C	D8	W	L3																																																																																			
3289	0C	D9	W	SUM																																																																																			
3290	0C	DA	W	L1	Maximum Active power	Unsigned 16bit integer. Unit W E.g.: 1000 * MPSF = 10000W (If MPSF = 10)																																																																																	
3291	0C	DB	W	L2																																																																																			
3292	0C	DC	W	L3																																																																																			
3293	0C	DD	W	SUM																																																																																			
3294	0C	DE	W	L1	Maximum Apparent power	Unsigned 16bit integer. Unit VA E.g.: 1000 * MPSF = 10000VA (If MPSF = 10)																																																																																	
3295	0C	DF	W	L2																																																																																			
3296	0C	E0	W	L3																																																																																			
3297	0C	E1	W	SUM																																																																																			
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																																																																					
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3299	0C	E3	W	L1	Maximum Voltage THD	Unsigned 16bit integer Unit 0.1 % E.g.: 100 * 0.1 = 10.0%																																																																																	
3300	0C	E4	W	L2																																																																																			
3301	0C	E5	W	L3																																																																																			
3302	0C	E6	W	L1	Maximum Current THD	Unsigned 16bit integer Unit 0.1 % E.g.: 100 * 0.1 = 10.0%																																																																																	
3303	0C	E7	W	L2																																																																																			
3304	0C	E8	W	L3																																																																																			
3305	0C	E9	WW	IND	Reactive Energy	Unsigned 32bit long - Unit kvarh E.g.: 100 = 100kvarh																																																																																	
3307	0C	EB	WW	CAP																																																																																			
3309	0C	ED	WW	+	Energy	Unsigned 32bit long - Unit kWh E.g.: 100 = 100kWh																																																																																	
3311	0C	EF	WW	-																																																																																			
3312.. 3328	0C 0D	F0 00																																																																																					
3329	0D	01	W		Status of stage 1 .. 8	<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>Phase</td> <td colspan="2">4th stage</td> <td colspan="2">3rd stage</td> <td colspan="2">2nd stage</td> <td colspan="2">1st stage</td> </tr> <tr> <td>Dec.</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td colspan="6">Disconnected (fix)</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td colspan="6">AUTO</td> </tr> <tr> <td>2</td> <td>1</td> <td>0</td> <td colspan="6">Connected (fix)</td> </tr> <tr> <td>3</td> <td>1</td> <td>1</td> <td colspan="6">Error</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Bit</th> <th>15</th> <th>14</th> <th>13</th> <th>12</th> <th>11</th> <th>10</th> <th>9</th> <th>8</th> </tr> </thead> <tbody> <tr> <td>Phase</td> <td colspan="2">8th stage</td> <td colspan="2">7th stage</td> <td colspan="2">6th stage</td> <td colspan="2">5th stage</td> </tr> </tbody> </table>	Bit	7	6	5	4	3	2	1	0	Phase	4 th stage		3 rd stage		2 nd stage		1 st stage		Dec.									0	0	0	Disconnected (fix)						1	0	1	AUTO						2	1	0	Connected (fix)						3	1	1	Error						Bit	15	14	13	12	11	10	9	8	Phase	8 th stage		7 th stage		6 th stage		5 th stage	
Bit	7	6	5	4	3	2	1	0																																																																															
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Phase	8 th stage		7 th stage		6 th stage		5 th stage																																																																																

				see Address 3329 for more information.																																				
3330	0D 02	W	Status of stage 9 .. 15	<table border="1"> <tr> <td>Bit</td> <td>7</td> <td>6</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> <td>0</td> </tr> <tr> <td>Phase</td> <td colspan="2">12thstage</td> <td colspan="2">11thstage</td> <td colspan="2">10thstage</td> <td colspan="2">9th stage</td> </tr> </table> <table border="1"> <tr> <td>Bit</td> <td>15</td> <td>14</td> <td>13</td> <td>12</td> <td>11</td> <td>10</td> <td>9</td> <td>8</td> </tr> <tr> <td>Phase</td> <td colspan="2">-</td> <td colspan="2">15thstage</td> <td colspan="2">14thstage</td> <td colspan="2">13thstage</td> </tr> </table>	Bit	7	6	5	4	3	2	1	0	Phase	12 th stage		11 th stage		10 th stage		9 th stage		Bit	15	14	13	12	11	10	9	8	Phase	-		15 th stage		14 th stage		13 th stage	
Bit	7	6	5	4	3	2	1	0																																
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Phase	-		15 th stage		14 th stage		13 th stage																																	
3389.. 3403	0D 3D 0D 4B	W	Stage quantification L1 Stage 1 .. max.15	Unsigned 16bit integer. E.g.: 4 → 4 times power 1 st stage																																				
3404.. 3418	0D 4D 0D 5A	W	Stage quantification L2 Stage 1 .. max.15																																					
3419.. 3433	0D 5B 0D 69	W	Stage quantification L3 Stage 1 .. max.15																																					
3434.. 3448	0D 67 0D 78	W	Stage quantification SUM Stage 1 .. max.15																																					
3449.. 3463	0D 79 0D 87	W	Switching cycles L1, LOW Stage 1 ..15																																					
3464.. 3478	0D 88 0D 96	W	Switching cycles L2, LOW Stage 1 ..15	LOW + HIGH * 2 ¹⁶ = total switching cycle per stage Unsigned 32bit long.																																				
3479.. 3493	0D 97 0D A5	W	Switching cycles L3, LOW Stage 1 ..15	Unit 1 E.g.: Low = 34464, High= 1 → 100k * switching cycles																																				
3494.. 3508	0D A6 0D B4	W	Switching cyc. SUM, LOW Stage 1 ..15	LOW + HIGH * 2 ¹⁶ = total switching cycle per stage																																				
3509.. 3523	0D B5 0D C3	W	Switching cycles L1, HIGH Stage 1 ..15	Unsigned 32bit long. Unit 1																																				
3524.. 3538	0D C4 0D D2	W	Switching cycles L2, HIGH Stage 1 ..15	E.g.: Low = 34464, High= 1 → 100k * switching cycles																																				
3539.. 3553	0D D3 0D E1	W	Switching cycles L3, HIGH Stage 1 ..15																																					
3554.. 3568	0D E2 0D F0	W	Switching cyc. SUM, HIGH Stage 1 ..15																																					
3585.. 3599	0E 01 0E 0F	W	Operation time – L1, HIGH Stage 1 .. 15	LOW + HIGH * 2 ¹⁶ = total operation time per stage Unsigned 32bit long. Unit min E.g.: Low = 34464, High= 1 → 100k * min																																				
3600.. 3614	0E 01 0E 1E	W	Operation time – L2, HIGH Stage 1 .. 15																																					
3615.. 3629	0E 1F 0E 2D	W	Operation time – L3, HIGH Stage 1 .. 15																																					
3630.. 3644	0E 2E 0E 3C	W	Operation time SUM,HIGH Stage 1 .. 15																																					
3645.. 3659	0E 3D 0E 4B	W	Operation time – L1, LOW Stage 1 .. 15																																					
3660.. 3674	0E 4C 0E 5A	W	Operation time – L2, LOW Stage 1 .. 15																																					
3675.. 3689	0E 5B 0E 69	W	Operation time – L3, LOW Stage 1 .. 15																																					
3690.. 3704	0E 6A 0E 78	W	Operation time SUM, LOW Stage 1 .. 15																																					
3705, 3706	0E 79 0E 7A	WW	Controller operation time																																					
3707.. 3823	0E 7B 0E EF																																							
3824, 3825	0E F0 0E F1	WW	Slave: Target output power (Master-Slave)	Unsigned 32bit long. Unit kvar																																				
3826	0E F2	L	Slave: Slave outputs (Master-Slave)	See Address 3032 .. 3035 0 = Stage off / 1 = Stage on (connected)																																				

3827, 3828	0E F3 0E F4	WW	Slave: Differential reactive power (Master-Slave)	Unsigned 32bit long. Unit kvar
3829	0E F5	L	Status of coupling switch	Coupling switch: 0 = open / 1= closed

Controller settings (read / write)

Address		H/L	Register name	Description / Range of values / Examples											
Code R= 3	Code W= 6			Measuring / IN			Controlling / Endstop			ext.					
					Nr.	Byte	L1	L2	L3	Sum	L1	L2	L3	MMI	
3173	101	H	Language	0= German, 1= English, 2= Spanish, 3= Turkish, 4= Russian ..											
		L	Measuring- / Controlling mode	1	0	x	x	x				5	5	5	
				2	1	x	x	x			remain	4	4	4	
				3	2	x	x	x				5	5	5	
				4	3	x	x	x			15				
				5	4	SUM					15				
				6	5	SUM			I1	I2	15				
				7	6	x	x	x			15				1
				8	7	x	x	x			15				2
				9	8	x	x	x			15				3
				10	9	x	x	x			15				4
				11	10	x	x	x			15				5
				12	11	x	x	x			15				6
				13	12	SUM					15				1
				14	13	SUM					15				2
				15	14	SUM					15				3
				16	15	SUM					15				4
				17	16	SUM					15				5
				18	17	SUM					15				6
				19	18	x	x	x				5	5	5	1
				20	19	x	x	x			15				1
				21	20	x	x	x				5	5	5	1
		22	21	x	x	x			15				1		
3174	102	H	L1	<i>Valid values</i>		<i>Start</i>	<i>End</i>	<i>Step width</i>							
		L	L2	1 .. 50		5A	250A	5A							
			L2	51 .. 175		260A	1.5kA	10A							
			L2	176 .. 185		1.55kA	2kA	50A							
			L2	186 .. 245		2.1kA	8kA	100A							
			L2	246 .. 255		8.5kA	13kA	500A							
3175	103	H	L3												
		L	Secondary current converter	Valid values: 0 = 1A / 1 = 5A											
3176	104	H	L1												
		L	L2	Byte.											
3177	105	H	L3	Valid range: 1 .. max. endstop - see table at register 3173											
		L	SUM												

3178	106	H	L1	Control series	<u>Valid values</u>	<u>Series</u>	<u>Valid values</u>	<u>Series</u>
		L	L2		1	1:1:1:1:1 ...	11	1:1:2:4:4...
3179	107	H	L3		2	1:2:2:2:2 ...	12	1:1:2:4:8...
		L	SUM		3	1:2:3:3:3 ...	13	1:1:1:2:2...
		4	1:2:3:4:4 ...		14	1:1:1:2:3...		
		5	1:2:4:4:4...		15	1:1:1:2:4...		
		6	1:2:3:6:1...		16	1:1:1:2:5...		
		7	1:2:4:8:8...		17	1:1:1:1:2...		
		8	1:1:2:2:2...		18	1:1:1:1:3...		
		9	1:1:2:3:3...		19	1:1:1:1:4...		
10	1:1:2:3:6...	20	1:1:1:1:5...					
						21	Series editor	
3180	108	H	Control mode	<u>Valid values</u>	<u>Control mode</u>			
				0	Sequent / LIFO			
				1	Loop / FIFO			
				2	Intelligent			
				3	Combi-detuning			
3180	108	L	L1	Power 1 st step (int.)	Integer value:			
3181	109	H	L1	Power 1 st step(dec)	Valid range: 0 .. 255kvar / 0 .. 2550kvar			
		L	L2	Power 1 st step (int.)	Unit kvar			
3182	110	H	L2	Power 1 st step(dec)	Decimal value:			
		L	L3	Power 1 st step (int.)	Valid range: 0 .. 99 / 128			
3183	111	H	L3	Power 1 st step(dec)	If 128 → multiply integer value with 10			
		L	SUM	Power 1 st step (int.)	Examples:			
		H	SUM	Power 1 st step(dec)	int. = 12, dec. = 50 → 1 st step = 12.50 kvar			
					int.= 50, dec. = 128 → 1 st step = 500 kvar			
3184	112	L	Target cos phi	Byte	<u>Value</u>	<u>Cos phi</u>		
				Valid range: 30 .. 170	80	0.80cap		
				Examples:	100	1.00		
					120	0.80ind		
3185	113	H	Enable 2 nd target cos phi	<u>Valid values</u>	<u>Description</u>			
		L	2 nd target cos phi	1	No			
				2	Timer			
				3	Energy supply			
3186	114	H	Start timer - Hours	Unit hour, valid range: 0 .. 23				
		L	Start timer - Minutes	Unit minutes, valid range: 0 .. 59				
3187	115	H	Start timer - Weekday	Valid values: 7 .. 17: 7= Sunday, 8= Monday, 9= Tuesday .. 14= Mo-Fr, 15= Mo-Sa, 16= Mo-Su, 17= Sa/Su				
		L	End timer - Hours	Unit hour, valid range: 0 .. 23				
3188	116	H	End timer - Minutes	Unit minutes, valid range: 0 .. 59				
		L	End timer - Weekday	Valid range: 7 .. 17: 7= Sunday, 8= Monday, 9= Tuesday .. 14= Mo-Fr, 15= Mo-Sa, 16= Mo-Su, 17= Sa/Su				

3189	117	H	Measuring voltage L-L	Byte, valid range: 10 .. 152 - Unit 5V Range: 50V .. 760V E.g.: Byte * 5V = Measuring voltage → 100 * 5V = 500V																		
		L	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
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																			
3190	118	H	Switch-on time	<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 .. 120</td> <td>1 sec</td> <td>120 sec</td> <td>1 sec</td> </tr> <tr> <td>121 .. 138</td> <td>3 min</td> <td>20 min</td> <td>1 min</td> </tr> </tbody> </table>	Valid values	Start	End	Step width	1 .. 120	1 sec	120 sec	1 sec	121 .. 138	3 min	20 min	1 min						
		Valid values	Start		End	Step width																
1 .. 120	1 sec	120 sec	1 sec																			
121 .. 138	3 min	20 min	1 min																			
		L	Switch-off time																			
3191	119	H	Discharge time	E.g: 40 = 40 sec / 122 = 4 min																		
		L	Alarm temperature	Byte, valid range: 20 .. 80 – Unit °C, E.g.: 50 = 50°C																		
3192	120	H	Fan start-up temperature	Byte, valid range: 15 .. 70 – Unit °C, E.g.: 50 = 50°C																		
		L	Function message relays	Byte, valid range: 4 .. 6 4= OFF, 5= Energy supply, 6= Undercurrent, 7= Harmonics, 8= Error cap. current, 9= Error COM1, 10= Error COM2, 11 = Error COM1/2																		
3193	212	H	External input (2 nd para-set)	Byte, valid range: 12 .. 16 12= No, 13= 2 nd parameter set, 14= External error, 15= Parallel coupling, 16= Master-slave coupling																		
		L	L1																			
3194	122	H	L2	See register 3174																		
		L	L3																			
3195	123	H	Secondary current converter	Valid values: 0 = 1A / 1 = 5A																		
		L	L1																			
3196	124	H	L2	Byte. Valid range: 1 .. max. endstop - see table at register 3173																		
		L	L3																			
3197	125	H	SUM																			
		L	L1																			
3198	126	H	L2	See register 3178																		
		L	L3																			
3199	127	H	SUM																			
		L	Control mode	See register 3180																		
3200	128	H	L1	See register 3181																		
		L	Power 1 st step (int.) Power 1 st step(dec)																			
3201	129	H	L2	See register 3181																		
		L	Power 1 st step (int.) Power 1 st step(dec)																			
3202	130	H	L3	See register 3181																		
		L	Power 1 st step (int.) Power 1 st step(dec)																			
3203	131	H	SUM	See register 3181																		
		L	Power 1 st step (int.) Power 1 st step(dec)																			
3204	132	H	Target cos phi	See register 3184																		
		L	Enable 2 nd target cos phi	See register 3185																		
3205	133	H	2 nd target cos phi	See register 3185																		
		L	Start timer - Hours	See register 3186																		
3206	134	H	Start timer - Minutes	See register 3186																		
		L	Start timer - Weekday	See register 3187																		
3207	135	H	End timer - Hours	See register 3187																		

3208	136	L	End timer - Minutes	See register 3188										
		H	End timer - Weekday											
3209	137	L	Switch-on time	See register 3190										
		H	Switch-off time											
3210	138	L	Discharge time	See register 3191										
		H	Threshold THD-V		Byte, valid range: 10 .. 255 - Unit 0.1% Range: 1.0% .. 25.5% E.g.: Byte * 0.1% = Threshold THD-V → 100 * 0.1% = 10.0%									
3211.. 3213	139.. 141			Reserved										
3214	142	W	Start-up picture	<table border="1"> <thead> <tr> <th>Valid values</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>	Valid values	Name	0	EPC	1	EBE	2	MDL	3	ESK
				Valid values	Name									
0	EPC													
1	EBE													
2	MDL													
3	ESK													
142.. 199				Reserved										
-	200	W	Reset controller memory registers	<table border="1"> <thead> <tr> <th>Valid values</th> <th>Reset</th> </tr> </thead> <tbody> <tr> <td>0x3333</td> <td>Operation time of stages 1 .. 15</td> </tr> <tr> <td>0x5555</td> <td></td> </tr> <tr> <td>0xAAAA</td> <td>Max. grid parameters</td> </tr> <tr> <td>0xCCCC</td> <td>Switching cycles of stages 1 .. 15</td> </tr> </tbody> </table>	Valid values	Reset	0x3333	Operation time of stages 1 .. 15	0x5555		0xAAAA	Max. grid parameters	0xCCCC	Switching cycles of stages 1 .. 15
				Valid values	Reset									
0x3333	Operation time of stages 1 .. 15													
0x5555														
0xAAAA	Max. grid parameters													
0xCCCC	Switching cycles of stages 1 .. 15													
201.. 254				Reserved										
3048	255	L	"Hauptreset" / Set Testmode	<table border="1"> <thead> <tr> <th>Valid values</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>55</td> <td>"Hauptreset"</td> </tr> <tr> <td>110</td> <td>Testmode</td> </tr> </tbody> </table>	Valid values	Function	55	"Hauptreset"	110	Testmode				
				Valid values	Function									
55	"Hauptreset"													
110	Testmode													
				After "Hauptreset" the function will be disabled.										

Remote (read / write)

Address		H/L	Register name	Description / Range of values / Examples																																																													
<i>Code</i> R= 3	<i>Code</i> W= 6																																																																
3036	40	H	Number of steps to switch	Valid range 1..X (X = settings at EXPERT-MODE, PW= 6343) Unit steps Example: 3 → switch-on / -off 3 steps																																																													
		L	Control direction	<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>Phase</td> <td colspan="2">SUM</td> <td colspan="2">L3</td> <td colspan="2">L2</td> <td colspan="2">L1</td> </tr> <tr> <td><i>Dec.</i></td> <td colspan="2"></td> <td colspan="6"><i>Description</i></td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td colspan="6">-</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td colspan="6">Switch-off</td> </tr> <tr> <td>2</td> <td>1</td> <td>0</td> <td colspan="6">Stop</td> </tr> <tr> <td>3</td> <td>1</td> <td>1</td> <td colspan="6">Switch-on</td> </tr> </tbody> </table>	Bit	7	6	5	4	3	2	1	0	Phase	SUM		L3		L2		L1		<i>Dec.</i>			<i>Description</i>						0	0	0	-						1	0	1	Switch-off						2	1	0	Stop						3	1	1	Switch-on			
Bit	7	6	5	4	3	2	1	0																																																									
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2	1	0	Stop																																																														
3	1	1	Switch-on																																																														

History

V1.0

- Initial Version

- Page 8: Controller settings, register 3193/212 → 3193/121 (write address is wrong)
- Page 10: Controller settings, register -/200, 0x5555 Error memory cleared

V1.4

- Page 6: Controller settings, register 3173/101: Table changed
- Page 8: Controller settings, register 3192/120: Valid range and list changed
- Page 8: Controller settings, register 3193/121: Valid range and list changed

V1.4.1

- Page 5: Stage information, register 3389..3448: Correct register index (L1, L2, L3, SUM)
- Page 5/6: Stage information, register 3449..3568: Correct register index (L1, L2, L3, SUM)
- Page 5/6: Stage information, register 3585..3704: Correct register index (L1, L2, L3, SUM)

V1.4.2

- Page 2: Error, register 3038: SUM → 1Ph = 1phase measuring / controlling
- Page 2: Error, register 3040: SUM → 1Ph = 1phase measuring / controlling

V1.5

- Page 2: Messages register 3041: add/ specify information
- Page 3: Device state 3042: add/ specify information