MODBUS- Adress-table BR7000-I Version 2.4 (issue 01/14)

Functioncode 3: max. number of read-register 125 (250 Byte) / per request

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	FUNCTION
0	0	*	*	Reactive power - HIGH-WORD
0	1	*	*	Reactive power - LOW-WORD
0	2	*	*	Active power - HIGH-WORD
0	3	*	*	Active power – LOW-WORD
0	4	*	*	Apparent power – HIGH-WORD
0	5	*	*	Apparent power – LOW-WORD
0	6	*	*	Differential reactive power - H
0	7	*	*	Differential reactive power - L
0	8	0	0	Temperature – HIGH-WORD (0)
0	9	*	*	Temperature – LOW-WORD
0	10	*	*	Active energy consumtion - HIGH-WORD
0	11	*	*	Active energy consumtion - LOW-WORD
0	12	*	*	Active energy delivery - HIGH-WORD
0	13	*	*	Active energy delivery - LOW-WORD
0	14	*	*	Reactive energy IND – HIGH-WORD
0	15	*	*	Reactive energy IND – LOW-WORD
0	16	*	*	Reactive energy CAP – HIGH-WORD
0	17	*	*	Reactive energy CAP – LOW-WORD
0	18	-	-	-
0	19	*	*	Cos-Phi (INTEGER)
0	20	*	*	Voltage (max 65535V)
0	21	*	*	Current
0	22	0	*	Frequency
0	23	*	*.	Cabinet temperature
0	24	*	*	Temperature inside the device
0	25	*	*	OUTPUTS - STEPS
0	26	0	*	**ERROR-REGISTER** BIT 0 = Meas. voltage BIT 1 = Overvoltage BIT 2 = Overcompensated BIT 3 = Undercompensated BIT 4 = Harmonics BIT 5 = Overtemperature BIT 6 = Overcurrent BIT 7 = Undervoltage
0	27	0	*	**WARNING-REGISTER** BIT 0 = Number of switchings BIT 1 = Meas. current too low BIT 2 = MODBUS-ERROR BIT 3 = MMI-ERROR BIT 4 = MODBUS-Remote BIT 5 = System current too low BIT 6 = BUS-ERROR-EXTERN BIT 7 = C-DEFEKT

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
0	28	0	*	**MESSAGE -REGISTER** BIT 0 = System current > NULL BIT 1 = Overload cabinet BIT 2 = External Error BIT 3 = C-DEFEKT-OFF BIT 4 = AUTO-INIT-Error
0	29	*	*	**C-FAILURE - BIT-MASK** BIT 1 = C1 = 1 = ERROR … BIT 13 = C13 = 1 = ERROR
0	30	*	*	**I-FAILURE - BIT-MASK** BIT 1 = I 1 = 1 = ERROR … BIT 13 = I 13 = 1 = ERROR
0	96	Frequency	Identifier = 1	**Frequency / ID-register**
				PROGRAMM MEMORY
0	101	0	*	**LANGUAGE** 0 = DEUTSCH 1 = ENGLISH 2 = ESPANOL 3 = NEDERLANDS 4 = RUSSISCH 5 = CZECH 6 = POLSKI 7 = FRENCH 8 = PORTUGUES 9 = TÜRKCE
0	102	0	*	**Current transformer - primary** 1…..50 = 5…250A (5A steps) 51…175 = 260...1500A (10A steps) 176…185 = 1550....2000A (50A steps) 186…245 = 2100…8000A (100A steps) 246…255 = 8500…13000A (500A steps)
0	103	0	*	**Current transformer - secondary** 0 = 1A 1 = 5A
0	104	0	*	**END-STOPP**

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
0	105	0	*	**CONTROL SERIES** 1 = ControlSeries 1: 1 , 1 , 1 , 1 , 1 , 1 , 1 , 1 , 1 , 1 , 1 , 1 2 = ControlSeries 2: 1 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 3 = ControlSeries 3: 1 , 2 , 3 , 3 , 3 , 3 , 3 , 3 , 3 , 3 , 3 , 3 4 = ControlSeries 4: 1 , 2 , 3 , 4 , 4 , 4 , 4 , 4 , 4 , 4 , 4 , 4 5 = ControlSeries 5: 1 , 2 , 4 , 4 , 4 , 4 , 4 , 4 , 4 , 4 , 4 , 4 6 = ControlSeries 6: 1 , 2 , 3 , 6 , 6 , 6 , 6 , 6 , 6 , 6 , 6 , 6 7 = ControlSeries 7: 1 , 2 , 4 , 8 , 8 , 8 , 8 , 8 , 8 , 8 , 8 , 8 8 = ControlSeries 8: 1 , 1 , 1 , 1 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 9 = ControlSeries 9: 1 , 1 , 1 , 1 , 1 , 6 , 6 , 6 , 6 , 6 , 6 , 6 10 = ControlSeries 10: 1 , 1 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 11 = ControlSeries 11: 1 , 1 , 2 , 2 , 2 , 4 , 4 , 4 , 4 , 4 , 4 , 4 12 = ControlSeries 12: 1 , 1 , 2 , 2 , 4 , 4 , 4 , 4 , 4 , 4 , 4 , 4 13 = ControlSeries 13: 1 , 1 , 1 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 , 2 14 = ControlSeries 14: 1 , 1 , 2 , 3 , 3 , 3 , 3 , 3 , 3 , 3 , 3 , 3 15 = ControlSeries 15: 1 , 1 , 2 , 4 , 4 , 4 , 4 , 4 , 4 , 4 , 4 , 4 16 = ControlSeries 16: 1 , 1 , 2 , 4 , 8 , 8 , 8 , 8 , 8 , 8 , 8 , 8 17 = ControlSeries 17: 1 , 2 , 2 , 3 , 3 , 3 , 3 , 3 , 3 , 3 , 3 , 3 18 = ControlSeries 18: 1 , 2 , 3 , 4 , 4 , 8 , 8 , 8 , 8 , 8 , 8 , 8 19 = ControlSeries 19: 1 , 2 , 2 , 4 , 4 , 4 , 4 , 4 , 4 , 4 , 4 , 4 20 = ControlSeries 20: 1 , 2 , 2 , 2 , 4 , 4 , 4 , 4 , 4 , 4 , 4 , 4 21 = ControlSeries 21: CONTROL-SERIES EDITOR
0	106	0	*	**CONTROL PRINCIPLE** 0 = Sequential connection 1 = Loop connection 2 = Intelligent loop connection 3 = Combined choke
0	107	0	*	**POWER 1st STEP (pre-decimal point)** 0…255 = 0….255 kvar / 0….2550 kvar / 0…25500 kvar
0	108	0	*	**POWER 1st STEP (decimal place)** 0…99 = 0…0.99 kvar 128 = Bereich 0…..2550kvar 129 = Bereich 0…25500kvar
0	109	0	*	**TARGET cos-phi** 10 = 0.10 CAP 100 = 1.00 190 = 0.10 IND
0	110	0	*	**MEASURING VOLTAGE** 0 = 30V (in steps of 5V) 99 = 525V

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
0	111	0	*	**VOLTAGE CONVERTER** 0 = without V-converter 1…77 = 230… 990V (10V steps) 78…187 = 1000…11000V (100V steps) 188…252 = 12kV…76kV (1000V steps) 253 = 110kV 254 = 220kV 255 = 380kV
0	112	0	*	**CONNECTING TIME** 1…120 = 1…120 s 121…138 = 3…20 min
0	113	0	*	**DISCONNECTING TIME** 1…120 = 1…120 s 121…138 = 3…20min
0	114	0	*	**DISCHARGE TIME** 1…120 = 1…120 s 121…138 = 3…20min
0	115	0	*	**ALARM TEMPERATURE** 40…85 = 40…85°C
0	116	0	*	**ALARM RELAY** 0 = 13. STEP 1 = OFF 2 = ERROR 3 = ERROR inverse 4 = FAN 5 = DELIVERY 6 = UNDERCURRENT 7 = HARMONICS 8 = OVERCOMPENSATED 9 = UNDERCOMPENSATED 10 = NUMBER OF SWITCHING
0	117	0	*	**FAN TEMPERATURE** 15…70 = 15…70°C
0	118	0	*	**THD-V-THRESHOLD** 1…255 = 0.1….25.5% / 0 = OFF
0	119	0	*	**THD-I-THRESHOLD** 1…255 = 0.1…25.5% / 0 = OFF

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
	120	0	*	**HARMONICS** 0 = 3. 5. 7. …19. Harmonic 1 = 3. 5. 7. ….33. Harmonic 2 = 2. 3. 4. … 17. Harmonic
0	121	0	*	**CONTRAST**
				2. PARAMETER SET
0	122	0	*	**CURRENT TRANSFORMER primary** Compare table adress 102
0	123	0	*	**CURRENT TRANSFORMER secondary** Compare table adress 103
0	124	0	*	**END-STOPP**
0	125	0	*	**CONTROL SERIES** Compare table adress 105
0	126	0	*	**CONTROL PRINCIPLE** Compare table adress 106
0	127	0	*	**POWER 1st STEP (pre decimal point)** 0…255 = 0….255 kvar / 0….2550 kvar
0	128	0	*	**POWER 1st STEP (decimal place)** 0…99 = 0…0.99 kvar
0	129	0	*	**TARGET cos-phi** 10 = 0.10 CAP 100 = 1.00 190 = 0.10 IND
0	130	0	*	**CONNECTING TIME** 1…120 = 1…120 s 121…138 = 3…20 min
0	131	0	*	**DISCONNECTING TIME** 1…120 = 1…120 s 121…138 = 3…20 min
0	132	0	*	**DISCHARGE TIME** 1…120 = 1…120 s 121…138 = 3…20min

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
0	133	0	*	**PICTURE (for manufacturer only)** 0 = EPC 1 = EBE 2 = NEU 3 = MOL 4 = ESK 5 = CHI
				EXPERT-MODE 1
0	138	0	*	**INTEGRATION TIME in sec.**
0	139	0	*	**max. SWITCH. POWER**
0	140	0	*	**SWITCH. TRIGGER IND in %**
0	141	0	*	**SWITCH. TRIGGER CAP in %**
0	142	0	*	**KEYLOCK** 0 = NON 1 = Key-Lock 2 = Key-Lock after 24 h automatically
0	143	0	*	**SWITCHING OPERATION WARNING**
0	144	0	*	**FAST DISCHARGE (of stages)** 0 = NO 1…12 = 1…12. STEP
0	145	0	*	**FAST DISCHARGE TIME in seconds**
0	146	0	*	**PHASE SHIFTING Current Transformer** 1…3 = L1…L3
0	147	0	*	**PHASE SHIFTING - VOLTAGE** 0 = 0° 1 = 330° 2 = 300° 3 = 270° 4 = 240° 5 = 210° 6 = 180° 7 = 150° 8 = 120° 9 = 90° 10 = 60° 11 = 30°
0	148	0	*	**CAPACITOR TEST** 0 = NO 1 = YES
0	149	0	*	**ERROR TOLERANCE positive Variance** 10…100 = +10%....+100%

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
0	150	0	*	**ERROR TOLERANCE negat. Variance** 10…100 = -10%....-100%
0	151	0	*	**TEST ATTEMTS**
0	152	0	*	**POWER 1st STEP** 0 = 0……255kvar 1 = 0….2550kvar 2 = 0…25500kavr
0	153	0	*	**CONTROL (3-phase / 1-phase)** 0 = 1-phase CAP 1 = 3-phase CAP 2 = 1-phase IND 3 = 3-phase IND 4 = 1-phase IND / CAP 5 = 3-phase IND / CAP
0	154	0	*	**DELIVERY** 0 = No influence on stages 1 = switching off of stages 2 = all stages OFF
0	155	0	*	**DISPLAY** 0 = cos-phi 1 = tan-phi
0	156	0	*	**CHANGING PASSWORD** 0 = NO 1 = YES
0	157	0	*	**CODE NUMBER 1** 0…35 = 0…9 / A….Z
0	158	0	*	**CODE NUMBER 2** 0…35 = 0…9 / A….Z
0	159	0	*	**CODE NUMBER 3** 0…35 = 0…9 / A….Z
0	160	0	*	**CODE NUMBER 4** 0…35 = 0…9 / A….Z
0	161	0	*	**LCD-BACKLIGHT at ERROR** 0 = OFF 1 = RED 2 = WHITE 3 = PINK

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
				INTERFACE
0	171	0	*	**MESSAGE RELAY** 1 = OFF 2 = ERROR 3 = ERROR inverse 4 = FAN 5 = DELIVERY 6 = UNDERCURRENT 7 = HARMONICS 8 = OVERCOMPENSATED 9 = UNDERCOMPENSATED 10 = NUMBER OF SWITCHINGS 11 = MODBUS-ERROR 12 = MMI-ERROR 13 = C-DEFECT (capacitor error) 14 = FIX-STAGE OUTPUT
0	172	0	*	**FAN TEMPERATURE** 15…70 = 15°C….70°C
0	173	0	*	**EXTERNAL INPUT** 0 = NO 1 = 2. PARAMETER SET 2 = EXTERNAL ERROR 3 = Q-OFFSET 4 = COUPLING OPERATION IN PARALLEL 5 = COUPLING OPERATION SERIAL 6 = INPUT FIX-STAGE (display only)
0	174	0	*	**POWER FIX STAGE** 1…255 = 1…255 x C1 (smallest step)
0	175	0	*	**CLOCK-HOUR**
0	176	0	*	**CLOCK-MINUTE**
0	177	0	*	**CLOCK-DAY**
0	178	0	*	**CLOCK-MONTH**
0	179	0	*	**CLOCK-YEAR**
0	180	0	*	**PROTOCOL** 0 = OFF 1 = MODBUS RTU with control KTR 2 = MODBUS RTU 3 = ASCII 4 = MASTER MMI (capacitor current monitoring) 5 = EXTERN (external measuring device) 6 = SLAVE HYBRID 7 = SLAVE MODE 8 = MASTER MODE 9 = COUPLING-MODE (display only)

Adress HIGH-BYTE	Adress HIGH-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
0	181	0	*	**BAUD RATE** 0 = 9600 / NONE 1 = 19200 / NONE 2 = 38400 / NONE 3 = 57600 / NONE 4 = 115200 / NONE 5 = 250000 / NONE 6 = 256000 / NONE '---------- 7 = 9600 / ODD 8 = 19200 / ODD 9 = 38400 / ODD 10 = 57600 / ODD 11 = 115200 / ODD 12 = 250000 / ODD 13 = 256000 / ODD '---------- 14 = 9600 / EVEN 15 = 19200 / EVEN 16 = 38400 / EVEN 17 = 57600 / EVEN 18 = 115200 / EVEN 19 = 250000 / EVEN 20 = 256000 / EVEN
0	182	0	*	**ADRESS (MODBUS)**
0	183	0	*	**NUMBER OF MMI**
0	184	0	*	**MEASURING DEVICE TYPE** 0 = MMI6000 1 = MMI7000 2 = UCM 5
0	185	0	*	**NUMBER OF BR7000-I (SLAVE)**
	186	0	*	**ACSII-TRANSMITTING INTERVAL** 1…255 = 1…255 s
0	187	0	*	**ASCII-SEPARATOR** 0 = HT 1 = LF/CR 2 = SP 3 = CR/LF 4 = MINUS 5 = CSV

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
				actual value
0	201	0	*	value step 1
0	202	0	*	value step 2
0	203	0	*	value step 3
0	204	0	*	value step 4
0	205	0	*	value step 5
0	206	0	*	value step 6
0	207	0	*	value step 7
0	208	0	*	value step 8
0	209	0	*	value step 9
0	210	0	*	value step 10
0	211	0	*	value step 11
0	212	0	*	value step 12
0	213	0	*	value step 13
				EXPERT-MODE 2
				ERROR-STATUS 0 = OFF 1 = ON 2…255 = delay time in seconds
0	220	0	*	0/1/2…255 - MEASURING VOLTAGE
0	221	0	*	0/1/2…255 - OVER VOLTAGE
0	222	0	*	0/1/2…255 - OVERCOMPENSATED
0	223	0	*	0/1/2…255 - UNDERCOMPENSATED
0	224	0	*	0/1/2…255 - HARMONICS
0	225	0	*	0/1/2…255 - OVERTEMPERATURE
0	226	0	*	0/1/2…255 - OVERCURRENT
0	227	0	*	0/1/2…255 - UNDERVOLTAGE
0	228	0	*	0/1/2…255 - NUMBER OF SWITCHINGS
0	229	0	*	0/1/2…255 - UNDERCURRENT
0	230	0	*	0/1/2…255 - MODBUS-ERROR
0	231	0	*	0/1/2…255 - MMI-ERROR
0	232	0	*	0/1/2…255 - MODBUS-REMOTE
0	233	0	*	0/1/2…255 - CURRENT < ? (cap. current monitoring)
0	234	0	*	0/1/2…255 - BUS-ERROR-EXTERN
0	235	0	*	0/1/2…255 - C-DEFECT
0	236	0	*	0/1/2…255 - Current > NULL (cap. current monitoring)
0	237	0	*	0/1/2…255 - OVERLOAD-SYSTEM (cap.current monit.)
0	238	0	*	0/1/2…255 - EXTERN-FEHLER
0	239	0	*	0/1/2…255 - C-DEFECT-OFF (cap. current monitoring)
0	240	0	*	0/1/2…255 - AUTO-INIT-ERROR
0	241	0	*	**ALARMRELAY – DELAY TIME** 1…255 = 1…255 minutes
0	242	0	*	**UNDERVOLTAGE (trigger)** 20…95 = 20…95 %

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
0	243	0	*	**OVERVOLTAGE (trigger)** 105…140 = 105…140 %
0	244	0	*	**MEASURING FREQUENCY** 0 = 42… 80 Hz 1 = 50 Hz 2 = 60 Hz 3 = 42…160Hz 4 = 16,7 Hz
0	253	0	*	**HARDWARE** 0 = BR7000-I 1 = BR7000-I-S
0	254	0	*	**TESTFLAG (internal register)**
0	255	71	20	**IDENTIFIER / VERSION** HIGH = 71 (BR7000-I) LOW = 24 (Version 2.4)

REMOTE MEASURING:

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
				REMOTE MEASURING - LONG-FORMAT (4 Byte)
14	246	*	*	Reactive power HIGH-WORD
14	247	*	*	Reactive power LOW-WORD
14	248	*	*	Active power HIGH-WORD
14	249	*	*	Active power LOW-WORD
14	250	*	*	Apparent power HIGH-WORD
14	251	*	*	Apparent power LOW-WORD

Special-register range:

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
				SWITCHING OPERATION - LONG-FORMAT (4Byte)
23	7	*	*	Stage 1 HIGH-WORD
23	8	*	*	Stage 1 LOW-WORD
23	9	*	*	Stage 2 HIGH-WORD
23	10	*	*	Stage 2 LOW-WORD
23	11	*	*	Stage 3 HIGH-WORD
23	12	*	*	Stage 3 LOW-WORD
23	13	*	*	Stage 4 HIGH-WORD
23	14	*	*	Stage 4 LOW-WORD
23	15	*	*	Stage 5 HIGH-WORD
23	16	*	*	Stage 5 LOW-WORD
23	17	*	*	Stage 6 HIGH-WORD
23	18	*	*	Stage 6 LOW-WORD
23	19	*	*	Stage 7 HIGH-WORD
23	20	*	*	Stage 7 LOW-WORD
23	21	*	*	Stage 8 HIGH-WORD
23	22	*	*	Stage 8 LOW-WORD
23	23	*	*	Stage 9 HIGH-WORD
23	24	*	*	Stage 9 LOW-WORD
23	25	*	*	Stage 10 HIGH-WORD
23	26	*	*	Stage 10 LOW-WORD
23	27	*	*	Stage 11 HIGH-WORD
23	28	*	*	Stage 11 LOW-WORD
23	29	*	*	Stage 12 HIGH-WORD
23	30	*	*	Stage 12 LOW-WORD
23	31	*	*	Stage 13 HIGH-WORD
23	32	*	*	Stage 13 LOW-WORD

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
				OPERATION TIME CAPACITORS LONG-FORMAT (4Byte)
23	33	*	*	Stage 1 HIGH-WORD
23	34	*	*	Stage 1 LOW-WORD
23	35	*	*	Stage 2 HIGH-WORD
23	36	*	*	Stage 2 LOW-WORD
23	37	*	*	Stage 3 HIGH-WORD
23	38	*	*	Stage 3 LOW-WORD
23	39	*	*	Stage 4 HIGH-WORD
23	40	*	*	Stage 4 LOW-WORD
23	41	*	*	Stage 5 HIGH-WORD
23	42	*	*	Stage 5 LOW-WORD
23	43	*	*	Stage 6 HIGH-WORD
23	44	*	*	Stage 6 LOW-WORD
23	45	*	*	Stage 7 HIGH-WORD
23	46	*	*	Stage 7 LOW-WORD
23	47	*	*	Stage 8 HIGH-WORD
23	48	*	*	Stage 8 LOW-WORD
23	49	*	*	Stage 9 HIGH-WORD
23	50	*	*	Stage 9 LOW-WORD
23	51	*	*	Stage 10 HIGH-WORD
23	52	*	*	Stage 10 LOW-WORD
23	53	*	*	Stage 11 HIGH-WORD
23	54	*	*	Stage 11 LOW-WORD
23	55	*	*	Stage 12 HIGH-WORD
23	56	*	*	Stage 12 LOW-WORD
23	57	*	*	Stage 13 HIGH-WORD
23	58	*	*	Stage 13 LOW-WORD
23	59	*	*	**STAGE STATUS Stage 1…8** BIT 0 = Stage 1.0 BIT 1 = Stage 1.1 . . BIT 14 = Stage 8.0 BIT 15 = Stage 8.1 1 = Fixed stage OFF 2 = Automatic stage 3 = Fixed stage ON
23	60	*	*	**STAGE STATUS Stage 9…13** BIT 0 = Stage 9.0 BIT 1 = Stage 9.1 . . BIT 8 = Stage 13.0 BIT 9 = Stage 13.1 1 = Fixed stage OFF 2 = Automatic stage 3 = Fixed stage ON

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
23	61	0	*	**ERROR MEMORY 1 (10. Error)**
23	|	0	*	|
23	70	0	*	**ERROR MEMORY 10 (last Error)**
23	71	*	*	**ERROR MEMORY Time stamp HIGH-WORD (1)**
23	72	*	*	**ERROR MEMORY Time stamp LOW-WORD (1)**
23	|	*	*	|
23	89	*	*	**ERROR MEMORY Time stamp HIGH-WORD (10)**
23	90	*	*	**ERROR MEMORY Time stamp LOW-WORD (10)**
23	111	71	1	**Identifier Register** HIGH = 71 = BR7000-I LOW = 1 = Power Factor Controller
				Grid-measuring values - floating point format (4 Byte)
23	112	*	*	Voltage
23	113	*	*	Voltage
23	114	*	*	Current
23	115	*	*	Current
23	116	*	*	Reactive power
23	117	*	*	Reactive power
23	118	*	*	Active power
23	119	*	*	Active power
23	120	*	*	Apparent power
23	121	*	*	Apparent power
23	122	*	*	Differential reactive power (to reach target cos-phi)
23	123	*	*	Differential reactive power (to reach target cos-phi)
23	124	*	*	Temperature
23	125	*	*	Temperature
23	126	*	*	THD-V
23	127	*	*	THD-V
23	128	*	*	THD-I
23	129	*	*	THD-I
23	130	*	*	cos-phi
23	131	*	*	cos-phi
23	132	*	*	**RELAY STATUS** BIT 0 = Message relay BIT 1…13 = Output relay BIT 14 = Alarm relay BIT 15 = External input
23	133	0	*	**CONTROL DIRECTION** 1 = Switch OFF 2 = Stopp 3 = Switch ON
23	134	0	*	**ERROR-register**

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
23	135	0	*	**WARNING-register**
23	136	0	*	**MESSAGE-register**
23	137	0	*	**FREQUENCY**
23	138	0	0	**-**
23	139	*	*	**HARMONICS voltage 3. (2.) (139….158) x10** e.g.: 56 = 5.6%
23	|	*	*	|
23	158	*	*	**HARMONICS voltage**
23	159	*	*	**HARMONICS current 3. (2.) (159…178) x10** e.g.: 147 = 14.7%
23	|	*	*	|
23	178	*	*	**HARMONICS current**
				MAX. VALUES in floating point format (4 Byte)
23	179	*	*	max. voltage
23	180	*	*	max. voltage
23	181	*	*	max. current
23	182	*	*	max. current
23	183	*	*	max. reactive power
23	184	*	*	max. reactive power
23	185	*	*	max. active power
23	186	*	*	max. active power
23	187	*	*	max. apparent power
23	188	*	*	max. apparent power
23	189	*	*	max. differential reactive power (to reach target cos-phi)
23	190	*	*	max. differential reactive power (to reach target cos-phi)
23	191	*	*	max. temperature
23	192	*	*	max. temperature
23	193	*	*	max. THD-V
23	194	*	*	max. THD-V
23	195	*	*	max. THD-I
23	196	*	*	max. THD-I
23	197	*	*	**min. voltage**
23	198	*	*	**min. voltage**

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
				MAX. VALUES Time stamp
23	199	*	*	max. voltage
23	200	*	*	max. voltage
23	201	*	*	max. current
23	202	*	*	max. current
23	203	*	*	max. reactive power
23	204	*	*	max. reactive power
23	205	*	*	max. active power
23	206	*	*	max. active power
23	207	*	*	max. apparent power
23	208	*	*	max. apparent power
23	209	*	*	max. differential reactive power (to reach target cos-phi)
23	210	*	*	max. differential reactive power (to reach target cos-phi)
23	211	*	*	max. THD-V
23	212	*	*	max. THD-V
23	213	*	*	max. THD-I
23	214	*	*	max. THD-I
23	215	*	*	max. temperature
23	216	*	*	max. temperature
23	217	*	*	min. voltage
23	218	*	*	min. voltage
23	219	*	*	**SYSTEM TIME**
23	220	*	*	**SYSTEM TIME**
				ENERGIE- LONG-Format (4 Byte) in kWh
23	221	*	*	ACTIVE ENERGY (Receiving) - HIGH-WORD
23	222	*	*	ACTIVE ENERGY (Receiving) - LOW-WORD
23	223	*	*	ACTIVE ENERGY (Delivery) - HIGH-WORD
23	224	*	*	ACTIVE ENERGY (Delivery) - LOW-WORD
23	225	*	*	REACTIVE ENERGY IND - HIGH-WORD
23	226	*	*	REACTIVE ENERGY IND - LOW-WORD
23	227	*	*	REACTIVE ENERGY CAP - HIGH-WORD
23	228	*	*	REACTIVE ENERGY CAP - LOW-WORD
				Rest - ENERGIE LONG-Format (4Byte) in Ws
23	229	*	*	ACTIVE ENERGY (Receiving) - HIGH-WORD
23	230	*	*	ACTIVE ENERGY (Receiving) - LOW-WORD
23	231	*	*	ACTIVE ENERGY (Delivery) - HIGH-WORD
23	232	*	*	ACTIVE ENERGY (Delivery) - LOW-WORD
23	233	*	*	REACTIVE ENERGY IND - HIGH-WORD
23	234	*	*	REACTIVE ENERGY IND - LOW-WORD
23	235	*	*	REACTIVE ENERGY CAP - HIGH-WORD
23	236	*	*	REACTIVE ENERGY CAP - LOW-WORD