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Prophi-7 I

MODBUS-Adresses

V 4.1

Functioncode 6

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MODBUS- Adress-table Prophi-7 I version 4.1 (issue 10/16)

Functioncode 6

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
				PROGRAM MEMORY
0	1	0	0...9	LANGUAGE 0 = DEUTSCH 1 = ENGLISH 2 = ESPANOL 3 = NEDERLANDS 4 = RUSSISCH 5 = CZECH 6 = POLSKI 7 = FRENCH 8 = PORTUGUES 9 = TÜRKCE
0	2	0	1...255	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	3	0	0...1	Current transformer - secondary 0 = 1A 1 = 5A
0	4	0	1...13	END-STOPP
0	5	0	1...21	CONTROL SERIES 1 = ControlSeries 1: 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, 2 3 = ControlSeries 3: 1, 2, 3, 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, 4 5 = ControlSeries 5: 1, 2, 4, 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, 6 7 = ControlSeries 7: 1, 2, 4, 8, 8, 8, 8, 8, 8, 8, 8, 8, 8 8 = ControlSeries 8: 1, 1, 1, 1, 2, 2, 2, 2, 2, 2, 2, 2, 2 9 = ControlSeries 9: 1, 1, 1, 1, 1, 6, 6, 6, 6, 6, 6, 6, 6 10 = ControlSeries 10: 1, 1, 2, 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, 4 12 = ControlSeries 12: 1, 1, 2, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4 13 = ControlSeries 13: 1, 1, 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2 14 = ControlSeries 14: 1, 1, 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3 15 = ControlSeries 15: 1, 1, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4 16 = ControlSeries 16: 1, 1, 2, 4, 8, 8, 8, 8, 8, 8, 8, 8, 8 17 = ControlSeries 17: 1, 2, 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3 18 = ControlSeries 18: 1, 2, 3, 4, 4, 8, 8, 8, 8, 8, 8, 8, 8 19 = ControlSeries 19: 1, 2, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4 20 = ControlSeries 20: 1, 2, 2, 2, 4, 4, 4, 4, 4, 4, 4, 4, 4 21 = ControlSeries 21: CONTROL-SERIES EDITOR

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
0	6	0	0...3	CONTROL PRINCIPLE 0 = Sequential connection 1 = Loop connection 2 = Intelligent loop connection 3 = Combined choke
0	7	0	0...255	POWER 1st STEP (pre-decimal point) 0...255 = 0...255 kvar / 0...2550 kvar / 0...25500 kvar
0	8	0	0...99	POWER 1st STEP (decimal place) 0...99 = 0...0.99 kvar
0	9	0	10...190	TARGET cos-phi 10 = 0.10 CAP 100 = 1.00 190 = 0.10 IND
0	10	0	0...99	MEASURING VOLTAGE 0 = 30V (in steps of 5V) 99 = 525V
0	11	0	0...255	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	12	0	1...255	CONNECTING TIME 1...120 = 1...120 s 121...255 = 3...137 min
0	13	0	1...255	DISCONNECTING TIME 1...120 = 1...120 s 121...255 = 3...137 min
0	14	0	1...255	DISCHARGE TIME 1...120 = 1...120 s 121...255 = 3...137 min
0	15	0	40...85	ALARM TEMPERATURE 40...85 = 40...85°C

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
0	16	0	0...10	ALARM RELAY <hr/> 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 11 = MODBUS-ERROR 12 = MMI-ERROR 13 = C-DEFECT (capacitor)
0	17	0	15...70	FAN TEMPERATURE <hr/> 15...70 = 15...70°C
0	18	0	5...255	THD-V-THRESHOLD <hr/> 0...255 = 0.1...25.5% / 0 = OFF
0	19	0	5...255	THD-I-THRESHOLD <hr/> 0...255 = 0.1...25.5% / 0 = OFF
0	20	0	0...2	HARMONICS <hr/> 0 = 3. 5. 7. ...19. harmonic 1 = 3. 5. 7.33. harmonic 2 = 2. 3. 4. ... 17. harmonic
0	21	0	5...10	CONTRAST <hr/> 2. PARAMETER SET
0	22	0	1...255	CURRENT TRANSFORMER primary <hr/> Compare table adress 2
0	23	0	0...1	CURRENT TRANSFORMER secondary <hr/> Compare table adress 3
0	24	0	1...13	END-STOPP
0	25	0	1...21	CONTROL SERIES <hr/> Compare table adress 5
0	26	0	0...3	CONTROL PRINCIPLE <hr/> Compare table adress 6

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
0	27	0	0...255	POWER 1st STEP (pre decimal point) 0...255 = 0...255 kvar / 0...2550 kvar
0	28	0	0...99	POWER 1st STEP (decimal place) 0...99 = 0...0.99 kvar
0	29	0	10...190	TARGET cos-phi 10 = 0.10 CAP 100 = 1.00 190 = 0.10 IND
0	30	0	1...255	CONNECTING TIME 1...120 = 1...120 s 121...255 = 3...137 min
0	31	0	1...255	DISCONNECTING TIME 1...120 = 1...120 s 121...255 = 3...137 min
0	32	0	1...255	DISCHARGE TIME 1...120 = 1...120 s 121...255 = 3...137 min

Only for manufacturer:

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
0	33	0	0...8	PICTURE (for manufacturer only) 0 = EPC 1 = EBE 2 = NEU 3 = MOL 4 = ESK 5 = CHI 6 = CAP 7 = JTZ 8 = MR

REMOTE-REGISTER:

Functioncode 6:

FUNCTION	Adress	Data HIGH-BYTE	Data LOW-BYTE
REMOTE-REGISTER	40	Number of switch.stages 1...4 (4 = factory setting EXPERT-MODE)	0 = no remote 1 = switching off of stages 2 = stopp 3 = switching ON of stages

SLAVE-MODE-REGISTER: (SLAVE-HYBRID, SLAVE-MODE-FUNCTION)

Delete UNDERCURRENT message

SEND	Adress	Data HIGH-BYTE	Data LOW-BYTE
REACTIVE POWER-TRANSFER-REGISTER	80	Difference-reactive power in kvar	Difference-reactive power in kvar

ANSWER	BYTE 3	BYTE 4	BYTE 5	BYTE 6
	H-part Difference-reactive power in kvar	L-part Difference-reactive power in kvar	ERROR-REGISTER *)	actual system-power in %

- *)
 BIT 0 = external input
 BIT 1 = OVERVOLTAGE
 BIT 2 = OVERCOMPENSATED
 BIT 3 = UNDERCOMPENSATED
 BIT 4 = HARMONICS
 BIT 5 = ALARM-TEMPERATURE
 BIT 6 = UNDERCURRENT
 BIT 7 = UNDERVOLTAGE

Creating UNDERCURRENT Message

SEND	Adress	Data HIGH-BYTE	Data LOW-BYTE
REACTIVE POWER-TRANSFER-REGISTER	81	Difference-reactive power in kvar	Difference-reactive power in kvar

ANSWER	BYTE 3	BYTE 4	BYTE 5	BYTE 6
	H-part Difference-reactive power in kvar	L-part Difference-reactive power in kvar	ERROR-REGISTER *)	actual system-power in %

MODBUS-TARGET-COSPHI-REGISTER: temp. (RAM) TARGET-cosphi

Refresh-time : < 4 Minuten

FUNCTION	Adress	Data HIGH-BYTE	Data LOW-BYTE
TARGET-cosphi * 100	120	H-part TARGET-cosphi	L-part TARGET-cosphi

example: 100 = 1.00
 90 = 0.90 IND
 -90 = 0.90 CAP

RESET-REGISTER:

FUNCTION	Adress	Data HIGH-BYTE	Data LOW-BYTE
RESET-REGISTER	200	H = 51	L = 51 Reset of capacitor operation time 16 BIT-value = 13107
	200	H = 85	L = 85 Error memory RESET 16 BIT-value = 21845
	200	H = 170	L = 170 Max. value RESET 16 BIT-value = 43690
	200	H = 204	L = 204 Reset number of switchings 16 BIT-value = 52428

EXPERT MODE 1 (from adress 257 onwards)

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
				EXPERT MODE 1
1	1	0	-	- no function
1	2	0	-	- no function
1	3	0	-	- no function
1	4	0	-	- no function
1	5	0	0...1	1 = PROGRAM -> BASIC SETTINGS
1	6	0	0...1	1 = RESET SWITCHING CYCLES
1	7	0	0...1	1 = RESET DUTY CYCLES
1	8	0	1...255	INTEGRATION TIME 1...255 = 1...255 s
1	9	0	1...255	Max. Switching power 1...255 = 1...255 times power of C1
1	10	0	50...200	Switch. trigger IND (Alpha-value) 50...200 = 0.5...2
1	11	0	20...70	Switch. trigger CAP (Beta-value) 20...70 = 0.2...0.7
1	12	0	0...2	KEY LOCK 0 = no lock 1 = key lock 2 = key lock after 24 h automatically
1	13	0	1...255	SWITCHING OPERATION WARNING 1...255 = 10 000...2 550 000 operations
1	14	0	0...11	FAST DISCHARGE 0 = NO 1...11 = C1...C11
1	15	0	1...255	FAST DISCHARGE TIME 1...255 = 1...255 s
1	16	0	1...3	PHASE CURRENT TRANSFORMER 1...3 = L1...L3

Adress HIGH- BYTE	Adress LOW- BYTE	Data HIGH- BYTE	Data LOW- BYTE	DESCRIPTION
1	17	0	0...11	PHASE MEASURING VOLTAGE <hr/> 0 = 0° 1 = 330° 2 = 300° 3 = 270° 4 = 240° 5 = 210° 6 = 180° 7 = 150° 8 = 120° 9 = 90° 10 = 60° 11 = 30°
1	18	0	0...1	CAPACITOR TEST <hr/> 0 = NO 1 = YES
1	19	0	10...100	ERROR TOLERANCE positive variance <hr/> 10...100 = +10%...+100%
1	20	0	10...100	ERROR TOLERANCE negative variance <hr/> 10...100 = -10%...-100%
1	21	0	2...9	TEST ATTEMPTS
1	22	0	0...1	POWER 1st STAGE <hr/> 0 = 0.....255kvar 1 = 0.... 2550kvar 2 = 0...25500kvar
1	23	0	0...5	CONTROL (3-phase / 1-phase) <hr/> 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
1	24	0	0...3	DELIVERY <hr/> 0 = No influence on stages 1 = switching off of stages 2 = all stages OFF 3 = 2nd cos-phi

Adress HIGH- BYTE	Adress LOW- BYTE	Data HIGH- BYTE	Data LOW- BYTE	DESCRIPTION
1	25	0	0...1	DISPLAY 0 = cos-phi 1 = tan-phi
1	26	0	0...1	CHANGING PASSWORD 0 = NO 1 = YES
1	27	0	0...35	CODE DIGIT 1 0...35 = 0...9 / A...Z
1	28	0	0...35	CODE DIGIT 2 0...35 = 0...9 / A...Z
1	29	0	0...35	CODE DIGIT 3 0...35 = 0...9 / A...Z
1	30	0	0...35	CODE DIGIT 4 0...35 = 0...9 / A...Z
1	31	0	0...2	ERROR-BACKLIGHT 0 = OFF 1 = WHITE 2 = RED 3 = PINK

INTERFACE (from adress 513 on)

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
2	1	0	1...14	MESSAGE-RELAY 1 = OFF 2 = FAN 3 = DELIVERY 4 = UNDERCURRENT 5 = HARMONICS 6 = OVERCOMPENSATED 7 = UNDERCOMPENSATED 8 = NUMBER OF SWITCHING 9 = MODBUS-ERROR 10 = MMI-FEHLER 11 = C-DEFECT (capacitor error) 12 = FIX-STAGE OUTPUT 13 = ERROR (alarm-relay) 14 = ERROR inverse (alarmrelay inverse)
2	2	0	15...70	FAN-TEMPERATURE 15...70 = 15°C...70°C
2	3	0	0...5	EXTERNAL INPUT 0 = NO 1 = 2nd PARAMETER-SET 2 = EXTERNAL ERROR 3 = Q-OFFSET 4 = COUPLING OPERATION IN PARALLEL 5 = COUPLING OPERATION SERIAL 6 = INPUT FIX-STAGE (display only)
2	4	0	1...255	POWER FIX-STAGE 1...255 = 1...255 x C1 (1st step)
2	5	0	0...23	CLOCK-HOUR
2	6	0	0...59	CLOCK-MINUTE
2	7	0	1...31	DATE-DAY
2	8	0	1...12	DATE-MONTH
2	9	0	14...99	DATE-YEAR
2	10	0	0...8	PROTOCOL 0 = OFF 1 = MODBUS RTU with check (KTR) 2 = MODBUS RTU 3 = ASCII 4 = MASTER MMI (capacitor current monitoring) 5 = SLAVE HYBRID 6 = SLAVE MODE 7 = MASTER MODE

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
2	11	0	0...20	BAUD RATE <hr/> 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
2	12	0	1...255	ADDRESS (MODBUS)
2	13	0	1...9	NUMBER OF MMI
2	14	0	0...3	MEASURING DEVICE TYPE <hr/> 0 = MMI 6000 1 = MMI 7000 2 = MMI 8003 3 = UCM 5
2	15	0	1...4	NUMBER OF BR7000-I (SLAVE)
2	16	0	1...255	ASCII-TRANSMIT. INTERVAL <hr/> 1...255 = 1...255 s
2	17	0	0...5	ASCII-SEPARATOR <hr/> 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
2	18	0	0...4	PROTOCOL 0 = OFF 1 = MODBUS RTU with check (KTR) 2 = MODBUS RTU 3 = ASCII 4 = MASTER MMI (capacitor current monitoring)
2	19	0	0...20	BAUDRATE COM 2 Equal to COM1
2	20	0	1...255	ADDRESS COM 2 Equal to COM1
2	21	0	0...2	MEASURING DEVICE TYPE 0 = MMI6000 1 = MMI7003 2 = MMI8003 3 = UCM 5

EXPERT-MODE 2 (from adress 769 on)

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
3	1	0	-	- no function
3	2	0	-	- no function
3	3	0	-	- no function
3	4	0	-	- no function
				ERROR STATUS
				0 = OFF 1 = ON 2...255 = delay time in seconds
3	5	0	*	0/1/2...255 - MEAS. VOLTAGE
3	6	0	*	0/1/2...255 - OVERVOLTAGE
3	7	0	*	0/1/2...255 - OVERCOMPENSATED
3	8	0	*	0/1/2...255 - UNDERCOMPENSATED
3	9	0	*	0/1/2...255 - HARMONICS
3	10	0	*	0/1/2...255 - OVER TEMPERATURE
3	11	0	*	0/1/2...255 - OVERCURRENT
3	12	0	*	0/1/2...255 - UNDERVOLTAGE
3	13	0	*	0/1/2...255 - NUMBER OF SWITCHINGS
3	14	0	*	0/1/2...255 - UNDERCURRENT
3	15	0	*	0/1/2...255 - MODBUS-ERROR
3	16	0	*	0/1/2...255 - MMI-ERROR COM 1
3	17	0	*	0/1/2...255 - MMI-ERROR COM 2
3	18	0	*	0/1/2...255 - MODBUS-REMOTE
3	19	0	*	0/1/2...255 - CURRENT < ? (cap. current monitoring)
3	20	0	*	0/1/2...255 - BUS-ERROR-EXTERN
3	21	0	*	0/1/2...255 - C-DEFECT
3	22	0	*	0/1/2...255 - Current > 0 (capacitor current monitoring)
3	23	0	*	0/1/2...255 - OVERLOAD system (cap.current monitoring)
3	24	0	*	0/1/2...255 - EXTERNAL-ERROR
3	25	0	*	0/1/2...255 - C-DEFECT-OFF (cap. current monitoring)
3	26	0	*	0/1/2...255 - AUTO-INIT-ERROR
3	27	0	*	ALARMRELAY – DELAY-TIME 1...255 = 1...255 minutes
3	28	0	*	UNDERVOLTAGE (Trigger) 20...95 = 20...95 %
3	29	0	*	OVERVOLTAGE (Trigger) 105...140 = 105...140 %
				MEAS. FREQUENCY
				0 = 42... 80 Hz 1 = 50 Hz 2 = 60 Hz 3 = 42...160 Hz 4 = 16,7 Hz

Adress HIGH-BYTE	Adress LOW-BYTE	Data HIGH-BYTE	Data LOW-BYTE	DESCRIPTION
3	31	0	10...100	OVERCOMPENSATED <hr/> 100 = Q-DIFF (normal) 10...99 = $\cos\varphi < 0.10$ CAP...0.99 CAP
3	32	0	10...100	UNDERCOMPENSATED <hr/> 100 = Q-DIFF (normal) 10...99 = $\cos\varphi < 0.10$ IND...0.99 IND
3	33...45	0	0...1	RESET SWITCHING CYCLES RELAY 1...13 C1...13 <hr/> 1 = RESET
3	46...58	0	0...1	RESET DUTY CYCLES RELAY 1...13 C1...13 <hr/> 1 = RESET

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