AC ELWA®-E

Electrical Photovoltaic-Excess Hot-Water-Device

Documentation of Controls

⚠ Disclosure to third parties requires the express consent of my-PV!

http control

In the Web interface the kind of control has to be set to http.

The control happens via the sub-page /control.html

/control.html?power=n n 0...3000 Set power of the device

/control.html?boost=1 activate Boost-Backup manually

NOTE:
For firmware versions 200.00 forward, the xml query is replaced by json (data.jsn)!

Status info is queried via [IP]/data.jsn


```
device:          "AC ELWA-E"
fwversion:       "00200.01"
status:          3
power:           0
boostpower:      0
temp1:           215
ww1target:       579
boostactive:     0
legboostnext:    "off"
loctime:         "11:41:13"
unixtime:        1606988473
ctr1state:       "Conn. to Power Meter. P=1"
blockactive:     0
meter1_ip:       "192.168.2.17"
meter1_id:       1438514
meter2_ip:       "null"
meter2_id:       null
meter3_ip:       "null"
meter3_id:       null
meter4_ip:       "null"
meter4_id:       null
meter5_ip:       "null"
meter5_id:       null
meter6_ip:       "null"
meter6_id:       null
surplus:         -1
m0sum:           -1
m0l1:            null
m0l2:            null
m0l3:            null
m0bat:           null
m1sum:           null
m1l1:            null
m1l2:            null
m1l3:            null
m1devstate:      null
m2sum:           null
m2l1:            null
m2l2:            null
m2l3:            null
m2soc:           null
m2state:         null
m2devstate:      null
m3sum:           null
m3l1:            null
m3l2:            null
m3l3:            null
m3soc:           null
m3devstate:      null
m4sum:           null
m4l1:            null
m4l2:            null
m4l3:            null
m4devstate:      null
ecarstate:       "null"
ecarboostctr:    null
cur_ip:          "192.168.2.19"
cur_sn:          "255.255.0.0"
cur_gw:          "192.168.2.1"
cur_dns:         "192.168.2.1"
mss2:            "null"
mss3:            "null"
mss4:            "null"
mss5:            "null"
mss6:            "null"
mss7:            "null"
mss8:            "null"
mss9:            "null"
mss10:           "null"
mss11:           "null"
tempchip:        39
```

Modbus TCP control

⚠ In the Web-Interface the kind of control has to be set to Modbus TCP.

⚠ Mentioned register addresses are „real“ addresses. Depending on your data retrieval system it might be required to add 1 to the register addresses (e.g. 1001 instead of 1000)!

Adresse	r/w	Parameter	Value Unit
1000	R/W	Power	W
1001	R	actual water temperature	0,1°C
1002	R	water target temperature (set on rotation knob)	0,1 °C
1003	R	Status (see below)	Number
1004	R/W	Timeout control	Sec
1005	R/W	Boost backup mode [1]	Number
1006	R/W	Boost backup target temperature	°C
1007	R/W	Starting time boost backup	Hour
1008	R/W	Ending time boost backup	Hour
1009	R/W	actual time (hour)	Hour
1010	R/W	actual time (minute)	Minute
1011	R/W	actual time (seconds)	Second
1012	W	manual boost backup start	1
1013	R/W	ELWA number	AC ELWA Number; Standard is 1
1014	R/W	Fusetype	13 or 16 A; Standard is 16A
1015	R	tempchip	Controller temperature
1016	R	IP firmware version	Software Version TCP Board
1017	R	ELWA firmware version	Software Version Power Board
1018	R	ELWA serial number 1-2	Serial number
1019	R	ELWA serial number 3-4	
1020	R	ELWA serial number 5-6	
1021	R	ELWA serial number 7-8	
1022	R	ELWA serial number 9-10	
1023	R	ELWA serial number 11-12	
1024	R	ELWA serial number 13-14	
1025	R	ELWA serial number 15-16	
1026	R/W	2. Starting time boost backup	Hour
1027	R/W	2. Ending time boost backup	Hour
1028	R	Ip Firmware Sub Version	
1030	R	Power Meter measurement value (negative = feed-in)	
1069	R	Power Meter measurement value (negative = feed-in)	
1070	R/W	Control type ctrl_autodetect = 0 ctrl_http = 1 ctrl_modbustcp = 2 ctrl_fronius_auto = 3 ctrl_fronius_manual = 4 ctrl_sma_home_manager = 5 ctrl_steca = 6 ctrl_varta_auto = 7 ctrl_varta_manual = 8 ctrl_slave = 9 ctrl_rctpower_manual = 10 ctrl_adj_modbus = 11 ctrl_mypv_meter_auto = 12 ctrl_mypv_meter_manual = 13	

		ctrl_mypv_meter_direct = 14 ctrl_sma_meter_auto = 15 ctrl_sma_meter_manual = 16 “Adjustable Modbus TCP” Presets (Control type number > 100) cannot be adjusted via Modbus TCP.	
1081	R/W	Device state	0 / 1

Registers can be read by the Modbus command 0x06 or 0x10

From Ethernet firmware 102.04, multiple devices can also be controlled via UDP broadcast.

Status number explanation

2	Heat
3	Standby
4	Boost heat
5	Heat finished
9	Setup
201	Error Overtemp Fuse blown
202	Error Overtemp measured
203	Error Overtemp Electronics
204	Error Hardware Fault
205	Error Temp Sensor

Discover in Network

The AC ELWA-E can be found in the network by an UDP Broadcast command.

Data format UDP Discover (broadcast to 255.255.255.255):

Block length:	32bytes
Port Number:	2 bytes 0x3efc
Data block:	2 bytes crc (Modbus high byte first 0x86d9)
Identification:	2 bytes 0x3efc
Data	16 bytes string "AC ELWA-E" Rest fill with 0x00
Rest:	10 bytes reserved, fill with 0x00

Data format AC ELWA-E reply

Block length:	64 bytes
Port Number:	2 bytes 0x3efc
Data block:	2 bytes crc (Modbus high byte first, über 62byte ab 3. Byte) 2 bytes identification 0x3efc 4 bytes sending IP address 16 bytes serial number (ASCII) 2 bytes firmware version 1 byte AC ELWA number rest 0x00

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Subject to change.