

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

Status info is queried via /data.xml:

```

--<AC_ELWA-E>
--<DeviceInfo>
  <SerialNo>1601241606200003</SerialNo>
  <MacAddress>98-6D-35-00-00-0B</MacAddress>
  <FirmwareIP>00100.22</FirmwareIP>
  <FirmwarePS>103</FirmwarePS>
</DeviceInfo>
--<DeviceSettings>
  <BoostMode>0</BoostMode>
  <Boosttemp>46</Boosttemp>
  <Targettemp>576</Targettemp>
  <BoostStart1>17</BoostStart1>
  <Booststop1>23</Booststop1>
  <Booststart2>5</Booststart2>
  <Booststop2>13</Booststop2>
  <Blockstart>0</Blockstart>
  <Blockstop>0</Blockstop>
  <PowerTimeout>10</PowerTimeout>
  <ElwaNumber>1</ElwaNumber>
  <FuseType>16</FuseType>
</DeviceSettings>
--<DeviceStatus>
  <Status>3</Status>
  <CtrlStatus>No Control</CtrlStatus>
  <Power>0</Power>
  <Boostpower>0</Boostpower>
  <Watertemp>240</Watertemp>
  <Boostactive>0</Boostactive>
  <Time>07:19:34</Time>
  <TempChip>22</TempChip>
</DeviceStatus>
</AC_ELWA-E>

```

Modbus TCP control

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

All registers are 16 bit unsigned integer

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	
1029	R	Ip Firmware Update Available (0 - no update available, 1 - update available)	
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 = 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	

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.

