HEA•THOR IoT

Documentation of Controls

Note!

This document may only be distributed to third parties with written permission of my-PV!

1 Modbus TCP control

Note!

- To set the power, you must write to register 1080.
- 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)!
- all registers are 16-bit unsigned integers
- Registers can be read by Modbus command 0x03 (read holding registers) and written by Modbus commands 0x06 (write single register) or 0x10 (write multiple registers).
- All writable registers ("W") must not be written more than once a day except register 1009, 1010, 1011, 1012. This is due to protect the lifespan of the non-volatile memory.

Address	R/W	Parameter	Value Unit	Comment
1000	R	Power	W	unlimited range of value
1001	R	Temperature T1	1/10°C	
1002	R/W	Tmax (target temperature)	1/10°C	
1005	R/W	Boost mode		0: off 1: on 4: relay boost on
1006	R/W	Tmin (Boost backup target temperature)	1/10°C	

1007	R/W	Boost time 1 start	0-23 hrs	
1008	R/W	Boost time 1 stop	0-24 hrs	
1009	R/W	Actual Time (Hour)	0-23	
1010	R/W	Actual Time (Minute)	0-59	
1011	R/W	Actual Time (Second)	0-59	
1012	R/W	Boost activate		
1015	R	tempchip		
1016	R	Controller firmware main version		h**xxxxx**yy
1017	R	Power stage firmware version		hp**xxx**
1018	R	HEA•THOR serial number 1-2	2xCHAR	
1019	R	HEA •THOR serial number 3-4	2xCHAR	
1020	R	HEA •THOR serial number 5-6	2xCHAR	
1021	R	HEA •THOR serial number 7-8	2xCHAR	
1022	R	HEA •THOR serial number 9-10	2xCHAR	
1023	R	HEA •THOR serial number 11-12	2xCHAR	
1024	R	HEA •THOR serial number 13-14	2xCHAR	
1025	R	HEA •THOR serial number 15-16	2xCHAR	
1026	R/W	Boost time 2 start	0-23 hrs	
1027	R/W	Boost time 2 stop	0-24 hrs	
1028	R	Controller firmware sub version		
1029	R	Controller firmware update state		see Footnote 1
1030	R	Temperature T2	1/10 °C	
1030	R	Temperature T3	1/10 °C	
1053	R/W	Legionella interval	1-14 days	
1054	R/W	Legionella start	0-23 hrs	
1055	R/W	Legionella temp	°C	
1056	R/W	Legionella mode		0,1
1058	R	Relay status		0,1
1061	R	U L1	V	power stage input voltage
1062	R	I L1	1/10 A	
1064	R	Freq	1/1000 Hz	
1067	R	U L2	V	9 kW only
1068	R	I L2	1/10 A	9 kW only
1072	R	U L3	V	9 kW only
1073	R	I L3	1/10 A	9 kW only

1074	R	P out1	W	9 kW only
1075	R	P out2	W	9 kW only
1076	R	P out3	W	9 kW only
1077	R	operation state		see Footnote 2
1080	R/W	Power + relays	W	see Footnote 3
1081	R/W	Device state		0/1
1090	R	API state		API-Ansteuerungs-Modus 0: keine 1: API 2: DTO)
1091	R/W	STL-Trigger-Temperature	80 – 105 °C	

Footnote 1:

0: no new fw available,
1: new fw available (download not started)
3: download started
5: download interrupted
10: download finished, waiting for installation

Footnote 2 operation states (screen icon):

0 green tick flashes	
1 yellow wave is on 2 yellow wave flashes	
3 green tick and yellow wave is on	
4 red cross is on 5 red cross flashes	
6 Block active	

Footnote 3:

On HEA•THOR IoT, relays can be controlled on a single basis with a value between 0 and 15, representing a 4-bit bitmask.
0: Off,
1 (bit 0, 0x01): Relay L1 = 3,5 kW (HEA•THOR IoT 3,5 kW), relay L1 = 3 kW (HEA•THOR IoT 9 kW),
2 (bit 1, 0x02): Not applicable (HEA•THOR IoT 3,5 kW), relay L2 = 3 kW (HEA•THOR IoT 9 kW),
4 (bit 2, 0x04): Not applicable (HEA•THOR IoT 3,5 kW), relay L1 = 3 kW (HEA•THOR IoT 9 kW),
8 (bit 3, 0x08): Only SELV relays (HEA•THOR IoT 3,5 kW and HEA•THOR IoT 9 kW).

HEA•THOR IoT examples:

1: Power L1 = 3,5 kW (HEA•THOR IoT 3,5 kW); 3 kW (HEA•THOR IoT 9 kW)

3: Power L2 = Not applicable (HEA•THOR IoT 3,5 kW); 6 kW (HEA•THOR IoT 9 kW)

7: Power L3 = Not applicable (HEA•THOR IoT 3,5 kW); 9 kW (HEA•THOR IoT 9 kW)

8: Only SELV relays (HEA•THOR IoT 3,5 kW and HEA•THOR IoT 9 kW)

15: 3,5 kW + SELV-Relais (HEA•THOR IoT 3,5 kW); 9 kW + SELV-Relais (HEA•THOR IoT 9 kW)

2 Serial numbers of my-PV devices

Note!

my-PV does not recommend using the serial number to identify the device type!

If the control system identifies the my-PV device using the 16-digit serial number, the following variants must be considered:

- ▶ 200300xxxxxxxxxx AC•THOR 9s
- ▶ 200100xxxxxxxxxx AC•THOR
- ▶ 200103xxxxxxxxxx AC•THOR i
- ▶ 200101xxxxxxxxxx AC•THOR CH (Switzerland) → This product is replaced by AC•THOR i!
- ▶ 160150xxxxxxxxxx AC ELWA 2
- ▶ 160151xxxxxxxxxx AC ELWA 2 electronic unit without heating element for AC ELWA 2
- ▶ 160152xxxxxxxxxx AC ELWA 2 electronic unit without heating element for AC ELWA-E
- ▶ 160124xxxxxxxxxx AC ELWA-E → This product is replaced by AC ELWA 2!
- ▶ 160140xxxxxxxxxx AC ELWA-E (Switzerland) → This product is replaced by AC ELWA 2!
- ▶ 160129xxxxxxxxxx AC ELWA-E electronic unit without heating element → This product is replaced by 160152xxxxxxxxxx!
- ▶ 160142xxxxxxxxxx AC ELWA-E electronic unit without heating element (Switzerland) → This product is replaced by 160152xxxxxxxxxx!
- ▶ 140100xxxxxxxxxx SOL•THOR
- ▶ 210300xxxxxxxxxx HEA•THOR IoT 3,5 kW
- ▶ 210900xxxxxxxxxx HEA•THOR IoT 9 kW

3 http control

Control is via the subpage [IP of the HEA•THOR IoT]/control.html.

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

/control.html?powerlevel =n n ... Set power on the power stage, with a value between 0 and 15, representing a 4-bit bitmask.

HEA•THOR IoT examples for the power level:

1: Power L1 = 3,5 kW (HEA•THOR IoT 3,5 kW); 3 kW (HEA•THOR IoT 9 kW)

3: Power L2 = Not applicable (HEA•THOR IoT 3,5 kW); 6 kW (HEA•THOR IoT 9 kW)

7: Power L3 = Not applicable (HEA•THOR IoT 3,5 kW); 9 kW (HEA•THOR IoT 9 kW)

8: Only SELV relays (HEA•THOR IoT 3,5 kW and HEA•THOR IoT 9 kW)

15: 3,5 kW + SELV-Relais (HEA•THOR IoT 3,5 kW); 9 kW + SELV-Relais (HEA•THOR IoT 9 kW)

4 Query current data via data.jsn

A JSON file can be queried via [IP address of the HEA•THOR IoT]/data.jsn

Subject to changes and printing errors.

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