

Heatmaster FAQ

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What system requirements does the Heatmaster have?

Minimum configuration:

PC Intel Pentium ® III 1 GHz* / AMD Athlon ® 1 GHz*, 512 MB Ram*, 20 MB free HDD space,
USB 2.0

Operating system:

Microsoft Windows XP ® Service pack 2 or better
Microsoft Windows Vista ® 32/64 Bit Service pack 1 or better
Microsoft Windows 7 ® 32/64 Bit (Service pack 1)

For problem-free operation of the Heatmaster we strongly recommend updating the USB to UART driver. The driver can be downloaded free of charge at Silicon Labs.
[CP210x_VCP_Win_XP_S2K3_Vista_7.exe](#) or www.silabs.com

*After configuration and when using the controller without the Windows software the minimum requirements concerning CPU and memory use no longer apply.

What basic settings does the Heatmaster have?

() = Value is dynamic or not activated

(+) = Activated

Loop:

Active: _____ ()
Overshoot: _____ (0)
Proportional value: _____ (1,0)
Integral value: _____ (1,0)
Delta value: _____ (1,0)
Amplification factor: _____ (1,0)
Delay time: _____ (20)
Name: _____ ([Loop1], [Loop2], [Loop3], [Loop4], [Loop5])

Temperature:

Temperature: _____ ()
Reached maximum temperature: _____ ()
Target temperature: _____ (35,0)
Alarm temperature: _____ (65,0)
Hysteresis temperature: _____ (0,5)
Activate alarm buzzer: _____ ()
Activate relay: _____ ()
Name: _____ ([Sensor T1], [Sensor T2], [Sensor T3],
[Sensor T4], [Sensor T5])
Connector: _____ ([T1], [T2], [T3], [T4], [T5])
Nominal resistance at 25°C: _____ (10000)
Constant „b“: _____ (3435)
Delta-T-reference: _____ ()
Delta-T-value: _____ ()

Pump:

RPM: _____ ()
Reached RPM: _____ ()
Current RPM (%): _____ (100,0)

Maximum PWM (%): _____ (100)
 Maximum speed PWM: _____ (100,0)
 Starting speed PWM (%): _____ (100)
 Lowest speed PWM: _____ (31,4)
 Minimal PWM (%): _____ (0,0)
 Activate alarm buzzer: _____ ()
 Activate relay: _____ ()
 Switch off Mother board clock phase: ___ ()
 Hardware switch-off: _____ ()
 Name: _____ (Fan1/Pump)
 Connector: _____ (Fan1/Pump)
 Impulses per revolution: _____ (4)
 Measuring time window: _____ (3)
 Equipped with RPM signal: _____ (+)
 Pump connected: _____ (+)

Fans:

Revolutions: _____ ()
 Achieved RPM: _____ ()
 Current PWM (%): _____ (100,0)
 Maximum PWM (%): _____ (100)
 Uncontrolled speed PWM: _____ (100,0)
 Starting threshold PWM (%): _____ (13,7)
 Lowest running speed PWM: _____ (11,0)
 Minimum PWM (%): _____ (0,0)
 Activate alarm buzzer: _____ ()
 Activate relay: _____ ()
 Mother Board clock switch-off: _____ ()
 Switch off hardware: _____ ()
 Name: _____ ([Fan2, Fan3, Fan4])
 Connector: _____ ([Fan2, Fan3, Fan4])
 Impulses per revolution: _____ (2)
 Measuring time window: _____ (3)
 Equipped with rpm signal: _____ ()
 Pump connected: _____ ()

Flow rate sensor:

Revolutions: _____ ()
 Reached RPM: _____ ()
 Flow rate: _____ ()
 Achieved maximum flow rate: _____ ()
 Activate alarm buzzer: _____ ()
 Activate relay: _____ ()
 Name: _____ (Row sensor)
 Connector: _____ (Row)
 Impulses per liter: _____ (2000)
 Impulses per revolution: _____ (1)
 Measuring time window: _____ (5)
 Equipped with rpm signal: _____ (+)

Relay:

State: _____ ()
 Name: _____ (Relay)
 Connector: _____ (Relay)

Alarm buzzer:

Loop[1,2,3,4,5]: _____ (+)
 Sensor[T1,T2,T3,T4,T5]: _____ ()
 Fan[1/Pump,2,3,4]: _____ ()

How do I use the relay?

The relay can be seen like a switch. The contacts of the relay have no conductive connection to the Heatmaster. In the middle e.g. the yellow 12V lead from the PSU can be connected. Now the relay will switch between 12V on the left or the right side of the connector.

What kind of plug do i need for the relay?

The plug can be ordered at Reichelt.
<http://www.reichelt.de>



How many pumps can be connected?

A maximum of 4 pumps can be connected. The maximum power output of one connector is 24 Watts.

What kind of alarm buzzer can be connected?

The alarm buzzer can be purchased at Conrad.
<http://www.conrad.de>

A data sheet can also be found at Farnell.
<http://www.farnell.com/datasheets/50011.pdf>

How many flow rate sensors can be connected to the Heatmaster?

The Heatmaster can process one flow rate sensor.

My fans do not all start to spin at 16%?

Fans and also pumps have a starting voltage and minimum speed. These values differ from fan to fan and pump to pump. Even identical devices can have different values.

Which PWM controller was used in the Heatmaster?

The PWN controller ist he same as the one used on the Mainboard. Fans with a 4-Pin PWM connector have an additional clock rate signal which is needed for controlling of the fan.

The Heatmaster supports only fans with 3-Pin connectors.

Can the internal sensor be assigned to a control loop?

The internal sensor can be assigned to a loop just like the 5 external sensors. The name of the sensor is Internal.

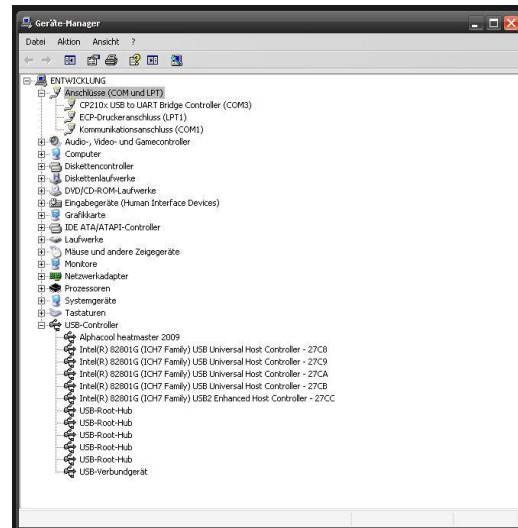
The Heatmaster does not install itself properly.

The Heatmaster should be installed as follows:

- Install the software first. The hardware is not connected at this point.
- Connect the Heatmaster next. Connect the power supply first, then the USB cable.
- Install the USB to serial driver next

After these steps the Heatmaster should be found at the COM3 or COM5 ports.

Here a screenshot from our testing system can be seen. From this image you can take the individual things that need to be installed



For hassle-free operation of the Heatmaster, the USB to UART driver should be updated. The driver can be downloaded free of charge at Silicon Labs.

[CP210x_VCP_Win_XP_S2K3_Vista_7.exe](#) oder www.silabs.com

How do I connect a flow rate sensor to the Heatmaster?

The flow rate sensor port is the „flow“ connector. Here only flow rate sensors should be connected, as the impulses are processed differently than the impulses from fans. For the flow rate sensor from AquaTuning this is an example for the connection cable:

The Pin assignment on the Heatmaster is:

1. - Ground
2. □ Clock
3. + Supply voltage

No liability assumed



Can two Heatmaster controller be linked together (Master – Slave operation)?

No, this is not possible.

Can two temperature sensors be assigned to one fan?

No, this is not possible as a loop can only have one temperature assigned to it.

Emergency switch-off with the Heatmaster

There are two possibilities to shut down the computer.

1. Via the On- and Off switch. For use of this feature the switch in the enclosure needs to be connected to the Heatmaster, which again needs to be connected to the Mainboard with the bridging cable. This allows a quick shutdown of the Hardware in alarm level 3. In case of a quick switch-off all unsaved data is lost
2. Via motherboard fan speed signal. For this feature the Heatmaster needs to be connected to a vacant fan connector on the Mainboard. If alarm level 2 is reached the speed signal is switched off. Now the system can be shut down safely if shutdown upon fan failure is activated in the BIOS settings of the system.

The times of the alarm settings cannot be set or changed.