

Remote control
HomeHeat Mercurius



Index

Features HomeHeat Mercurius	3
General description	3
Realtime remote monitoring	3
<i>Operating modes</i>	3
<i>Measurements</i>	3
Adjust parameters	4
<i>Parameters DHW</i>	4
<i>Parameters heating</i>	4
<i>Parameters cooling</i>	4
Energy meter information	4
Prepayment	4
Commisioning	5
Building management system (BMS)	5
BlueTooth Low Energy	5
Accesibility	5
Data tra c	5

General descriptio

Features HomeHeat Mercurius:

- Real-time monitoring of your heat interface unit
- Power supply from the HomeHeat TR-03 controller
- Receive error reports directly by e-mail
- Categorize Mercurius devices per project for easy monitoring
- Changing parameters via the cloud. This can be done individually, per project or per type of heat interface unit.
- Read energymeter information
- Commissioning of the heat interface units for an entire project
- Prepayment energy
- Remote software updates for TR-03 controller
- National coverage with the NB-IoT network of Vodafone
- Manual control of components
- Never re-visit the same heat interface unit twice
- Bluetooth Low Energy for offline access to Mercurius

General description:

With the HomeHeat Mercurius you can monitor the status of your projects via the cloud. You can make any diagnosis without being present on location. Employees can be directed in a targeted way, without unnecessarily exchanging parts. The HomeHeat Mercurius is connected to the HomeHeat heat interface units, which are equipped with a TR-03 controller, with a Modbus connection. A big advantage is that the Mercurius can also be installed in existing completed projects.

Online functions

- Manage heat interface units.
- Manual operation of components
- Adjust parameters without visiting the heat interface unit
- Energy meter can be read without being present
- Commissioning

Real-time remote monitoring:

The HomeHeat TR-03 controller can be remotely, monitored in real-time.

Operating mode:

- Heating mode
- Floor dry protocol mode
- DHW mode
- Preheat mode
- Anti-legionella mode
- Cooling mode
- Boiler TE-booster active
- Error code
- Software version
- Position DHW valve
- Positie heating valve
- Pump active or inactive
- Roomthermostat (contact)
- OpenTherm communication
- Application type

Measurements:

- Flow DHW
- Temperature DHW
- Temperature primary supply
- Temperature primary return
- Temperature secondary supply
- Calculated setpoint secondary supply.
- Temperature secondary return
- Temperature room measurement (OpenTherm)
- Temperature room setpoint (OpenTherm)
- Water pressure secondary circuit

With the information about the operating modes and the measurements, diagnoses can be easily made about malfunctions and / or error messages.

Example 1:

Complaint: No hot water

Operating mode: "Heating mode" remains active while the hot water tap is open. "DHW mode" is not active and "DHW flow" remains 0.0 l/min.

Diagnosis: Flow sensor defective. DHW is not activated because 0.0 l/min of DHW is registered.

Example 2:

Complaint: No DHW and heating
Operating mode: LED on the controller is solid red. The controller registers an error message.

Diagnosis: Error message that the primary supply temperature sensor is defective. Part can be ordered if it is not in stock, without the technician having to drive twice.

General descriptio

Adjust parameters:

All writable parameters can be adjusted through Modbus.

Parameters DHW:

- Temperature DHW
- Keep warm mode
- Keep warm temperature (comfort mode)
- Switch anti-legionella on/off
- Anti-legionella temperature
- Waiting time anti-legionella

Parameters heating:

- Temperature supply max
- Temperature return max
- Return compensation factor
- Temperature safety max
- Low pressure alarm
- High pressure alarm

Parameters cooling:

- Temperature supply
- Temperature return max
- Return compensation factor
- Temperature safety max

Example:

Parameters can be altered individually, collectively per project and per unit type. If it is subsequently decided, for example, to switch off the PreHeat function, this command can be sent per project as you categorized it. It is therefore not necessary to visit all heat interface units and adjust this setting manually.

Energy meter information

It is possible to easily read the energy levels in real time. This is possible when the energy meter is connected to our TR-03 controller via the M-Bus. The following values can be read from the energy meter:

- Energy meter serial number
- Manufacturer of energy meter
- Online status
- Primary flow
- Power
- Supply temperature
- Return temperature
- Total energy consumption

With the Mercurius, it is possible to use the energy meter to take care of the energy bill and to search for malfunctions.

Example:

Complaint: No DHW

Operating mode: "DHW mode" is active. You can see that the DHW valve is open to the maximum, but the DHW temperature does not rise. The error message shows that there is no error so the temperature sensor is not defective.

Diagnosis: The primary flow is, according to the energy meter, not higher than 100 l/h. From this it can be concluded that there is not enough primary flow to reach the required DHW temperature. The most obvious diagnosis that can be made is that the filter is clogged or the differential pressure is too low.

Prepayment:

With prepayment, users can pay in advance for a certain amount of energy. Users can then, for example, purchase a certain amount of GJ or the value of a money amount of their choice.

When the prepayment is enabled and no credit is available, the status of prepayment in the TR-03 controller is set to "no credit".

Then the controller returns to a minimum set point. In this mode, for example, the controller only supports frost protection and anti-legionella, if configured. When the balance is topped up, the status of prepayment is updated to "sufficient credit." Then the functionality in the TR-03 controller is restored.

Example:

The user purchases 1 GJ of energy at a meter reading of 56.1 GJ (total energy used). The heat interface unit registers that there is "sufficient credit" so that the TR-03 controller can operate in DHW and central heating operation. When 1 GJ of energy is used, and the meter reading at 57.1 GJ (total used energy), the TR-03 controller will register that there is "no credit". The controller will then only be able to operate in frost protection and anti-legionella operation.

General descriptio

Commissioning (hydraulic adjustment):

It is easy to hydraulically adjust an entire project. This is possible when the energy meter is connected to the TR-03 controller via the M-Bus. It is possible to adjust hydraulically based on:

- Power (kW)
- Primary flow (l/h)
- Return temperature (°C)

Example 1:

A project of 100 apartments with 10 floors. With the Mercurius, it is possible to set a maximum primary flow per home. All homes can then, for example, be set to a maximum flow of 600 l/h. This setting makes mechanical regulating valves superfluous.

Example 2:

A project of 100 apartments with 10 floors. It is possible to set a maximum heating capacity per home with the Mercurius. For example, where "house A" requires 3.5 kW of heating capacity, "house B" may require 5.4 kW of heating capacity. This can (remotely) be set independently for each home.

Building management system (BMS):

It is possible to connect the TR-03 controller with a building management system. Through a second Modbus output on the controller, a Mercurius can be connected at the same time to online monitor real-time 24/7.

BlueTooth Low Energy:

The Mercurius can also be accessed through BlueTooth. When a BlueTooth connection has been established, offline service can also be provided through an app. All 'online' functions are also to use offline.

Accessibility:

The Mercurius platform can be accessed anywhere in the world through a web portal. To access this cloud-based web portal you can request a user account. We have made clever use of tabs to limit data consumption. The following tabs can be found on the web portal:

- Operating mode
- DHW settings
- Heating-Cooling settings
- Manual operation
- Live log
- M-Bus Meter info
- M-Bus Prepayment
- M-Bus Commissioning
- Floor dry protocol

Data traffi

The Mercurius makes smart use of data. Data usage is minimized by offline communication via Modbus. When values do not change, no data will be transferred. There is national coverage with the Vodafone NB-IoT network in the Netherlands. All countries in the EU are supported and have access to the Mercurius platform.