

emonHP – OpenEnergyMonitor Heatpump Monitoring

Pre-provisioned fully inclusive bundle for Level 3 Heat Pump Monitoring

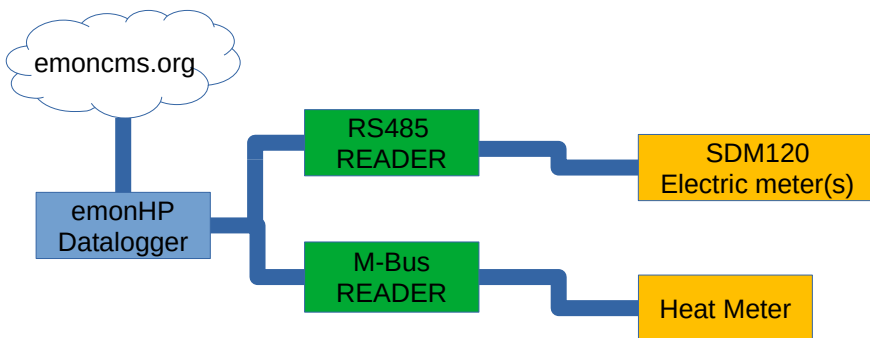
The kit includes everything required for high accuracy (1-2% MID approved) monitoring of air-to-water air source heat pump (ASHP) or water-to-water ground source heat pumps (GSHP).

The monitoring system is web-connected with remote data access available via emoncms.org,

Important: The heat meter and electricity meter(s) must be installed at the same time, so the cumulative kWh readings on all meters start at the same point.

Kit of parts

- emonHP web-connected data-logger including plug in power supply
- Kamstrup or Sontex Heat meter with USB M-Bus reader
- SDM120M Electricity Meter(s) with USB RS485 reader

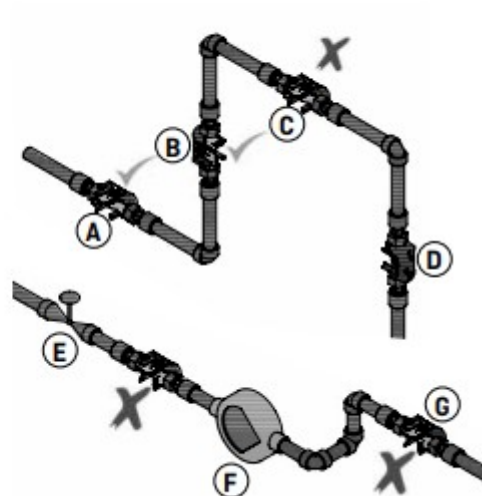


Heat Meter Installation

- Heat meter body should be installed on the **return** pipe, observe direction of flow arrow
- Temperature sensor pocket should be installed on **flow** pipe
- See below manufacturers guidance regarding heat meter installation location:

3.2 Flow sensor position

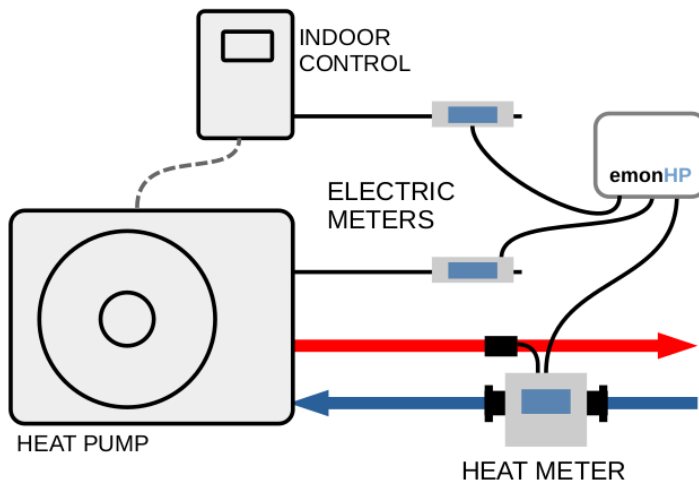
- A** Recommended flow sensor position.
- B** Recommended flow sensor position.
- C** Unacceptable position due to risk of air build-up.
- D** Acceptable position in closed systems.
- E** A flow sensor ought not to be placed immediately after a valve, with the exception of block valves (ball valve type) which must be fully open when not used for blocking.
- F** A flow sensor must never be placed on the inlet side of a pump.
- G** A flow sensor ought not to be placed after a double bend in two planes.



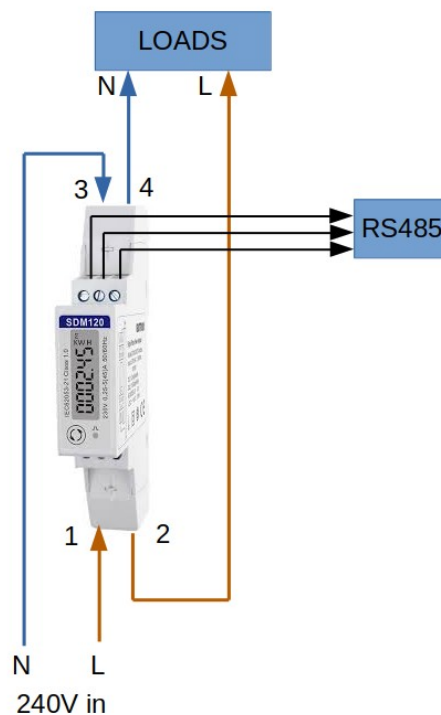
- Kamstrup heat meters require **minimum 1.5bar** and **maximum 2.5bar**
- The M-Bus to USB reader is used to read the data from the heat meter

Electricity Meter Installation

- The electricity meter(s) should be installed on the circuit feeding the outdoor unit and indoor control units including pumps.



- Electrical connections to the SDM120M meter should be made as follows:



- SDM120 connections should be torqued to **1.5NM**

emonHP Data logger Installation

The emonHP data logger reads and decodes data from both the electricity and heat meters and logs data to emoncms.org. It's essential that the emonHP has a reliable connection to the internet, we recommend using wired Ethernet if possible. Install emonHP as follows:

- Connect M-Bus to USB
- Connect RS485 to USB
- Connect Ethernet cable (recommended)
- Plug in and switch on 5V USB-C power supply

Wi-Fi Operation (not recommended)

If wired Ethernet connection is not available the emonHP can be connected via Wi-Fi

- **If WiFi credentials were provided when the kit was purchased the Wi-Fi will be pre-provision and will automatically connect, if not follow the instructions below:**

If Wi-Fi credentials were not provided then follow these steps to connect WiFi:

- Power up the unit and connect to WiFi hotspot 'emonpi'

- Browse to <http://emonhp.local> or <http://192.168.42.1>

- Login with username: 'emonhp' and password: 'emonhp'

- 1. Select Wi-Fi on the left hand menu

- 2. Select the Wi-Fi network you wish to connect to (tick the box)

- 3. enter credentials

- 4. Click 'Save and Connect'

- After a short while the emonpi hotspot will disappear and the unit will be connected to Wi-Fi

- You can access the local interface to check it's connected by browsing to <http://emonhp.local>,

however all data should be accessed via the cloud server <https://emoncms.org>

- To change the Wi-Fi credentials in the future the unit will need to temporarily connected via wired Ethernet



Cloud Portal: emoncms.org

The emonHP datalogger is pre-provisioned to log data to the emoncms.org provided when kit was purchased.

To view the Heat Pump Monitor App Dashboard scan the QR code on the emonHP

Or login to the account on emoncms.org and select Apps > Heat Pump.

All the data can be viewed on the Feeds page.

Support

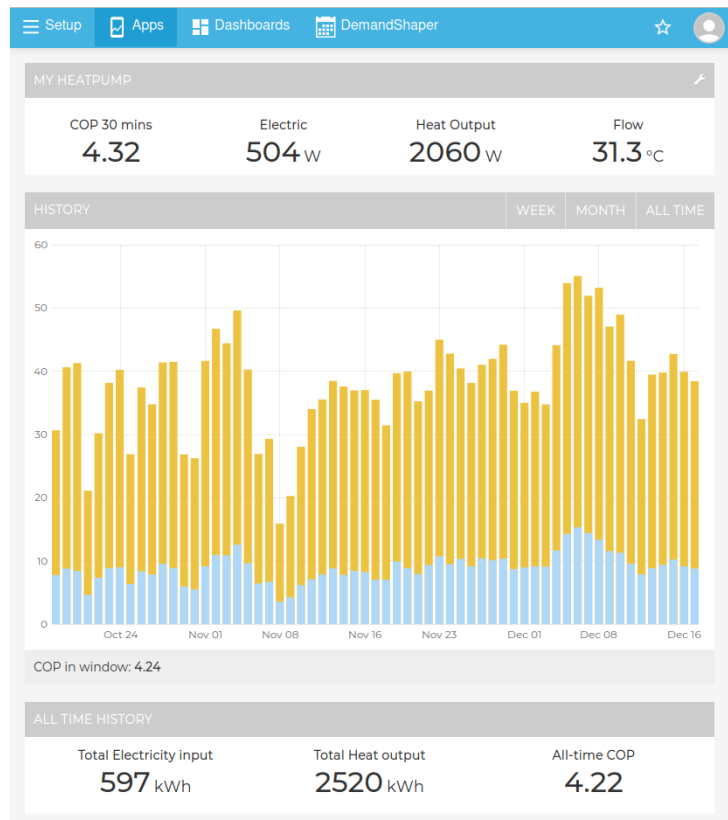
If any issues are encountered please contact us:

Tell: **01286 800870**

Email:

support@openenergymonitor.zendesk.com

Forum: community.openenergymonitor.org



Technical, Troubleshooting & Integration

If required the following credentials can be used to gain local access to emonHP for troubleshooting or integration

Local web-interface:

- <http://emonhp.local>
- username: emonhp
- password: emonhp

SSH:

- `$ ssh pi@emonhp.local`
- password: emonpi2016

MQTT

- port: 1883
- username: emonpi
- password: emonpimqtt2016