CLADE

LEADING THE TRANSFORMATION IN GREEN HEATING AND COOLING

Master Controller for Heat Pumps

March 2025 //

MASTER CONTROLLER //

The Clade Master Controller is a wall mounted panel that provides proven, assured and accurate control over one or more heat pumps and the buffer tank.

Using a Clade Master Controller ensures smooth commissioning and operation as there is no need to program the BMS which is often expensive and prone to errors.

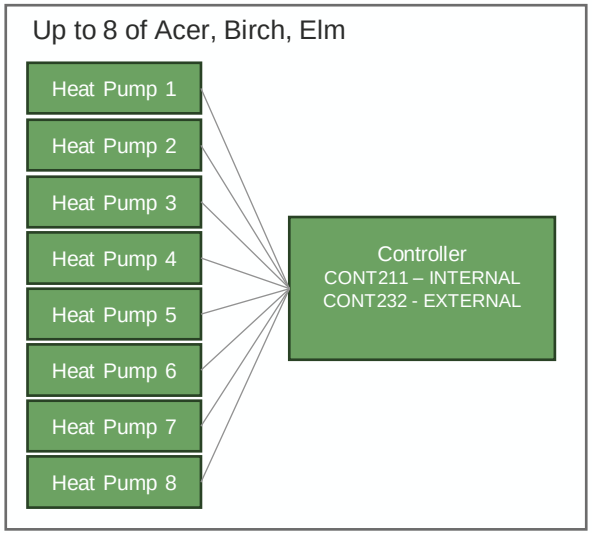
Features

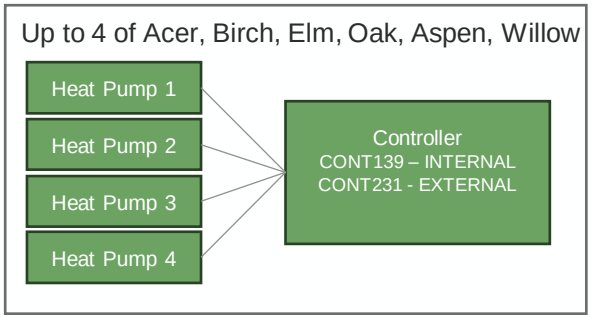
- A 7 inch colour touch screen for super easy adjustment of parameters and checking operational data.
- BACnet interface for easy BMS integration for:
  - Enable
  - Set point adjustment
  - Capacity adjustment
  - Healthy / fault status
- 2x segregated firewalled IP interfaces for security.
- Onboard data logging, graphing and optional connectivity into Clade Cloud.
- Full automated buffer control via temperature sensors.
- Sequencing of heat pumps based upon required capacity.
- Network interface for DHW if fitted.
- Internal or External GRP version .

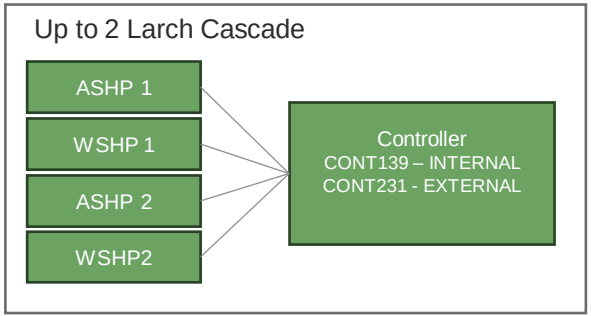
Specifications

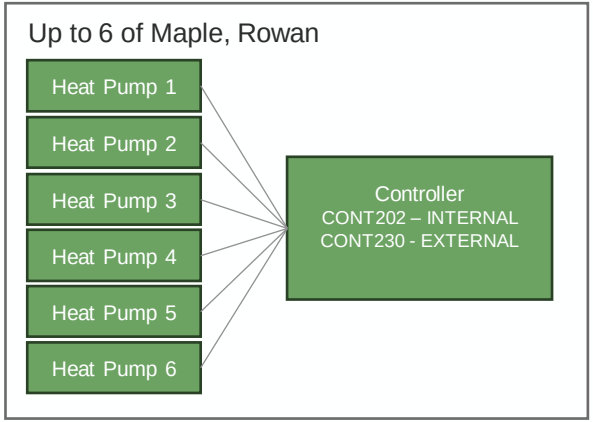
Height	800mm
Width	600mm
Depth	200mm
Weight	35kg
IP rating	IP55 internal version
	IP65 external version

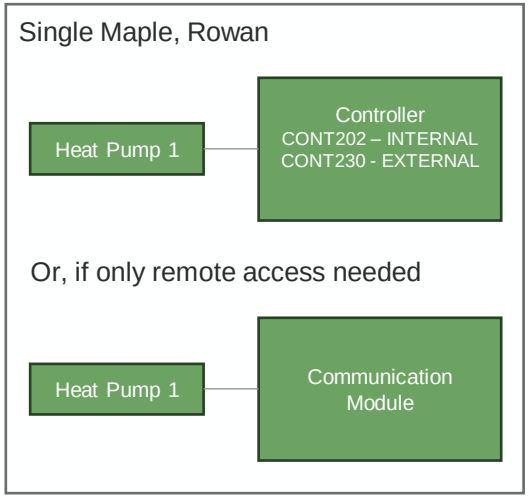
CONTROLLER MODEL SELECTION //











DESCRIPTION OF OPERATION //

Common Heat Pump Enable Input Signal – This provides a common remote Stop/Start function for connection to the BEMS system for multiple heat pumps, sequence starting individual heat pumps based on the overall duty of the system and run hours.
BMS Enable – 24VAC digital enable signal from the BMS (24VAC Live & Neutral required). The BMS Enable input can be reconfigured for volt free operation if desired as *BMS Enable – Volt free closed contact to enable – Terminals SI1 & SI2*

Sequencing of heat pumps - is automatically carried out as required to meet the required capacity or buffer demand. The lead heat pump changes periodically.

Capacity Control Option A:
0-10v Heating Capacity input Signal – This enables the BEMS system to vary the kW output capacity of the overall heat pump system with the 0-10v signal representing the overall percentage of the system. This will increase/decrease heating capacity by increasing the compressor output capacity of each heat pump. Individual heat pumps will independently reduce its capacity based on return water temperature and discharge pressure and will enable capacity to be increased when specific conditions are met.

- BMS Heating Demand – Terminals SI+ & SI
- BMS Capacity Adjust, 0-10vdc remote capacity adjust signal:
  - <1vdc = BMS Signal Fault
  - 1 to 1.9vdc = No demand.
  - 2 to 10vdc = 0% to 100% (0% = min kW's / 100% = max kW's) *min/max kW depends on Acer duty and how many are connected.

Capacity Control Option B:
Integral Capacity Control - Required capacity is calculated internally from the buffer temperature sensors connected at BV01 to BV05.

System Healthy Contact – A common System Heathy Status signal for connection to the BMS .*BMS General Fault – Volt free closed contact healthy (fail safe) – Terminals SI7 & SI8*, failsafe closed healthy relay contact, open on critical fault. Relay specs – 250VAC / 24VDC / 10A – Resistive / 5A – Inductive.

SCOPE OF SUPPLY //

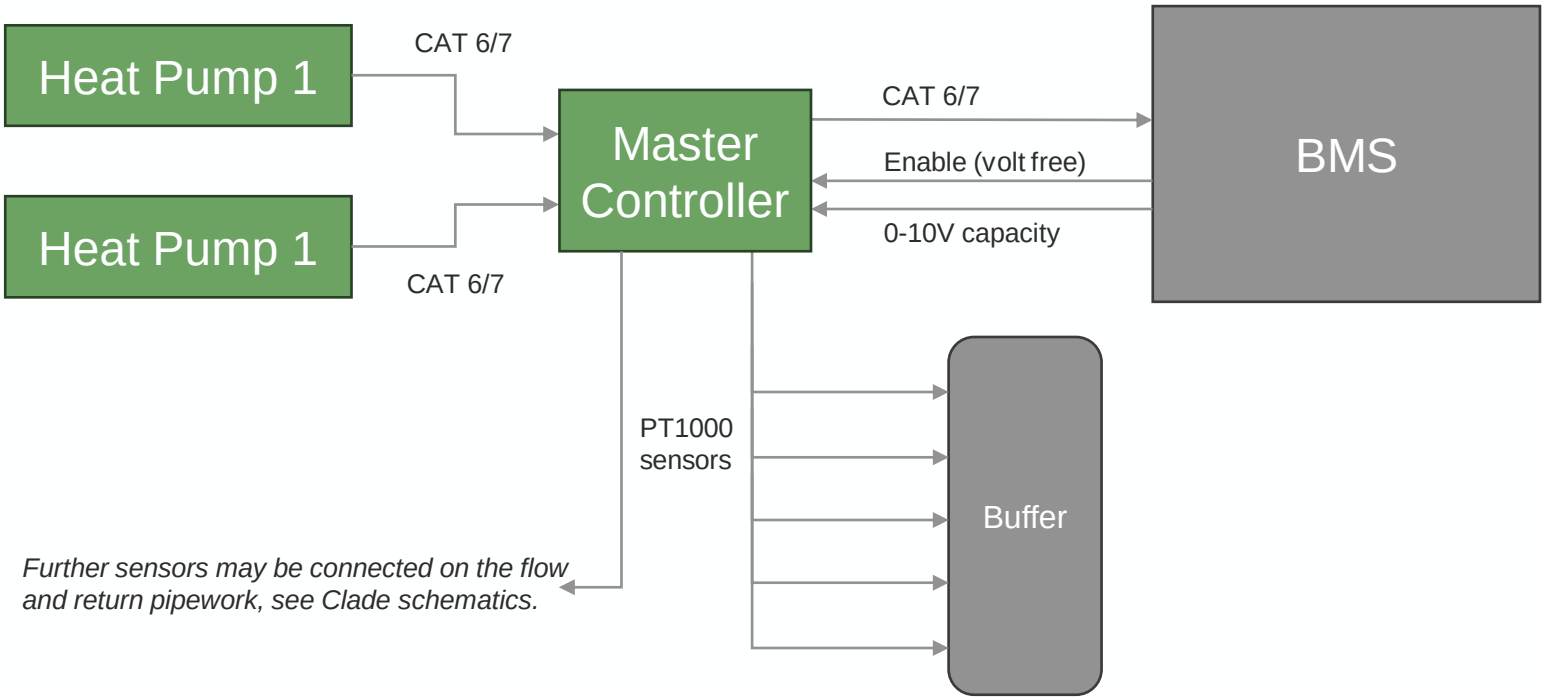
- Panel only

Excluded

- Sensors which shall be PT1000
- Heat pump and BMS network connections – RJ45 connection, CAT 6/7 (industrial preferred)

Field wiring to be completed by installer.

CONNECTION DIAGRAM //



This is a typical high level wiring diagram. Site specific installations may require a different arrangement or additional sensors. Field wiring to be completed by installer.

ABOUT THIS INFORMATION //

Performance may vary based on climate conditions, installation quality, and specific usage patterns. Actual energy savings may differ from estimates.

Professional installation is required to ensure optimal performance and compliance with local building codes. Improper installation will void the warranty.

Regular maintenance is necessary to maintain efficiency and performance. Failure to perform recommended maintenance may reduce system lifespan and efficiency.

Efficiency ratings (COP) are based on standard testing conditions and control patterns. Actual efficiency may vary depending on operational conditions and geographic location. COP are instantaneous figures not averaged over any period of time which may include defrost and other system variables.

Heat pumps are designed for specific use. Using the product for unintended purposes may result in suboptimal performance or damage.

Noise levels produced by the heat pump may vary based on the installation environment and operating conditions. Sound pressure figures are for free field without the specifics of the site application.

Please refer to the user manual and installation guide for detailed information on operation, maintenance, and safety instructions.

Clade continually innovate to improve our products, the information in this document are valid (excepting typographic errors) at the time of publication. Availability, specification and performance are subject to change from time to time and without warning.

Any technical advice provided is for informational purposes only, unless specifically covered by a purchase order, and is based on our current understanding and available information. While we strive to ensure the accuracy and reliability of the information provided, it is not intended to be a substitute for professional advice or services tailored to specific circumstances.

By utilising this advice, you acknowledge that it is provided "as is" without any warranties or guarantees, express or implied, regarding its completeness, accuracy, reliability, suitability, or availability.

We strongly recommend consulting with a qualified professional before implementing any advice or making any decisions based on the information provided.

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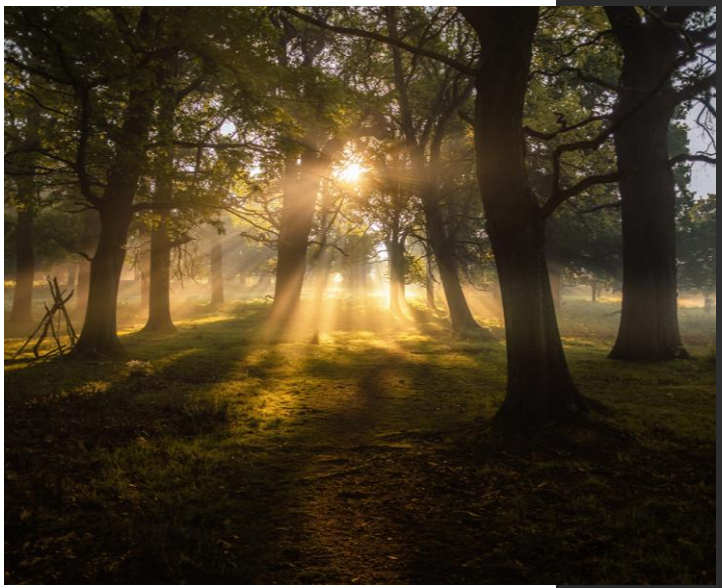

THANK YOU //

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