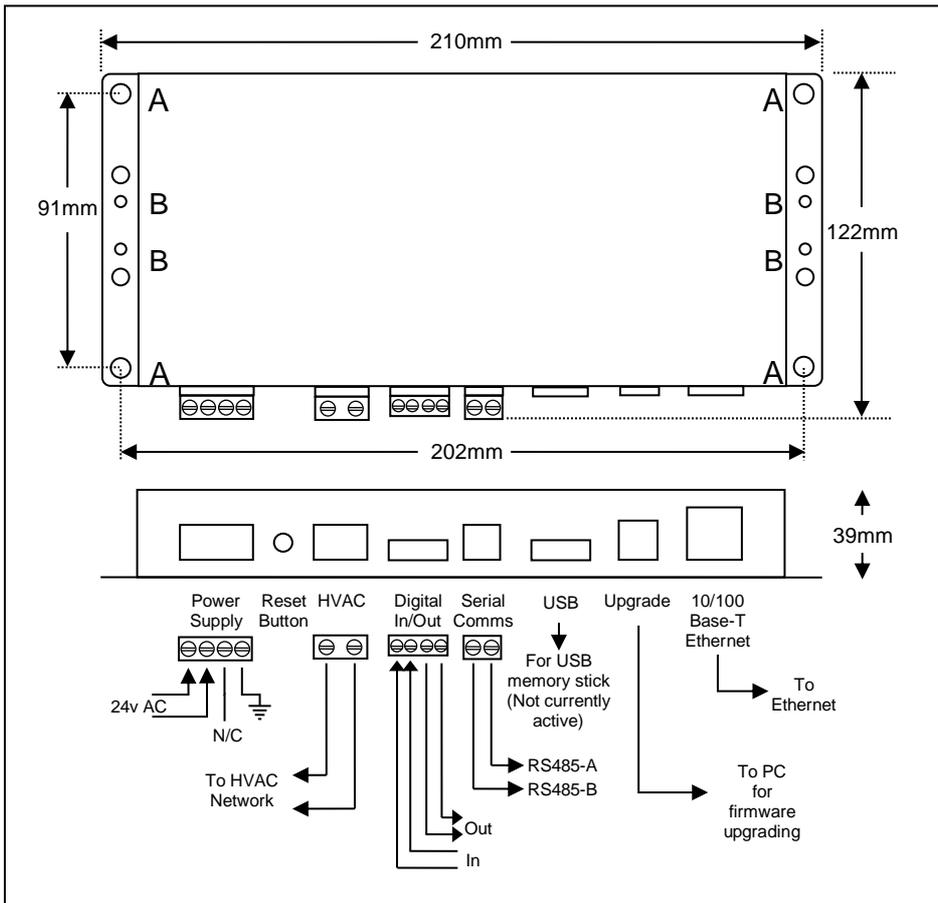# Black Pear 2 Quick Start Guide

The Black Pear 2 allows a building management system (BMS) to monitor and control air-conditioning units on a system from one of five manufacturers, without the need for a central controller.
It has been designed as a plug-in replacement for the original Black Pear BMS interface, with similar configuration options, all accessible via the touch screen or built-in web browser interface.

Features and Specification

HVAC Compatibility	Daikin (D3-Net) Mitsubishi (M-Net) Panasonic Sanyo (S-Net) Toshiba (TCC-Link)
BMS protocols	Modbus-RTU (via RS485) Modbus/TCP BACnet/IP Trend (requires an IQ3/4 outstation with spare memory)
Display interface	7" TFT LCD with capacitive touch interface
Power Supply	24V AC 5VA
Ethernet	10/100Base-T with auto-negotiation and auto-crossover
Mount	Panel or din-rail (clips supplied)

Dimensions and Connection Details

Startup Sequence

Shortly after power-up or a system reset, the system overview page appears, ready to start the initial HVAC scan.	After a short delay, the scan will start.	Once the scan has completed, the overview screen will look like this. All units found during the scan will be highlighted on the grid, in various colours.

System Overview Key

01	Unit Off (red unit number)	**02**	Unit On (green unit number)
	Master unit (dark blue background)		Slave unit (light blue background)
	Unit has not been detected (grey button)		Unit in error (flashing red outline)
	Display Configuration Menu	UU gg	UU = Unit number gg = Group number

Unit Control

Tapping a detected unit will display the manual control screen. The control options visible will depend on the type of unit selected. Tap the page curls to show the next/previous detected unit. Tap the green arrow to return to the overview screen.

Configuration Menu

	Restore Restore factory defaults.		Protocol Configure BMS protocols.
	Date and Time Set clock and network time server.		HVAC Configure HVAC interface and groupings.
	Schedule Create schedules and attach to groups.		Unit Names Change unit names.
	Security Set pin code.		Web Server Configure web interface.
	Error Log View list of alarms detected		Information Show firmware details.
	Diagnostics Show various diagnostic info.		Reboot Perform a system reset. This is recommended after any modifications to the configuration.
	Network Setup ethernet interface.		

	Pin Code Required Indicates options requiring the pin code. Once the correct pin has been entered, it will not need re-entering until the configuration button is pressed on the overview screen. Factory default pin code: 0000

Initial Setup Sequence

1) Configure HVAC
   - Select manufacturer.
   - Configure unit groupings and global-off functionality.
2) Configure network
   - Select DHCP or Static IP
   - If Static IP, enter IP address, gateway address, subnet mask and DNS addresses.
3) Select BMS protocol
   - Enable and setup required protocol (Note: Modbus is always enabled).
4) Set date and time
   - Set the clock manually or use the network time feature to automatically set it.
5) Reboot
   - This is always recommended after making changes to the configuration.

Web Browser Interface

The Black Pear 2 has a built-in webserver which allows the system to be monitored, controlled and configured using a web browser. The pages can be viewed on both desktop PCs and mobile devices, provided the web browser is up to date.

To access the webserver, type the IP address of the Black Pear 2 into the address bar of the browser.

There are 3 different views available, Group View, Unit View and Configuration. These are selectable using the ☰ button in the top right corner of the page.
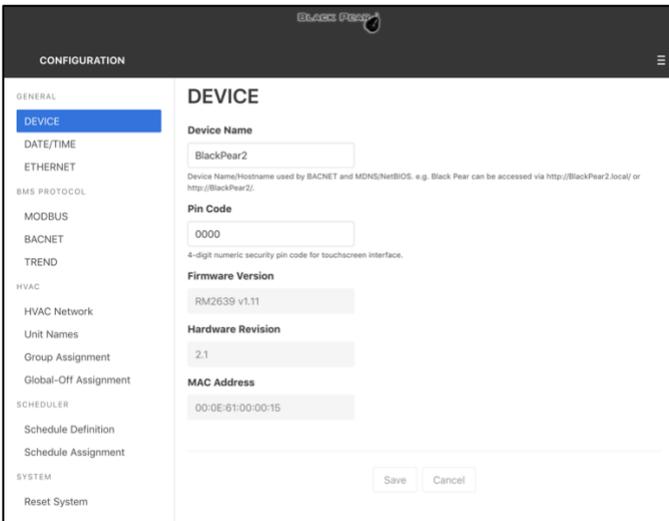
Group View

Unit View

Configuration

The configuration menu will either be on the left or across the top, depending on the width of the web browser page.

Note: After making changes on a page, click the 'Save' button at the bottom of the page to update the Black Pear 2 settings.

When configuration is complete, click the 'Reboot' button on the 'Reset System' page.

Further details can be found on our website at www.microtrol.co.uk

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