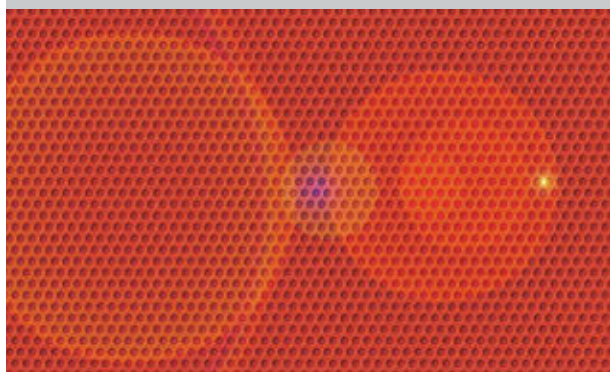


Controls

Ecopower the route to energy efficiency



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One of the most cost effective ways of saving money on any heating system is to have effective controls. Not only does an effective control strategy ensure that a comfortable temperature is maintained, it can also save money. The new Ecopower™ v9 control from Thermoscreens allows you to choose the level of control which suits the needs of the site and customer. You can choose from basic control or choose to add an outdoor thermostat for basic weather compensation. If you are using our HX air curtain you can choose to upgrade your control strategy to a more advanced level giving even greater potential for energy savings.

Full Modbus control can be added to Ecopower™ v9 allowing remote diagnostics and control and a level of customisation of timers and heating profiles (Modbus module and EEPROM required).

Ambient Air Curtain Control

All Thermoscreens Ambient air curtains are supplied with a controller which allows the heat to be turned on and off and the fan speed to be set to one of three settings.



Ecopower™ v9

The latest version of Ecopower™ control is v9. Ecopower™ v9 control boards are fully compatible with the previous version of Ecopower™ that are in our current range of air curtains and thus can be used as a spare part replacement in our current air curtain range.

Thermoscreens Ecopower™ v9 is a modular control platform which allows you to choose the correct control strategy to suit the application and environment where the air curtain will be installed. Ecopower™ v9 is supplied with all Thermoscreens heated air curtains and can be customised to provide:

- Weather compensation control
- BMS control
- Modbus connectivity
- Proportional control of fan speed and heat output (HX range only)
- Cooling options for water versions

Electronic Thermal Cut-out

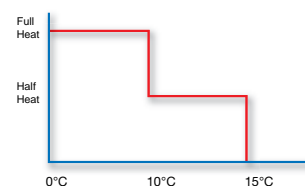
From August 2014 all Thermoscreens electrically heated air curtains will be fitted with a electronic thermal cut-out. When used in conjunction with v9 the thermal cut-out can be set remotely by simply removing power from the air curtain and following the reset sequence (see operation manual for details). This means, in the event of an over heat trip fault, it is no longer necessary to climb up and manually reset the air curtain thermal cut out, thus saving time and preventing inconvenience.

Basic Configuration

Temperature setting can be controlled either by the temperature sensor fitted in the Ecopower™ control handset or by using an outdoor thermostat to enable basic weather compensation. By fitting an external thermostat and configuring the Ecopower™ v9 board simple weather compensation can be enabled. Simple weather compensation allows winter and summer setting of the heat levels of the air curtain.

In winter mode the heating and fan speeds can be operated as normal from the handset. In summer mode the heating is disabled but fan speed can still be controlled from the handset.

As with previous versions of Ecopower™ Air curtains can be operated in master slave mode with up to eight slave units controlled from one master air curtain.



Door switch control

Further energy savings can be achieved by adding a door switch. When the door is open the fan speed is higher and when the door is closed the fan speed is lower (or can be turned off). This can be a useful strategy where it is necessary to keep noise to a minimum and keep comfort levels high without excessive energy use.

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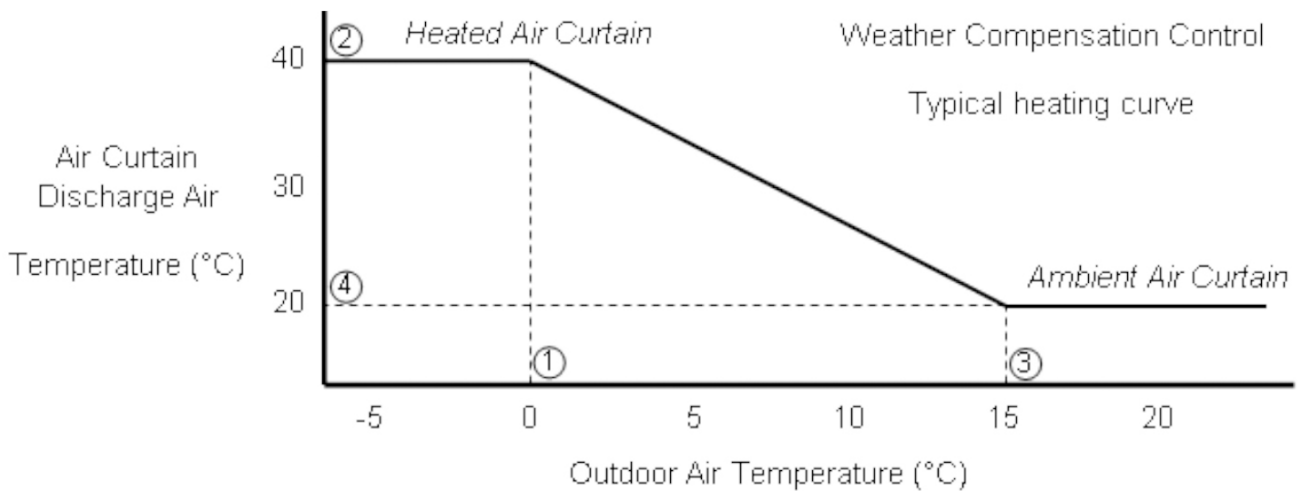
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Advanced Weather compensation

Air curtains are closely linked to the outdoor environment particularly where they are used over an open doorway. By adding an outdoor temperature sensor, we can control the leaving air temperature of the air curtain against the outdoor air temperature.

By using the EEPROM on the Ecopower™ board the set points of the heating stages can be tailored to meet specific applications. An EEPROM programming service is available on request.

Ecopower™ can be configured to allow fully modulating control of the heating elements or water control valves. This provides a more accurate control of the heat output giving better temperature control and energy savings compared to the traditional (two stage Hi/Low) heat output control.



Modulating control (HX Only)

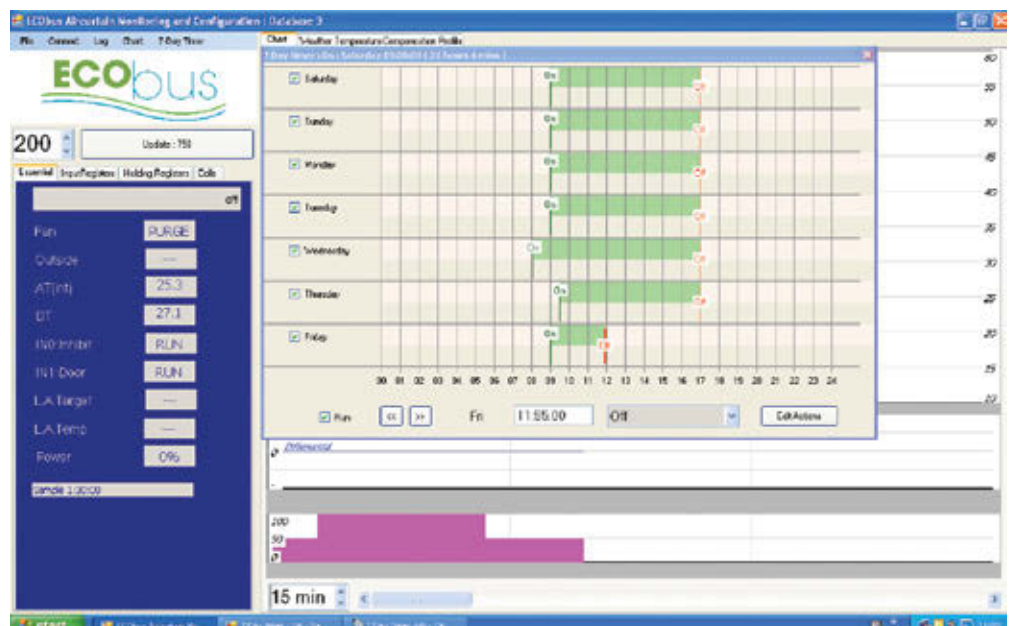
EEPROM

Fitting a configuration EEPROM allows permanent changes to holding registers and control of Modbus such as:

- Modbus address and Baud rate
- Temperature profiles
- Special input modes
- Timers

7 day timer

Ecobus software also has seven day timer for controlling the on off times of the air curtain. The timer can be used to set on/off times of the air curtain including fan overrun times.



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Modbus

Modbus is a serial communications protocol which can be used to allow Ecopower™ v9 to be controlled remotely from a supervisory computer with Ecobus software.

Modbus Functionality

By adding a simple plug in module to the Ecopower™ v9 board a number of functions can be controlled and monitored remotely (please note in some cases an additional EEPROM must be fitted to the Ecopower™ v9 board). Please refer to the Ecobus Modbus communications manual for further details.

Modbus Functionality

The Ecobus software allows users to configure the following:

- Current heat and fan speed settings
- View local fault codes
- Monitor and read combined fault codes for master and slave units

For further details of Ecobus functionality please refer to the Modbus operations and installation manual.

Monitoring and read functionality	Control and configuration functionality
Current heating power and an levels	Live control of: <ul style="list-style-type: none">• on/off• Auto/manual• heat and fan levels• auxiliary/fault/status relays
Local fault codes	Lock out of wall control buttons
Combined faults of master and slave units (multiple connected controllers)	Modification of Modbus baud rate and address
Read software levels	Configuration of temperature offset for special environments
Read fan runtimes and over temperature trip counts	Configuration of custom temperature profiles for weather compensation
	Configuration of special input modes, temperature thresholds and response times
	Configuration of custom door switch operation (times and heat levels)

Spares and accessories

Description
Modulating control Kit: HX water
Modulating control Kit: HX Electric
Outdoor temperature sensor
Modbus BMS board
Bluetooth interface
Ecobus Modbus software
Water valve modulating control board
Modulating water valve
Door switch



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