

Environmental Controllers



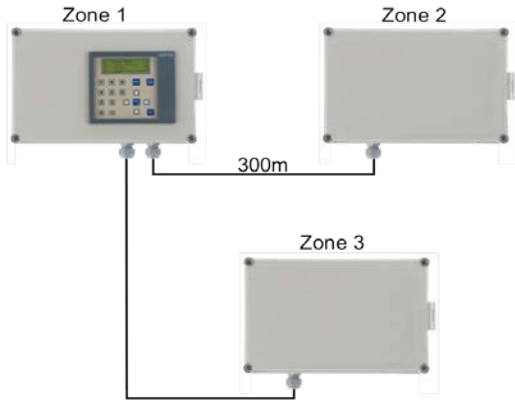
Versatile single and multi-zone
environmental controllers
for Glasshouses



Controller Sizes

The range of environmental controllers include single zone and multi zone environmental controllers.

Single zone controllers are available in two sizes and are ideal for smaller installations. The MEC8 environmental controller supports 8 outputs and the MEC16 supports 16 outputs.



For a larger multi-zone installation, we supply a base module controlling 8 or 16 outputs for one compartment or zone. Additional zone boxes can then be added for additional zones.

Zone boxes are available with either 8 or 16 outputs. A maximum of 8 zones boxes can be added to a base module.

Vents

Up to 6 vents can be controlled in one zone; two ridge vents, two side vents and two end vents.

Vents can be controlled by any combination of the following :-

- Inside air temperature
- Outside air temperature
- Wind speed and direction
- Raining
- Humidity
- Inside humidity

VENT WSIDE TEMP
Fully Close 18.5°C
Fully Open 30.0°C



PERIODS
Period 1 06:20

HEATING
Pd1 Heat To 15.0°C
Pd2 Heat To 20.0°C
Pd3 Heat To 22.3°C

Periods

Up to four control periods can be specified to allow for different setting throughout the day.

Time periods can be set using "time of day" or astronomic time

Full range of Sensors

The environmental controllers can be integrated with our full range of sensors.

- Outside air temperature
- Aspirated inside temperature
- Pipe temperature
- Wind speed
- Wind direction
- Raining
- Light
- Humidity



Hot Water Heating

The controllers operate a hot water motorized valve and a local circulating pump.

Hot water heating controls air temperature or minimum and maximum pipe temperature.

Hot water heating can be immediately shut off if a specified high vent position is reached.

Glasshouse humidity can be reduced by maintaining a minimum pipe temperature.

Screens

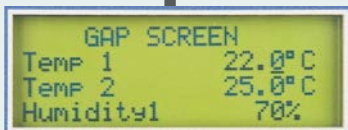
Environmental controllers operate either separate thermal and shading screens or one combined screen.

Thermal screens can be controlled by time, light, and inside and outside air temperature.

Thermal screens have a delayed opening feature to allow gradual air circulation.

Shading screens can be controlled by time or light.

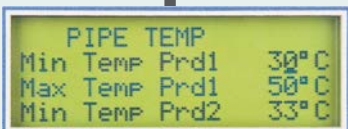
Two gap positions can be specified for high



GAP SCREEN
Temp 1 22.0°C
Temp 2 25.0°C
Humidity1 70%



FAN CIRC
TimeStart 10:30
TimeStop 18:00
Low Temp On 10°C



PIPE TEMP
Min Temp Prd1 30°C
Max Temp Prd1 50°C
Min Temp Prd2 33°C

On/Off Heating

Environmental controllers operate two heaters; a main and a back up heater.

Heating can be initiated by a low inside air temperature threshold or by a falling temperature gradient.

Heating can be disabled with a specified high vent position.

Back up heater starts at a lower temperature threshold.

PC Control

Operate your environmental controller and monitor your glasshouse from your PC.

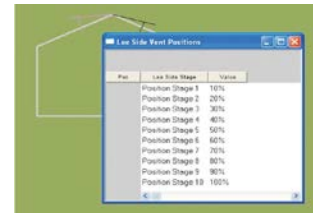


Click on a graphical picture of your glasshouse to monitor the environment within your glasshouse.

Program your environmental controller from your PC.

Produce graphs of logged data.

Receive emails should a fault condition arise.



Fans

Environmental controllers can operate two cooling fans and one circulating fan.

Circulating fans can be controlled by time or humidity.

Circulating fans can be disabled with a high vent position.

The first cooling fan is started when a high inside air temperature threshold is reached.

The second cooling fan can be started if a higher inside temperature is reached.

Mobile Phone Monitoring

Take advantage of the mobile phone network to monitor your glasshouse.

Send a text to the controller to request a status report on the inside temperature, pipe temperature and vent positions.

Receive a text message from your controller should an alarm condition arise.



Hardware Features

Outputs

- All outputs are general purpose.
- Outputs are configured at installation to perform the required control function, eg. heater output, vent output.
- Vents, screens and motorised valves require two outputs, open and close.
- One alarm output is available for each zone. The alarm output is activated on high temperature, low temperature, sensor fault, zone fault.
- All outputs are 24V AC (to operate 24V AC relays)
- The total output current is 1.0 Amp per module.
- All outputs are protected with electronic overload cut-out
- Output current is measured for diagnostic display purposes.
- All outputs are protected against electrical surges exceeding ANSI C62 surge suppression standards.
- Designed to operate in an industrial environment. High electrical noise immunity, can withstand a 2.5KV spike.

Inputs - Base Module

- Digital input for inside temperature and/or humidity.
- Digital input for pipe temperature or boiler alarm.
- Digital input for weather station.
- One data connector to connect to PC and GSM mobile phone module.

Inputs - Remote Zone Module

- Digital input for inside temperature and/or humidity.
- Digital input for pipe temperature or boiler alarm.

Sensors

- All sensors connect via digital link
- Digital link does not require special cable. Use standard 4 core cable.
- Sensors can be connected up to 200m from the base module.
- Inside temperature sensor range 0 - 50°C (+/- 0.2°C)
- Outside temperature sensor range -10 - 50°C (+/- 0.2°C)
- Humidity sensor range 0 - 95% (+/- 3%)
- Wind speed 0 - 70mph (+/- 5mph)
- Light sensor range 0-2000W/m² (+/- 8W/m²)

Hortisystems UK Ltd
West Chiltington Road
Pulborough
West Sussex
RH20 2PR

Tel. 44 (0) 1798 815 815
Fax. 44 (0) 1798 815 816

sales@hortisystems.co.uk

www.hortisystems.co.uk

Hortisystems