



XBOXER XBC

HEAT RECOVERY SOLUTIONS

ENERGY EFFICIENT PRODUCT RANGE



FOR THE COMPLETE VENTILATION SOLUTION

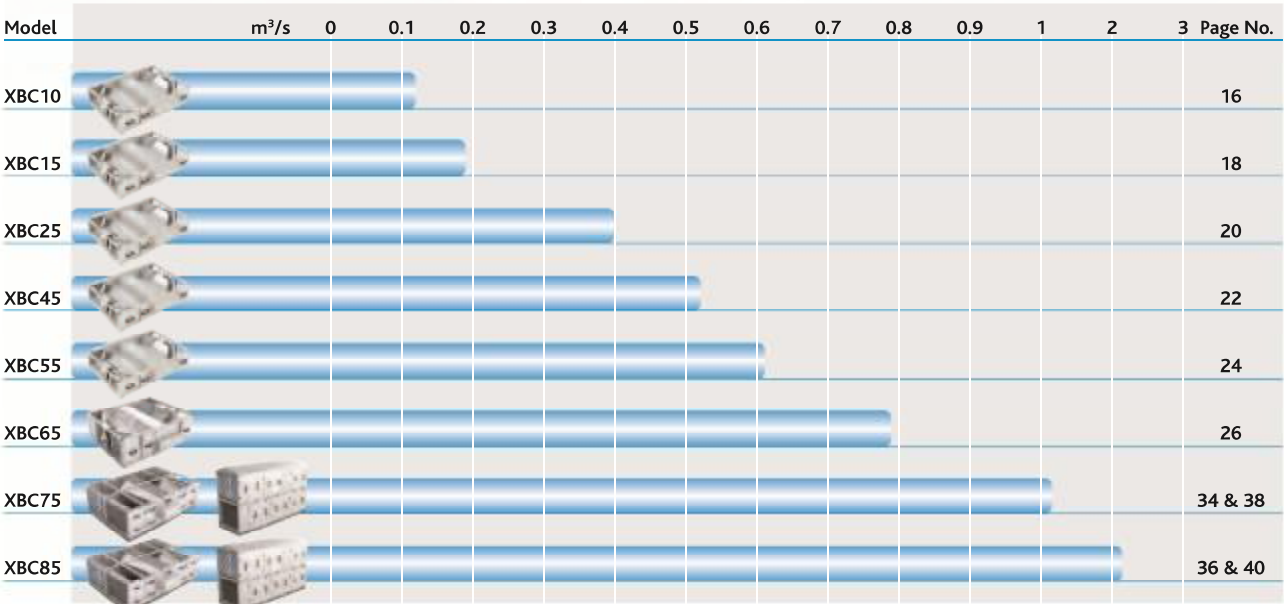




XBOXER XBC HEAT RECOVERY SOLUTIONS, OFFER THE MOST EFFICIENT, COMPACT DESIGN & QUIETEST SOLUTION AT THE LOWEST INSTALLED COST



WHICH UNIT DO YOU REQUIRE?



- **UK's No. 1** - Energy efficient range of packaged heat recovery units
- **LOWEST NOISE** - Patented construction
- **HIGHEST EFFICIENCY** - Exceeding Part L and Section 6 requirements aiding energy modelling and BREEAM
- **COMPACT AND FLEXIBLE** - Allows for quick and simple onsite installation
- **EXTENSIVE CONTROL SOLUTION** - Ecosmart Control Platform can provide optimum building efficiency (BMS/BEMS)
- **PACKAGED SOLUTION** - Lowest installed cost available on the market
- **UK DESIGNED, DEVELOPED AND MANUFACTURED** - Stocked and available in 10 days*
- **5 YEAR WARRANTY*** - Peace of mind

*Contact Nuaire for details.

▼ XBC75-H-LAT Horizontal fan unit shown.
Unit has **Adapt Trend** control.

▼ XBC45-H-LES Horizontal fan unit
with **Ecosmart Classic** control.

**HIGH
EFFICIENCY
UP TO
96%**

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XBOXER XBC10-65 ENERGY EFFICIENT HEAT RECOVERY UNITS WITH SPECIALIST ACOUSTIC TREATMENT PROVIDING LOW NOISE LEVELS

**CIBSE BUILDING
PERFORMANCE
AWARDS 2014**
— Winner —

UP TO
96%
EFFICIENCY

XBC65-H-LCO ▶

ErP
COMPLIANT
2016

◀ XBC45-H-LES

LOWER NOISE & ENERGY CONSUMPTION

■ **GUARANTEED LOW SOUND LEVELS** - Units have Asymmetric, high mass, double skinned wall construction (patented) with integral acoustic barrier mat (XBC10 units contain specialist acoustic treatment) ensuring low breakout noise levels.

■ **LATEST EC TECHNOLOGY** - Performance optimised backward curved impellers and IP54 EC motors provide low specific fan powers and stepless speed control without tonal noise generation.

■ **MEETS CURRENT LEGISLATION AND BUILDING REGULATIONS** - Lower energy consumption and better SBEM score.

■ **CONTINUOUS ACOUSTIC HOUSING** - Matched silencers reduce breakout and provide a superior acoustic solution.

■ **CLASS L2 LEAKAGE** - Units are tested to meet Class L2 leakage requirements.

ACHIEVES BUILDING REGULATIONS

■ **HIGH EFFICIENCY HEAT EXCHANGER** - Counterflow heat exchanger (Eurovent certified) with efficiencies of up to 96% with segmented 100% bypass (patent applied for) automatic control and actuator.

■ BUILT IN ECOSMART CLASSIC, CONNECT OR ADAPT (TREND) CONTROL OPTIONS

Ecosmart Energy efficient demand control ventilation solution. Ecosmart Connect control option delivers extensive flexibility and capability and uses Ethernet technology to integrate into supervisory control networks using BACnet. See page 8 for further details. Ecosmart Adapt allows for project specific controls i.e. Trend or Siemens. Contact Nuair for details.

■ **SPACE SAVING SOLUTION** - Low casing height from 260mm for ceiling/under floor/slab mounted applications. Most compact case by duty size.

■ **AIR QUALITY** - Optional duct or surface mounted sensors to monitor CO₂ levels as required in BB101. Refer to pages 12 - 13.

UNIQUE INTELLIGENT DESIGN PRACTICE

■ 100% INTEGRATED SUMMER BYPASS -

The bypass operates automatically via integrated temperature sensors and pre-defined control algorithm/ programme.

■ **QUICK COMMISSIONING** - Integrated supply and extract fan allows precise system duty which can be quickly and accurately set. (Ecosmart models only).

■ **UNIQUE LAYOUT DESIGN** - Provides flexibility in unit ductwork connections – Supply/Discharge connections are on unit centreline. Intake/Extract connections are configurable on site to either side of the unit.

■ **FLEXIBLE ACOUSTIC COMPACT SUPPLY & EXTRACT SECTION** - Double skinned acoustically lined compact section with supply and discharge channel ready for ducting to be attached. Ideal for space restricted ceiling voids.

BASIC CONTROL OPTIONS



▲ Lowest depth (from 260mm) units available, ideal for space restricted ceilings.



▲ Matched silencers are separate and can be fitted to suit left/right side. (1050/1250/1600mm lengths).



▲ All Ecosmart Control Platforms have a 90° pivoting control box for easy commissioning.



▲ Double skinned wall construction (patented) integral acoustic barrier mat.



▲ Optional weather roof ancillary for all models.
Code example: XBC25-H-WP.



▲ Optional exhaust and intake terminals for all models.
Code examples: XBC15-EXHAUST-RT & XBC15-INTAKE-RT.



▲ Only 260mm clearance required for filter access (Ecosmart models).
2 spare filters included (G4).



▲ Mounting brackets incorporated into the unit. Units fit flush to slab.

FLEXIBLE SOLUTION

■ **HEATING COIL OPTIONS** - Units are fitted with LPHW heater battery, 4-port valve and actuator or Electric heater battery and burst fired temperature controller. No heater option is also available. (For DX & cooling modules contact Nuaire).

■ **BASIC CONTROL OPTION AVAILABLE** - Allowing for a control system to be designed, specified, fitted & tested by others.

■ **WEATHER PROTECTION** - Weather roof can be selected as an ancillary on all models and fitted on site.

■ **MANUFACTURED IN UK** - All units are manufactured in the UK. Contact Nuaire for details of availability.

■ **ENERGY EFFICIENT DEMAND CONTROL** - Ecosmart control compatibility provides a simple 'plug & go' control solution for stand-alone control with trickle & boost operation as standard. A variety of BMS interface options are available.

SAVES TIME & MONEY ON SITE

■ **MANUFACTURED FROM CORROSION RESISTANT ALUZINC** - Aluzinc can last 5 times longer than galvanised steel providing higher wear resistance.

■ **HIGH CAPACITY FILTERS** - Units are fitted with four high capacity pleated G4 filters (spare filters are included in unit). F7 filters are available. (Note: XBC10 has G3 filters).

■ **NEW ECOSMART CONNECT CONTROL SYSTEM** - Stand-Alone control and full BMS via BACnet (MS/TP). The system controller is augmented by application specific unit interface and diagnostic circuits. Controller software is pre-configured and the unit/control assembly is functionally tested at works (Refer to Ecosmart Control brochure for technical details).

■ **EASY MAINTENANCE** - Side access as standard will provide full access to components and for quick filter removal and replacement. Bottom access is available for filter only. Example code is XBC15-H-LES-BA. (Only on sizes 10-45).

MAKES LIFE EASIER

■ **EASY FIT MATCHING SILENCERS WITH QUICK FIT BRACKET** - Can be easily incorporated into existing drop rod supporting systems. 3 lengths of matching silencers are available, 1050, 1250 and 1600mm. Fixing kit included.

■ **ADVANCED CONDENSATE REMOVAL** - Miniature condensate pump fitted as standard and incorporates an alarm function. If alarm is triggered unit will automatically be placed in bypass mode preventing further condensate production. Unit operation will otherwise be unaffected.

■ **WIDE RANGE OF ANCILLARIES & FILTERS** - Includes matched silencers, weather roof, F7 filters and roof terminals.

■ **5 YEAR WARRANTY** - On Ecosmart Classic, Ecosmart Connect and Adapt models for peace of mind. Basic control models have a 2 year warranty.

XBOXER XBC75-85 ENERGY EFFICIENT HEAT RECOVERY UNITS

WITH DUTY UP TO 1.5m³/s



LOWER NOISE & ENERGY CONSUMPTION

- **VERY LOW SOUND LEVEL SOLUTION** - Units have a rigid pentapost framework with 25mm infill panels containing inert high density acoustic infill ensuring low breakout noise levels.
- **LATEST EC TECHNOLOGY** - Performance optimised backward curved impellers and IP54 EC motors provide low specific fan powers and stepless speed control without tonal noise generation.
- **MEETS CURRENT LEGISLATION AND BUILDING REGULATIONS** - Lower energy consumption and better SBEM score.
- **CONTINUOUS ACOUSTIC HOUSING** - Matched silencer modules help reduce breakout and provide a superior acoustic solution.
- **CLASS L2 LEAKAGE** - Units are tested to meet Class L2 leakage requirements.

ACHIEVES BUILDING REGULATIONS

- **HIGH EFFICIENCY HEAT EXCHANGER** - Counterflow heat exchanger (Eurovent certified) with efficiencies of up to 92% with segmented 100% bypass (patent applied for) automatic control and actuator.
- **BUILT IN ECOSMART CLASSIC, CONNECT OR ADAPT (TREND) CONTROL OPTIONS** - Ecosmart Energy efficient demand control ventilation solution. Ecosmart Connect control option delivers extensive flexibility and capability and uses Ethernet technology to integrate into supervisory control networks using BACnet. See page 8 for further details. Ecosmart Adapt allows for project specific controls i.e. Trend or Siemens. Contact Nuaire for details.
- **CONSTANT PRESSURE OPTION*** - Improves the energy performance of a building using a centralised ventilation system, and guarantees lower energy costs for the end user. (Applies to ES CO & AT models only). Refer to page 48 for further details on Constant Pressure.

UNIQUE INTELLIGENT DESIGN PRACTICE

- **SPACE SAVING SOLUTION** - Ideal for plant room/roof top applications. Most compact case by duty size.
- **AIR QUALITY** - Optional duct (ES-CO₂) or surface (ES-CO₂RM) mounted sensors to monitor CO₂ levels as required in BB101.
- **100% INTEGRATED SUMMER BYPASS** - The bypass operates automatically via integrated temperature sensors and a pre-defined control algorithm/programme.
- **ECOSMART PRE-PROGRAMMED SOFT START FUNCTION** - Helps prevent electrical overloading and minimises mechanical wear.
- **QUICK COMMISSIONING** - Integrated supply and extract fan allows precise system duty which can be quickly and accurately set. (Ecosmart Classic, Connect & Adapt models only).

BASIC CONTROL OPTIONS



▲ Integral base frame (76mm high) with slots for forklift arms ensure easy maneuverability on site.

▲ Fans slide out for ease of maintenance.

▲ Wide range of frost coils and dampers. LPHW heater battery supplied with 2 port PICV valve and actuator.

▲ Range of weather kits, exhaust / intake and roof terminals available.

▲ G4 filters as standard other options available, contact Nuaire.

▲ Weather roof's are factory fitted only. Code example XBC85-V-LESWP.

▲ Double deck silencer modules 900mm length incorporate base frame.

▲ Quick access to fans, heat exchangers, condensate and control panel.

FLEXIBLE SOLUTION

■ **HEATING COIL OPTIONS** - Units are fitted with LPHW heater battery, 2-port valve and actuator or Electric heater battery (contact Nuaire for details). No heater option is also available as standard. (For DX, cooling and chilled water modules contact Nuaire).

■ **BASIC CONTROL OPTION AVAILABLE** - Allowing for a control system to be designed, specified, fitted and tested by others.

■ **WEATHER PROTECTION** - Weather roof is factory fitted only. Code example XBC85-V-LESWP.

■ **MANUFACTURED IN UK** - Contact Nuaire to ensure your required project deadlines are met.

■ **ENERGY EFFICIENT DEMAND CONTROL** - Ecosmart control compatibility provides a simple 'plug & go' control solution for stand-alone control, with trickle and boost operation as standard. A variety of BMS interface options are available.

SAVES TIME & MONEY ON SITE

■ **NEW ECOSMART CONNECT CONTROL SYSTEM** - Allows Stand-Alone control and full BMS integration via BACnet (MS/TP). The system is augmented by application specific unit interface and diagnostic circuits. Controller software is pre-configured and the unit/control assembly is functionally tested at works (Refer to Ecosmart Control brochure for technical details).

■ **HIGH CAPACITY FILTERS** - Units are fitted with two high capacity G4 panel filters. F7 filter modules are available.

■ **MANUFACTURED FROM CORROSION RESISTANT ALUZINC** - Aluzinc can last 5 times longer than galvanised steel providing higher wear resistance.

■ **EASY MAINTENANCE** - Side access as standard providing full access to internal components.

■ **MATCHING SILENCERS** - Quick and easy to fit on site.

MAKES LIFE EASIER

■ **ADVANCED CONDENSATE REMOVAL** - Miniature condensate pump fitted as standard and incorporates an alarm function. If alarm is triggered unit will automatically be placed in bypass mode preventing further condensate production. Unit operation will otherwise be unaffected.

■ **WIDE RANGE OF ANCILLARIES & FILTERS** - Includes matched silencers, F7 filters and roof terminals.

■ **5 YEAR WARRANTY** - On Ecosmart Classic and Ecosmart Connect models for peace of mind. Basic control models have a 2 year warranty.

ECOSMART CONTROL PLATFORM - IT'S SO SMART IT'S SIMPLE

DEMAND VENTILATION SOLUTIONS – DESIGNED FOR EFFICIENCY AND PERFORMANCE

Nuaire have a pedigree for designing and manufacturing energy efficient ventilation equipment and matched control systems. Our very first control was produced in the late 1980's.

Nuaire was the first ventilation manufacturer to introduce low voltage energy saving control systems. Its fans with 'Ecosmart' technology varied the ventilation rate to suit occupant levels. Ecosmart was launched in 2002 and was revolutionary within the industry by providing the first "plug and play" control system.

Nuaire continues to lead in the industry with the expansion of their Ecosmart Controls Platform.



Energy efficient demand based control fitted with Trend IQ422 controller. Allows for unitary control and full BMS integration via BACnet IP (by others).
Controller software is basic and ready for 'project specific' program to be loaded.
Ecosmart Adapt with Trend has a 5 year warranty.
For other options of Ecosmart Adapt contact Nuaire.



NEW Energy efficient demand based control providing a network connectivity and advanced functionality. Full BMS integration via BACnet (MS/TP). (Upgrade to IP network available). **Ecosmart Connect has a 5 year warranty.**



UK's leading Energy Efficient 'plug and play' solution for over 20 years.
Provided with BMS interface, trickle and boost as standard.
Ecosmart Classic has a 5 year warranty.

**THE MOST SUCCESSFUL ENERGY CONTROL EVER -
DEMAND VENTILATION AT YOUR FINGER TIPS**

BASIC CONTROL

Supplied with terminal box for supply and extract fan motor wiring and for interfacing to custom built control panels (by others). **Basic control has a 2 year warranty.**

ECOSMART CONTROL PLATFORM - IT'S SO SMART IT'S SIMPLE

ECOSMART ADAPT

TREND IQ422/12/LAN/BAC/230 INSIDE WITH FULL BMS INTEGRATION VIA BACNET.

"The management and control of modern buildings grow ever more sophisticated. A Building Energy Management system (BEMS) must be tailored to suit each customer's specific control requirements. It must provide efficient HVAC control, coupled with the flexibility to accommodate changes in occupancy status and staff relocation at short notice; whilst simultaneously delivering improved comfort conditions. A BEMS must also provide real time management information and control, enabling customers to achieve significant energy savings". (TREND)

Ecosmart Adapt with Trend provides control of the ventilation including the heating, or cooling allowing unitary control and full BMS integration via BACnet IP. The Ecosmart Adapt with Trend control system includes an IQ422/12/LAN/BAC/230 controller which is pre-configured and the unit and control assembly is functionally tested at Nuaire before customer delivery.

REDUCED INSTALLATION & ON-SITE COMMISSIONING TIME ON NEW & RETROFIT PROJECTS -

Advanced tools within the control automate many tasks, simple to use displays minimise data input, whilst reducing commission time and potential human error.

- **Ease of use** - Using Ecosmart Adapt with Trend will deliver substantial savings on utility costs.
- **Peace of mind** - Ecosmart Adapt with Trend has a 5 year warranty. (Example Code: XBC75-H-LAT)

ECOSMART CONNECT

Ecosmart Connect provides control of the ventilation including the heating, or cooling allowing unitary control and full BMS integration via BACnet (MS/TP). (Upgrade to IP network available).

The Ecosmart Connect controller is pre-configured and the unit and control assembly is functionally tested at Nuaire before customer delivery.

REDUCED INSTALLATION & ON-SITE COMMISSIONING TIME ON NEW & RETROFIT PROJECTS -

Advanced tools within the control automate many tasks, simple to use displays minimise data input, whilst reducing commission time and potential human error.

- **Ease of use** - Using Ecosmart Connect will deliver substantial savings on utility costs.
- **Peace of mind** - Ecosmart Connect has a 5 year warranty. (Example Code: XBC75-H-LCO)

ECOSMART CLASSIC

Varying the ventilation rate in a building to suit changing occupant levels used to be an expensive option – Ecosmart brings this within everyone's pocket. Minimising energy losses through re-heating (or cooling) the air replaced through ventilation is at the top of the agenda; building regulations make this a necessity. Ecosmart not only saves energy and carbon emissions it prolongs the life of the heat recovery unit.

Choosing Ecosmart is your reliable option, used by design engineers for many years and is now an integral feature of most Nuaire fans.

- **Saves time on site** - Ecosmart controls are all pre-assembled, configured and installed directly into the heat recovery units, this includes valves and actuators, pipework etc. which helps significantly reduce the time spent on site.
- **Simpler system** - No need for VCD (directly on the fan) no wasted energy or noise generation because air volume can be precisely set via integrated speed control.

(Example Code: XBC75-H-LES)

- **Simple & precise commissioning** - As recommended in Part L, Ecosmart enables the system to be accurately commissioned via integrated speed control. If the unit is controlled by 0-10V BMS the system's response to a 0-10V dc BMS signal is given in the table below.

	Ventilation mode	Cooling mode*	Heating mode*
Local control	0.00	-	-
OFF / trickle	0.25	-	-
Speed 1	0.50	0.75	1.00
Speed 2	1.50	1.75	2.00
Speed 3	2.50	2.75	3.00
Speed 4	3.50	3.75	4.00
Speed 5	4.50	4.75	5.00
Speed 6	5.50	5.75	6.00
Speed 7	6.50	6.75	7.00
Speed 8	7.50	7.75	8.00
Speed 9	8.50	8.75	9.00
Speed 10	9.50	9.75	10.00

* Only available on relevant unit.

BASIC CONTROL

Basic control is fan speed only and are suitable for 2-10V adjustment (by others). The heat recovery unit will have a side mounted terminal box for connection to the fans (230V, 50Hz LNE and 2-10V*) and bypass actuator (where applicable). Basic control is for BMS by others.

Basic control has a 2 year warranty. *For XBC 75 and XBC 85 (400V 3ph, 50Hz LNC and 2 - 10V).

(Example Code: XBC75-H-LBC)



ECOSMART CONTROL PLATFORM - IT'S SO SMART IT'S SIMPLE

	BASIC CONTROL (BC)	ecosmart classic (ES)	ecosmart CONNECT (CO) BACnet (MS/TP)	ecosmart adapt⁺ (AT) Based on TREND IQ44 BACnet (IP)
CONTROLLER SOFTWARE				
Controller Software		N/A	Advanced Software	Basic Software (Can be re-written by others)
Heat Exchange Bypass Control Strategy		Basic	Optimised	Basic
Supply Temperature Control Strategy		Yes	Yes	Yes
Room Temperature Control Strategy		No	Yes	No
Switched Live Enable Input		Yes	Yes	Yes
Switched Live Fan Boost		No	No	Yes
Switched Live Configurable Input (Heat or Fan Boost)		No	Yes	No
Volt Free Enable Input		No	Yes	Yes
Volt Free Fan Boost		No	No	Yes
Volt Free Configurable Input (Heat or Fan Boost)		No	Yes	No
Trickle Mode		Yes	Yes	Yes
Fan Run-On		Yes	Yes	Yes
Fan Run-On (Intelligent)		No	Yes	No
Run/Fault/Heat/Cool Volt Free Outputs		Yes	Yes	Yes
I/O Damper control		Yes	Yes (via run relay)	Yes (via run relay)
Heat Dissipation Run-on		Yes	Yes	Yes
Frost Protection Routine		Yes	Yes	Yes
Low Supply Temp Fan Cut-out		No	Yes	Yes
Scheduling		Yes via ES-LCD	Yes	Yes
CO2 Based Fan PID Loop		ES Co2	Yes	Yes
Humidity Based Fan PID Loop		ES-HUM	Yes	No
Pressure Based Fan PID Loop		CP version available	Yes	No
Night Cooling Mode		No	Yes	Yes
Purge Mode		No	Yes	Yes
Hibernate Mode (Open all valves)		No	Yes	No
Fan Speed Adjustment		Yes	Yes	Yes
Fan Speed Control only	Yes	No	No	No
0 - 10V Fan speed Input		Yes	Yes	Yes
0 - 10V Temperature Sensor Input		No	Yes	No
0 - 10V Humidity Sensor Input		No	Yes	No
0 - 10V Pressure Sensor Input		No	Yes	No
0 - 10V CO2 Sensor Input		No	Yes	No
CONTROLLER HARDWARE				
Fail safe thermal trip		Yes	Yes	Yes
Condensate Pump Monitoring		Yes	Yes	Yes
Din Rail Mounted Control		No	Yes	Yes
Quick Connect Terminals		No	Yes	Yes
24VAC Auxiliary		No	Yes	Yes

ECOSMART CONTROL PLATFORM - IT'S SO SMART IT'S SIMPLE

	BASIC CONTROL (BC)	ecosmart classic (ES)	ecosmart CONNECT (CO) BACnet (MS/TP)	ecosmart adapt ⁺ (AT) Based on TREND IQ44 BACnet (IP)
HMI				
Commissioning Display		Yes only Via commissioning PCB	Yes	By Others
BACnet LCD Touch Screen Display		No	Yes	By Others
ROOM MODULES				
Plug & Play Sensors		Yes	Yes	No
Max Number of Sensors		32 devices on any system	4 sensor modules*	By Others
Quick connect plugs		Yes	Yes	By Others
Twisted pair cable compatible		No	Yes	By Others
Commissioning Port		No	Yes	By Others
Temperature		Yes	Yes	By Others
CO2		Yes	Yes	By Others
Humidity		Yes	Yes	By Others
3-Speed Override		No	Yes	By Others
PIR		Yes	Yes	By Others
Setpoint Adjust		Yes (on sensor)	Yes	By Others
Multiple Setpoints Supported		No	Yes	By Others
Room Temperature Display		No	Yes	By Others
Room Humidity Display		No	Yes	By Others
Fan Speed Display		No	Yes	By Others
Occupancy Status Display		No	Yes	By Others
Network Error Display		Yes	Yes	By Others
NETWORKING				
BEMS compatible		No	Yes	Yes
BMS compatible		0-10V Input	BACnet via MS/TP (BACnet via IP optional)	(BACnet via IP)
MONITORING				
Web connectivity		NA	Yes	Yes
Energy Monitoring		NA	Yes	Participation via Trend network
Energy Metering		NA	Yes	Participation via Trend network
			*Each sensor module can have multiple sensors.	

For further details of Ecosmart Controls Platform, refer to website: www.nuaire.co.uk



ECOSMART CONTROL PLATFORM - IT'S SO SMART IT'S SIMPLE



SENSORS & ENABLERS

All Ecosmart Classic Systems must include at least one enabler.
(N.B. when used, BMS control and time clocks take over all other enablers).



ES-PIR2 (Enabler)

Detects movement and activates system. Incorporates a system status LED, overrun timer and timer adjustment.



ES-TEMP2 TEMPERATURE (Sensor)

Modulate fan speed based on room temperature. Incorporates two system status LEDs. (Green = OK, Red = Failure) and temperature set point level adjustment.



ES-THERMOSTAT2 (Enabler)

Activates the system when the temperature is above set point. Incorporates two system status LEDs. (Green = OK, Red = Failure) and temperature set point level adjustment.



ES-RH2 RELATIVE HUMIDITY (Sensor)

Modulate fan speed based on RH level. Incorporates two system status LEDs. (Green = OK, Red = Failure) and RH set point level adjustment.



ES-AV12 (Enabler)

When fan failure occurs the AVI will flash a warning. Supplied with pre-plugged 10m length of communication cable.



ES-CI SEMI-AUTOMATIC USER CONTROL

Fan, heating & cooling selected by external volt free switch, speed selected by 0-10V signal.



ES-HUMIDISTAT2 (Enabler)

Activates the system when the RH level is above set point. Incorporates two system status LEDs. (Green = OK, Red = Failure) and RH set point level adjustment.



ES-JB JUNCTION BOX

Designed to be compatible with Ecosmart System this unit is supplied with a pre-plugged 10 metre length of communications cable and has 8 further ports.



ES-CO2RM (Sensor)

Surface mounted room carbon dioxide (CO₂) sensors incorporate a temperature sensor. RM = SELV option, RMPP complete with SELV AC powers supply.



ES-CO2 (Sensor)

Duct mounted sensor to modulate fan speed based on CO₂ levels. Connect to fan directly. Pre-wired with 2m cable (not adjustable).



ES-HTCSIG (Enabler)

Signal conditioning circuit for humidity, temperature and CO₂ sensors.



SWITCHED LIVE (by others)

Any mains voltage signal connected to the switched live terminal (S/L) in the unit. This affects the connected fan only.



ROOM MODULES

CONNECT



ESCO-TPL

Ecosmart Connect Room Module - Temperature and PIR.



ESCO-THS

Ecosmart Connect Room Module - Temperature and Humidity.



ESCO-TDPL

Ecosmart Connect Room Module - Temperature, Display and PIR.



ESCO-TDHL

Ecosmart Connect Room Module - Temperature, Display and Humidity. (Displays either temperature or humidity).



ESCO-TDHS

Ecosmart Connect Room Module - Temperature, Display and Humidity. (Humidity is not displayed).

TOUCH SCREENS & MANUAL USER CONTROLS



ES-LCD (Enabler) Touch screen user control in white incorporating time clock facility. This can control the function of the fan by manual setting or using a set of timed programs.



ES-UCF Manual 'on' and 'off' system user/speed control. Incorporates two system status LEDs (Green = OK, Red = Failure).



ESCO-LCD Touch screen display.

The ESC-LCD is a user friendly operator interface featuring BACnet® communication and a colourful, graphic display with touch-screen interface. It is powered by 12-24VAC / VDC.

ECOSMART CONTROL PLATFORM - IT'S SO SMART IT'S SIMPLE



ESCO-TDS
Ecosmart Connect Room
Module - Temperature and
Display.



ESCO-TS
Ecosmart Connect Room
Module - Temperature.



ESCO-CL
Ecosmart Connect Room
Module - CO₂.



ESCO-TDFS
Ecosmart Connect Room
Module - Temperature, Display
and Fan Speed Override.



ESCO-THPL
Ecosmart Connect Room
Module - Temperature,
Humidity and PIR.

THERMISTOR TEMPERATURE SENSORS



Code: TB/T1/S – For duct or immersion use.
Short 150mm.
TB/T1/L – For duct use only. Long 400mm

Low cost thermistor sensors comprising insertion, clamp-on, and outside air versions.

The insertion sensor may be used for duct or immersion purposes. It has a 6 mm diameter brass probe which is suitable for retrofit immersion applications and will fit most existing pockets (universal fitting kit option).

FEATURES

- Low cost
- High quality thermistors
- Brass probes
- M20 conduit entry with M16 cable gland
- IP67 housing
- Quarter turn quick release lid
- Easy to wire
- Universal kit option for retrofit of immersion sensors
- Adjustable insertion depth flange option for duct sensors

DUCT HUMIDITY & TEMPERATURE SENSORS



Code: HT/D – Duct and thermistor sensor (+/-3%).

Duct mounted relative humidity and temperature sensors for HVAC applications. The certified 2% high accuracy (/2%) and standard 3% versions offer excellent linearity and stability over a wide humidity range (10 to 90 %RH).

FEATURES

- Pre-calibrated for ease of commissioning
- IP65
- Operates over 10 to 100 %RH non-condensing
- $\pm 3\%$ accuracy versions
- 2 part connectors for ease of installation
- Humidity sensor element protected by replaceable filter
- Capacitive humidity sensing element provides excellent long term stability
- Adjustable depth duct mounting flange option

CO₂ SENSORS



Code: CO2/T/D – Duct sensor.
Code: CO2/T/S – Space carbon dioxide concentration
and temperature sensor.

The CO₂ duct and space sensors monitor the carbon dioxide concentration and temperature of the air. The space sensors have additional options of humidity monitoring and a 4 digit display. The display will show the measured values in succession. The duct sensor has a quick-release lid to facilitate installation.

FEATURES

- Low cost, high quality thermistor temperature sensor
- Humidity monitoring option for space sensor
- Optional digital display for space sensor
- IP67 housing (duct sensor)
- Quarter turn quick release lid (duct sensor)
- Two part terminals to facilitate wiring
- 24 Vac/dc supply
- Adjustable depth duct mounting flange option



IQVIEW4 Touch screen display.(6 x 4 inch).

FPK/Plate – Mounting plate.
IQVIEW4/SM BOX – Surface mount
box for wall or panel.

Transformer for IQVIEW4 included.
ACC/24V - 230/24 VAC, 36 VA



IQVIEW8 Touch screen display. (10 x 6 inch).

IQVIEW8/SM BOX – Surface mount
box for flat surfaces.

Transformer for IQVIEW8 included.
ACC/24V - 230/24 VAC, 36 VA



SDU Display.

RD/SDU-
IQ2COMMSCABLE/3m –
RJ11 plug to RJ11 plug
cable (3m) for SDU.