

ES-OPUS DC

Low Power Duct Mounted Extract Fans

Installation and Maintenance

CE The EMC Directive 2004/108/EC
The Low Voltage directive 2006/95/EC



The Nuaire range of Ecosmart low power duct mounted extract fans have been specifically designed to ventilate areas such as toilets, bathrooms, small offices, etc. The range consists of units for four duty ranges, 40 l/s, 60 l/s, 75 l/s and 110 l/s maximum extraction.

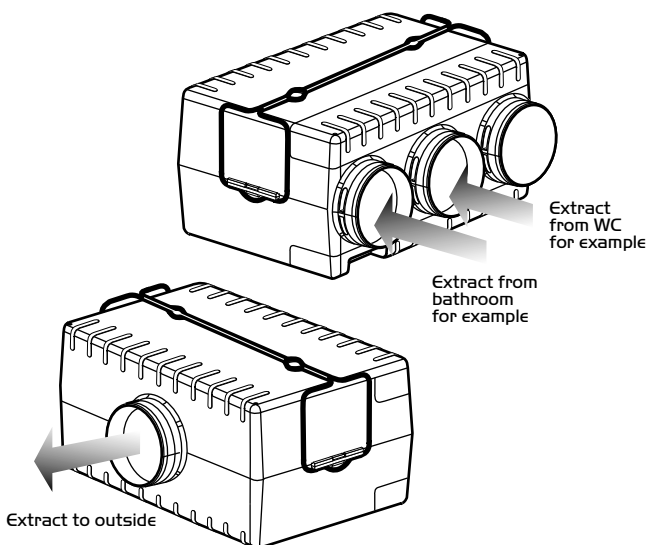
The 40 and 60 l/s products are available as single fan or twinfan variants, twinfan units are duty sharing. 75 l/s and 110 l/s products are dual fan only (both fans run simultaneously).

All Ecosmart units incorporate speed control for both low and high speed, along with adjustable run-on facility and all variants allow for connection of Ecosmart sensors (PIR, humidistat etc).

Model range

ES-Opus DC 40-M	Single fan unit. 40 l/s extract. Ecosmart control
ES-Opus DC 60-M	Single fan unit. 60 l/s extract. Ecosmart control
ES-Opus DC 40-2M	Twinfan unit. 40 l/s extract. Ecosmart control
ES-Opus DC 60-2M	Twinfan unit. 60 l/s extract. Ecosmart control
ES-Opus DC 75-M	Dual fan unit. 75 l/s extract. Ecosmart control
ES-Opus DC 110-M	Dual fan unit. 110 l/s extract. Ecosmart control

Figure 1. General view of unit.



The unit discharges through 100mm diameter outlet spigot. Air enters the unit through 3 off 100mm diameter spigots, the centre being supplied open with the other two being easy to cut off. Anti-backdraught shutters are fitted at the fan outlet on 40 l/s and 60 l/s variants, the 75 l/s and 110 l/s products are not fitted with shutters.

The motor is of the DC variant, fitted with self lubricating ball bearing and locked rotor protection.

The unit is supplied with a quick release fan mounting bracket which allows for installation in any configuration.

1.0 Fan Installation

Installation must be carried out by competent personnel conforming to all statutory and governing regulations including the current wiring and CDM regulations.

The unit is designed to be ceiling/wall mounted in any plane, with the access panel for the wiring and controls on the underside.

Figure 2. Ceiling mounted.

Integral mounting bracket screws into position on ceiling.

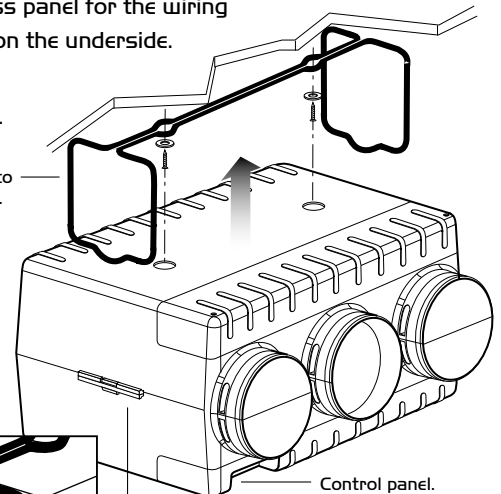


Figure 3. Bracket holder.

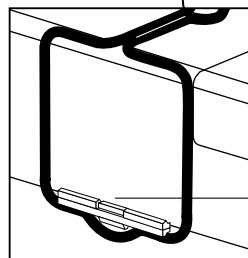
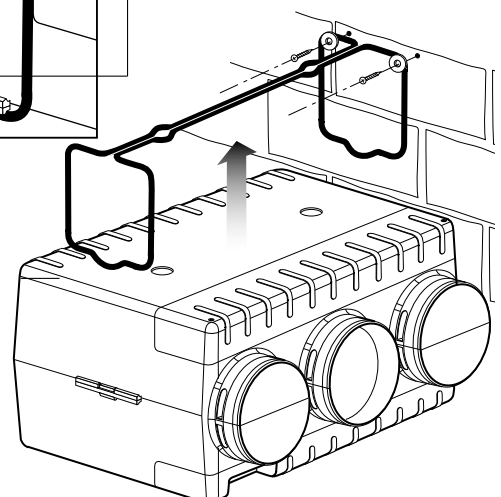


Figure 4. Wall mounted.

Integral mounting bracket screws into position on wall.

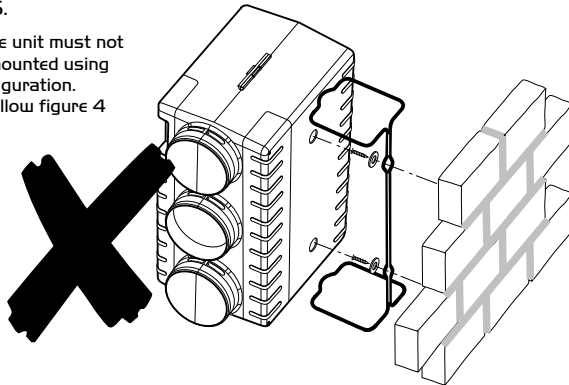


1.0 Installation cont.

The fan must be fitted indoors, away from any direct sources of heat, water spray or moisture generation.

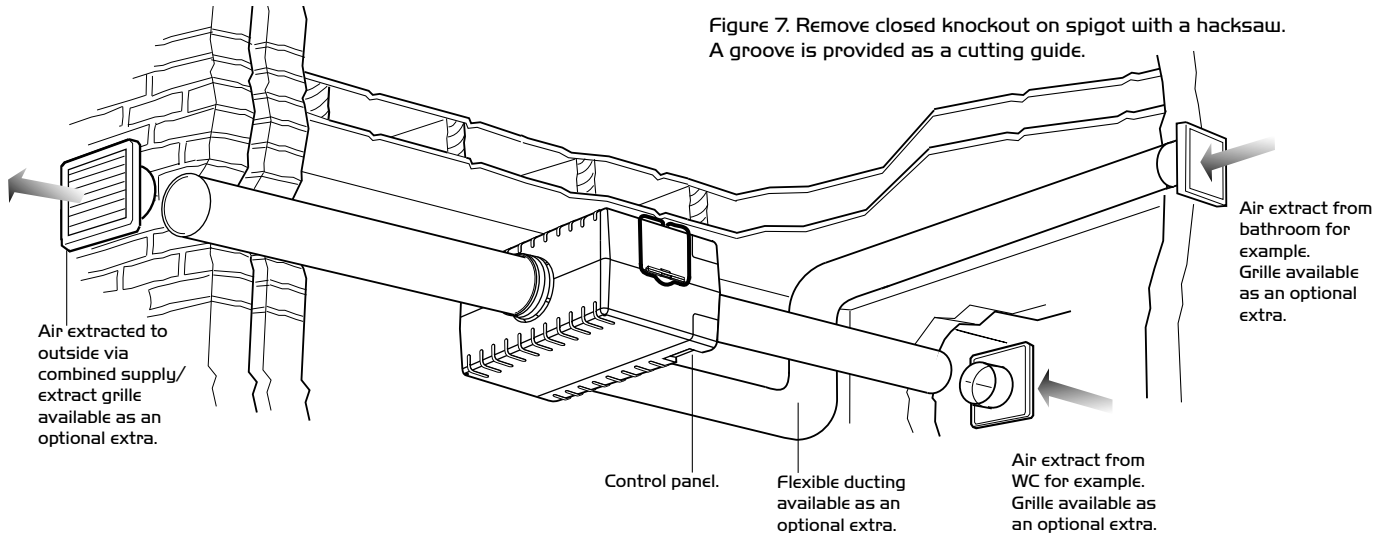
Figure 5.

NOTE: the unit must not be wall mounted using this configuration. Please follow figure 4



Please note a clear working space is required around the installed unit to allow the cover to be removed and provide sufficient access for maintenance.

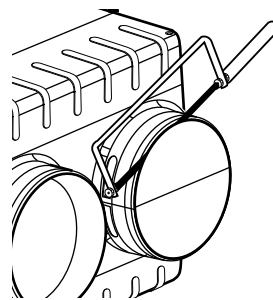
Figure 6. Typical installation.



The integral mounting bracket supplied with the unit can be offered up to position on the ceiling or wall (see figure 2 and 4).

The fixing points for the bracket should then be marked and the bracket installed with 2 screws ensuring that the bracket is secure on the ceiling or wall.

Offer the unit into position inside the bracket ensuring the access cover is face down, and locate the bracket into the moulded bracket holders on the case sides (see figure 3).



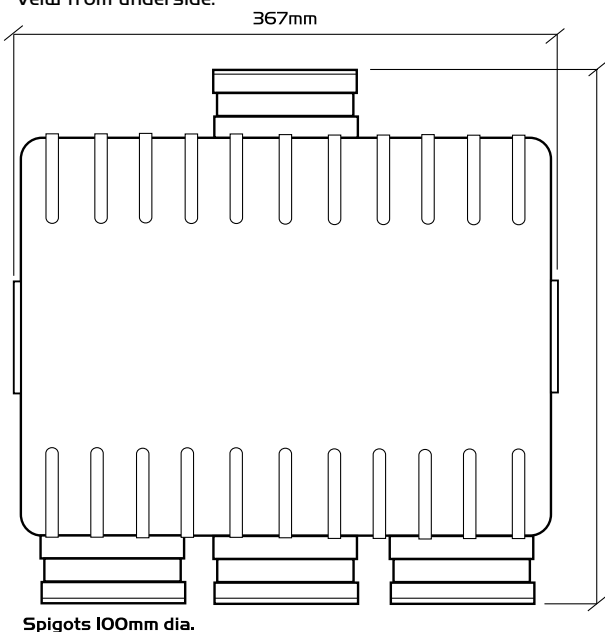
Various spigot positions can be utilised as required to suit the system ductwork and extract grilles.

The unit is supplied with one spigot open and two 'closed' as knockouts when delivered but they can be opened using a hacksaw (See figure 7).

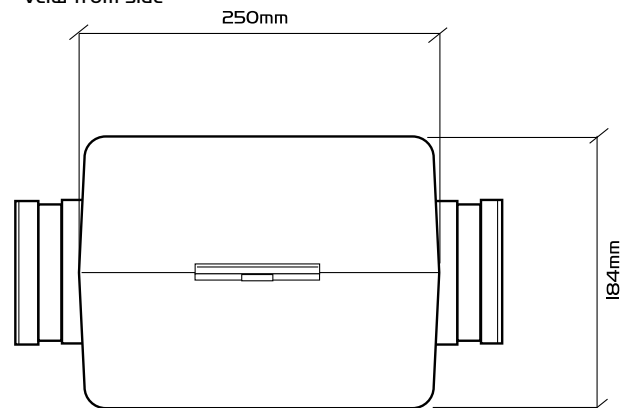
Figure 7. Remove closed knockout on spigot with a hacksaw. A groove is provided as a cutting guide.

2.0 Dimensions

View from underside.



View from side



3.0 Electrical Details

To gain access to the units power supply and control panels remove the access cover as shown in figure 8.

Power Consumption	Opus DC 40	Opus DC 60	Opus DC 75	Opus DC 110
Unit input power (watts)	18	44	33	90
Full load running current (amps)	0.14	0.32	0.20	0.61

IMPORTANT

Isolation - Before commencing work make sure that the unit is electrically isolated from the mains supply.

Figure 8. Mains cable and clamp.

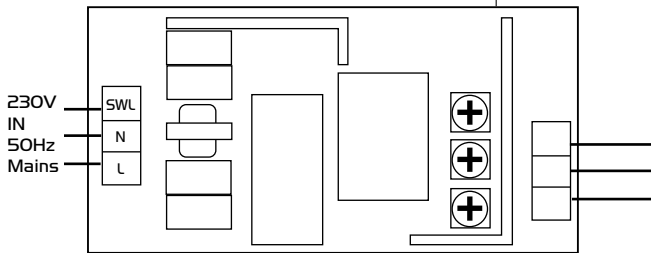
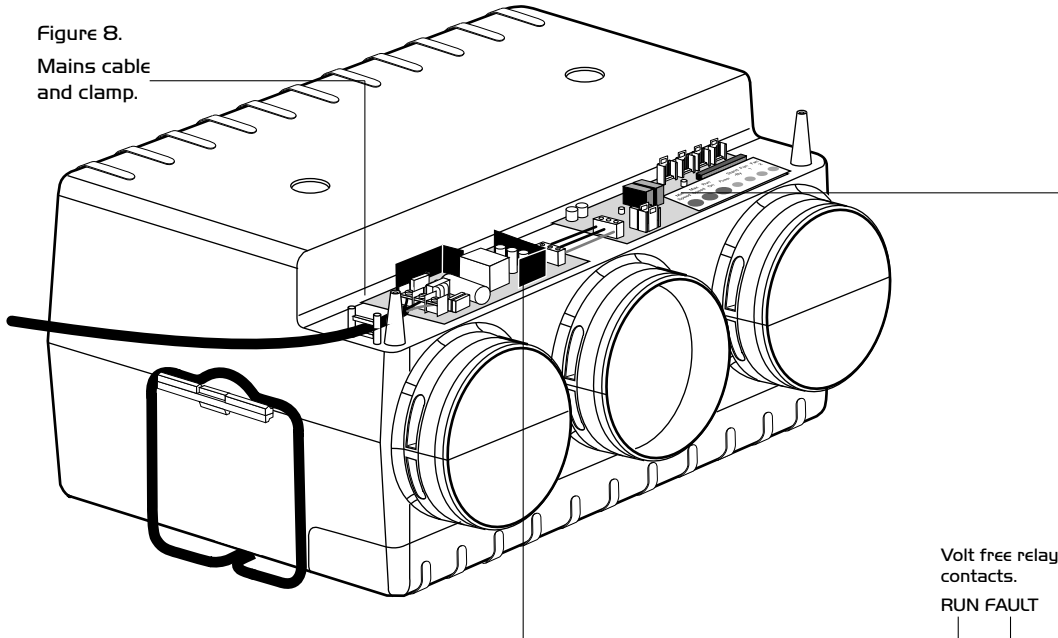


Figure 9. 24V power supply.

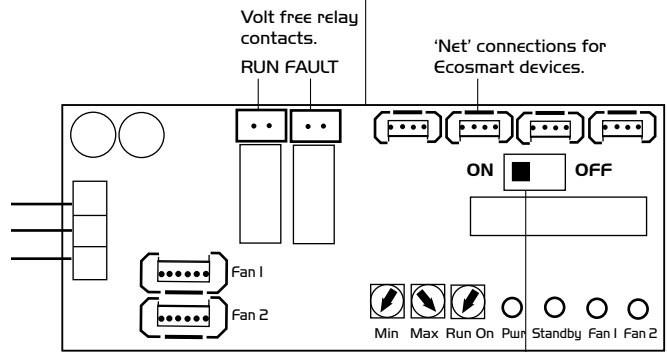


Figure 10. Ecosmart control (PCB).

Switch to activate continuous trickle.

3.1 Connections

Ecosmart control (see figure 10)

(a) Net - the 4 IDC plug-in connectors are provided for the connection of compatible sensors, manual controls and for linking the fans together under a common control. If more than 4 connections are required, the junction box (product code ES-JB) should be used.

NOTE: Do not run the SELV data cable in the same conduit as the mains cable and leave a 50mm separation with any power cables.

(b) Volt Free Relay Contacts

Note that the volt free contacts are not fused. If these are used to power any external equipment, the installer must provide adequate fusing or other protections. These contacts are rated at 5A resistive, 0.5A inductive.

(c) Run connections

These contacts are closed when the fan is running.

Fault connections - No fault = the contacts are closed.

Fault = the contacts are opened (this includes no power supply at the unit).

(d) Data Cable installation

A 4-core SELV data cable is used to connect devices such as sensors to the fan and for interconnecting multiple fan units.

Do not run data cable in the same conduit as the mains cables and ensure there is a 50mm separation between the data cable and other cables. The maximum cable run between any two devices is 300m when it is installed in accordance with the instructions. Please note the total data cable length used in any system must be less than 1000m. Keep the number of cable joints to a minimum to ensure the best data transmission efficiency between devices.

(e) Maximum number of devices

The maximum number of devices (including fans) that can be connected together via the cable is 32, irrespective of their functions.

(f) LED Indication

- PWR** GREEN: Power on and OK, RED:
- Standby** LED on when fan is not running.
- Fan 1** GREEN: Fan 1 is running, RED: Fan 1 faulty.
- Fan 2** GREEN: Fan 2 is running, RED: Fan 2 faulty.

4.0 Settings

- Min speed** – used to regulate trickle speed.
Can be disabled using switch.
- Max speed** – used to regulate full speed.
- Run-on timer** – Adjustable between 1 and 60 minutes.

IMPORTANT

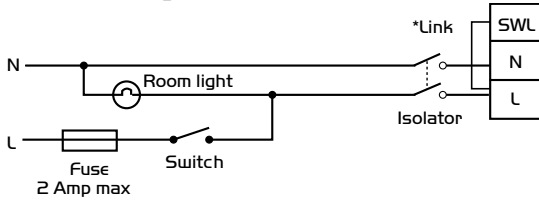
Isolation - Before commencing work make sure that the unit, switched live and Nuaire control are electrically isolated from the mains supply.

For good EMC engineering practice, any sensor cables or switched live cables should not be placed within 50mm of other cables or on the same metal cable tray as other cables.

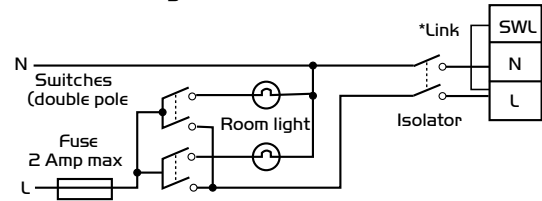
5.0 Wiring details

* Note: Link also required when used in conjunction with remote user control (ES-UCF).

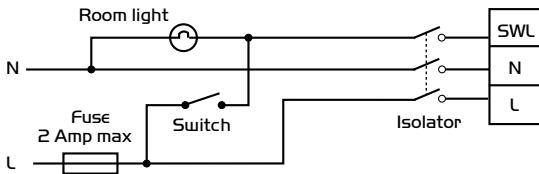
Unit ventilating one room



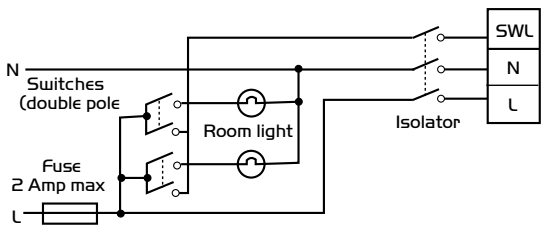
Unit ventilating two rooms



Unit ventilating one room (using run on circuit)



Unit ventilating two rooms (using run on circuit)



Replacement of Parts

Should any component need replacing Nuaire keep extensive stocks for quick delivery. When ordering spare parts, please quote the serial number of the unit and the ARC number of the purchase if possible.

(This information will be available on the fan label).

Warranty

ES-OPUS DC has a 5 year warranty. The warranty starts from the day of delivery and includes parts and labour for the first year.

The remaining period covers replacement parts only. This warranty is conditional on planned maintenance being undertaken.

Service Enquiries

Nuaire can assist you in all aspects of service. Our service department will be happy to provide any assistance required, initially by telephone and if necessary arrange for an engineer to call.

Telephone 029 2085 8585
Fax 029 2085 8586

Technical or commercial considerations may, from time to time, make it necessary to alter the design, performance and dimensions of equipment and the right is reserved to make such changes without prior notice.