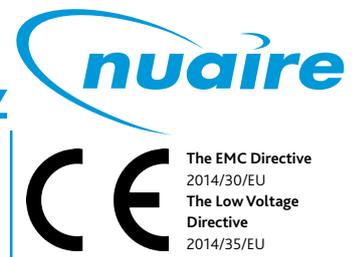# XS Window Fan Kits 50/60Hz
Supply / Extract Units
Installation and Maintenance

1.0 Safety Information

IMPORTANT: Installation or replacement of units or spare parts must be carried out by a qualified or Nuaire approved service engineer/ electrician and in accordance with IEE or local national wiring regulations.

2.0 Introduction

The Nuaire XS Window Fan Kit is available in 6, 9 and 12 inch impeller sizes suitable for supply or extract and can be the heart of a room's automatic ventilation system.

Ensure adequate air replacement for the fan and any fuel burning appliance in the room.

Figure 1. Main components of Window installation assembly.

Inside grille

Outer grille

Clamping plate

Spacer

Fan plate assembly

2.1 Switching

Operated via a separately wired 3 amp fused spur (by others) or operated via the optional XS-MFC remote controller allowing supply or extract, variable speed and automatic or manual switching of several fans if desired.

2.2 Sensors

Sensors are available as remote units or integral 'plug in' units. They are able to control multiple fans, depending on sensor and fan types. Integral sensors are quick and easy to install and are aesthetically pleasing, whilst remote sensors give the benefit of location close to the pollutant source. Remote sensors can be fitted with an optional security strap to prevent unwanted tampering.

2.3 General

The removable interior grille provides easy access while the external rotor motor makes for simple removal of the push-on impeller for cleaning. Upward angled interior grille vanes shield workings from view and downward sloping external vanes throw off rain. The fan is IP24 splash proof approved with the motor rated at IP44.

All external components are made in soft grey colours from ultra violet stable ABS material so they will blend with most decors and will not fade in sunlight.
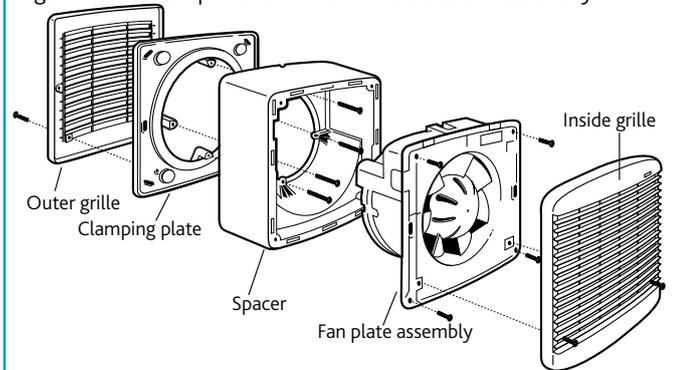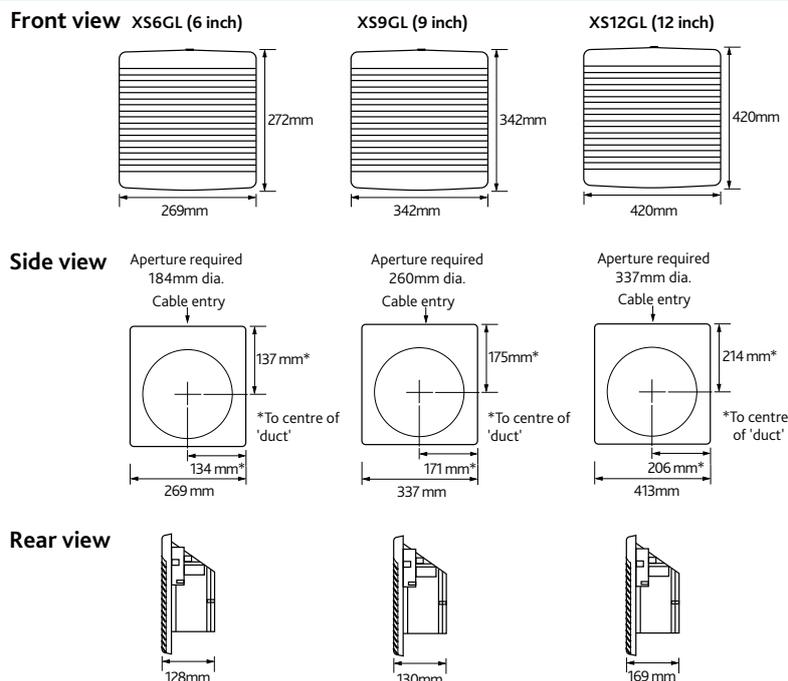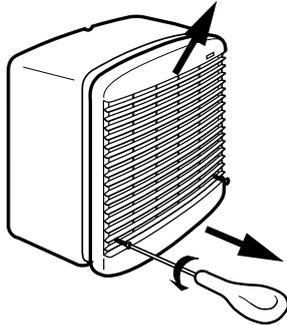
2.3.1 Coding For Window Fan Kits

Description	Code*
6 inch Window Fan Kit Complete	XS6GL/H
9 inch Window Fan Kit Complete	XS9GL/H
12 inch Window Fan Kit Complete	XS12GL/H

* H indicates 220V 60Hz 1ph
Window Fan Kits are supplied as a complete package with all window installation parts included and are suitable for glazing thickness of up to 32mm and wall/panels of 360mm.

3.0 Dimensions

Figure 2.

Front view

XS6GL (6 inch)

XS9GL (9 inch)

XS12GL (12 inch)

272mm

269mm

342mm

342mm

420mm

420mm

Side view

Aperture required 184mm dia.
Cable entry

Aperture required 260mm dia.
Cable entry

Aperture required 337mm dia.
Cable entry

137 mm*

134 mm*

269 mm

175mm*

171 mm*

337 mm

214 mm*

206 mm*

413mm

*To centre of 'duct'

Rear view

128mm

130mm
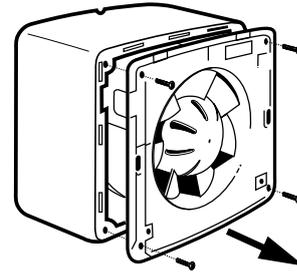
169mm

4.0 Installation

4.1 Installation of Window Fan Kits
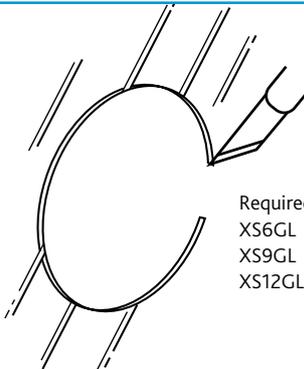
1

Remove front grille.
Release 2 screws. Lift grille upwards.

2

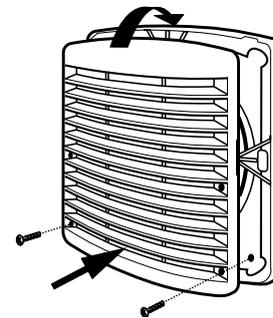Remove fan plate.

3

Required Glass Aperture
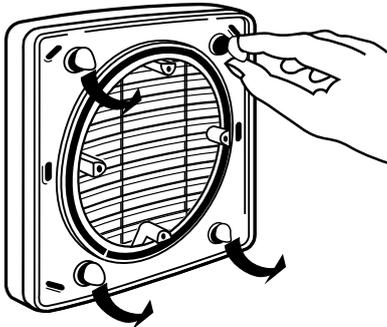XS6GL   184 dia
XS9GL   260 dia
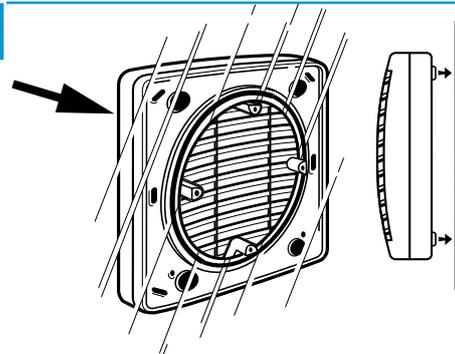XS12GL   337 dia

Prepare the window.

4

Fix outer grille to spigot plate. Check plate orientation is vertical. Note grille locates over top lugs on spigot plate.
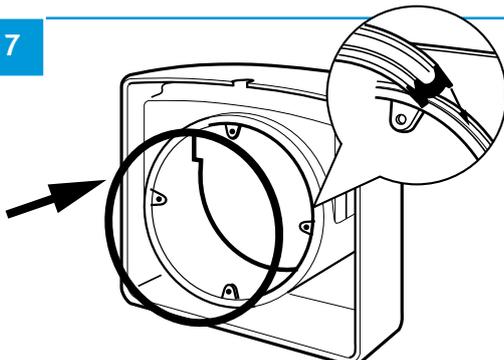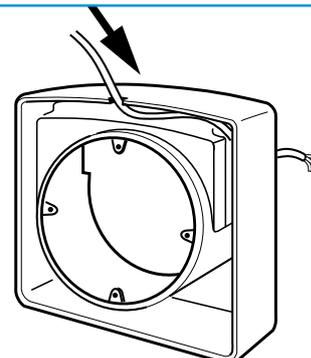
5

Remove adhesive pad covers.

6

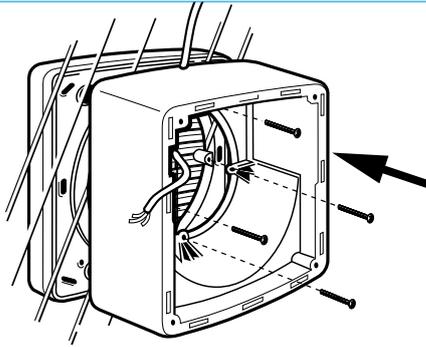Clean the window glass and affix the outer grille assembly over window aperture.

7
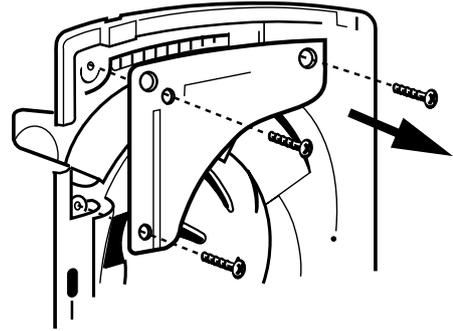
Ensure rubber seal is located into case spigot.

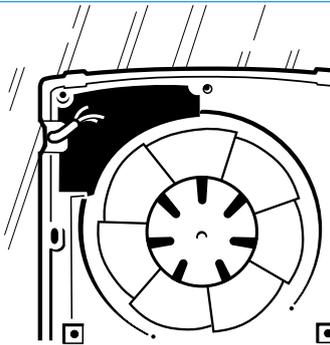**8**

Feed supply cable into the case.

9

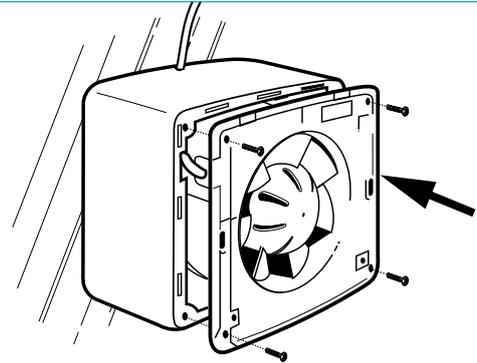Screw the case/ grille assembly together.

10

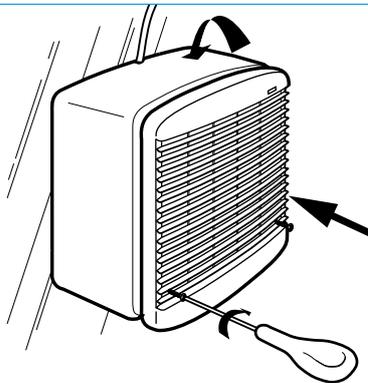Release the electrical cover from the fan plate.

11

For various wiring options see page 5.

12

Assemble the fan plate to the case.

13

Fit the inside grille, locating it over the top lip before engaging screws.

IMPORTANT

(Shutter Operation XS fans)
There will be a short delay on start-up and shutdown of approximately 40 seconds, this is normal.

4.2 Fitting Ancillaries (Also see page 8)

4.2.1 Thin Wall Installation

The diagram shows the unit installed in a timber wall.

A Wall Fixing Plate is used to support the fan assembly and the installation is similar to that for a window.

Outside Grille

Spacer

Interior Grille

Wall Fixing Plate
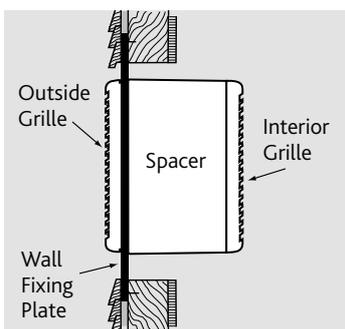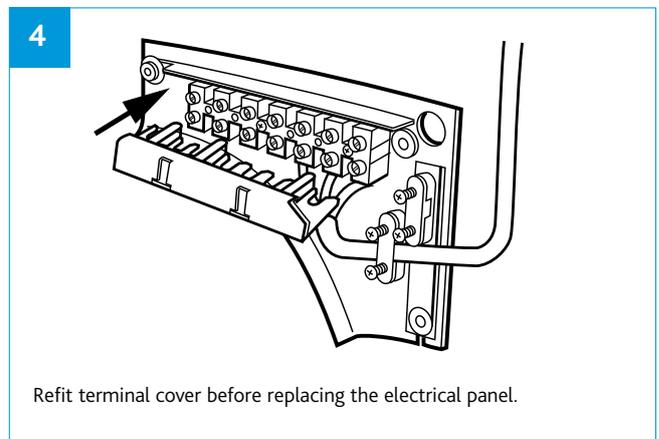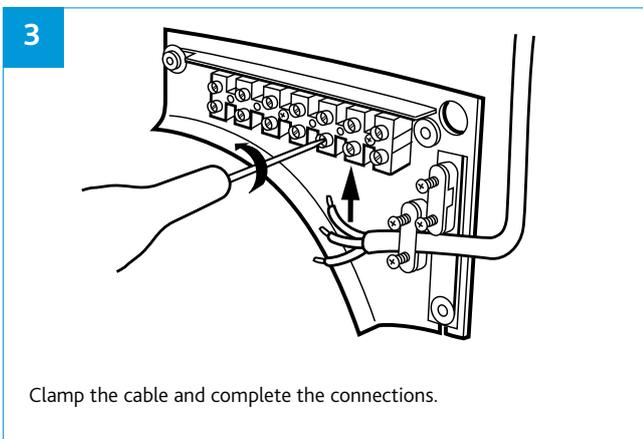
4.2.2 Weather Terminal

The optional Weather Terminal is offered for use in exposed site conditions.

The illustration shows the Weather Terminal installed replacing the Outside Grille assembly. Terminal is held in position using the same fixings as the Outside Grille assembly. The base of the Terminal incorporates a foam strip which is designed to adhere to the glass surface assisting fitting and also as a seal for the joint when assembled together with the fan unit.

Glass

Weather Terminal

Main Window fan kit
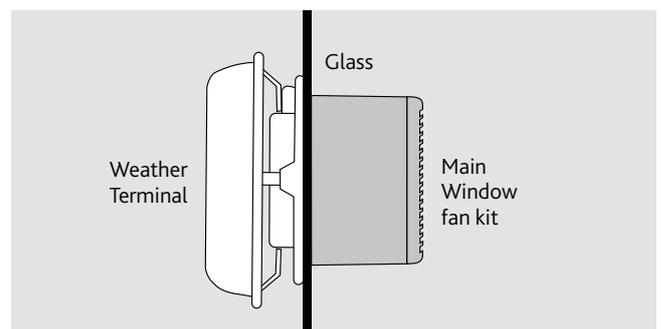
5.0 Electrical Installation

Electrical work should be undertaken by a qualified electrician in accordance with the wiring regulations.

1

Release the electrical panel from the fan plate.

2

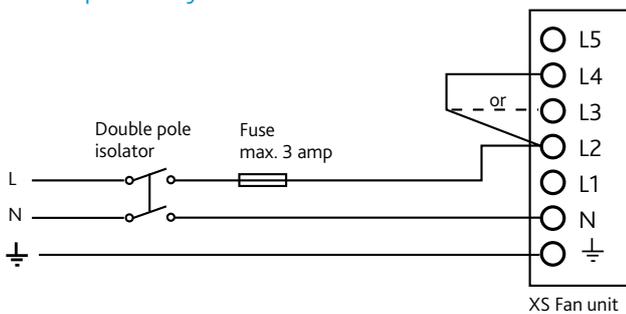Remove the terminal cover.

3

Clamp the cable and complete the connections.

4

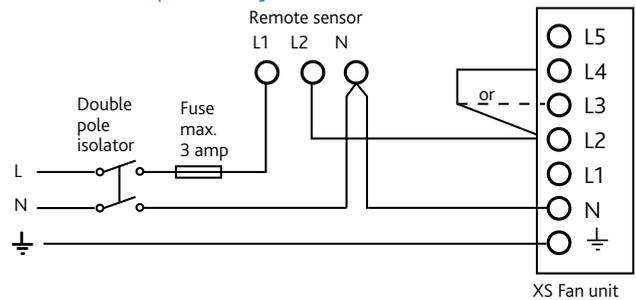Refit terminal cover before replacing the electrical panel.
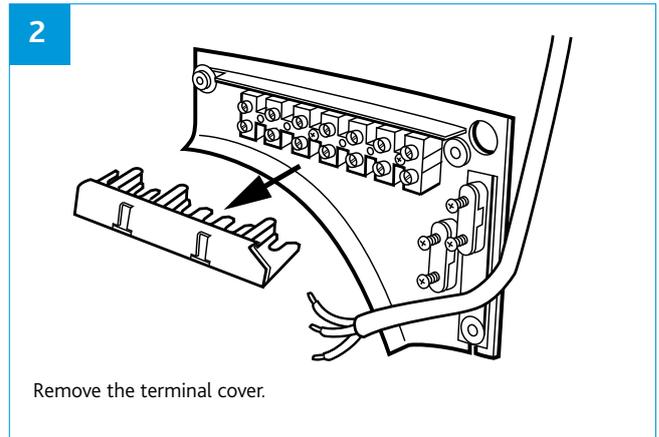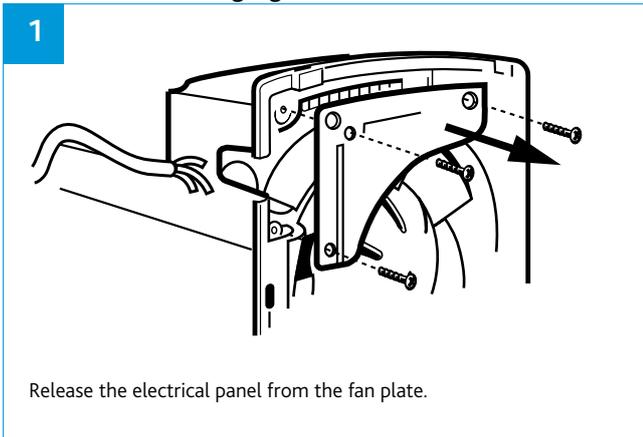
5.1 Wiring

5.1.1 Fan Operated By On / Off Switch

Connect link wire between L2 & L4 for extract OR connect link wire between L2 & L3 for supply.

5.1.2 Fan Operated By Integral Sensor
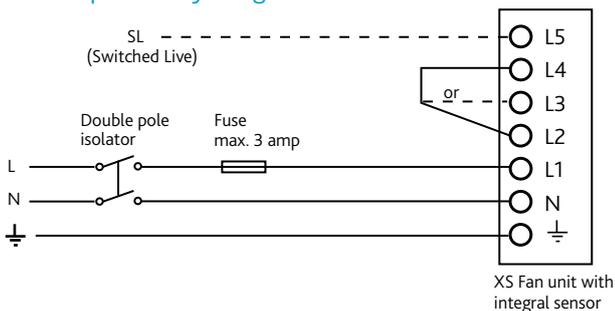
Connect link wire between L2 & L4 for extract OR connect link wire between L2 & L3 for supply.
Connect switched live signal to L5 for integral timer module.

5.1.3 Basic Fan Operated By Remote Sensor

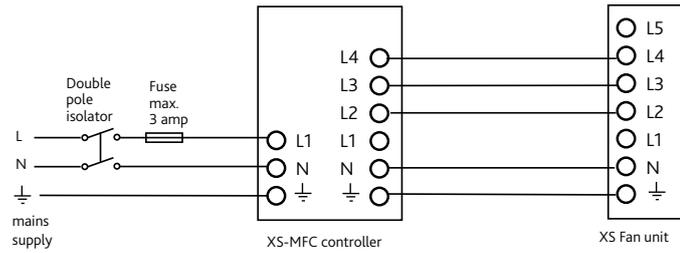Connect link wire between L2 & L4 for extract OR connect link wire between L2 & L3 for supply.
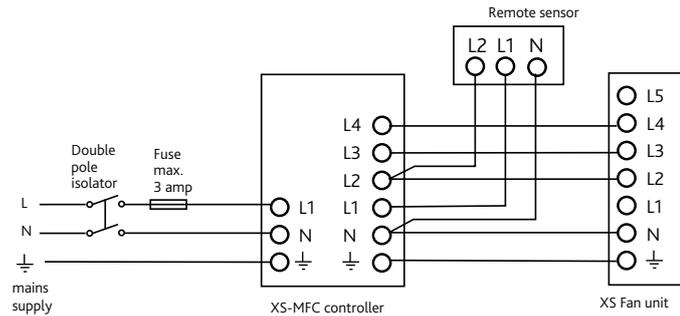
IMPORTANT

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

5.1.4 Supply / Extract Fan Operated via remote XS-MFC Control

Remote switch may be set: On/Off, Forward/Reverse, Economy/Std. (variable speed), Auto/Manual.

5.1.5 Supply / Extract Fan Operated via remote XS-MFC Control
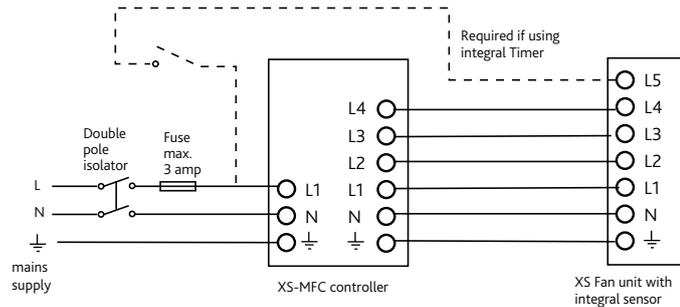

Remote switch may be set: On/Off, Forward/Reverse, Economy/Std. (variable speed), Auto/Manual.

One or more Remote Sensors may be wired in parallel to one XS-MFC Control.
Humidity Sensor: XS-HR
Air Quality Sensor: XS-AQR
Passive Infra-Red Sensor: XS-PIRR

5.1.6 Supply / Extract Fan Operated via remote XS-MFC Control

Remote switch may be set: On/Off, Forward/Reverse, Economy/Std. (variable speed), Auto/Manual.

Maximum one Integral Sensor per fan, 6/9/12 denotes unit size identity.

Humidity Sensor: XS-H6/9/12
Air Quality Sensor: XS-AQ6/9/12
Passive Infra Red Sensor: XS-PIR6/9/12
Temperature Sensor: XS-TH6/9/12
Run on Timer: XS-TA6/9/12.

A single sensor will switch all fans if more than one fan is being operated by a single XS-MFC controller.

NOTE: Multi-fan options:
Up to 5 fans (size 6"/9") can be controlled by one XS-MFC.
Up to 2 fans (size 12") can be controlled by one XS-MFC.
Do not mix different fan sizes on the same controller.

5.2 Unit Consumption & Weight

Model	Input Power (W)		Weight (kg)
	Max.	Economy	
XS6GL supply & extract	38	20	4.1
XS6GL supply & extract	50	37	5.7
XS6GL supply & extract	100	70	8.6

Note figures are for extract only at 50hz.

5.3 Electrical Specification

230V ~ 50Hz / 220V ~ 60Hz Class I. Motor thermally protected by overload device. Cable: 1mm max. or min. Fuse: 3 amp (if fan is supplied from a 5A lighting circuit, no local fuse is required).

Note: If 2 x 12 inch fans or 3 x 6 or 9 inch fans are used in the same operating mode in the same room they should all be controlled from the same MFC speed control. This avoids the possibility of one fan (if speed controlled at a lower flow rate) being stalled by the other fan(s).

Adequate make-up air provision sufficient to provide ventilation in accordance with building regulations is required in all rooms. This should be checked during commissioning with all fans in the same room running together in all possible configurations.

The automatic shutters, motor bearings should be frequently inspected and maintained to ensure they open fully/operate satisfactorily. Use of an RCD and fused spur with 1A, Bussmann TDC180, BS1362, fuse (Farnell order no: 1123029) for 1 fan or 2A, Bussmann TDC180, BS1362 fuse (Farnell order no: 1123032) for 2 or 3 fans is recommended.
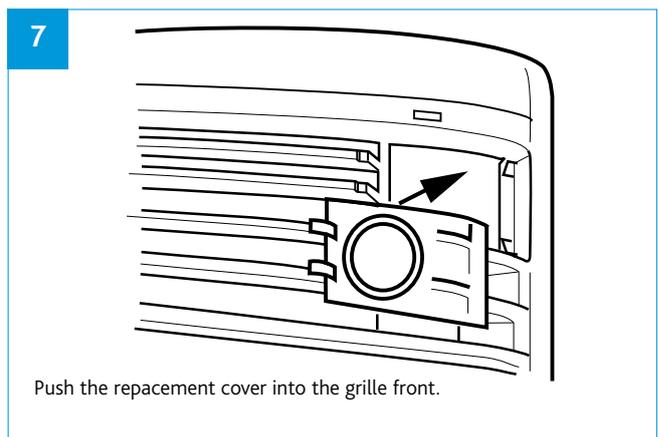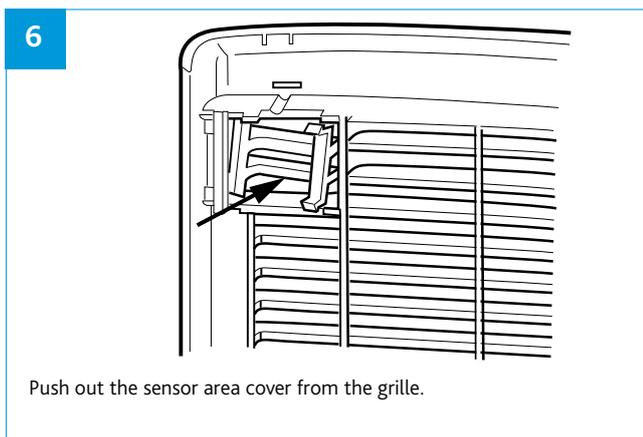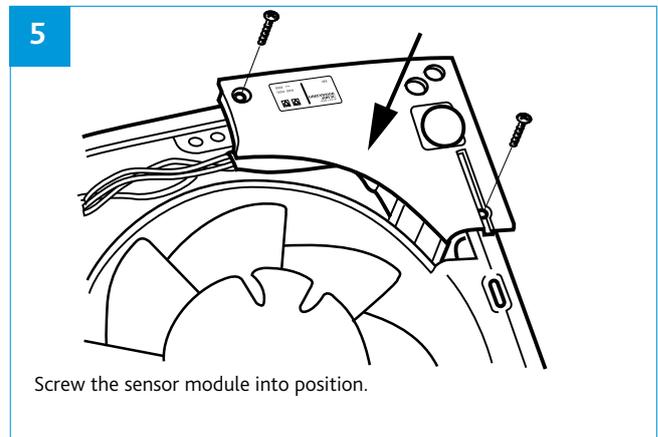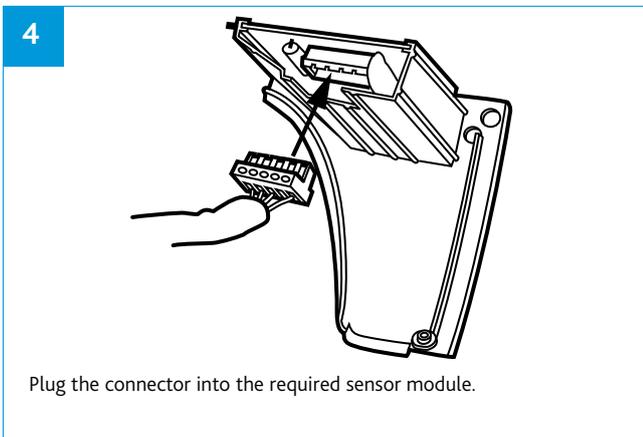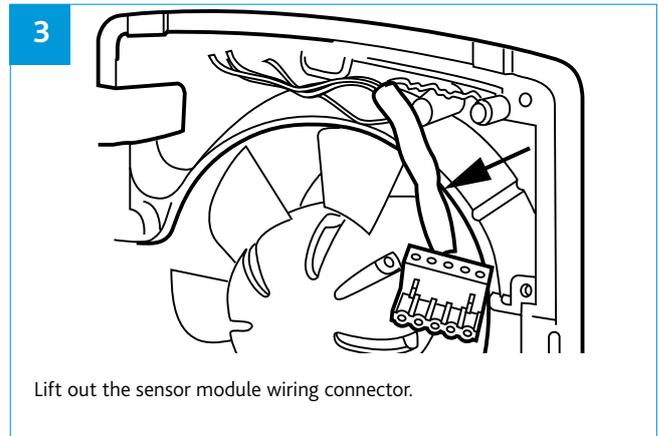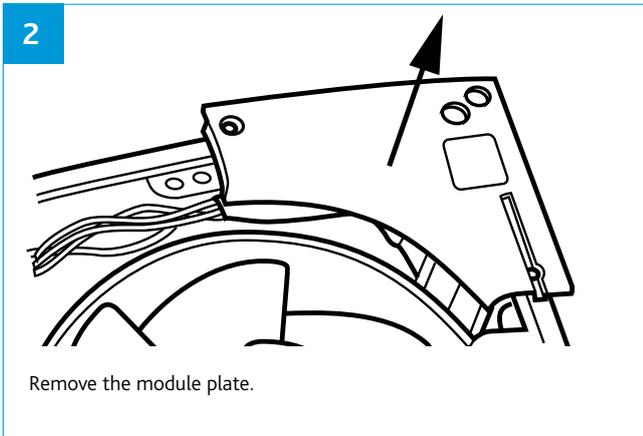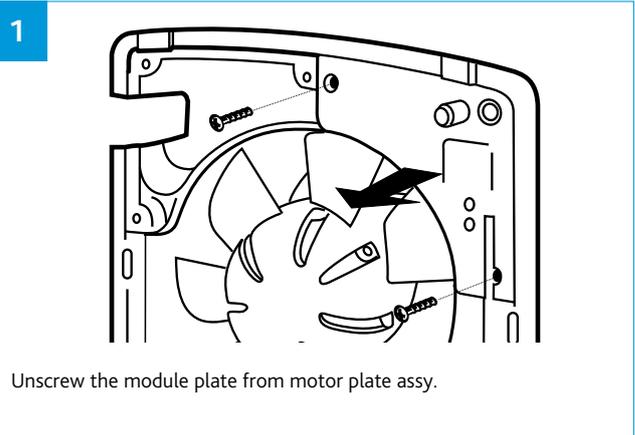
Always confirm airflow direction before commissioning.

IMPORTANT

(Shutter Operation XS fans)
There will be a short delay on startup and shutdown of approximately 40 seconds. This is normal.

5.4 Fitting Integral Sensors (Optional)

Note: Before following the pictorial sequence shown, first remove the fans front cover grille (2 screws). Release the four main corner screws and lift out the motor/fan plate assembly. Remove the electrical cover plate opposite the sensor plate. Follow the pictorial sequence on this page.

1

Unscrew the module plate from motor plate assy.

2

Remove the module plate.

3

Lift out the sensor module wiring connector.

4

Plug the connector into the required sensor module.

5

Screw the sensor module into position.

6

Push out the sensor area cover from the grille.

7

Push the repacement cover into the grille front.

5.5 Fitting Remote Controller XS-MFC or Remote sensors (optional)

The XS-MFC Multi Fan Control provides supply or extract, variable speed and automatic or manual switching of several fans if desired, (see note below). The control is best mounted approx 1.5m above the floor. Remote Sensors are available for Humidity, Air Quality and Passive Infra Red control. Remote Sensors should be positioned at least 1.5m above the floor and away from direct heat sources e.g. radiators.
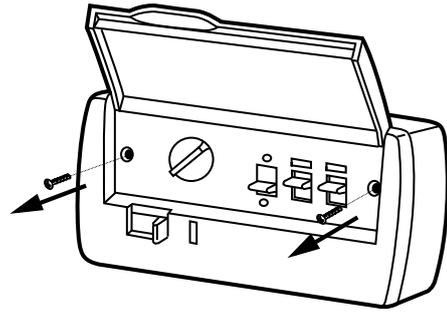
Note:
Up to 5 fans (size 6 / 9 inch) can be controlled by one XS-MFC.
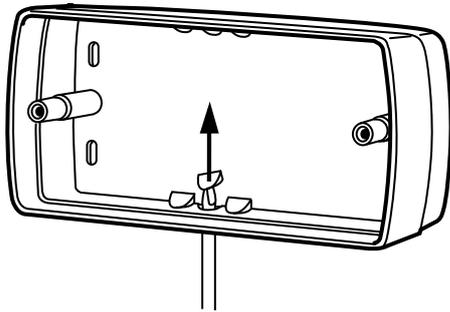**Up to 2 fans (size 12 inch) can be controlled by one XS-MFC.**
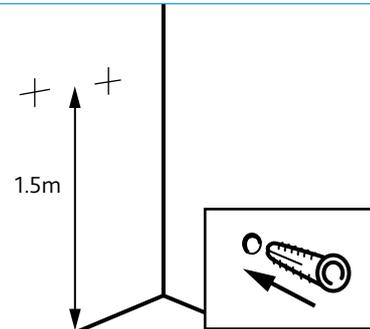**Do not mix different fan sizes on the same controller.**
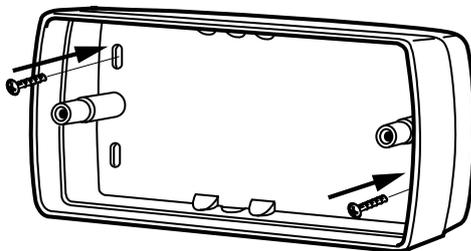
1

Lift up panel and remove two screws to dismantle unit.

2

Push out backplate box cable entry using a screwdriver.
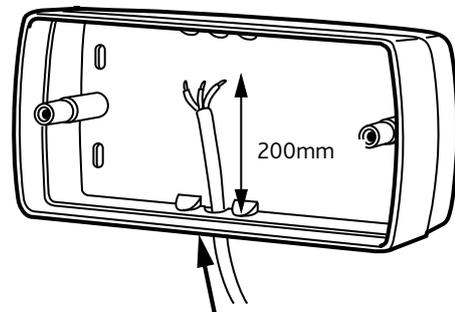
3

1.5m

Spot through backplate box and drill and plug the wall.
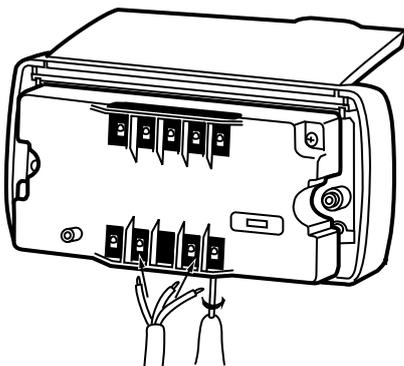
4

Fix backplate box to the prepared wall.
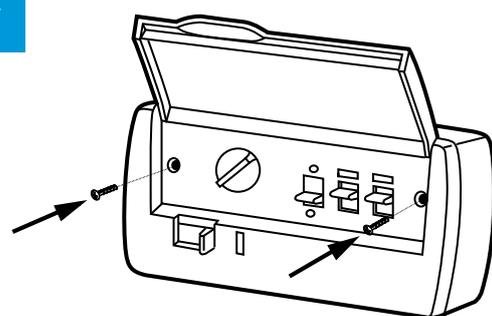
5

200mm

Feed approx. 200mm of supply cable into the box

6

Connect the end of the cable into the control block.

7

Fit the control into the backplate box and secure.
Test the installation.

6.0 Ancillaries

Glass

Weather Terminal

Main Window fan kit

8

Weather Terminal

Used for exposed site wall installations, comprising one weather terminal, manufactured from HIPS.
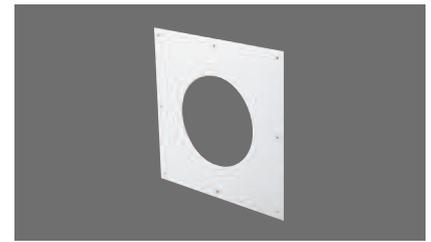
Order Code XS-WT6
Dimensions: 360 x 360 x 170mm

Order Code XS-WT9
Dimensions: 425 x 425 x 180mm

Order Code XS-WT12
Dimensions: 506 x 506 x 185mm

The Weather terminal unit replaces the outside grille and is supplied with installation details.

Wall Fixing Plate

The Wall Fixing Plate is used for thin wall and above ceiling applications, to support the fan assembly.

7.0 Maintenance

Periodically, at least once a year or more frequently in case of heavy use, remove the dirt and encrustation from the grille(s) fan impeller and motor casing. Ensure the impeller is not cracked or deformed and is able to rotate freely and without oscillation.

Do not use any solvents to clean this product.

8.0 Replacement Of Parts

As a manufacturer Nuaire is aware that time is important. In the event of a breakdown of this equipment, it should be adequately packaged and returned to Nuaire.

Please telephone Nuaire before posting your unit. A returns number will be issued to identify your package.

We will endeavour to repair or replace it within five working days of receipt. See our warranty terms.

9.0 Warranty

The 3 year 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 void if the equipment is modified without authorisation, is incorrectly applied, misused, disassembled, or not installed, commissioned and maintained in accordance with the details contained in this manual and general good practice.

2w

The product warranty applies to the UK mainland and in accordance with Clause 14 of our Conditions of Sale.

Customers purchasing from outside of the UK should contact Nuaire

International Sales office for further details. A unit returned to Nuaire should be suitably protectively packaged and clearly marked with the 'returns number' obtained from Nuaire prior to posting.

10.0 After Sales Enquiries

For technical assistance or further product information, including spare parts and replacement components, please contact the After Sales Department.

Telephone 02920 858 400
aftersales@nuaire.co.uk

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.