

XS Fan Switches & Sensors

Controls and Sensors for the XS Range

Installation and Maintenance Manual



1.0 IMPORTANT SAFETY INFORMATION

- 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.
- Isolate from power supply before removing any covers. During installation/maintenance ensure all covers are fitted before switching on the mains supply.
- All-pole disconnection from the mains as shown in the wiring diagram must be incorporated within the fixed wiring and shall have a minimum contact separation of 3mm in accordance with latest edition of the wiring regulations.
- This unit requires an earth connection.
- This appliance should not be used by children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning the safe use of the appliance by a person responsible for their safety. Children shall not play with the appliance. Cleaning and user maintenance shall not be carried out by children.
- Maximum ambient temperature should not exceed 25°C for continuous operation or 35°C occasionally.

2.0 CODE DESCRIPTION

1	-	2	3
XS	-	AQ	6

1. Range: **XS**
2. Type
MFC = Remote Switch Control
PIR = Passive Infra-red Control
H = Humidity Control
AQ = Air Quality Control
TH = Temperature Control
3. Size/Type:
(excluding XS-MFC)
6 = Integral Sensor for 6" Fan
9 = Integral Sensor for 9" Fan
12 = Integral Sensor for 12" Fan
R = Remote Sensor (for all fan sizes)

3.0 XS-MFC REMOTE SWITCH CONTROL

Designed to work in conjunction with the XS range of fans and associated integral and remote sensors, the XS-MFC Remote Switch Control offers the user the following:

- On/Off.
- Maximum or Economy performance.
- Variable Speed Control.
- Forward/Reverse airflow.
- Auto/Manual operation.

Refer to the unit lift up lid for switch operating instructions.

The Remote Switch can control one fan or multiple fans, depending on the fan and type of sensor being used.

Up to 5x 6"/9" fans can be controlled by one XS-MFC.

Up to 2x 12" fans can be controlled by one XS-MFC.

Do not mix fans of different sizes on the same control.

3.1 SITING POSITION

Mount in a vertical plane with the grille at the bottom. Mount the switch 1.5 metres from the floor (minimum). Do not expose to excessive amounts of oil, grease or direct water spray.

Do not subject switches to a direct heat source in excess of 25°C (35°C occasionally).

3.2 INSTALLATION

Follow the following pictorial sequence.

Fig 1: Lift up panel & remove 2 screws to dismantle unit

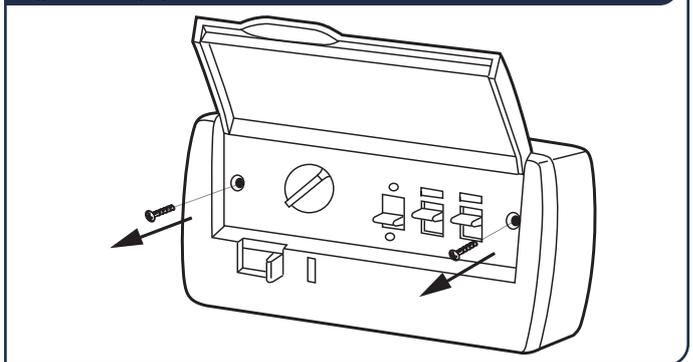


Fig 2: Push out backplate cable entry with a screwdriver

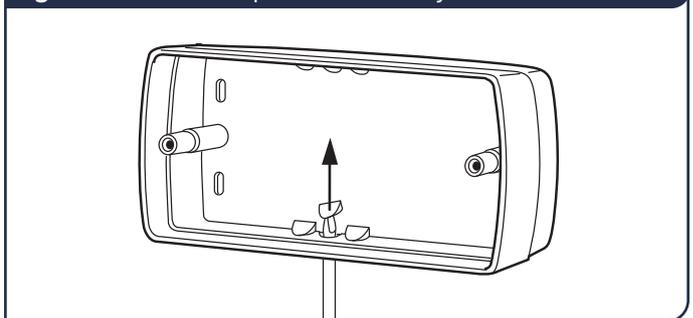


Fig 3: Spot through backplate and drill and plug the wall

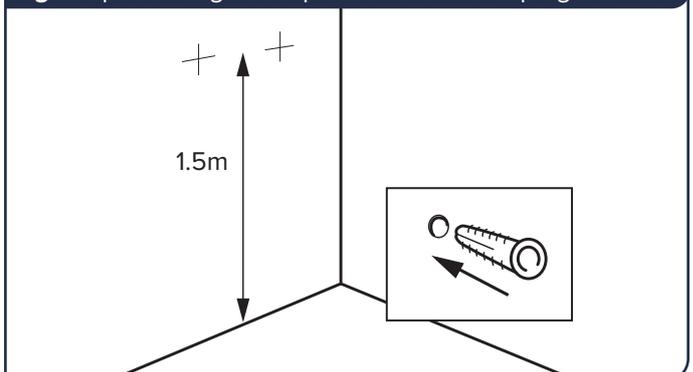


Fig 4: Fix backplate to the prepared wall

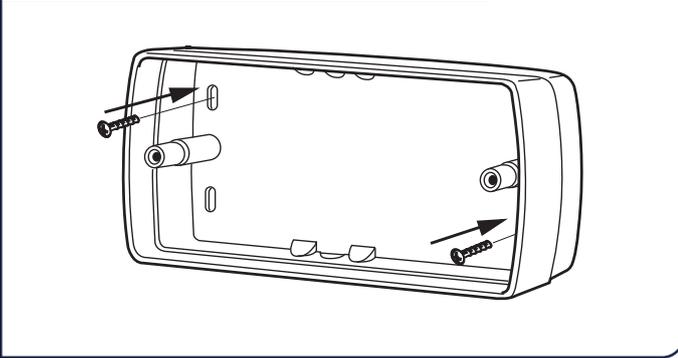


Fig 5: Feed approx. 200mm of supply cable into box

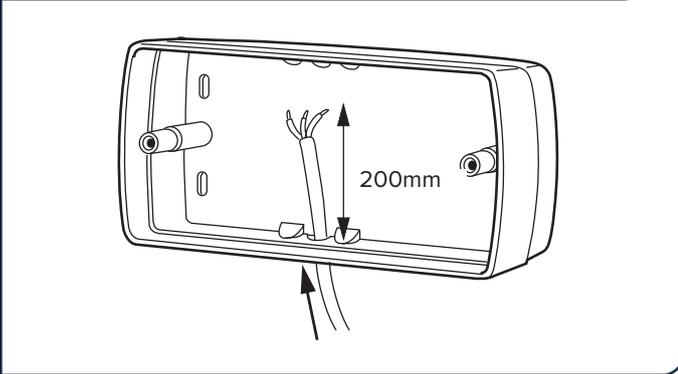


Fig 6: Connect the supply cable into the control block using the appropriate wiring diagram

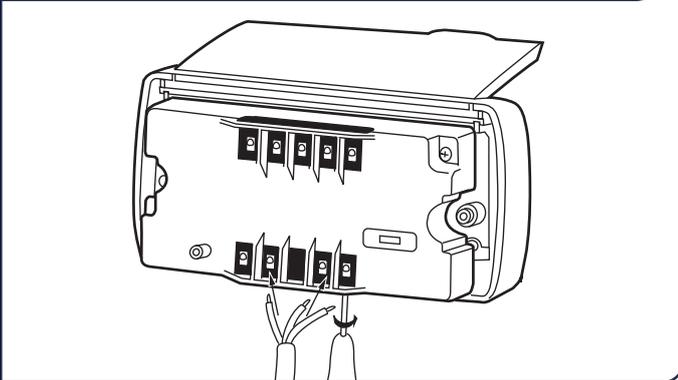
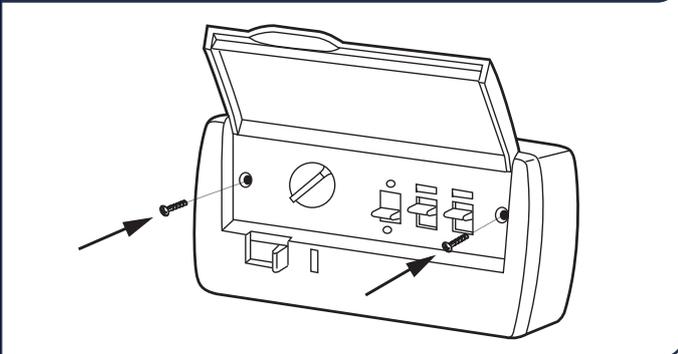


Fig 7: Hook lip of security strap (if fitted) in hinge socket. Fit the control into the backplate, secure and test.



4.0 INTEGRAL SENSORS

- **XS-PIR - Passive Infra-red Movement Detector**
Senses body movement.
Run on Timer is adjustable between 2 and 40 minutes.
- **XS-H - Humidity Sensor**
Senses relative humidity.
Adjustable between 30% and 90% RH.
Run on Timer is adjustable between 2 and 40 minutes.
- **XS-AQ - Air Quality Sensor**
Detects odours and tobacco smoke.
Adjustable to suit size requirements. Run on Timer is adjustable between 2 and 40 minutes.
- **XS-TH - Temperature Sensor**
Suitable for temperatures up to 25°C (occasionally 35°C)
- **XS-TA - Run on Timer**
Adjustable between 2 and 40 minutes.

ISOLATION

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

4.1 SITING

- Mounted inside a fan.
- Grille section adjacent to sensor must be changed to suit the sensor being used (see Fig 8).
- Do not expose to excessive amounts of oil, grease or direct water spray.
- Do not subject sensors to a direct heat source in excess of 25°C (35°C occasionally).

4.2 INSTALLATION

Follow the pictorial sequence on this page.

Fig 8: Push out the sensor area cover from the grille



Fig 9: Remove the module plate

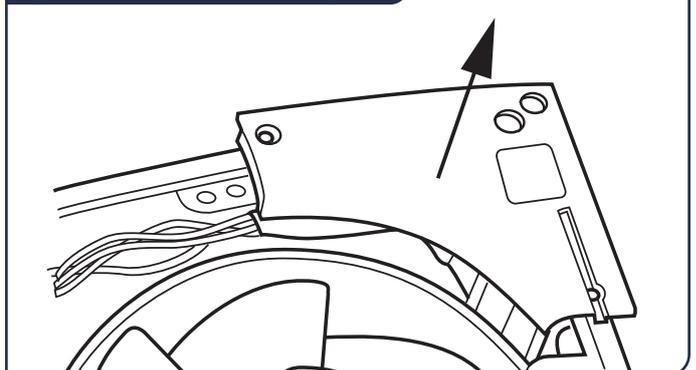


Fig 10: Connect sensor to fan using pre-wired plug

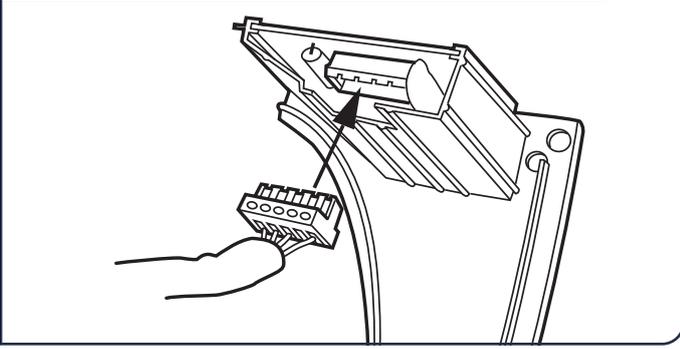


Fig 11: Screw the sensor module into position on the fan

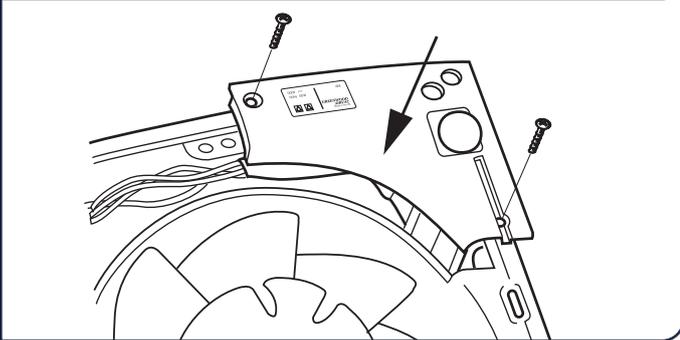
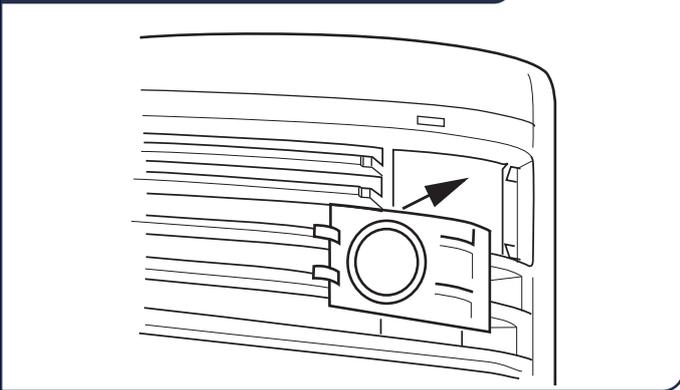


Fig 12: Fit new grille insert into main grille



5.1 SITING

- Mount in a vertical plane.
- The grille in sensor box should be at the bottom.
- Mount the sensor 1.5 metres from the floor.
- Do not expose to excessive amounts of oil, grease or direct water spray.
- Do not subject switches to a direct heat source in excess of 25°C (35°C occasionally).

ISOLATION

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

5.2 INSTALLATION

Fig 13: Remove screws securing the cover to the box

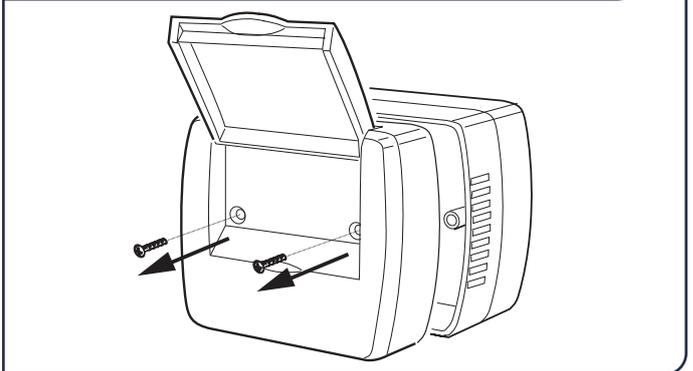


Fig 14: Knock out cable entry point and feed the supply cable through, allowing approx. 200mm of cable to protrude into box

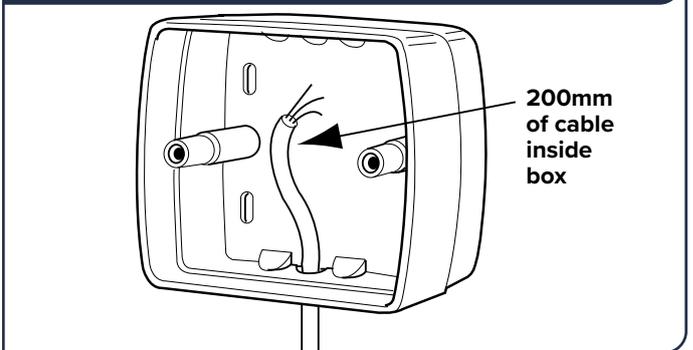
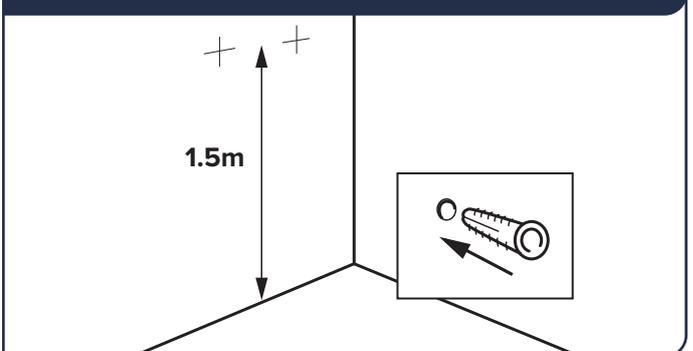


Fig 15: Drill and plug the surface and fix the back box to the wall



5.0 REMOTE SENSORS

Designed to work in conjunction with the XS range of fans, the range of XS Remote Sensors offer the user the following functions:

- **XS-PIRR - Passive Infra Red movement detector**
Senses body movement.
Run on Timer is adjustable between 2 and 40 minutes.
- **XS-HR - Humidity Sensor**
Senses relative humidity.
Adjustable between 30% and 90% RH.
Run on Timer is adjustable between 2 and 40 minutes.
- **XS-AQR - Air Quality Sensor**
Detects odours and tobacco smoke.
Adjustable to suit size requirements.
Run on Timer is adjustable between 2 and 40 minutes.

Refer to the lift up lid for sensor operating instructions.

Fig 16: Wire in the sensor
(see wiring options in 6.0 WIRING on page 4)

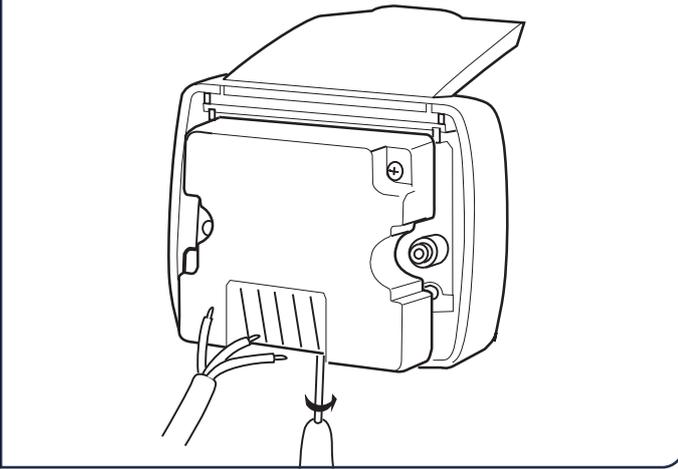
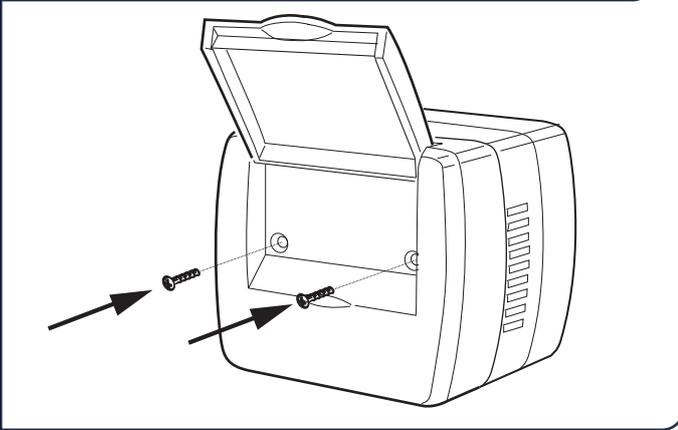


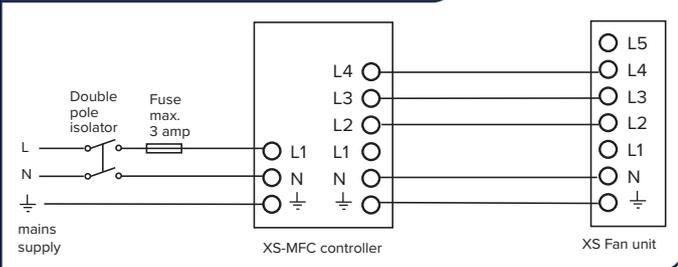
Fig 17: Screw sensor module into position on the wall



6.0 WIRING

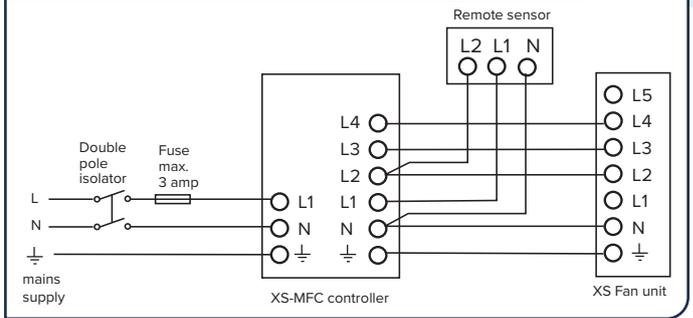
6.1 ELECTRICAL WIRING FOR ONE FAN

Fig 18: Supply/Extract Fan Operated via Remote XS-MFC Control



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

Fig 19: Supply/Extract Fan Operated via Remote XS-MFC Control and Remote Sensor

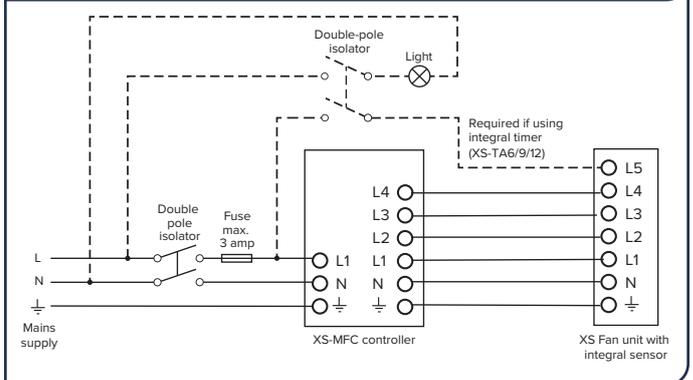


Remote switch may be set: On/Off, Forward/Reverse, Economy/Std. (variable speed), Auto/manual.

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

Fig 20: Wiring a Remote XS-MFC Control with a integral Sensor



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.

- 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

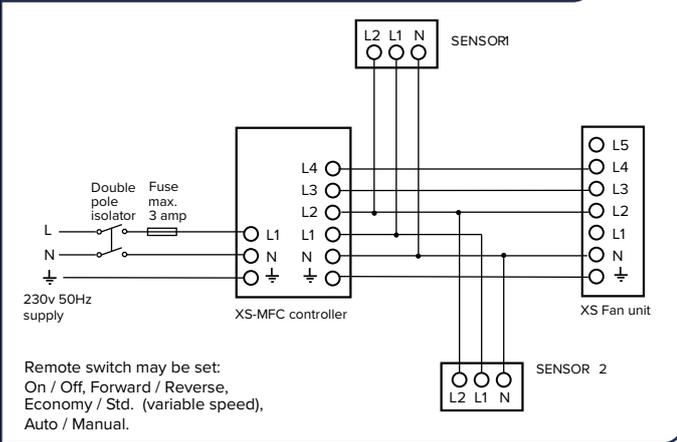
A single sensor will switch all fans if more than one fan is being operated by a single XS-MFC Control.

Note: Multi-Fan Options:

Up to 5 fans (size 6 or 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 XS-MFC control.

Fig 21: Supply/Extract Fan Operated via Remote XS-MFC Control and Multiple Remote Sensors



Note: If 2 x 12" fans or 3 x 6" or 9" 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 is recommended.

Always confirm airflow direction before commissioning.

ISOLATION

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

6.2 ELECTRICAL WIRING FOR MULTIPLE FANS

Fig 22: Multiple Fans Operated via Remote XS-MFC Control

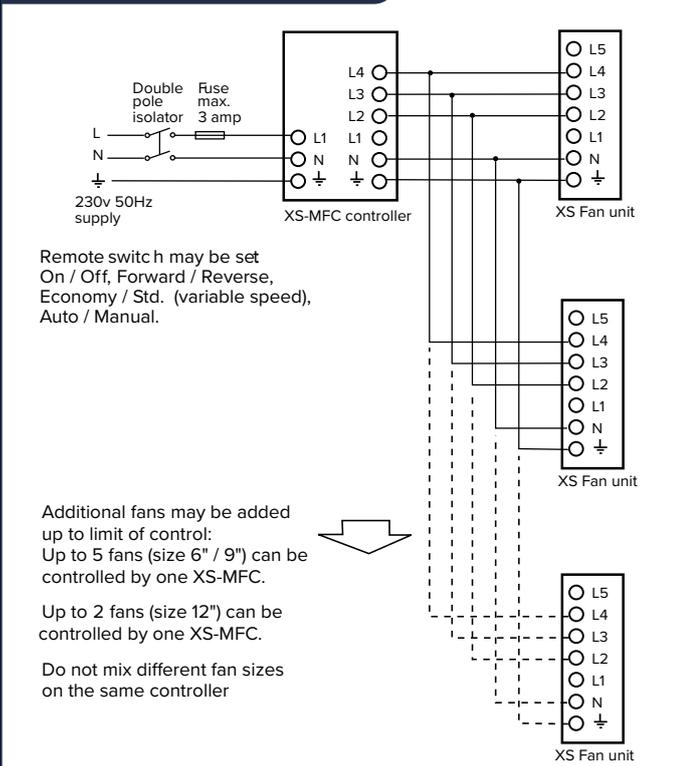


Fig 23: Multiple Fans Operated via Remote XS-MFC Control and a Remote Sensor

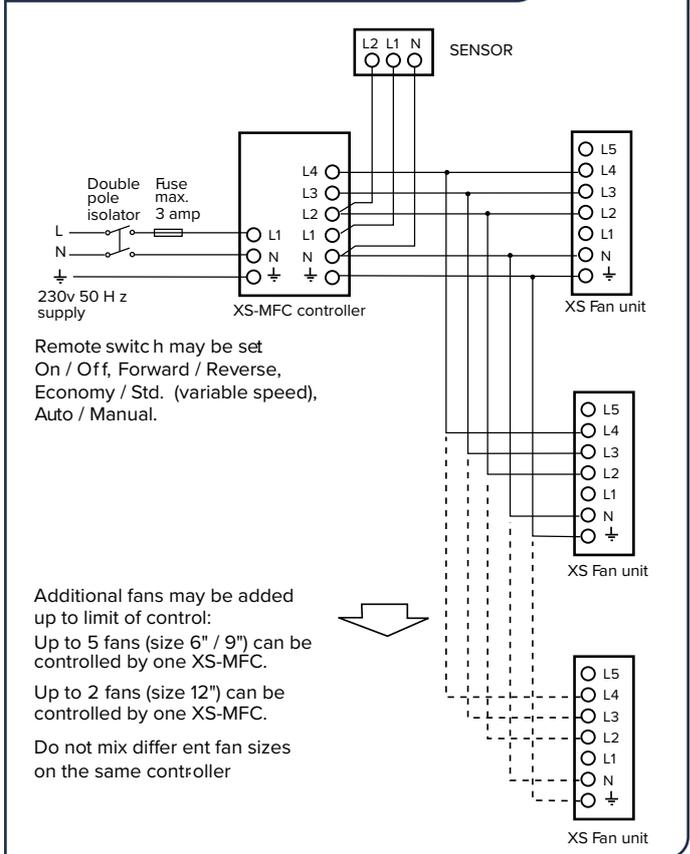


Fig 24: Multiple Fans Operated via Remote XS-MFC Control and an Integral Sensor in Fan 1

