NUAIRE
Microsave 'M' Twin Fan Control

MT-A (auto duty share)
MT-M (manual duty share)
MT-ATC (auto duty sharing + timeclock)
MT-MTC (manual duty sharing + timeclock)

Installation and Maintenance

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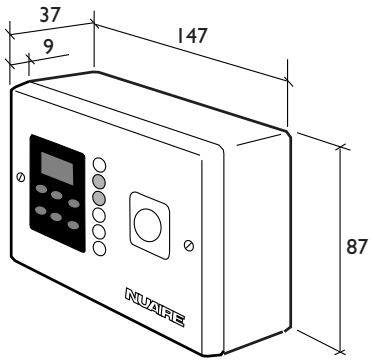

Fig. 1 Dimensions of Microsave 'M' Twinfan Control. Note unit is shown fitted into surface mounted conduit box (supplied).

CONTROL OPTIONS

MT-A
Microsave Twinfan Control, Automatic Duty Sharing
Manual system on/off via the touch button with automatic duty fan changeover every 12 hours. Status LED's indicate fan/system failures.

MT-M
Microsave Twinfan Control, Manual Duty Sharing
Manual system on/off and duty fan changeover via the touch button. Status LED's indicate fan/system failures.

MT-ATC
Microsave Twinfan Timeclock Control, Automatic Duty Sharing
Manual system on/off via the touch button with automatic duty fan changeover every 12 hours. Timed system on/off via 7-day timeclock with 21 adjustable times. Status LED's indicate fan/system failures.

MT-MTC
Microsave Twinfan Timeclock Control, Manual Duty Sharing
Manual system on/off and duty fan changeover via the touch button. Timed system on/off via 7-day timeclock with 21 adjustable times. Status LED's indicate fan/system failures.

Introduction

The NuAire Microsave 'M' Twinfan Control system brings a totally new concept to twinfan control technology. Low voltage circuitry and wiring is employed between the fan and the user control panel to monitor and control the fan unit.
The low voltage 4 -core connecting cables can be installed without the use of expensive and unsightly housing conduits.

The twinfan is fitted with an internally mounted control module which is connected via a single low voltage cable to the User Control. All the mains supply and switching is housed in the control module located inside the associated Quietwin twinfan unit.

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Controls Application Service (CAS)

A team of Engineers and technicians is available to provide pre and post order support.

We are on hand to provide help and advice from the most basic use of any NuAire equipment to the more complex applications, maximising on the versatility of our SMART and NetLink control products.

Telephone: **029 2085 8585**

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The Microsave 'M' Twinfan control system features the compact Microsave User Control panel (see fig. 1 for dimensions). This panel can be installed in the chosen position in a recessed or surface mounted configuration. The unit is the same size as a double gang power socket.
The system is suitable for single or three phase operation.

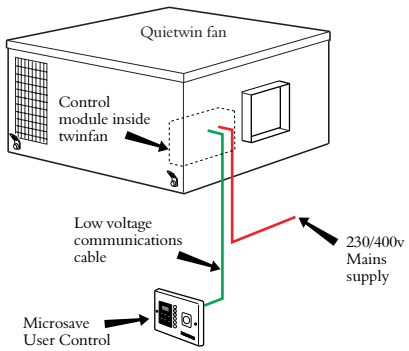


Fig. 2 A typical Microsave Quietwin Control layout

Note:
1. Only one Microsave User Control can be connected to each Microsave 'M' Quietwin.
2. Terminals are provided inside the Quietwin Control module for the following:
   - BMS (Building management system) override control (on / off and system status).
   - Fan speed adjustment which requirers the connection of an additional speed control (contact us for further details).

Control Applications (Single Phase) and wiring

NuAire QTI Twinfans

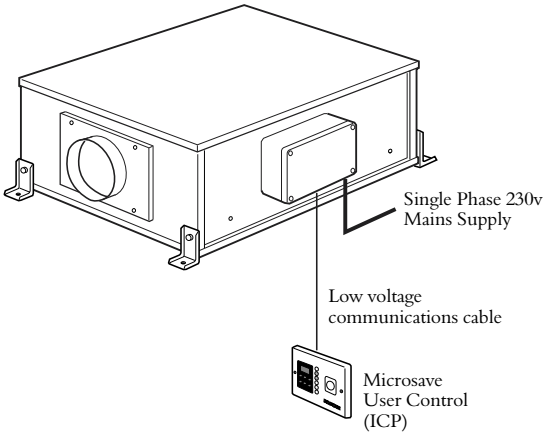


Fig. 3 QTI Single Phase application.

NuAire QTE & QTR Twinfans

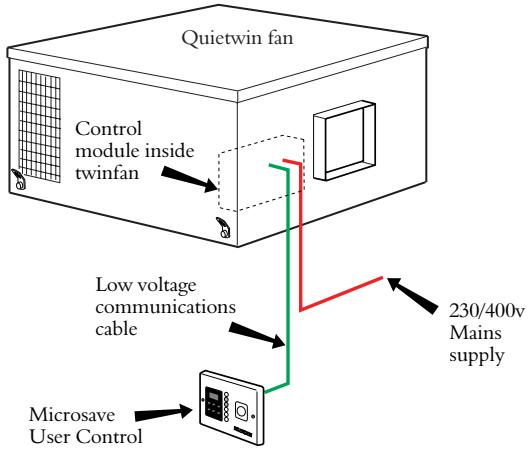


Fig. 4 QTE & QTR Single Phase application.

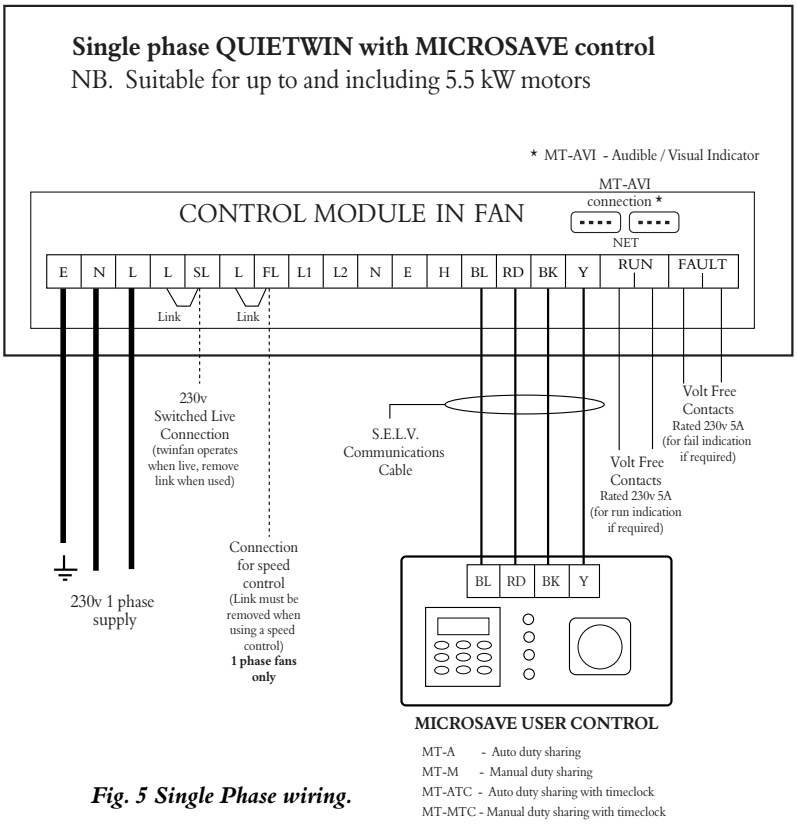


Fig. 5 Single Phase wiring.

Control Applications (Three Phase) and wiring

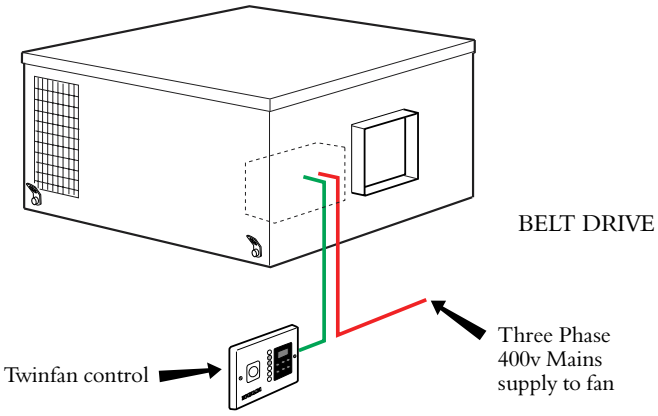
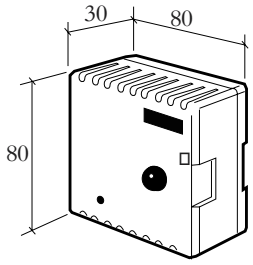


Fig. 6 Quietwin Three Phase application

Fig. 7 Three Phase wiring.

Control ancillaries



MT-AVI Microsave Audio/Visual Fail Indicator
Indicates system status via a large LED (OFF=OK, RED=FAN FAILURE).
Incorporates a user selectable audible warning. Unit 'plugs in' to the Twinfan Control Module, 10m length of communications cable with plugs provided (see opposite for extension cables).

SCBL10, 20 or 30:
Smart Low voltage Extension or Replacement Communication Cables
Low voltage communications cable extensions are available in 10, 20 or 30m lengths. Supplied with 'male' connectors pre-fitted and a 'female' by 'female, adaptor.
The communication cables come in a variety of lengths:
SCBL 10 = 10m length
SCBL 20 = 20m length
SCBL 30 = 30m length
NB: Maximum cable length between Fan Control and Control Device is 50m.

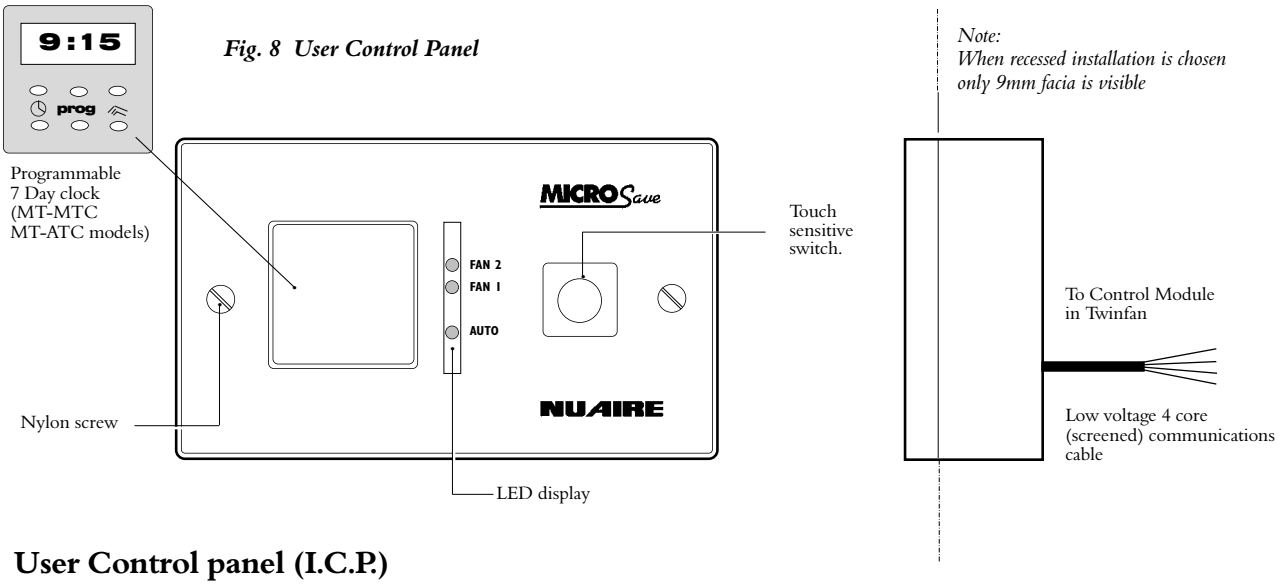


Fig. 8 User Control Panel

User Control panel (I.C.P.)

The user control Safe Extra Low Voltage (S.E.L.V.) circuit is housed behind a flame retardant, ABS plastic moulded (VO rated) facia plate. This plate is supplied fitted onto a standard size, surface mounting, plastic double gang socket box.
Note: It is also possible to fit the facia plate to a **plastic** recessed double gang power socket box thereby limiting the intrusion into the room to only 9mm. Use the nylon cover fixing screws supplied, **do not** use metal screws.

With the User Control Panel, the customer can control the Twinfans operation by sequencing the unit through a number of chosen options.

By placing a fingertip into the concave recess on the facia front, the touch sensitive switch activates the control.

The chosen function is displayed by a series of LED's. Also the chosen function is stored so that if the power supply is removed the controller restarts in the same function.

All control options display the status of Fan 1 and Fan 2.
If either fan is running the appropriate LED will illuminate 'Green'. If the fan fails this LED will show 'Red'. Simultaneously, the controller switches on the standby fan and the controller will remain in this state thus prompting fan maintenance.

The 'OFF' position stops both fans when RED. If the switched live and run on timer facilities are used, thew OFF light will show AMBER when the fans are 'OFF' but may be activated by a 230v switched live input at the SL terminal at the fan.

The 'AUTO' display (green L.E.D.) indicates that the controller is in either a 12 hour duty sharing mode or is operating under the control of a clock option.

If a clock is not fitted, the controller will switch between Fan 1 and Fan 2 on a 12 hourly cycle, and the appropriate LED's will be displayed.

If a clock is fitted, and AUTO is chosen, the fans will respond to the programmed On and OFF times. Adding up the 'ON' times and eventually changing to the standby fan.
The clock shows whether it is 'ON' or 'OFF' to the right of the time display. Days are numbered 1 to 7 and are shown below the time.

Programming the clock

Programming details are provided in a small booklet supplied with each control.
After commissioning please leave the booklet inside each User Control. for customer reference.

Note:
All Microsave control systems include automatic changeover from running fan to standby fan in the event of fan failure. Also an 'Off' position is present on **all** controls.

Connecting the User Control (I.C.P.)

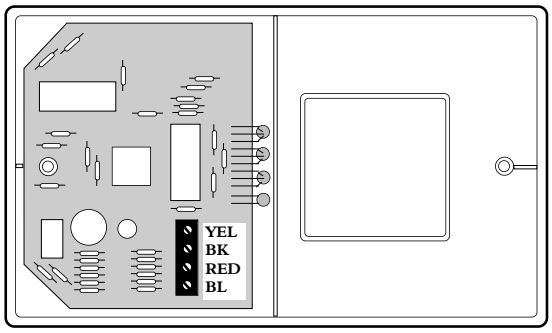


Fig. 9 Rear view of Interface Control Panel

The connections between the Control Module and the I.C.P. are colour coded YELLOW, BLACK, RED and BLUE, (See fig 9). These colour codes are indicated on both the Control Module and the I.C.P. to assist wiring installation. Use Low Voltage 4 core screened communications cable as supplied by NuAire.

Sensitivity Adjustment of the User Control (ICP)

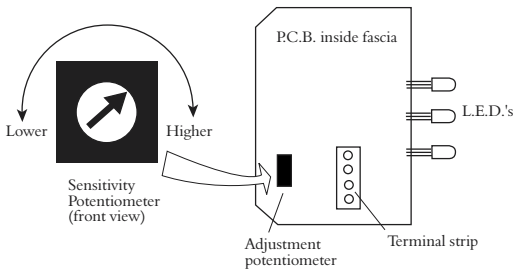


Fig. 11 Sensitivity adjustment

1. Remove front cover of user control by removing the two nylon screws.
2. On the PCB board inside the fascia, adjust the potentiome ter anti-clockwise to reduce the sensitivity of the ICP/ user control.
3. The ICP/User Control may cease to operate if it is over adjusted.
4. Over sensitivity may also be caused byexcessive cable being coiled into the back box. Cut of excess cable and re-terminate.

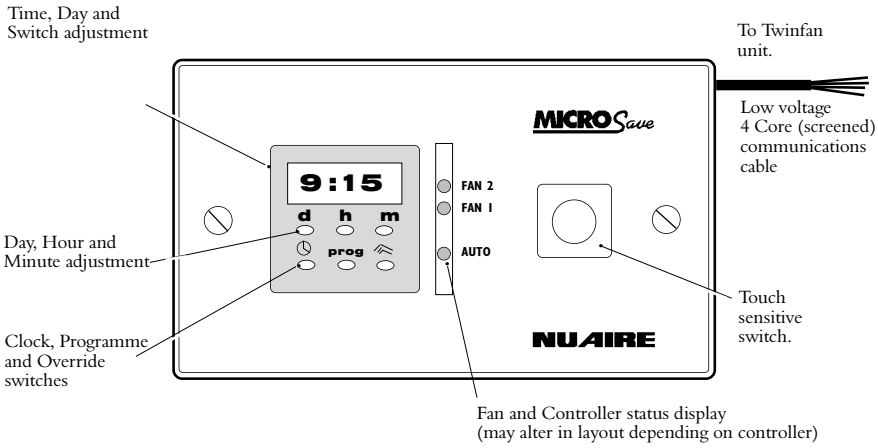


Fig. 12. Detail of facia plate (timeclock option).

Connecting the User Control to the fan

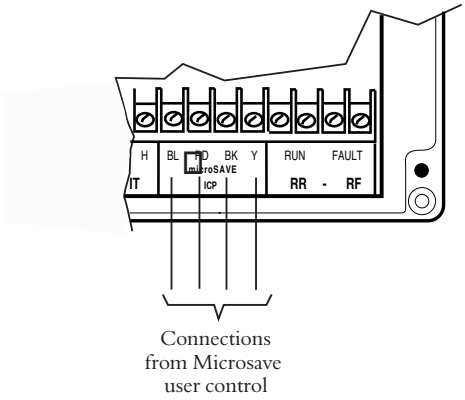


Fig 13 User Control (ICP) connections in the fan control module

Run on Timer adjustment (at twinfan).

A Run On facility is provided so that when the 230v ac signal is disconnected from the terminals the fans can continue to run on for a period of up to 60 minutes. The run on time is set using a a small screwdriver and rotating the adjustment screw (See drawing fig. 14).

When the 230v ac signal is disconnected, the power lamp on the front of the control module will illuminate AMBER to indicate there is no SL signal.

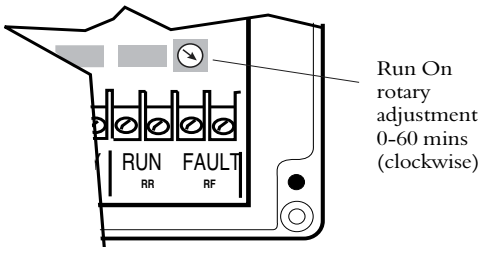


Fig. 14 Run on adjustment

Switched Live connections (at twinfan)

Typical Uses: PIR. / Light Switch. / BMS.

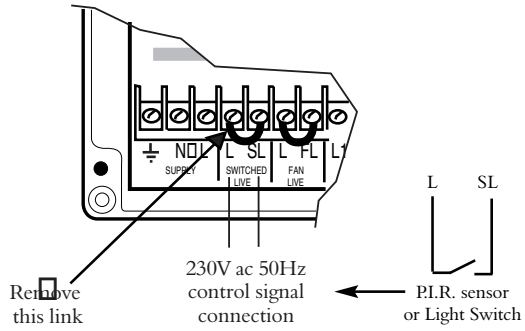


Figure 15. Connections for Switched Live.

A control signal must be routed from the 230v line via the PIR or light switch to the SL terminal on the unit **and the factory link between the terminals L / SL must be removed.** (See figure 15)**.** When 230v ac. is sensed on these terminals, the control will be actuated.

NOTE:
If you do not require SL switching you should retain the factory fitted link between terminals L & SL and set the run on timer to 0 minutes.

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NOVEMBER 2000

CE DECLARATION OF CONFORMITY

We declare that the equipment named below conforms to the requirements of EC Council Directive relating to Electromagnetic Compatibility

Designation of equipment :-	TWINFAN CONTROL
Equipment Types :-	MICROSAVE (M)
Relevant EC Council Directives :-	89/336/EEC, 92/31/EEC (EMC)
Applied Harmonised Standards :-	E50081-1, EN50082-1
Basis of Self Attestation :-	Quality Assurance to BS EN ISO 9001 BSI Registered Firm Certificate No. FM 149

Signature of manufacture representatives :-

		Name:	**Position:**	**Date:**
1)		C. Biggs	Technical Director	2. 10. 00
2)		W. Glover	Manufacturing Director	2. 10. 00