



Description	Product Code
Multivent 3 Room Extract Unit	VMEV

Important Note - VMEV is a Multivent 3 Room Extract Unit ONLY.

Details in this Installation Instruction Manual give recommendations to how the centralised extract unit is installed if purchased as the VMEV-KIT or combined with other components to make it a complete system. See the comprehensive range of Ventair grilles, duct and accessories to complete the installation if purchased separately.

The Multivent continuous extract ventilation is designed for the simultaneous ventilation of separate areas in the home and as a multipoint extraction system for a wide range of commercial applications. The units can be wall, ceiling or loft mounted. Where the ambient air has a high humidity content condensate drains are recommended.

Thank you for purchasing this quality Multivent continuous extract ventilation system.

To ensure correct function and safety, please read all instructions before using the product and keep all instructions for future reference.



When using electrical appliances, basic safety precautions should always be followed to reduce the risk of fire, electrical shock and personal injury.

**SPECIFICATIONS**

Duct (mm)	Max. Fan Watts (W)	Max. Fan Pressure (Pa)	Free Air Fan Performance		Performance at 200 Pa (l/s)	Minimum Specific Fan Power (W/l/s)	Sound dB(A)
			(l/s)	(m³/hr)			
125mm & 150mm	85	810	159	572	123	0.14	52

SEC				Control		Max. Leakage Rates		Annual Electricity Consumption (kWh/a)	Annual Heating Saved (kWh/a)		
Class	Value								Average	Warm	Cold
	Average	Warm	Cold	Factor	Typology	Internal %	External %				
B	-26.9	-11.4	-54.0	0.65	Local Demand Control	<5	<5	0.6	28.3	12.8	55.4

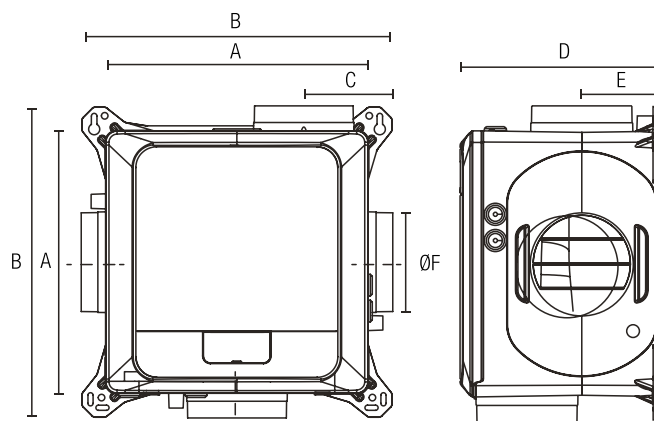


E6337 Compliance: AS/NZS60335-2.80:2016

TYPICAL EXTRACTION LOCATIONS - BATHROOMS, TOILETS, LAUNDRIES, KITCHENS

The unit uses a highly efficient backward curved centrifugal motor impeller set and is designed for continuous 24 hour use. Four settable speeds can be configured to change these speeds based on an integrated sensor or separate switch inputs (not supplied). The unit will run at a normal flow rate until the humidity sensor or external switch input trigger a speed change. In the case of the switched live and digital inputs, the units will perform a step change in speed to the appropriate level. In the case of the analog inputs and humidity sensor, the unit can be programmed to give a proportional response to the change in conditions.

A	B	C	D	E	ØF
330	390	111	250	96	125



Supply	Max. Operating Temp	IP Rating	Motor Housing	Impeller & Outer Rotor	Weatherproof Cowl	Ducting
220-240V AC, 50Hz	40°C	IPX2	Die Cast Aluminium	PBT Plastic	150mm Plastic Weatherproof Cowl supplied separately or available in VMEV-KIT	Duct supplied separately or available in VMEV-KIT



MULTIVENT CONTINUOUS EXTRACT VENTILATION SYSTEM INSTALLATION
AND ELECTRICAL CONNECTION MUST BE CARRIED OUT BY A REGISTERED ELECTRICIAN



CAUTION

- Do not install this product where excessive oil or a grease laden atmosphere is or may be, present
- Do not install this product where corrosive or flammable gases, liquids or vapours are, or may be, present
- Do not install this product where it may be subject to direct water spray from hoses
- Do not install this product where access to, or removal, of the unit may be obstructed
- Before use, please check that the supply voltage and that of the appliance are the same (see product rating label).
- All wiring and wiring connections must comply with all current national wiring rules and regulations including AS/NZS3000:2017, or latest edition thereof.
- Any changes or modifications made or attempted to this product, without the prior written approval of the manufacturer, will void any and all stated warranties.
- This MultiVent continuous extract ventilation system is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are capable of, and have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the MultiVent continuous extract ventilation system.
- In case of damage to the supply cord, switch off the device and do not tamper with it. Damaged supply cords must only be repaired or replaced exclusively by the manufacturer or by an appointed representative. Failure to comply with the above may endanger the safety of people and cause possible damage to the whole system.
- The unit must not be connected directly to a tumble drier.
- Precautions must be taken to avoid the back-flow of gases into the room from the open flue of gas or other fuel-burning appliances.
- The exhaust grille should be located at least 600mm away from any flue outlet.



BEFORE INSTALLING THE MULTIVENT CONTINUOUS EXTRACT VENTILATION SYSTEM, MAKE SURE YOU
HAVE TURNED OFF THE MAIN ELECTRICITY SUPPLY. DO NOT TURN IT BACK ON UNTIL THE MULTIVENT
CONTINUOUS EXTRACT VENTILATION SYSTEM IS FULLY
INSTALLED AND READY TO USE.



ALL ELECTRICAL WORK MUST BE CARRIED OUT BY A REGISTERED ELECTRICIAN IN ACCORDANCE
WITH THE LATEST WIRING RULES AS/NZS3000.

IMPORTANT

- This Multivent continuous extract ventilation system is hot when in use. To avoid burns, do not let bare skin touch hot surfaces. Keep combustible materials away from the unit and keep them away from the sides and rear.
- Do not use near or in the immediate vicinity of a bath or swimming pool or any wet areas.
- When installing fan through an external wall, an external wall grille must be fitted at all times.
- This appliance incorporates an earth connection for functional purposes only.
- To protect against electric shock, do not immerse cord or plug in water or any other liquids.
- Do not insert or allow foreign objects to enter any ventilation openings, as this may cause an electric shock, fire or damage to the fan.
- Do not put fingers or foreign objects into the grille while in operation.
- Any changes or modifications made or attempted to this product, without the prior written approval of the manufacturer, will void any and all stated warranties.
- To prevent overheating of this fan, keep the air inlets and outlets clean and free of anything that may cause blockage. Check all inlets and outlets from time to time to ensure it is clear of any dirt or dust accumulation. DO NOT COVER.
- Do not use it in areas where gasoline, paint, or flammable liquids are used or stored.
- This product contains recyclable materials. Do not dispose of this product as unsorted council waste. Please contact your local council for the nearest collection point.

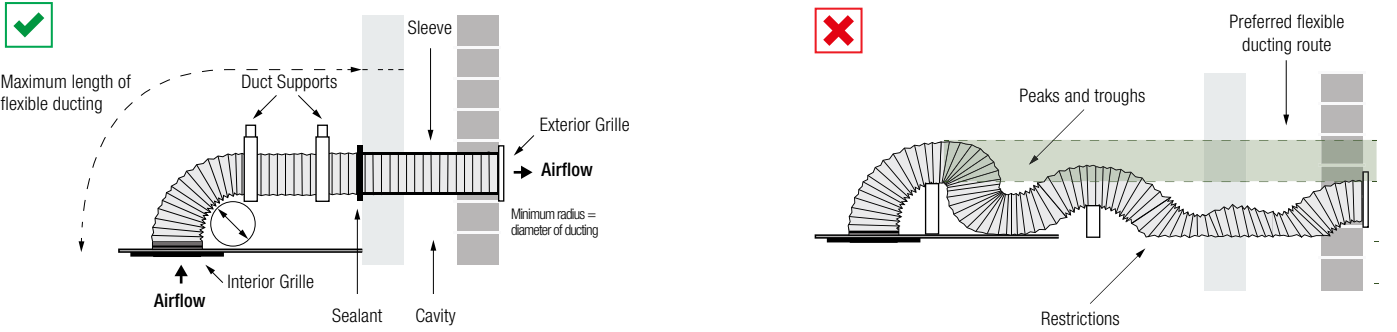
INSTALLATION

Position the unit, taking into consideration the position of the rooms to be ventilated, the exhaust position and the electrical services. Ensure there is adequate access for installation and maintenance.

If the unit is sited in the heated void of the dwelling a condensate drain should not be necessary. When sited in a roof cavity, consideration should be given to fitment of a condensate drain. Alternatively the unit and ducting can be externally insulated to minimize condensation within the units housing.

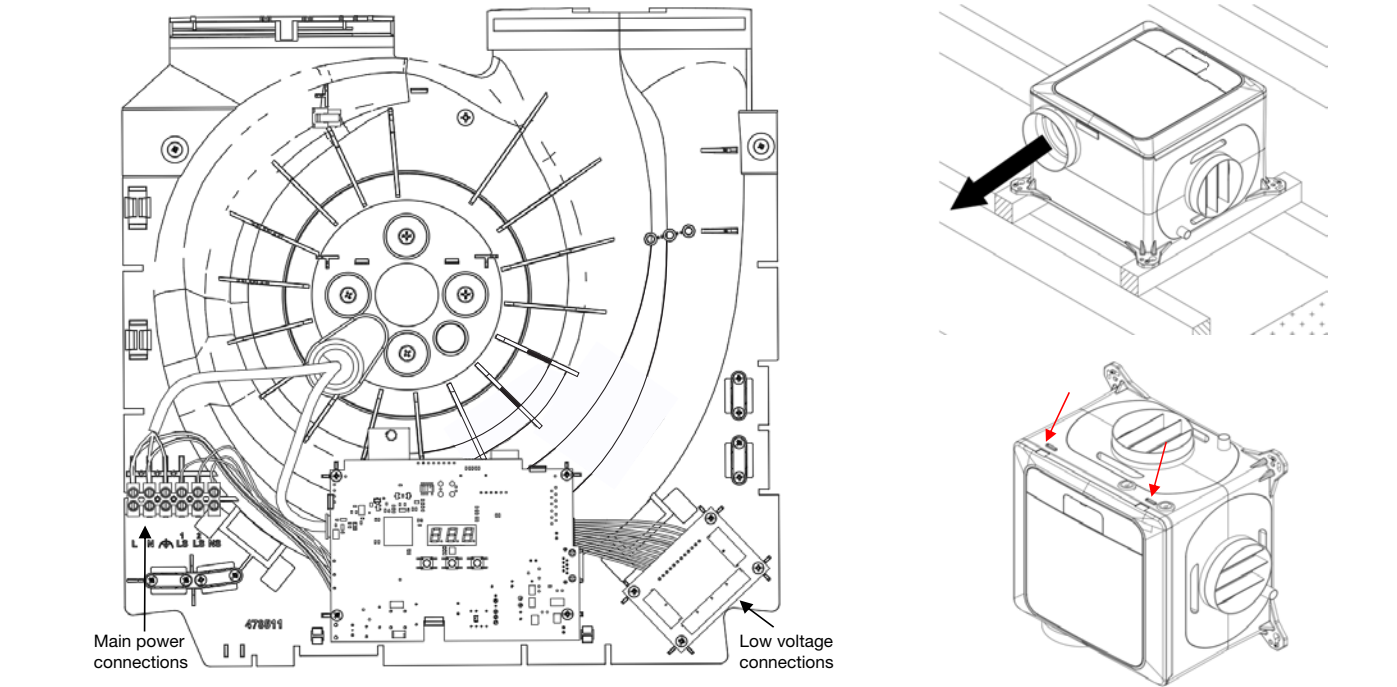
To reduce the system resistance in your duct system, and therefore lower the speed, power consumption and noise of the fan, follow these guidelines:

- Keep the length of duct runs to a minimum, particularly the exhaust duct run.
- When using the flexible ducting in the kit, make sure that it is fully extended and not crushed, sagging or torn.
- Try to minimize the use of diffusers/valves by having similar length duct runs to the inlets.
- The bend radius (measured to the inside of the bend), should be at least 1x the duct diameter.
- Avoid having any bends, filters or other obstructions within 250mm of the fan inlets and outlet.



Securely mount the unit through the mounting holes on the casing using appropriate fixings (not supplied) for the mounting substrate. Fixings to be capable of securing 4x the weight of the unit. Unit weight: 4.1kg. Anti-vibration mounts, acoustic mats or rubber bushes can also be used. Installation example shown below.

To maintain the IPx2 rating of the unit, the unit must not be mounted with the cover removal slots facing upwards (as indicated by the red arrows), or at an angle where they are visible from above. All other orientations are acceptable.



INSTALLATION



As per the picture above try to position the MultiVent fan housing in a location central to all of the rooms that you are planning to extract from. Also remember that the unit could create noise and should be mounted away from bedrooms. Mount the MultiVent using the 4 mounting points. Bear in mind that the exhaust (main extraction) uses 150mm aluminium foil ducting and a 150mm weather proof cowl (not supplied with VMEV) but available separately.

Each VMEV-KIT contains 3 x 6m lengths of 125mm aluminium foil ducting for the extraction points.

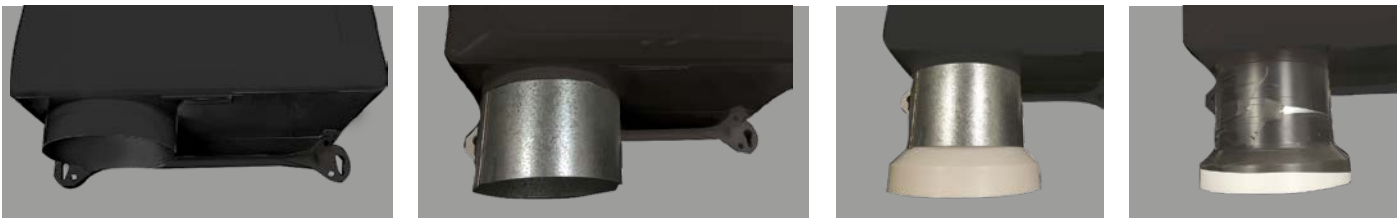


- Cut a hole to the required duct valve size in the necessary locations in the Bathroom, Toilet, Laundry or Kitchen (if applicable and a minimum 2m away from the cooking top).
- Carefully pull the aluminium 125mm duct through the freshly cut hole at each location.



- Extend the 125mm aluminium foil ducting over the duct valve spigot and use duct tape provided (in VMEV-KIT) to secure in place.
- Once the duct is firmly secured in place push the duct valve up into the ceiling ensuring the three spring clips evenly align with the edge of the cut out.
- Use even upward pressure on the face of the duct valve, allowing it to pull itself up into place. Complete the other two rooms following the same instructions.

INSTALLATION



- Mount the 125mm duct jointer (DCT0037) to the exhaust port of the MultiVent.
- Fit the 150mm to 125mm reducer (DCT2066) to the 125mm duct jointer and tape both joints using the supplied duct tape.



- Fit the 150mm aluminium foil ducting (VAD150) to the 150mm waterproof cowl (V150WPC) and tape it to the spigot.
- From outside of the building cut a 150mm (minimum) hole in the outside wall of the home and push the 150mm ducting through the hole.
- Fit the waterproof cowl to the building exterior and then from the roof space pull the ducting taut and tape it off at the 150mm to 125mm reducer.



- Extend each length of the 125mm aluminium foil ducting pulling it taut and tape off the three extraction points to the MultiVent unit.
- Install electrical wiring as per page 3 of the instruction manual.

ELECTRICAL CONNECTIONS

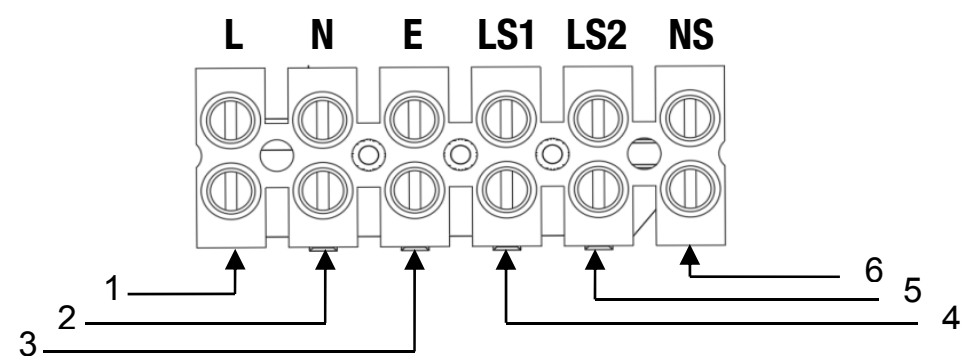
1.

To remove the cover, use a coin or similar; depress the retaining tabs via the slots in the side of the unit.
2.

With the power off, connect a suitable mains power cable (preferably to an existing lighting circuit) to the screw terminal block (L, N, Earth) connections. Use the cable clamps and clip provided to secure the lead.
3.

Two mains voltage Live Switched (LS1 and LS2) connections are provided, and can be used to trigger a change in speed. Common inputs would be from a bathroom lighting circuit. When commissioning the unit, a delay on timer and an overrun timer can be selected and adjusted in the software using the buttons and screen. See Commissioning section on page 10 of this document for details.
4.

The switched live output (230V AC) from any other switch or controller, (such as a simple latching pullcord or push button switch, humidistat or PIR detector) can be connected to the LS terminal instead of connecting to a lighting circuit.



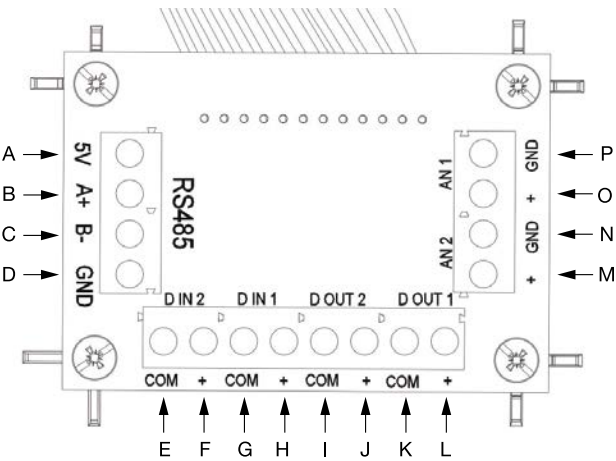
Terminal		Description	Connection	Terminal		Description	Connection
1	L	Live (220-240V AC)	L3 (Brown)	4	LS1	Live Switched 1, (220-240V AC), isolated	L2 (Black)
2	N	Neutral	N (Blue)	5	LS2	Live Switched 2 (220-240V AC), isolated	L1 (Grey)
3		Protective Earth	E (Green/Yellow)	6	NS	Neutral Switched, isolated	Link to N

NOTE: LS1, LS2 and NS terminals are electrically isolated. If the LS connections are used, a connection must be made with the NS terminal. This can be via a jumper or dedicated neutral connection.

LOW VOLTAGE CONNECTIONS

1.

Important: Use 4-core, low voltage, twisted pair, telecoms type cable for accessories. Accessories are connected via the IO (Input Output) PCB; see the Low Voltage Connections diagram in the Main fitting and wiring guide.

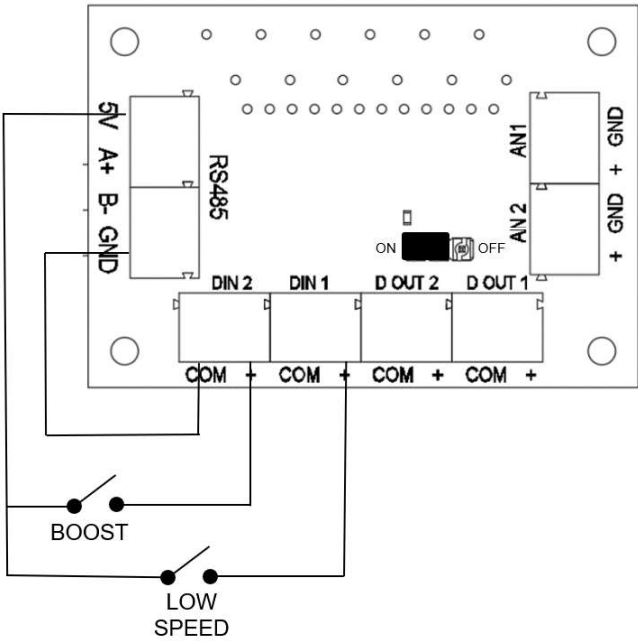


Pos/Label	Description	Action
A	5V	5V Output, Max 250mA
B	A+	Data
C	B-	Data
D	GND	Ground
E	COM	Digital input common
F	+	Digital input 2
G	COM	Digital input common
H	+	Digital input 1
I	COM	Digital output common
J	+	Digital output 2
K	COM	Digital output common
L	+	Digital output 1
M	+	Analog input 2
N	GND	Ground
O	+	Analog input 1
P	GND	Ground

2. RS485 Wired inputs

The RS485 terminals are used to connect compatible sensors and switches. The connection allows sensors be daisy chained to simplify wiring with the maximum length of cable run from the unit limited to 250m. Once accessories are wired to the unit, they must be paired to the unit to function correctly.

Low Voltage Switch's – Boost & Low Speed



FEATURE DESCRIPTIONS

Comfort Mode

If Comfort mode is enabled the unit will behave as follows to all LS inputs

Trigger	Action
LS input active less than 5 minutes	No action (continue to run at Normal speed)
LS input active more than 5 minutes but less than 20 minutes	Once LS input is removed, fan will run at user selected speed for the length of time LS was present plus the set over-run time (if over run is enabled).
LS input active more the 20 minutes	Unit will Boost after 20mins. Once LS input is removed, fan will run at user selected speed for 20 minutes plus the set overrun time (if over run is enabled).

The above applies to all LS inputs. The times are not adjustable by the user.

Delay On

A delay can be set so that the unit will not respond to an input until after the set delay has elapsed, applies to LS inputs only.

Overrun Timer

The unit can be set to run for a defined period after the input is removed, applies to LS inputs only.

Humidity – Rapid rise*

Rapid Rise humidity response functions to detect rapid rises in humidity when the ambient %RH is under the threshold setting. If a rapid rise is detected the fan will boost until the humidity lowers again.

Humidity – Ambient response*

When ambient response is enabled the threshold set point is modified based on the ambient temperature. This helps to prevent nuisance boosting of the unit as temperatures changes during the day.

Humidity – Threshold*

The unit will boost when the RH is above the threshold set point.

Analogue inputs

Both analogue inputs have adjustable low and high trigger voltages within the 0-10V range. The response to being above or below either of the threshold voltages is user settable.
Note: The display doesn’t show a decimal point, for example at threshold voltage of 5.2V, is displayed as “52” on the unit.

Digital Inputs

The unit can be set to change speed (selectable), based on whether the digital inputs are above or below the threshold voltage. See the table of Low Voltage Connections for details.

Display Lock

To protect the settings on the MultiVent unit a pin code can be enabled via the main menu. Once the lock function has been enabled the Pin code can be set. The 3-digit pin is A to F, 0 to 9, and the **default is LoC**.

UNIT ADJUSTMENT

1. Commissioning and configuration on all products is supported by the 3 digit user interface and associated push buttons.

2. When powered on, the unit will display the firmware revision number, after a few seconds the unit will display the first option in the menu structure (see below).

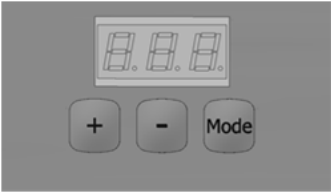
3. The display will enter standby mode after 30 seconds, press the Mode button to turn the display back on.

4. Changes to the settings can be made via the + and – buttons, the Mode button will accept changes and move onto the next menu option.

5. When setting the speeds, there is an internal logic: Low<Normal<Boost<Purge. I.e., Boost is always higher than Normal.

6. The actions for each of the Live Switched (LS), inputs are selectable. The setting for delays and over run timers are applicable to all inputs.

7. To restore factory settings, Press and hold “Mode” button for 10 seconds.


- USER CONFIGURABLE PARAMETERS
- | Display Text | Function | Selections | Default |
|--------------|---------------------------------------|---|---------|
| L10 | Low Speed | 1 to 97% motor speed | 10% |
| n35 | Normal Speed | 2 to 98% motor speed | 35% |
| b70 | Boost Speed | 3 to 99% motor speed | 70% |
| P100 | Purge Speed | 4 to 100% motor speed | 100% |
| LS1 | Live Switch 1 | Low, boost or purge speed | Low |
| LS2 | Live Switch 2 | Low, boost or purge speed | Boost |
| LS3 | Live Switch 1 & 2 | Low, boost or purge speed | Purge |
| c-n | Comfort Mode | Comfort mode - Yes or No | No |
| d-n | Delay On | Delay on - Yes or No | No |
| d10 | Delay On Time | Delay to boost duration - 1 to 60 minutes | 10m |
| o-n | Overrun | Overrun - Yes or No | No |
| o10 | Overrun Time | Overrun duration - 1 to 60 minutes | 10m |
| r-y | Humidity - Rapid Rise | Rapid Rise Rapid rise - Yes or No | Yes |
| A-n | Humidity - Ambient Response | Ambient response - Yes or No | No |
| h70 | Humidity - Ambient Response Threshold | Ambient response threshold - 40 to 80% RH | 70% |
| C2b | CO2 - Boost Threshold | Boost threshold 650 - 4950 PPM | 950 |
| C2P | CO2 - Purge Threshold | Purge threshold 700 - 5000 PPM | 2000 |
| A1LA | Analogue 1 - Low Action | Low, normal, boost or purge speed | Low |
| A1HA | Analogue 1 - High Action | Low, normal, boost or purge speed | Boost |
| A1tL | Analogue 1 - Low Threshold | Low threshold - 1 - 99 | 15 |
| A1tH | Analogue 1 - High Threshold | High threshold - 1 - 99 | 75 |
| A2LA | Analogue 2 - Low Action | Low, normal, boost or purge speed | Low |
| A2HA | Analogue 2 - High Action | Low, normal, boost or purge speed | Boost |
| A2tL | Analogue 2 - Low Threshold | Low threshold - 1 - 99 | 15 |
| A2tH | Analogue 2 - High Threshold | High threshold - 1 - 99 | 75 |
| D1 | Digital input 1 - Action | Low, boost or purge speed | Low |
| D2 | Digital input 2 - Action | Low, boost or purge speed | Boost |
| unl | Unlock Code | Turn the menu lock OFF/ON | |
| Pln | Display Pin | 3 characters A to 9 | LoC |
| dt30 | Display Time | Adjust display illumination period | 30 s |
| rot | Rotate Display | Invert the display | rot |
| hu | Humidity | Show the current internal humidity | % |
| tu | Temperature | Show the current internal temperature | °C |
| CO2 | CO2 | Show the current CO2 level | PPM |
| end | End | End of menu (loop to start) | |
- Installation Instructions

Specifications are subject to change without notice.

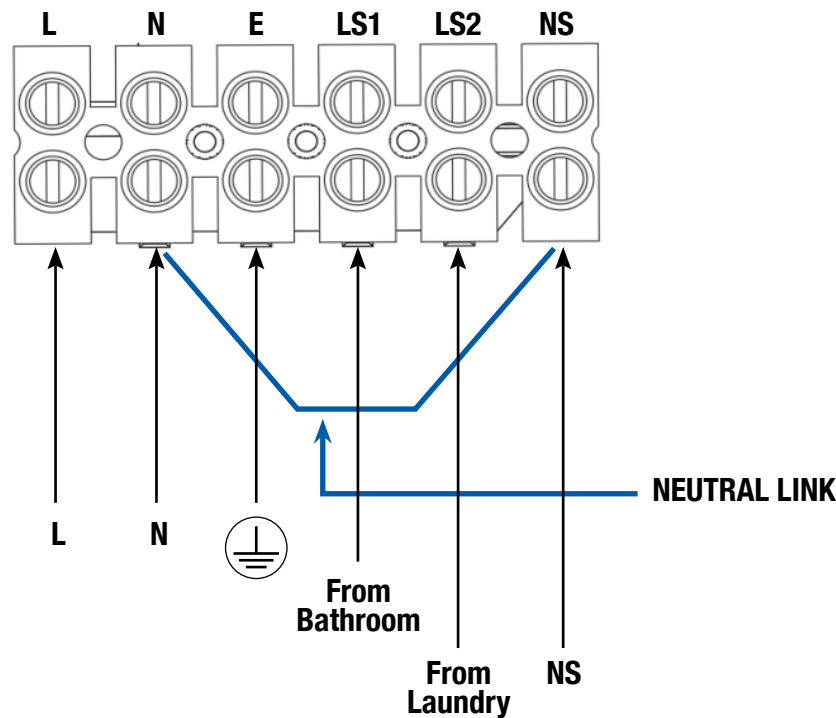
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COMMISSIONING – TYPICAL 3 ROOM SYSTEM

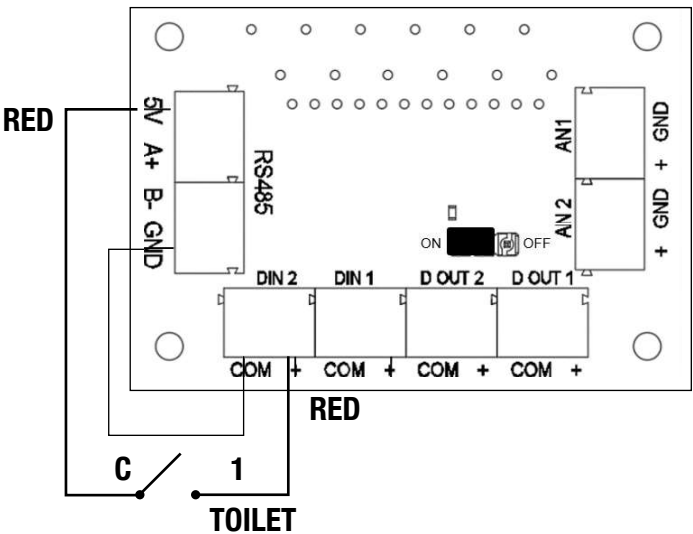
In the following step we will provide an example of how to wire and control a Multivent system hardwired to a Bathroom, Laundry and Toilet. The Multivent will utilise Humidity – Rapid Rise in its response and the 2 larger rooms (Bathroom and Laundry) will also provide a PURGE speed function if these 2 rooms are switched on together.

Before commencing please ensure that all power is OFF and ensure that it is electrically safe before starting.

Wire the 230VAC connections as per the diagram below. Wire mains connections from a suitable source (lighting circuit) or add a new dedicated circuit from an RCD protected 10A MCB with the cable to L (live - BROWN), N (neutral - BLUE) and E (protective earth – GREEN/YELLOW). Wire a 230V connection from a switch located in the Bathroom that could be either a dedicated FAN switch (or a connection from a LIGHT switch) and connect the L (BROWN) wire back to LS1. Do the same from a switch located in the Laundry and connect the L (BROWN) wire back to LS2. Hardwire a NEUTRAL LINK (BLUE or BLACK) from the N (neutral - BLUE) mains connection to the connection labelled NS (neutral switched).



For the toilet the Multivent will use its Extra Low Voltage connections for control. Using a short piece of wire connect a 0.5mm (or similar sized wire) from the GND terminal at the RS485 connection to the COM terminal adjacent to DIN 2 (digital input 2) + connector. Using a twin red TPS cable connect one RED core to the + connector at DIN 2 and connect the other RED core to the 5V terminal at the RS485 connection. Run the other end of the cable to the toilet FAN switch and connect the 2 red cores to the C (common) and the normally open (usually labelled 1) connections at this switch. See diagram below.



Using instructions from the section “UNIT ADJUSTMENT” change LS1 from Low to BOOST

With this completed the MultiVent once switched ON will operate in NORMAL speed (35%). When the Bathroom FAN switch is turned on the MultiVent will operate at BOOST (70%) speed clearing away steam and humidity. If the Laundry FAN switch is turned on the MultiVent will operate at BOOST (70%), and if both Bathroom and Laundry FAN switches are turned on together the MultiVent will operate at PURGE (100%) speed helping to clear away steam and humidity. The toilet FAN switch will also turn the MultiVent on to BOOST (70%). Please note that only having the 2 larger rooms (Bathroom and Laundry) switched on will activate PURGE (100%) speed.

FAULT CODES

If the Multivent unit detects a fault it will display an error message on the HMI display.

Fault Code	Description
F01	Control fault – Unit failed startup check
F02	Motor Fault – No RPM
F03	Humidity/Temp sensor Fault – No value
F04	Temp or Humidity sensor connected via RF/RS485 is offline/Lost

SPARE PARTS



WARNING: THE FAN AND ANCILLARY CONTROL EQUIPMENT MUST BE ISOLATED FROM THE POWER SUPPLY DURING PART REPLACEMENT.

1. Individual faulty parts should not be replaced due to complexity of assembly. Only the full scroll assembly is replaceable.
2. To remove the scroll assembly, isolate the power, then use a coin or similar to depress the cover retention clips and remove the cover.
3. Disconnect and remove the power supply and signal leads.
4. Remove the scroll assembly by unscrewing the two screws and unclipping the clips in the opposite two corners and lift the scroll assembly out of the housing.
5. The fan has sealed for life bearings, which do not require lubrication. Expected service life is at least 45,000 hours continuous running.
6. Upon reassembly, check all fixings are tight and secure.



Applicable only to products installed and used in Australia, for details of guarantee outside Australia please contact your local supplier.

Ventair guarantees this product for five years from the date of purchase, against faulty material or workmanship. In the event of any part being found to be defective, the product will be repaired or at the Company's option replaced, without charge, provided the product:

- Has been installed by a licensed electrician
- Has been installed and used in accordance with the instructions given, with each unit
- Has not been connected to an unsuitable electricity supply.
(The correct electricity supply voltage is shown on the product rating label, attached to the unit)
- Has not been subjected to misuse, neglect or damage
- Has not been modified or repaired by any person not authorised by the company

IF CLAIMING UNDER TERMS OF GUARANTEE

Please return the complete product, to your original supplier, by post or personal visit. Please ensure that it is adequately packed and accompanied by a letter clearly marked

"Guarantee Claim" stating the nature of the fault and providing evidence of date and source of purchase.

The guarantee is offered to you as an extra benefit and does not affect your legal rights.

VENTAIR PTY LTD

4 Capital Place, Carrum Downs, VIC, 3201, Australia

T: +61. 3. 9775 0556 | E: info@ventair.com.au

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As part of the policy of continuous product improvement Ventair reserves the right to alter specifications without notice