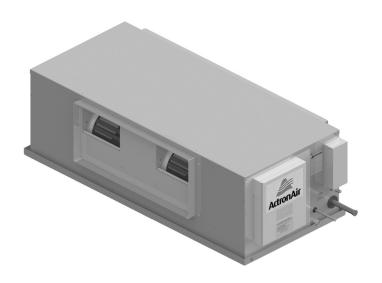
ESP Plus / ESP Ultima Split Ducted Unit

Installation and Commissioning Guide - Indoor



Model Numbers

ESP Plus	ESP Ultima
SRV131E	SRM151E
SRV151E	SRM171E
SRV171E	SRM191E
SRV191E	SRM201E
SRV201E	SRM231E
SRV231F	

IMPORTANT NOTE:

Please read this manual carefully before installing or operating your air conditioning unit.



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Installation and Commissioning Guide

Split Ducted ESP Indoor Unit

01. Introduction

CONGRATULATIONS on your purchase of an ActronAir air conditioning system! This unit has been designed and engineered to provide optimum air conditioning and to achieve maximum energy efficiency.

Your air conditioning system has been manufactured from the highest quality materials. Numerous "in house" and "external" inspection and test procedures were conducted to your air conditioning to ensure satisfactory operation.

01.01. Information About This Guide

This guide provides installation instructions, specific to your split ducted indoor unit. Read this manual thoroughly and take into consideration all specifications and instructions to ensure correct installation and safe operation of your air conditioning system.

IMPORTANT

Keep this document for future reference. Ensure all technicians that work on the unit can refer to this manual at any time.

01.02. Product Inspections

Check your air conditioning unit and all items against the invoice upon receiving your shipment. Inspect the unit, components and accessories for any sign of damage. If there is any damage to the unit, contact ActronAir Customer Care Department immediately on: **1300 522 722.**

Check the unit nameplate to verify the model, serial number, electrical rated specifications are correct.

01.03. Codes, Regulations And Standards

The installer and/or contractor assumes responsibility to ensure that unit installation complies with the relevant council, state / federal codes, regulations and building code standards. All electrical wiring must be in accordance with current electrical authority regulations and all wiring connections to be as per electrical diagram provided with the unit.

01.04. Important Safety Symbols And Labels

Safety Symbols and labels appear at appropriate sections throughout this manual to indicate immediate or potential hazards. Pay full attention and comply to the safety information and instructions. Failure to follow safety instructions increases the risks of personal injury, death and/or property damage. Damages to the product as a result of such failure may void warranty.

ActronAir has endeavoured to provide sufficient safety warnings and recommendations, however current and prevailing WH&S regulations must be observed and will take precedent whenever performing the installation instructions discussed in this manual.

02. Safety Instructions

- Only licensed HVAC technicians* should install and service this air conditioning equipment. Improper service or alteration by an unqualified technician could result in significant and major damage to the product or property which may render your warranty null and void. Such unqualified service could also lead to severe physical injury or death. Follow all safety instructions in this literature and all warning labels that are attached to the equipment.
- Prevailing WH&S regulations must be observed and will take precedence to the safety instructions contained on this manual. Safe work practices and environment must be the paramount importance in the performance of all the service procedures.
- Ensure that unit installation complies with relevant council regulations and building code standards.
- All electrical wiring must be in accordance with current electrical authority regulations and all wiring connections to be as per electrical diagram provided.
- Secure the fans against accidental contact. Beware of pinch point and sharp edges which can cause cutting injury.
- Always wear appropriate PPE, remove any dangling jewellery and protect long hair by wearing a cap.
- · Make sure that safety guards and panel covers are always firmly secured and not damaged.
- This appliance is not intended for use by young children or infirm persons unless they have been adequately supervised by a responsible person to ensure that they can use the appliance safely. Young children should be supervised to ensure that they do not play with the appliance.
- Installer must incorporate a means of electrical disconnection (isolator) in the sub mains fixed wiring in accordance with AS/NZS 3000:2018 (also known as Australian Wiring Rules).
- Secure the power cords and control cables that goes in/out the unit. Use the cable ties provided in the control box.
 - *Qualifications required will be appropriate Electrical, Refrigeration and Refrigerant Handling License and Training dependent on local State/Territory regulations.



Hazardous Voltage - Risk of Electrocution.

TURN-OFF the power from main isolator before proceeding with any service work of the unit. Observe proper LOCK-OUT/TAGOUT LOTO) procedures for electrical appliances in order to prevent accidental switching-on of the power supply.



/外 WARNING

EC Motors are fitted with high power capacitors and can have dangerous residual voltages at motor terminals after power has Been isolated. Wait at least 5 minutes after power isolation and test for any residual voltage before beginning service work.



CAUTION !

Beware of Rotating Fans!

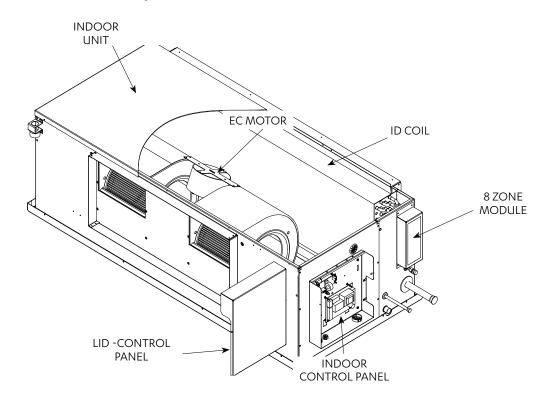
Ensure that indoor and outdoor fans are isolated and have come to a complete stand still before servicing the equipment. Beware of pinch point and sharp edges which can cause cutting injury. Secure the fans against accidental contact. Always wear appropriate PPE and remove any dangling jewellery and protect long hair by wearing a cap. Ensure that no loose clothing can be caught / entangled in moving parts.

VISUAL INSPECTION AND WORK ASSESSMENT

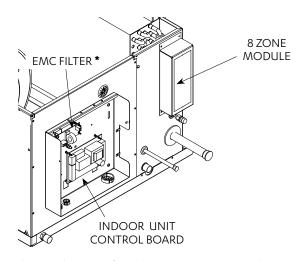
Work areas and conditions must first be assessed and evaluated for any potential hazardous conditions. It is also important to be familiar with the unit parts and components before proceeding with any service task.

03. Components Overview

03.01. Indoor Unit Components Overview



03.02. Indoor Unit Electrical Panel Overview



^{*} EMC Filter - not fitted to SRV131E, SRV151E and SRV171E models.

04.Parts Specifications

04.01. ESP Plus

Standard Parts Supplied With ESP Plus Fan Coil

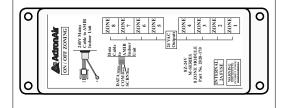
8-ZONE 24V MODULE (Factory Included)

Part Number: 8Z-24V

Voltage: 240V (supply) and 24VAC (Zones Output)

Connections: RJ45 Socket

Dimensions - mm: $230 \times 92 \times 55 (W \times H \times D)$



04.02. ESP Ultima

Standard Parts Supplied With Ultima Fan Coil

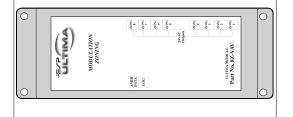
Ultima Module (Factory Included)

Part Number: 8Z-VAV

Voltage: 240V (supply) and 24VAC (Zones Output)

Connections: RJ45 Socket

Dimensions - mm: $230 \times 92 \times 55 (W \times H \times D)$



04.03. Optional Accessories

LM7-2 - Series Master Wall Control

(Sold Separately)

Part Number: LM7-2W (White)

LM7-2G (Grey)

Dimensions - mm: $130 \times 130 \times 14.5 \text{ (W} \times \text{H} \times \text{D)}$

NOTE:

LM7-2 Master Wall Control shown for illustration purposes only.



LM24-2 Secondary Wall Control

(Sold Separately)

Part Number: LM24-2W (White)

LM24-2G (Grey)

Dimensions - mm: 130 x 130 x 14.5 (W x H x D)

NOTE:

 $\ensuremath{\mathsf{LM24-2}}$ is also available for optional dual Wall Control operation

(Mimic Logic).



Installation and Commissioning Guide

Split Ducted ESP Indoor Unit

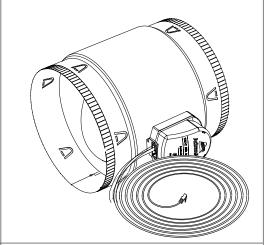
Integrated Zone Barrels (Sold separately)

Voltage: 24VAC **Torque:** 3Nm

Cable Length: 7 meters (Included)

Part No. 4070-020

Part Number	Diameter	Length
ZB-10-250	10" (250 mm)	290 mm
ZB-12-300	12" (300 mm)	290 mm
ZB-14-350	14" (350 mm)	290 mm
ZB-16-400	16" (400 mm)	290 mm



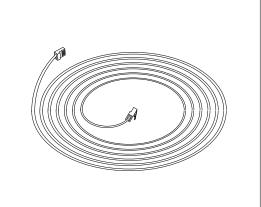
Cat5e Zone Cable (Sold Separately)

For ESP Plus

Part Number	Length	Connector
4070-020	7 metres	RJ45
4070-021	20 metres	RJ45

For ESP Ultima

Part Number	Length	Connector
4070-013	7 metres	RJ45
4070-014	20 metres	RJ45
4070-018	12 metres	RJ45



04.03.01. For ESP Plus

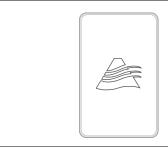
Wall Sensor (Sold Separately)

Part Number: LM-RS-2W (White)

LM-RS-2G (Grey)

Connections: Screw-in Terminal

Dimensions - mm : 41 x 63 x 9.5 (W x H x D)



Duct Bead Sensor (Sold Separately)

Part Number: AERSS **Voltage:** 24VAC

Length: 2 metres (including cable)

Connections: Screw-in Type



Installation and Commissioning Guide

Split Ducted ESP Indoor Unit

04.03.02. For ESP Ultima

Zone Control (Sold Separately)

Part Number: LM-ZC-2W (White)

LM-ZC-2G (Grey)

Voltage: 24 VAC

Connections: RJ45 Socket

Dimensions - mm: 72.5 x 101.5 x 12 (W x H x D)



Zone Sensor (Sold separately)

Part Number: LM-ZS-2W (White)

LM-ZS-2G (Grey)

Connections: RJ Socket

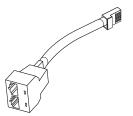
Dimensions - mm: $41 \times 63 \times 9.5 (W \times H \times D)$



3-Way Cable Joiner (Sold Separately)

Part Number : 4070-012 **Connector Type :** RJ45

Cable Length: 175mm (Included)



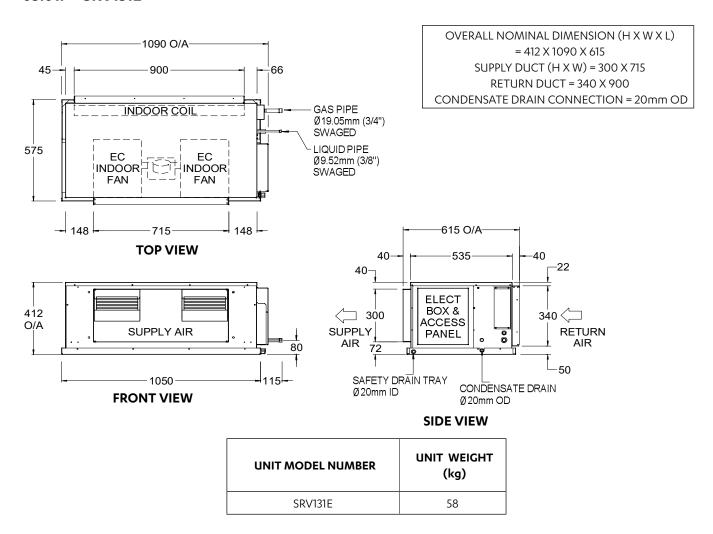
2-Way Cable Joiner (Sold Separately)

Part Number : 2045-121 **Connector Type :** RJ45

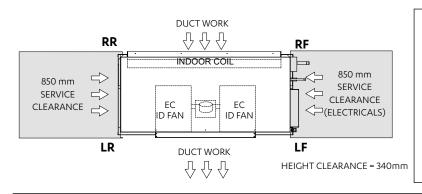


05. Unit Dimensions and Clearances

05.01. SRV131E



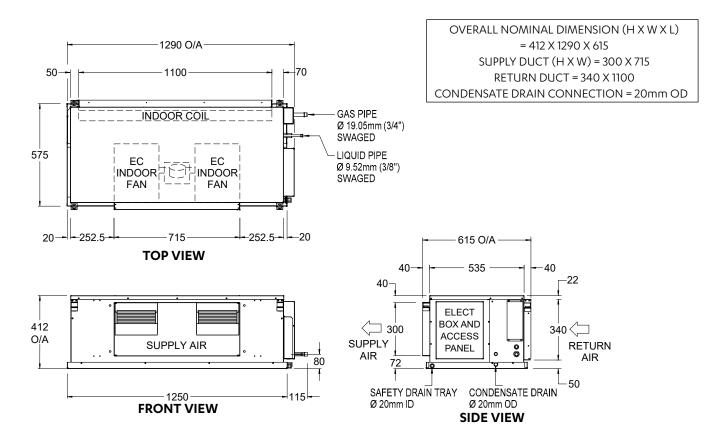
MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES





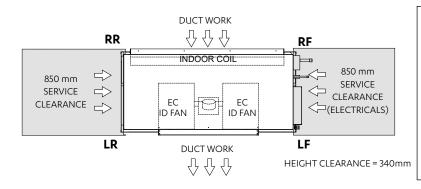
- $1. \quad \hbox{Do not scale drawing. All dimensions are in } \hbox{mm unless specified}.$
- $2. \quad \text{Refer to Field Pipe connection details on specifications sheet}.$
- Service Clearances given are suggested minimum based on the condition that the spaces around the units are free from any obstructions and a walkway passage of 1000mm between the units or between the unit and the outside perimeter is available.
- Minimum service access clearances are responsibilities of the installer, ActronAir will not be held liable for any extra charges incurred due to lack of access.

05.02. SRV151E / SRM151E SRV171E / SRM171E



UNIT MODEL NUMBER	UNIT WEIGHT (kg)
SRV151E / SRM151E	61
SRV171E / SRM171E	62

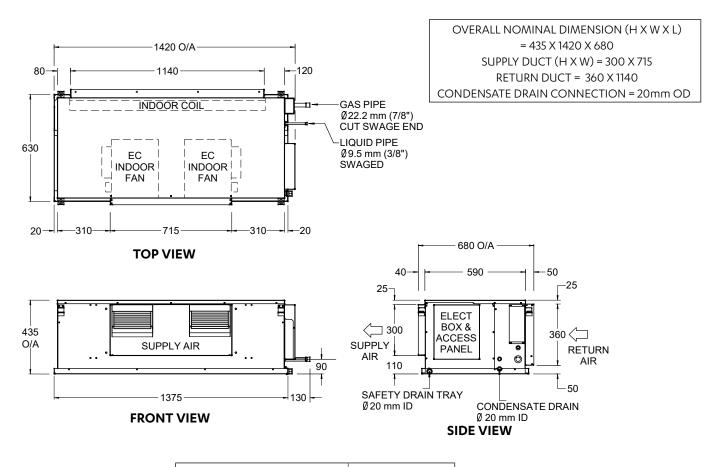
MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES





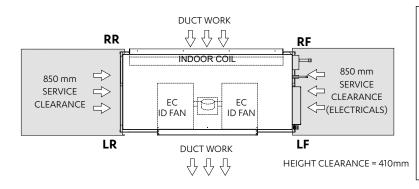
- 1. Do not scale drawing. All dimensions are in mm unless specified.
- 2. Refer to Field Pipe connection details on specifications sheet.
- Service Clearances given are suggested minimum based on the condition that the spaces around the units are free from any obstructions and a walkway passage of 1000mm between the units or between the unit and the outside perimeter is available.
- Minimum service access clearances are responsibilities of the installer, ActronAir will not be held liable for any extra charges incurred due to lack of access.

05.03. SRV191E / SRM191E SRV201E / SRM201E



UNIT MODEL NUMBER	UNIT WEIGHT (kg)
SRV191E / SRM191E	76
SRV201E / SRM201E	76

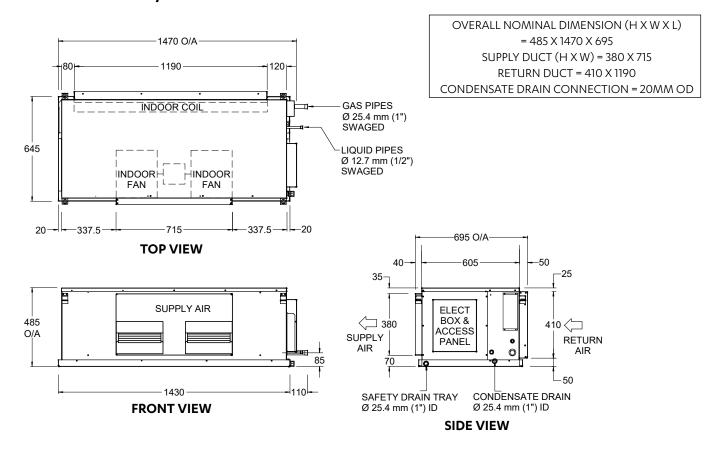
MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES





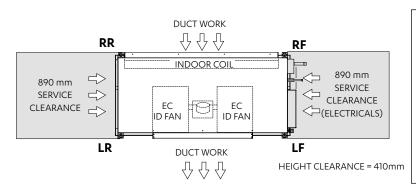
- 1. Do not scale drawing. All dimensions are in mm unless specified.
- 2. Refer to Field Pipe connection details on specifications sheet.
- Service Clearances given are suggested minimum based on the
 condition that the spaces around the units are free from any
 obstructions and a walkway passage of 1000mm between the
 units or between the unit and the outside perimeter is available.
- 4. Minimum service access clearances are responsibilities of the installer, ActronAir will not be held liable for any extra charges incurred due to lack of access.

05.04. SRV231E / SRM231E



UNIT MODEL NUMBER	UNIT WEIGHT (kg)
SRV231E	90
SRM231E	90

MINIMUM SERVICE ACCESS AREAS AND AIRFLOW CLEARANCES





- 1. Do not scale drawing. All dimensions are in mm unless specified.
- 2. Refer to Field Pipe connection details on specifications sheet.
- Service Clearances given are suggested minimum based on the condition that the spaces around the units are free from any obstructions and a walkway passage of 1000mm between the units or between the unit and the outside perimeter is available.
- 4. Minimum service access clearances are responsibilities of the installer, ActronAir will not be held liable for any extra charge incurred due to lack of access.

06. Installation Instructions

The installation instructions provided below are intended as a guide only and does not supersede the relevant council, state and federal codes, regulations and building code standards. Compliance and consultation with the authorities having jurisdiction with the installation of this equipment is the responsibility of the installer. ActronAir will not be held liable for any damages or costs as a result of the installer's failure to comply. Please refer to the matching outdoor unit Installation and Commissioning Guide for further information and details.

Lifting The Unit

The installation instructions provided, in Section 07, adhere to WH&S regulations for safe and secure lifting practices in order to prevent physical injury.

Suggested lifting procedures are outlined in Section 07 as a reference guide to safely lift and transport the unit, however, this does not over rule the industry WH&S practices.

Location

This unit is intended for indoor installation only. It is highly recommended that this indoor unit and accessories, particularly zone barrels, be mounted in the roof cavity.

Mount the unit in a stable and rigid support wherein the weight is properly distributed, such as roof joist and rafters. Take into consideration the minimum service access clearances provided in the unit drawings.

Locate the indoor unit away from the areas where noise is a critical factor. Use rubber mounting pad (not supplied) in order to minimize the transfer of noise and vibration into building structures.

An optional hanging bracket assembly and rubber grommet (supplied as standard with SRV231E and SRM231E) are also available to secure the indoor unit into the roof rafters. This installation configuration is most suitable for installation that require the unit to be rigidly secured up from the roof joist.

Condensate and Safety Tray Drainage

An integrated safety drain tray is provided as a standard inclusion to your indoor unit in order to reduce the potential of condensate damage to the roof. Drain Kit (not included on SRV231E and SRM231E) is provided for the condensate drain to be externally trapped from the indoor unit. Suggested condensate and safety tray drainage instructions are provided at the proceeding page for your reference.

Supply Air and Return Air Duct

The indoor unit is supplied with duct flange as standard in order to facilitate the system's duct connection into the unit. Supply and return air duct works must be adequately sized to meet the system's air flow and static pressure requirements. Refer to the unit drawing for supply air and return air duct dimensions, specific to your requirement.

NOTE

Fit a flexible duct connection in between the unit and the duct system, where noise and vibration is a critical consideration.

Return Air Filter

Air filters must be provided in the return air side of the unit in order to maintain the efficiency and prolong the operation of the unit. These are also paramount in order to satisfy requirement for a clean and hygienic room condition. Air filters must be placed in an easily accessible location for service and maintenance.

- Return Air filters are not supplied with the unit as individual air filtration requirements vary.
- Ensure that filters are cleaned / replaced regularly.

Installation and Commissioning Guide

Split Ducted ESP Indoor Unit

Air Plenums / Duct Plates (Optional)

Supply Air and Return Air plenums and duct plates (twin-spigot) are available as an option in order to facilitate your duct system connection to the indoor unit. The supply air plenums come in 1-way, 2-way and 3-way options, which offer a wider solutions to your different air distribution requirements.

Split Fan Coil System (Optional in some models)

The ActronAir innovative 2-piece fan coil system provides a solution to your difficult and tight roof space installation requirement. This versatile system has a separate fan and coil sections. Each of the compact and lightweight section is simply installed in two separate locations and joined by flexible duct system. Air ducts are attached to each section of the split fan coil by both of the supply air plenum and the twin spigot duct plate.

Fan Coil With Vertical Discharge (Optional)

An upright Fan Coil with vertical supply air discharge is also available wherein installation applications require the placement of the unit down in a closet, basement or garage. Please refer to the Technical Catalogue of your indoor unit for dimensions, installation details and specifications.

NOTE

Available to SRV191E and SRV201E models only

Field Pipe Connections

Specifications and installation requirements for field pipe connections are contained in the Installation and Commissioning Guide of the outdoor unit that matches your indoor unit. Please refer to this guide and thoroughly understand the procedures for safe and correct indoor and outdoor connection.

Field Electrical Connection

The power supply and control communication data to the indoor unit are supplied via the outdoor unit. Please refer to the wiring diagram supplied with the outdoor unit for specifications.

All electrical work must be performed by a licensed electrician and must conform with the wiring diagram and all relevant electrical authorities.

07. Unit Lifting Procedures

07.01. Crane Lifting Method



NARNING

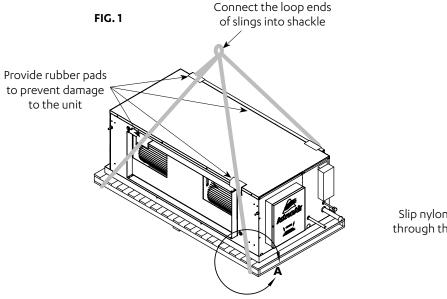
WH&S regulations must be observed and will take precedence during lifting process.

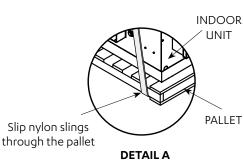


Make sure rigging equipment, accessories and plant are sufficiently and safely capable to lift the unit in order to prevent potential damage to property, severe personal injury or death. Please check unit weight and weight distribution points on unit drawing dimensions section.

⚠ NOTE

- · Crane lifting method is recommended for high rise lifting.
- Refer to catalogue for unit weight before selecting shackles and slings.
- Lifting procedure and unit model shown are suggestions and for illustration purposes only.
- It is highly recommended that installer observe current industry safe rigging and lifting procedure.





Equipment Required For Crane Lifting:

- 1x Shackle
- 2 x Nylon Slings
- 4 x Rubber pads

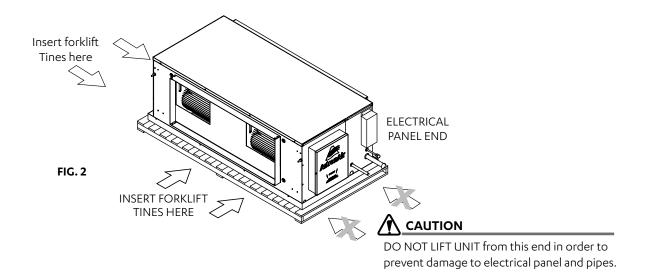
NOTE

Refer to catalogue for unit weight before selecting shackles and slings.

Procedure:

- 1. Slip nylon slings through the pallet as shown in Fig. 1.
- 2. Use Bow or Dee shackle to connect the slings.
- 3. Ensure slings are protected by rubber pads or similar if slings are draped across unit edges, corners, or air grilles. This will prevent the unit from being damaged during lifting.
- 4. Test lift the unit to determine exact unit balance and stability before hoisting it to the installation location.

07.02. Fork Lift Method

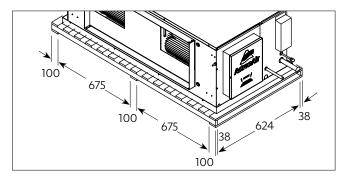


Procedure:

- 1. To move the unit around with a forklift, insert the fork tines through the unit feet assembly, as shown in Fig. 2.
- 2. Do not lift the unit through the electrical panel end of the unit (See illustration for location of electrical panel end).



Length of fork lift tines must pass the unit middle section, in order to safely carry the unit.



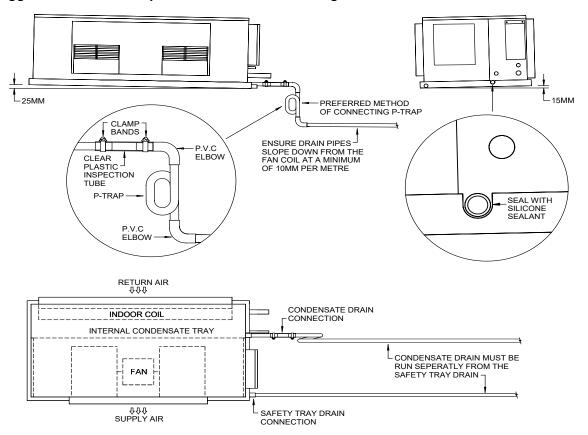
Pallet fork lifting hole dimensions All dimensions in mm.

08. Safety Drain Tray

NOTES

- Refer to indoor unit dimension page for specification of drain connectors.
- Test condensate drain installation to ensure that water flows freely and does not leak. Also check that the drain tray does not overflow.

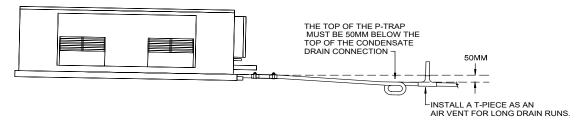
Suggested Minimum Slope To Ensure Correct Drainage



Suggested P-Trap Connection With Limited Height Clearance



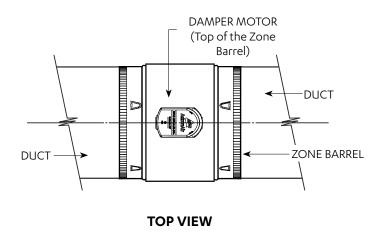
Suggested P-Trap Connection With Long Drain Runs

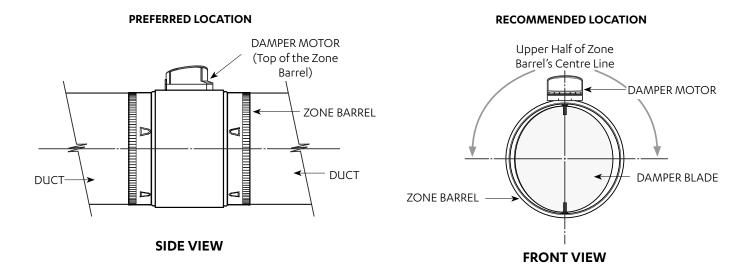


09. Zone Barrel Mounting Instructions

In the installation of zone barrels, extra caution must be taken as damper motors are **IP20 Rated and MUST NOT BE INSTALLED IN AN AREA WHERE CONDENSATION WILL BE AN ISSUE.**

It is highly recommended that indoor units and accessories, particularly zone barrels, be mounted in the roof cavity. Mounting of zone barrels should be horizontally positioned ensuring that the damper motor is located on the upper half of the barrel's centre line (positions that range from 9 o'clock to 3 o'clock), as shown below:



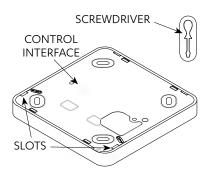


10. Installation

10.01. Wall Controls (LM7-2 / LM24-2)

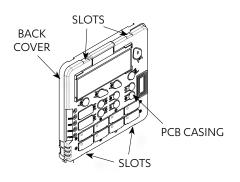
1. Remove front cover, as shown in the diagram below

- Insert and gently twist screwdriver into the slot at the side of the Control Interface. Do this procedure alternately between the two slots until the front of the control separates from the back cover.
- Use large enough flat blade screwdriver to fit into the slot in order to avoid damaging the Control Interface.



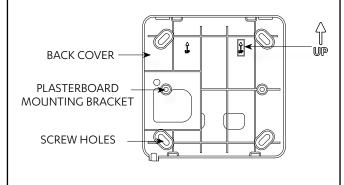
2. Remove back cover, as shown in the diagram below

- Insert and gently twist screwdriver into the slot at the top and the bottom of the Control Interface. Do this procedure alternately between the four slots until the back cover of the control separates.
- Use large enough flat blade screwdriver to fit into the slot in order to avoid damaging the Control Interface.



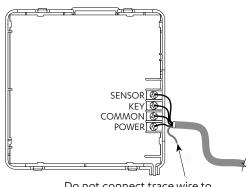
3. Mount back cover to the wall

- Mount the back cover to the wall with screws via screw holes. If required, the use of a plasterboard mounting bracket is recommended to mount the back cover to the wall.
- Ensure that the Control Interface back cover is aligned and leveled on the wall before tightening the screws.



4.Connect wiring at the back of Control Interface

• Ensure that all wiring is tightly connected. All wiring must be in accordance with the provided wiring diagram.



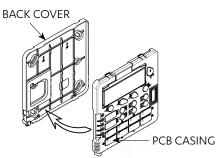
Do not connect trace wire to Wall Control. Cut wire to prevent shorting out.

Installation and Commissioning Guide

Split Ducted ESP Indoor Unit

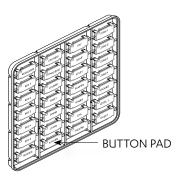
5. Attach PCB casing to the back cover

- Attach the PCB casing by aligning with the back cover mounted on the wall.
- Ensure the PCB casing makes a 'click' sound after mounting.



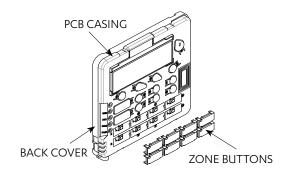
6. Select zone buttons

 Remove the relevant zone buttons for zone name to be allocated



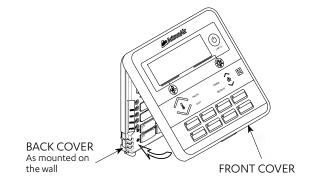
7. Assign and attach zones

- Attach the desired zone buttons and assign names to each zone.
- Ensure the buttons make a 'click' sound when attached to the PCB casing.



8. Attach the front cover, as shown in the diagram below

• On completion of the mounting installation, check that the Control Interface is aligned and leveled on the wall.



NOTE

Front cover can be removed even after installation. Press at the bottom of the control interface and pull the front cover.

Zone Control (LM-ZC-2 for ESP Ultima only) 10.02.

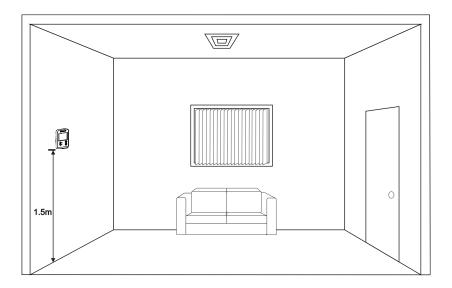
Install Zone Control at approximately 1.5m above the floor.

Use the provided mounting template to ensure correct alignment and leveling of the Zone Control to the wall (Refer to Page 29 for mounting details).



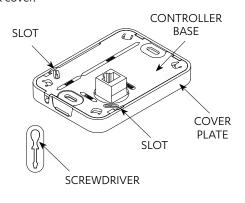
IMPORTANT NOTE

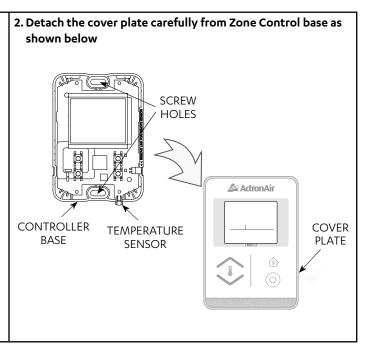
Do not locate Zone Control on external walls, directly below the supply air grille or near other additional heat load sources, as these locations may alter sensor readings.



1. Remove cover plate as shown below

- Use small flat blade screwdriver to fit into the slot in order to avoid damaging the Zone Control.
- Insert and gently twist screwdriver into the slot at the side of the controller. Do this procedure alternately between the two slots until the front of the control separates from the back cover.



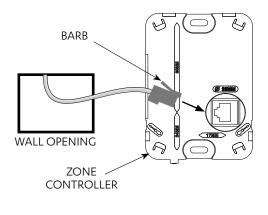


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Split Ducted ESP Indoor Unit

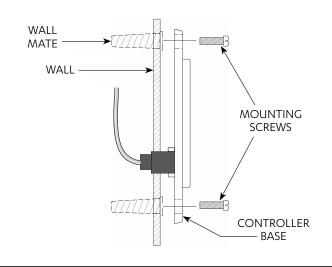
3. Connect the RJ45 plug to Zone Control.

- Feed the zone cable through the wall opening, make sure not to damage the barb.
- Protect the RJ45 connector barb by using tape.



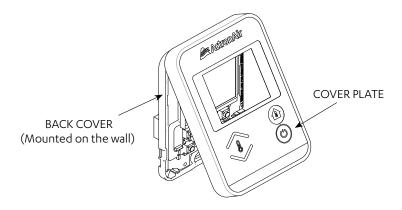
Mount back cover to the wall using the provided mounting screws.

- Mount the back cover to the wall with screws via screw holes.
- It is recommended to use Wall Mates to secure mounting screws tightly against the wall.
- Ensure the sensor is aligned and leveled on the wall before tightening the screws.



5. Attach the front cover, as shown in the diagram below

• On completion of the mounting installation, check that the Controller is aligned and leveled on the wall.

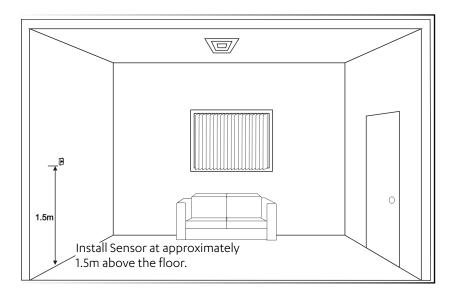


10.03. Remote Zone Sensor LM-RS-2 for ESP Plus and Zone Sensor LM-ZS-2 for ESP Ultima

V

! IMPORTANT NOTES

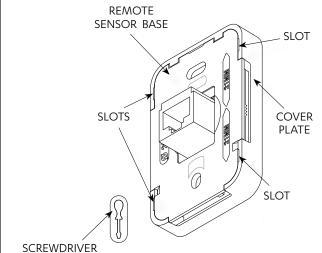
- **Do not locate sensor** on external walls, directly below the supply air grille or near other additional heat load sources, as these locations may alter sensor readings.
- Use of 8 Zone Sensors on the ESP Ultima System is not allowed.



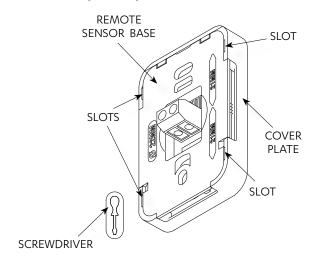
1. Remove cover plate as shown below

- Use small flat blade screwdriver to fit into the slots in order to avoid damaging the zone sensor.
- Insert and gently twist screwdriver into the slot at the sides of the sensor. Do this procedure alternately between the two slots until the cover plate separates from the sensor base.

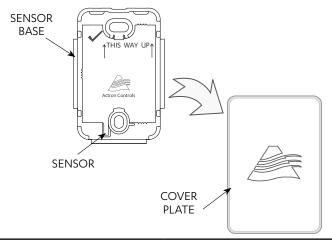
Zone Sensor (LM-ZC-2)



Remote Sensor (LM-RS-2)



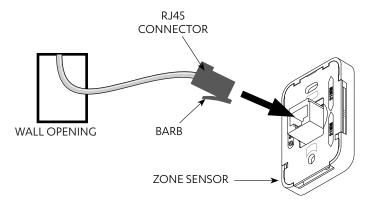
2. Detach cover plate carefully from Zone / Remote Sensor base as shown below



3. Connect cable / plug to Sensor.

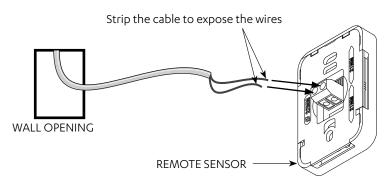
Zone Sensor (LM-ZS-2)

- Feed the sensor cable through the wall opening, make sure not to damage the barb.
- Protect the RJ45 connector barb by using tape.



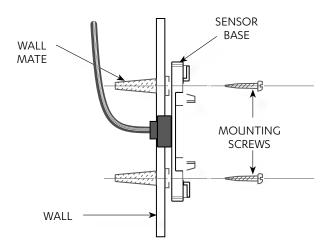
Remote Sensor (LM-RS-2)

- Feed the sensor cable through the wall opening.
- Strip the cable to expose the wires.
- Connect the wires to the sensor terminals as per wiring diagram on Section 13.



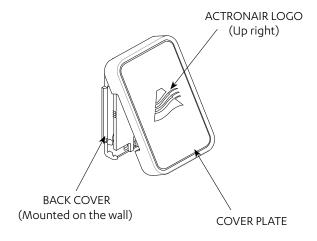
4. Install the Sensor on the wall using the provided mounting screws

- Mount the base to the wall with screws via screw holes.
- It is recommended to use Wall Mates to secure mounting screws tightly against the wall.
- Ensure that the sensor is aligned and leveled on the wall before tightening the screws.



5. Attach cover plate, as shown below

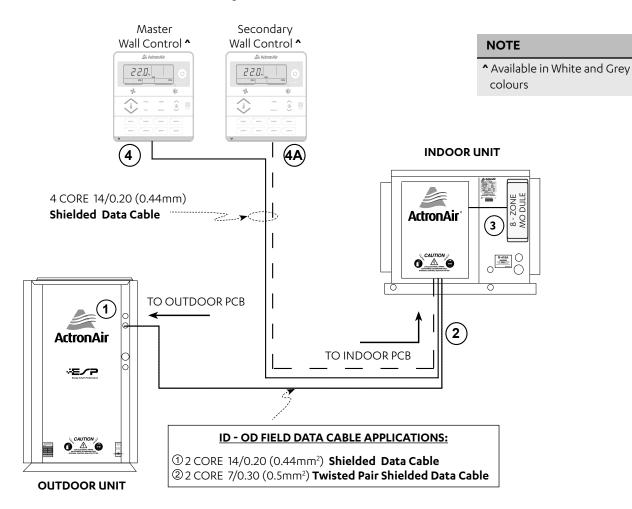
- · On completion of the mounting installation, check that the Sensor is aligned and leveled on the wall.
- When fitting the cover plate, ensure that ActronAir logo is shown up right.



11. Wiring Connection Control Cable Length and Specification

OPTIONAL DUAL MASTER CONTROLLER

(Mimic Logic)



ITEM	DESCRIPTION	MAXIMUM CABLE LENGTH *
1 to 2	Outdoor PCB to Indoor PCB	60 m
2 to 3	Indoor PCB to 8-Zone Module (factory fitted)	0.60 m
2 to 4	Indoor PCB to Master Wall Control	40 m
2 to 4A	Indoor PCB to Secondary Wall Control	40m (Including 2 to 4) **

- * Suggested Maximum Cable Length Long runs beside Mains cables or TV antenna cables should be avoided where possible.
- ** Total Cumulative Cable Length with Secondary Controller must not exceed 40 meters. For example, if 2 to 4 is 30m then 2 to 4A must not exceed 10m.

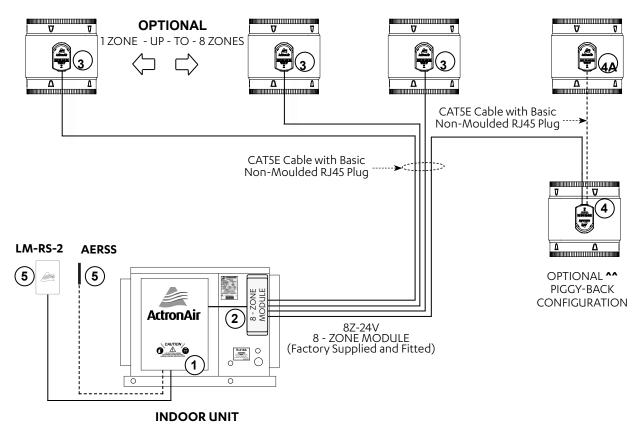
- NOTES: Trace wire connects to SCN/COM terminal at Outdoor PCB and to SCN on Indoor PCB. Do not connect at
 - · Diagram shown above is a general presentation only. Refer to individual unit wiring diagram for complete wiring connection details.

12. Zoning Cable Length and Specification

12.01. **ESP Plus**

INTEGRATED ZONE BARRELS

(1-Zone Up To 8-Zone Options / Max. of 10 Zone Motors per System ^^)



TOTAL LENGTH OF ALL ZONING CABLE MUST NOT EXCEED 250 METRES ^ TOTAL CABLE LENGTH PER INDIVIDUAL ZONE MUST NOT EXCEED 100 METRES**

ITEM	DESCRIPTION	MAXIMUM CABLE LENGTH *^
2 to 3	Integrated Zone Barrel 3 to Zone Module	100 m
2 to 4A	Maximum Cumulative Cable Length ** (per zone - 8 zone)	100 m
4 to 4A	Zone Barrel 8 to Zone Barrel 9 (Piggy-Back) ***	95 m
1 to 5	Indoor PCB to Remote Sensor (Max. of 2 Optional Sensors)	50 m

^{*} Suggested Maximum Cable Length.

Long runs beside Mains cables or TV antenna cables should be avoided where possible.

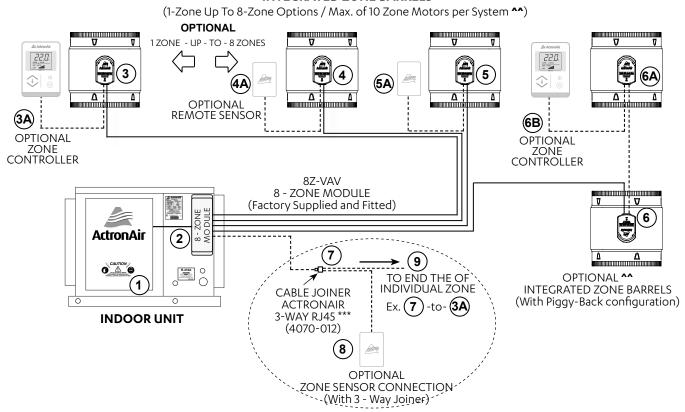
Diagram shown is a general presentation only. Refer to individual unit wiring diagram for complete connection details.

- ** Maximum Cumulative Cable Length per individual zone must not exceed 100 m per zone.

 For Example, 2 to 4A (Optional 8 Zones Piggy-Back Configuration), if 2 to 4 is 75 m, then 3 to 3A must be less than or equal to 25 m to be within the 100m maximum length.
- *** Recommended maximum cable length, provided total of preceding and subsequent cable connections are only 5 m.
- ^ Total Cumulative length of all the aggregate cable must not exceed 250 meters. Consult ActronAir for longer cable length
- ^^ Total of 10 Zone Barrels are allowed for 8Z-24V, and a maximum of 4 Zone Barrels are allowed per individual zone.

12.02. ESP Ultima

INTEGRATED ZONE BARRELS



TOTAL LENGTH OF ALL ZONING CABLE MUST NOT EXCEED 250 METRES ^ TOTAL CABLE LENGTH PER INDIVIDUAL ZONE MUST NOT EXCEED 100 METRES**

ITEM	DESCRIPTION	MAXIMUM CABLE LENGTH * ^
1 to 2	Indoor to Ultima Module factory fitted cable (ESP Ultima)	0.60 m
2 to 3A	Ultima Module to Zone Barrel to Zone Control **	100 m
2 to 4A	Ultima Module to Zone Barrel to Zone Sensor **	100 m
2 to 5A	Ultima Module to Zone Barrel **	100 m
2 to 6B	Ultima Module to Zone Barrel to Zone Barrel to Zone Control **	100 m
2 to 7	Ultima Module to 3-Way Cable Joiner (ActronAir 4070-012)	0.175 m
6 TO 6A	Zone Barrel 6 to Zone Barrel 6A (Piggy-Back) ****	95 m
7 to 8	3-Way Cable Joiner to Zone Sensor	50 m
7 to 9	3-Way Cable Joiner to the end of Individual Zone	50 m

^{*} Suggested Maximum Cable Length.

Long runs beside Mains cables or TV antenna cables should be avoided where possible.

Diagram shown is a general presentation only. Refer to individual unit wiring diagram for complete connection details.

For Example, 2 to 3A (Optional Zone Barrel with optional Zone Control), if 2 to 3 is 75m, then 3 to 3A must be less than or equal to 25m to be within the 100m maximum length.

2 to 6B (Optional 2 Piggy-Back Zone Barrel Configuration with optional Zone Control), if 2 to 6is 60m, then 6 to 6B must be 40m to be within the 100m maximum length.

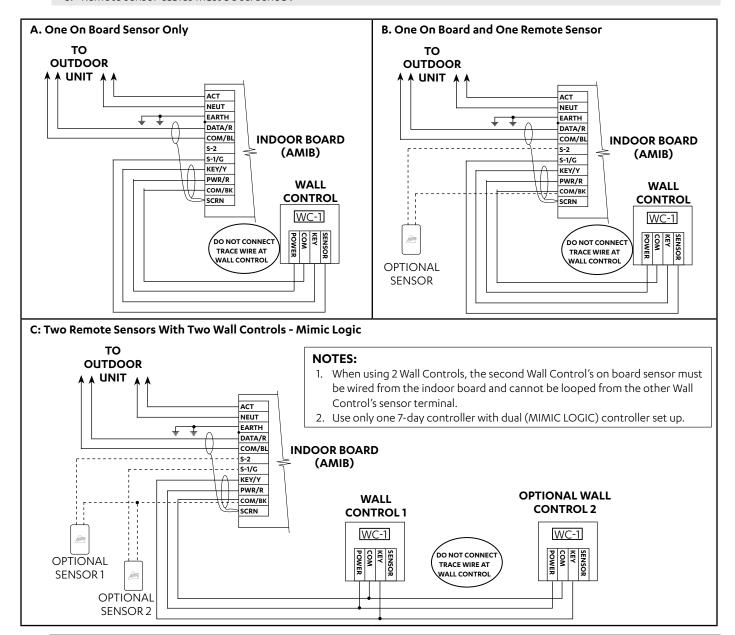
- *** Recommended maximum cable length, provided total of preceding and subsequent cable connections are only 5m.
- ^ Total Cumulative length of all the aggregate cable must not exceed 250 meters. Consult ActronAir for longer cable length requirement.
- ^^ Total of 10 Zone Barrels are allowed for Ultima system and a maximum of 2 Zone Barrels are allowed per individual zone.

^{**} Maximum Cumulative Cable Length per individual zone must not exceed 100 m per zone.

13. <u>Wall Control and Temperature Sensor Wiring Connections for ESP Plus Only</u>

SPECIAL NOTES

- 1. For better responding temperature control it is recommended fitting remote wall mounted or return sensors.
- 2. Data cable must be 4 core 14/0.20 Screened cable.
- 3. Remote sensor cables must be screened.

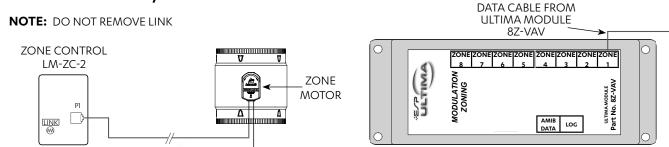


- With zoned system using two sensors, such as in domestic applications:
 Zone 1 is always assigned to sensor 1 (either Wall Control on board sensor or remote sensor 1).
 Zone 2 trough 8 can be assigned to sensor 1 or sensor 2. Selection entry via Wall Control Insert document 9590-3025. When two sensors are in circuit, the combined temperature readings will be averaged.
- 2. Non zoned systems using two sensors, such as commercial application: The combined temperature readings of the two sensors will be averaged.

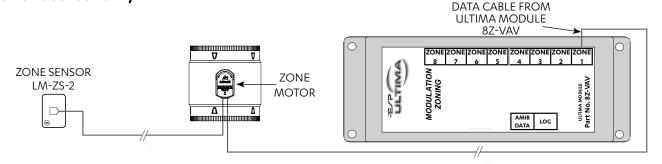
Installation and Commissioning Guide

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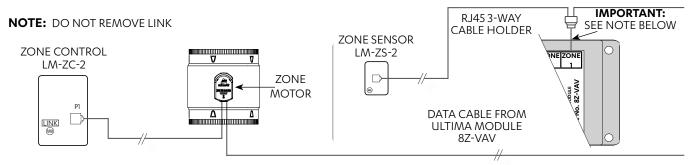
On Board Sensor Only



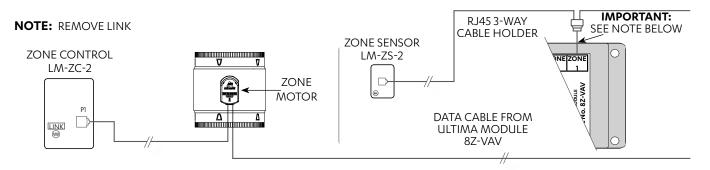
One Zone Sensor Only



One Zone Control and One Zone Sensor (Zone Temperature Averaging)



One Zone Control and One Zone Sensor (Zone Control Sensor is ignored)



⚠ IMPORTANT NOTES

Communication cable between 8-zone Ultima module and RJ45 3-Way cable joiner must not exceed 175mm (RJ45 3-Way joiner is supplied with 175mm cable).

14. Operation

Master Wall Control and Secondary Wall Control



Master Wall Control LM7-2 (Optional)

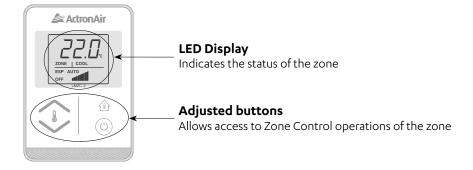


Secondary Wall Control
LM24-2
(Optional)

NOTES

- Minimum 1 controller required.
- For detailed identification and operation, please refer to Wall Control operation manual (Part No. 0525-079).

Zone Control (ESP Ultima only)



Zone Control Identification



Zone Control

- Mode On/Off button Turn the zone ON or Off.
- **Room Temperature button**When pressed displays the actual room temperature reading and room temperature LED flashes.
- 3 Damper Position Indicator
 Indicates the position of the damper.
 Number of vertical bars shown is relative
 to the opening angle of zone damper. The
 more bars, the more opened the damper is.
- 4 COOL Mode Indicator
 Indicates that the zone is providing cooling to your area.
- FIGURE 1. See The Section of the
- 6 Temperature Display
 Indicates the set temperature or actual temperature during operation.
- (7) Zone Indicator

- 8 ESP AUTO Mode Indicator
 Illuminates when the Zone Control will
 automatically adjust the position of zone
 damper to regulate the temperature.
- OFF Indicator Illuminates when zone or unit is turned off.
- (10) Set Temperature UP button
 Raises room temperature setpoint for
 warmer room temperature.

NOTE:

It is not possible to adjust the temperature setpoint of Zone Control by more than 2 degrees higher than setpoint temperature of master control.

(1) Set Temperature DOWN button
Lowers room temperature setpoint for cooler room temperature.

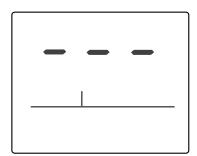
NOTE:

It is not possible to adjust the temperature setpoint of Zone Control by more than 2 degrees lower than setpoint temperature of master control.

System Start Up

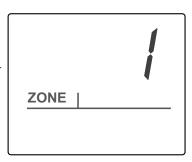
During initial system start up, Zone Control will boot up and show zone number. During this period the LED display will initially show a horizontal bar moving back and forth. Once detected, its zone number will be displayed for several seconds before normal display (temperature setpoint) will be shown.

> During power up, horizontal bar will move back and forth for several seconds.





Zone number will be displayed for several seconds.





Zone Control will show normal display.





/!\ IMPORTANT NOTES

If the Zone Control is then removed and replaced, the system will automatically re-acquire it. This may take few seconds. The system recalls the last known state of specific zone. Thus, if Zone Control is removed and replaced, it will return to its previous state.

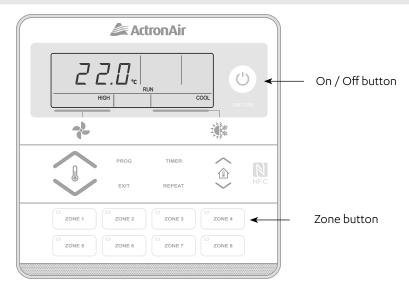
Reset zone by turning Master Wall Control On then Off.

Turning Zone ON and OFF

Zone activation or deactivation via Master Wall Control.

!\sumbortant note

Press any zone button to activate. Zone LED lights up indicating the zone is On.



- 1. Turn the A/C On by pressing the (0) button on Master Control.
- 2. When several zones are pressed in quick succession, a delay will occur before all zone damper blades will fully open. Press the **ZONE** button to turn off the zone and the zone LED turns Off.

Zone activation or deactivation via Zone Control (ESP Ultima only).

!\ IMPORTANT NOTE

Press any zone button to activate. Zone LED lights up indicating the zone is On.



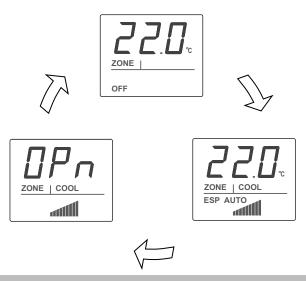
- 1. Turn the Zone On by pressing the (0) button on Zone Control.
- 2. When the Zone Control is activated display will show **ESP AUTO**, damper blade position indicator and operation mode (COOL or HEAT). Press the (\circ) button to turn off the zone.

⚠ IMPORTANT NOTES

- In Zone Control ESP AUTO mode, the controller will adjust the position of zone damper automatically in order to meet the desired temperature.
- Heating mode will be displayed when the zone starts to heat the room.
- Cooling mode will be displayed when the zone starts to cool the room.
- When room reached the set temperature COOL, HEAT or Damper Blade indicator will not be displayed.
- When the system is in Fan only mode, fully opened damper position indicator and FAn will be displayed.

Zone Control Mode of Operation

The Zone Control has three different modes of operation, On, Off and ESP Auto. To bring up different modes of operation, press the (\circ) button.



NOTE

Cycling through operation mode is only accessible via Zone Control.

Zone OFF Mode

In this mode, the Zone Control will shutdown the zone area. The zone barrel damper blade will be in fully closed position.



MPORTANT NOTES

It is **NOT POSSIBLE** to control the actual temperature of the room/zone during this mode. However, changing the setpoint temperature in LED is still possible. This is designed primarily for use with Timer On operation (master Wall Control). This will allow the user to change the setpoint temperature (even when Zone Control is Off) to bring up the desired temperature when the unit is activated via Timer On function.

ESP Auto Mode

The system will allow the Zone Control to automatically control the position of zone damper blade. The opening angle of damper blade will depend on the room temperature and setpoint temperature requirement.



- 3. Press the (0) button until **ESP AUTO** appears on the display.
- 4. Set the desired temperature by pressing the or buttons.
- For a warmer room temperature, press the button.
- For a cooler room temperature, press the button.

The number of vertical stripes (damper blade position indicator) may vary from time to time chasing your desired conditions.



ESP Auto mode in Zone Control is different from ESP FAN mode of master Wall Control.

ESP Open Mode

In this mode, the zone damper blade will fully open to provide maximum circulation of air. This mode will disregard the temperature settings of the Zone Control. It will continuously supply maximum air in the zones regardless of system operating modes (COOL or HEAT). It is not possible to adjust set temperature during this mode.





✓! IMPORTANT NOTE

Since this feature will disregard temperature setting, the zone will continuously supply maximum airflow regardless of A/C system HEAT or COOL status.

Fan Mode

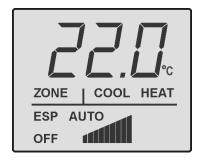
"**FAn**" will be displayed on Zone Control display when the master Wall Control is set to fan only. During this period, the zone damper will be in the fully open position for maximum air circulation. Use this mode when air balancing the system on commissioning or for (indoor) fan only ventilation.



1. Press the (\circ) button to turn Off the zone damper.

Display Room Temperature

Normally the Zone Control will show the setpoint temperature of the zones. To check the actual temperature of the zone, see below:



1. Press the 1 button to display the actual Room/Zone temperature for 5 seconds. During this time the room temp LED flashes. Room temperature display is accessible in all Zone Control operating modes

NOTE

To display room temperature for 45 minutes, press and hold the 1 button for 5 seconds.

Room temperature LED will flash indicating the room temperature is shown on the display.

To Check Temperature at Master Wall Control

Average Room Temperature Display



1. Press the for or buttons and the average room temperature will be displayed for 3 seconds. **INSIDE**, °C and indicators will be flashing. The temperature displayed is the average of all activated zone sensors.

Split Ducted ESP Indoor Unit

Checking Individual Zone Temperature

- 1. While **INSIDE**, °C and . are flashing, press the zone to be checked.
 - INSIDE, and °C will turn Off. The selected zone LED and flashes.
 - During this time, the selected zone temperature is displayed.
- 2. To check another zone, simply press the **ZONE** button while the previous zone LED and . are flashing.

NOTE

Room temperature displayed can be the temperature at a Zone Control or at a remote sensor or the average of both depending on your installation set up.

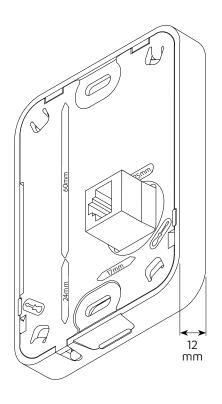
⚠ MAINTENANCE

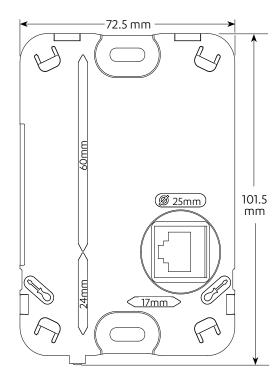
- Regular servicing of equipment by a qualified technician is recommended every 12 months for residential applications and every quarter for commercial applications.
- Wipe the controllers with a dry cloth. Do not use water or any solvents.
- Dust off the supply air outlets and return air grille, use a household duster.
- Do this regularly to prevent any build up of dust or dirt to ensure the air conditioner's efficient operations.

15. Zone Control And Sensor Mounting Dimensions

15.01. Zone Control (LM-ZC-2) - ESP Ultima Only

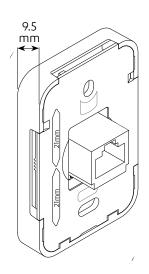
Note: Drawn not to scale

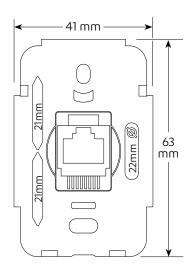




15.02. Zone Sensor (LM-RS-2 / LM-ZS-2)

Note: Drawn not to scale (LM-ZS-2 shown below, dimensions are the same with LM-RS-2).





Split Ducted ESP Indoor Unit

16. EC Fan Commissioning Guide

Read Installation Instructions On Outdoor Unit Access Panel

ESP Plus/Ultima Self-Learn Mode Activation

Before activating ensure the following:

- 1. Return air filter, return air box and grille are properly installed.
- All bedroom doors are open or any other doors that may obstruct the path of return air back to the return air grille.
- 3. Adjustable outlets should be in open position and System Air Balance is complete.

Initiating Self-Learn Mode:

- 1. System should be in the Off- Mode before activating Self-Learn Mode.
- 2. Press and hold the button and then the button for 5 seconds or until the word **ESP** flashes on controller display then release.
- 3. Press the button once and release.

NOTES

- Self-Learn Mode should not be activated when there are obstructions in duct system layout.
- When system layout of duct design is changed, Self-Learn Mode should be reactivated. This will allow the controller to learn the new duct layout.
- During the operation of Self-Learn Mode, **HIGH**, **MED** and **LOW** will appear on the controller display. After this, **E5** will be displayed and will go back to setpoint temperature. This process can take up to 3 minutes.

ESP Plus/Ultima Variable Fan System Check

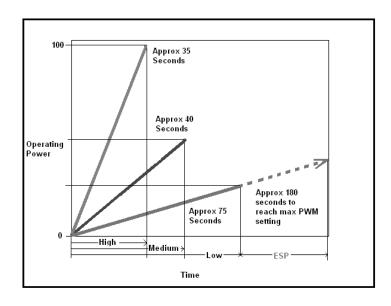
Please ensure that the Self-Learn mode operation is performed first:

ESP PLUS/ULTIMA Functionality:

- 1. Open all available zones and Select ESP mode on Wall Control
- 2. Allow 3 minutes for fan to adjust speed
- 3. Check airflow at any outlet from Zone 1
- 4. Close all zones except zone 1
- 5. Allow 3 minutes for fan to adjust speed
- 6. Check airflow at the same outlet
- 7. The airflow at this outlet should remain reasonably constant
- 8. Switch to manual mode High
- 9. A significant increase in airflow should be noted.
- 10. Switch to medium then Low and note airflow drops accordingly

NOTE

Typically in manual mode the fan takes approx 30 seconds to reach set speed.



The above graph represents the approximate time taken for the fan to achieve its set speed upon selection.

In ESP mode the time will vary depending on the duct system and the number of zones open or closed at time of selection. Typically it will take approximately 3 minutes to achieve set speed from all zones open to 1 zone open.

For further info visit www.actronair.com.au

Split Ducted ESP Indoor Unit

17. Frequently Asked Questions

Q. Does the back light on the individual Zone Control effect brightness of the room at night?

A. The display back light turns off at approximately 6 seconds after any button is pressed.

Q. Does the LM7-2 come standard with all R-410A ESP Ultima units?

A. Purchased separately.

Q. Can you turn the system off from the individual Zone Controls?

A. No. It can only be done from the master control. If you're the last zone on and you turn it off, the system goes into standby mode, as there is no demand for heating or cooling operation.

Q. Can you adjust differentials on the zone?

A. No you cannot.

Q. Is there any indication on the Zone Control when it is in defrost mode?

A. No. The **HEAT** light flashing on the master control indicates and highlights this.

Q. Can you put a Zone Sensor and Zone Control in each room?

A. Yes you can. It will average the temperature between the two sensors, this application is normally used for large open plan areas that may be on the same zone.

Q. Is the sensor on the master control operational?

A. No it's disregarded.

Q. Would an in-line fan cause any operational problems if installed?

A. Yes it would. An in-line fan is not recommended on the variable fan units.

Q. Can you use a master control to act as a zone sensor controlling the varying air to that zone?

A. No, the Master control cannot be used for Zone Control. The sensor is not wired on the master control.

Q. Is it possible to turn all Zone Controls off to shut the system down?

A. Yes, (if on auto fan) the system will go into a standby mode.

Q. Is it possible to use the Manual fan speed mode to increase the air into a particular zone if the ESP fan mode is not producing enough air?

A. Yes, it is recommended that in extreme conditions to turn the fan mode to either Manual High or Medium to increase the airflow into the zone thus improving the system performance.

(**Note:** This is when using less than your total number of installed zones.)

Q. Can I still piggyback 2 zone barrels together as 1 zone?

A. Yes, you can have up to a total of 10 zone barrels per system.

Q. If the system receives 2 equal call for both Cooling and Heating while the system is in standby, what cycle starts first?

A. Cooling will start first as a default, and then when cooling is satisfied the system will swing to Heating.

Split Ducted ESP Indoor Unit

Q. Can I use 2 Zone Sensors to average a large room?

A. No, for averaging large rooms you must use a 1 x Zone Control and 1 x Zone Sensor.

Note: Use of 2 Zone Sensors causes inconsistent temperature sensor readings.

Q. Can the Wall Control show the room temperature as main display instead of setpoint?

A. No, the setpoint is always on display to prevent any confusion in the temperature setting. To view the current room temperature, press either the for or buttons. The room temperature will be displayed for 3 seconds with the **INSIDE**, °C and flashing for 3 seconds then revert back to setpoint display.

Q. Can the Zone Control show the room temperature as main display instead of setpoint?

A. If you hold the Room Temp button in for 5 secs this display will remain on screen for 45mins then revert back to setpoint display. Room temp light will flash to indicate you're in room temperature display.

Q. Does the ESP Ultima system use a different zone barrel to the standard On/Off type 24volt Actron Air barrels?

A. No, they are the same barrels. ActronAir designed these zone motors with the intension to communicate with the ESP Ultima system.

Q. Can I use the master control to control the main area's temperature?

A. No, the on board sensor on the master control is disregarded when wired to the Ultima system. All temperature information is fed back from the Zone Controls and or Zone Sensors back to the Ultima module.

Q. Can I check what zone number my Zone Control is from the Zone Control?

A. Yes. When the system is first powered up the zone number is displayed on the Zone Control display. You can also check the Zone number by holding the button and pressing the button. This shows the Zone Number before showing the software versions.

Q. Can I calibrate the on board temperature sensor on the Zone Control?

A. Yes. Hold in the 1 button and press the 0 button and release. The display will first show the zone number, then two version numbers, then 0.0 (default) This is the calibration adjustment. Adjustments to the negative will make your room sensor display a lower temperature, and adjustments to the positive will make your room sensor display a higher room temperature.

Q. How do I calibrate a Room Sensor?

A. While the power is on, remove the Room Sensor by unplugging the RJ45 connection and plug in a Zone Control. Then hold in the button and press the button and release. The display will first show the zone number, then two version numbers, then 0.0 (default) This is the calibration adjustment. Adjustments to the negative will make your room sensor display a lower temperature, and adjustments to the positive will make your room sensor display a higher room temperature. When you've calibrated your desired change unplug the Zone Control and plug your Room Sensor back in. The calibration order is remembered by the Ultima module and applied to that zones room temperature.

Q. Can you adjust the Zone Controls more than 2 degree's + / - from the master Wall Control?

A. Yes, it is possible via the service menu but not recommended, as you may lose tight temperature control. The default has been set at 2 degree's for this reason.

Q. Can you have 2 Zone Controls averaging 1 big zone?

A. No, you must have 1 x Zone Control and 1 x zone sensor for temperature averaging.

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Q. Do I have to assign zones or sensor to zones on commissioning?

A. No need, when the system is initially powered up the Ultima system will automatically acquire the utilized zones. Because each zone has its sensor there's no need to assign sensor's either.

Q. If I am not in ESP mode on the master will my zone still modulate the airflow?

A. Yes, it doesn't matter what fan mode your in, if your Zone Control is in ESP Auto mode (On) the zone will modulate to control your conditions. When using minimal zones use ESP fan mode.

Q. Where would we put common zones if we wanted to use one?

A. You no longer need wasteful common zones with Ultima. Common zones are impractical, as you have to dump unwanted excess air from the fan in spaces you don't necessarily need. Common zones were introduced because of the limitations of all standard fan coils. Ultima is designed to control every zone in your house and eliminate this element of waste and maximise comfort.

Q. What is the recommended setting for air balancing?

A. For air balancing, press the button on the Wall Control and set fan to **HIGH** speed.

Q. Does the back light on the Wall Control effect brightness of the room at night?

A. The display back light turns off at approximately 6 seconds after any button is pressed. Note that the back light is not set to remain On.

Q. Does the LM7-2 come standard with all R-410A ESP Plus units?

A. Yes it does.

Q. How can you turn-off the individual zone from the Wall Control?

A. Each individual zone is assigned a zone button in your Wall Control. By turning-off this button, the zone motor will be switched-off and will close the zone barrel. If you're the last zone on and you turn it off, the system goes into standby mode, as there is no demand for heating or cooling operation.

Q. Is it possible to turn-off all zone buttons to shut the system down?

A. Yes, (if on auto fan) the system will go into a standby mode.

Q. Is it possible to use the Manual fan speed mode to increase the air into a particular zone if the ESP fan mode is not producing enough air?

A. Yes, it is recommended that in extreme conditions to turn the fan mode to either Manual High or Medium to increase the airflow into the zone thus improving the system performance.

(**Note:** This is when using less than your total number of installed zones.)

Q. Would an in-line fan cause any operational problems if installed?

A. Yes it would. An in-line fan is not recommended on the variable fan units.

Q. Can I piggyback 2 zone barrels together as 1 zone?

A. Yes, you can have up to a total of 10 zone barrels per system.

Q. If the system receives 2 equal call for both Cooling and Heating while the system is in standby, what cycle starts first?

A. Cooling will start first as a default, and then when cooling is satisfied the system will swing to Heating.

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Q. Can I use 2 Remote Sensors to average a large room?

A. No, for averaging large rooms you must use your Wall Controller in-built sensor and 1 x Remote Sensor.

Note: Use of 2 Remote Sensors causes inconsistent temperature sensor readings.

Q. Can I calibrate the on board temperature sensor on the Wall Control?

A. Yes. Hold the button, the press the "TIMER" button and release both at once. The display will show ROOM, 0.0 (default) and Zone 1 will be illuminated. This is the calibration adjustment. Press the button for adjustment to the positive will make your Wall Control read higher by the set value. Press the button for adjustment to the negative will make your Wall Control read lowered by the set value.

Q. Do I have to assign zones or sensor to zones on commissioning?

A. Yes, see LM Controller Operation Manual for details.

Q. Can the Wall Control show the room temperature as main display instead of setpoint?

A. No, the setpoint is always on display to prevent any confusion in the temperature setting. To view the current room temperature, press the or buttons. The room temperature will be displayed for 3 seconds with the **INSIDE**, °C and flashing for 3 seconds then revert back to setpoint display.

Q. Does the ESP Plus system use a different zone barrel to the standard ON/OFF type 24volt Actron Air barrels?

A. No, they are the same barrels. ActronAir designed these zone motors with the intension to communicate with the ESP Plus system.

Q. Where would we put common zones if we wanted to use one?

A. You no longer need wasteful common zones with ESP Plus. Common zones are impractical, as you have to dump unwanted excess air from the fan in spaces you don't necessarily need. Common zones were introduced because of the limitations of all standard fan coils. ESP Plus is designed to control every zone in your house and eliminate this element of waste and maximise comfort.

Q. What is the recommended setting for air balancing?

A. For air balancing, press the button on the Wall Control and set fan to **HIGH** speed.

18. Maintenance Frequency Checklist

Regular servicing of equipment by a qualified technician is recommended every 12 months for residential applications and every quarter for commercial applications. Regular servicing of your unit helps in maintaining its optimum performance and reliability. The following checklist and service periods are provided as a guide only, as some sites may require more frequent servicing.

Electrical														
	Service Period													
Parts	1	3	6	1	2	3	4	5	Detail of Service Check	Service Methods				
	Mth	Mth	Mth	YΓ	Yrs	Yrs	Yrs	Yrs						
Isolators / Printed Circuit Boards				√					Visual Inspection	Tighten Terminals as necessary on isolators and printed circuit boards				
Electrical Connections				✓					Check all electrical terminals, mains, communications, etc	Re-tighten if loose.				
Magnetic Contactor				✓					Check for loose terminal connections.	Tighten electrical terminals. Remove any dust.				

Indoor Unit												
	Service Period											
Parts	1 3 Mth Mth		6 Mth	1 Үг	2 Yrs	3 Yrs	4 Yrs	5 Yrs	Detail of Service Check	Service Methods		
Casing / Panels and Frames		√							Visual check for damage, rust and dust accumulation.	For highly corrosive environment, wash panels quarterly with water and neutral detergent solution. Wax panels. Repair / re-paint where required.		
Insulation				✓					Visual check for insulation conditions.	Repair / replace insulation material.		
Fan*	✓								Visual check for run out of balance and dust attached	Clean off dust as necessary to negate possibility of fan running out of balance		
Motor				√ Ω					Visual check on wiring. Insulation resistance check to be carried out annually	Measure insulation resistance. Should be more than $1M\Omega$.		
Heat Exchanger				✓					Check for clogging by dust. Check for leaks / damage.	Clean air inlet side as necessary. Straighten any bent fins using fins comb.		
Drain Pan/ Condensation line				√					Check for obstructions and free flow of water	Clean to eliminate obstructions/ sludge and check condition of pan. Pour water to ensure flow		
Filter				\checkmark					Check for clogging by dust.	Clean Filter		
Temperature Readings				√					Measure air on and air off	Place temperature probe in return and supply air of unit.		
Damper Motors (if fitted)				✓					Visual inspection of motors open/closing. Ensure no obstructions	Drive motors opened and closed. Ensure correct operation		

^{*} Service period for filter cleaning may vary depending on operating time and surrounding environment.

Split Ducted ESP Indoor Unit

19. Key Parts List

			ES	P PLUS	MOD	ESP ULTIMA MODELS							
ITEM	DESCRIPTION	PART NUMBER	SRV131E	SRV151E	SRV171E	SRV191E	SRV201E	SRV231E	SRM151E	SRM171E	SRM191E	SRM201E	SRM231E
		2520-313						1					1
1	EC ID Fan	2520-330	1	1	1				1	1			
		2520-334				1	1				1	1	
		1040-154						1					1
		1040-156		1					1				
2	Indoor Coil Assembly	1040-159			1					1			
		1040-169	1										
		1040-177				1	1				1	1	
3	Sensor Indoor Coil In	2060-016	1	1	1	1	1	1	1	1	1	1	1
4	Sensor Indoor Coil Out	2060-021	1	1	1	1	1	1	1	1	1	1	1
	Coil Piston	4540-076	1										
5		4540-110		1					1				
		4540-128			1	1	1	1		1	1	1	1
6	EXV Stator Coil	4550-031	1	1	1	1	1	1	1	1	1	1	1
		4550-032						1					1
7	EXV Assembly	4550-033	1	1					1				
		4550-034			1	1	1			1	1	1	
_	ID Control Board - AMIB-P1DV	2020-113	1	1		1			1		1		
8	ID Control Board - AMIB-3PDV	2020-114			1		1	1		1		1	1
9	ECM Filter	4080-013				1	1	1			1	1	1
10	Remote Zone Sensor	LM-RS-2	1	1	1	1	1	1					
11	Duct Bead Sensor	AERSS	1	1	1	1	1	1					
12	Zone Control	LM-ZC-2							1	1	1	1	1
13	Zone Sensor	LM-ZS-2							1	1	1	1	1
		8Z-VAV							1	1	1	1	1
14	8 Zone Module	8Z-24V	1	1	1	1	1	1					



That's better. That's Actron.

actronair.com.au 1300 522 722









