COMMERCIAL
Split Ducted Unit

Installation and Commissioning Guide - Indoor

Model Numbers

EVA300S	SCA300E	SCG260E
	SCA330E	SCG290E
	SCA340E	SCG330E
		SCG340E
		SCG400E

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

ActronAir

Table of Contents

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** to obtain a Goods Return Number.

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 endeavored 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 the latest edition of the AS/NZS 3000 (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.
- This unit is designed for use with R-410A refrigerant only.

*****Qualifications required will be appropriate Electrical, Refrigeration and Refrigerant Handling License and Training dependent on local State/Territory regulations.

DANGER

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/TAG-OUT (LOTO) procedures for electrical appliances in order to prevent accidental switching-on of the power supply. Extreme care and caution must be observed should there be a need to work on live circuit.

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.

WARNING

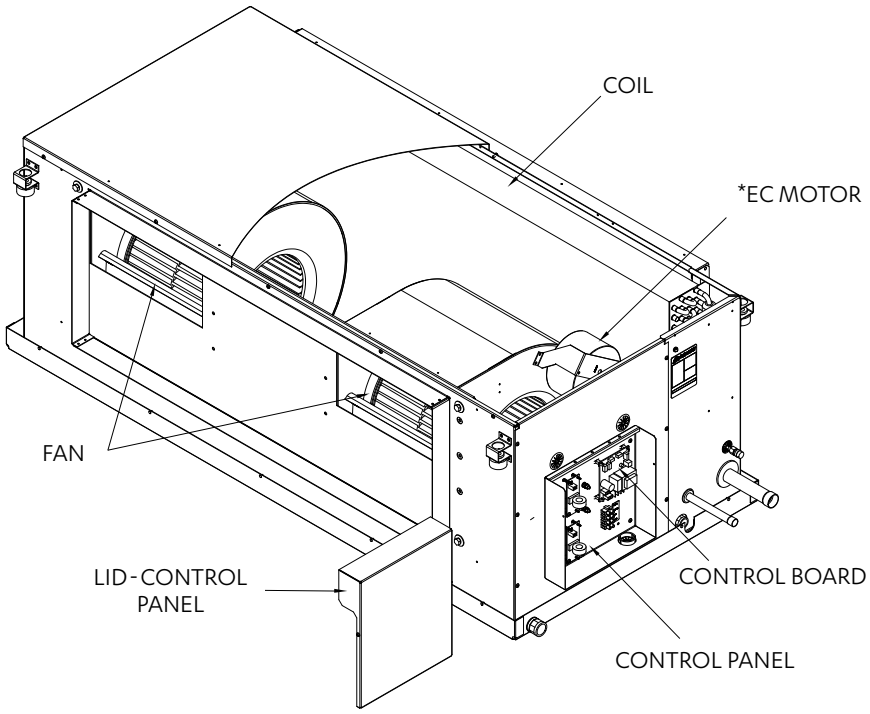
EC Motors are fitted with high power capacitors and can have dangerous residual voltages at motor terminals after power has been isolated. Wait at least 5 minutes after power isolation and test for any residual voltage before beginning service work.

03. Components Overview

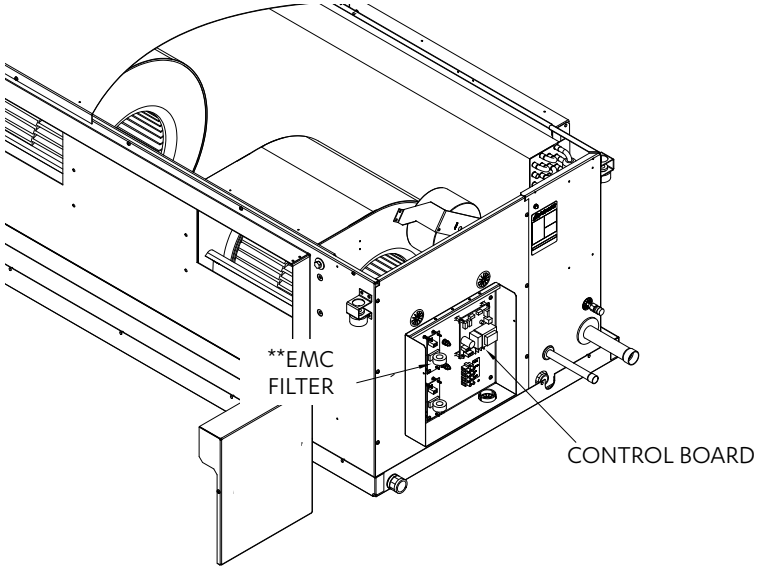
NOTES

1. SCG290E shown for illustration purposes only
2. *EC Motor and **EMC Filter are not used for SCG290E, EVA300S, SCA300E, SCA330E and SCA340E models.

03.01. Indoor Unit Components Overview



03.02. Indoor Unit Electrical Panel Overview

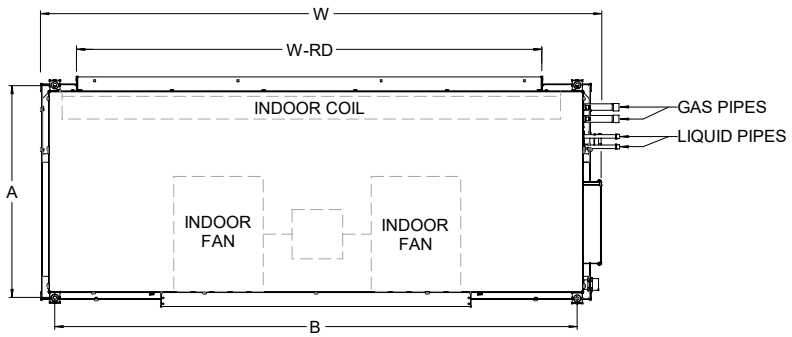


04. Unit Dimensions and Clearances

04.01. Unit Dimensions

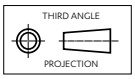
NOTES

- SCG340E Model shown for illustration purposes only.
- *DN 25mm PN12 Safety Drain and **Ø 25mm ID BSP Female Thread Primary Drain are used for SCG400E.

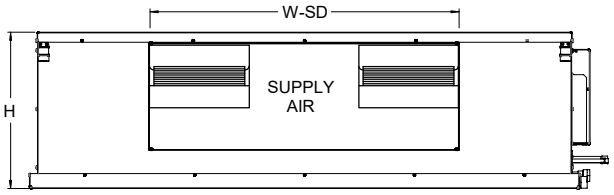


TOP VIEW

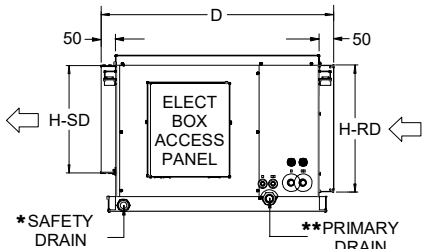
NOTES:



1. Do not scale drawing. All dimensions are in **mm** unless specified. Refer to corresponding unit dimensional drawing for mounting hole details.
2. Service Access Areas and Spaces for Airflow Clearances are met. This is 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.
3. Minimum Service Access Areas and Spaces for Airflow Clearances are responsibilities of the installer, ActronAir will not be held liable for any extra charges incurred due to lack of access and space for airflow.



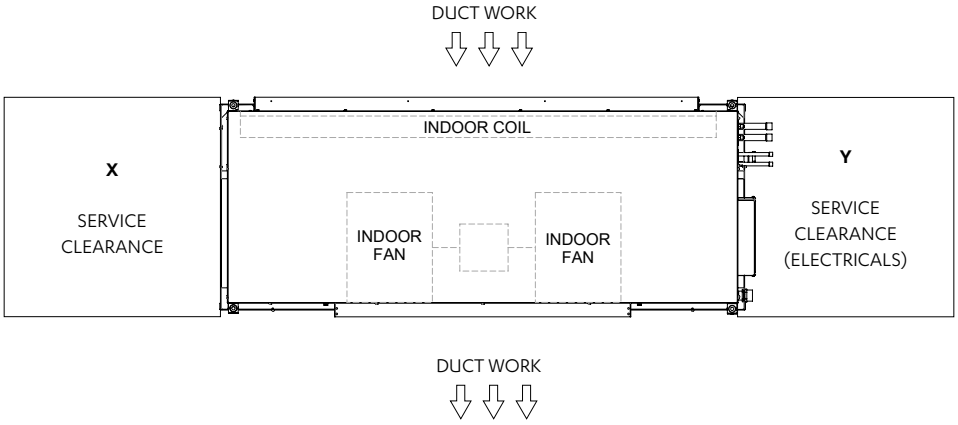
FRONT VIEW



SIDE VIEW

Unit Model	Overall Nominal Dimensions (OA)			Mounting Distance (Centre to Centre)		Supply Duct	Return Duct	Gas Pipe	Liquid Pipe
	H	W	D	A	B	H-SD x W-SD	H-RD x W-RD		
EVA300S	535	1530	770	715	1390	370 x 1065	435 x 1200	2 x Ø 22.2 mm (7/8") Swaged	2 x Ø 9.5 mm (3/8") Swaged
SCG260E	485	1470	695	650	1345	380 x 715	410 x 1190	Ø 25.4 mm (1") Swaged	Ø 15.9 mm (5/8") Swaged
SCG290E	535	1530	770	715	1390	370 x 1065	435 x 1200	Ø 28.6 mm (1-1/8") Swaged	Ø 15.9 mm (5/8") Swaged
SCA300E								2 x Ø 22.2 mm (7/8") Swaged	2 x Ø 9.5 mm (3/8") Swaged
SCA330E	620	1735	770	715	1600	370 x 1065	520 x 1440	Ø 28.6 mm (1-1/8") Swaged	Ø 15.9 mm (5/8") Swaged
SCG330E								Ø 28.6 mm (1-1/8") Swaged	Ø 15.9 mm (5/8") Swaged
SCA340E	620	1735	770	715	1600	370 x 1065	520 x 1440	2 x Ø 22.2 mm (7/8") Swaged	2 x Ø 9.5 mm (3/8") Swaged
SCG340E								2 x Ø 22.2 mm (7/8") Swaged	2 x Ø 9.5 mm (3/8") Swaged
SCG400E	680	1910	795	740	1780	370 x 1065	575 x 1595	2 x Ø 22.2 mm (7/8") Swaged	2 x Ø 12.7 mm (1/2") Swaged

04.02. Minimum Service Access Area and Airflow Clearances



Unit Model	Total Weight (kg)	Service Clearance and Airflow Allowance		Height Clearance	Circuit
		X	Y		
EVA300S	115	1200	1200	430	Dual
SCG260E	90	890	890	410	Single
SCG290E	110	1200	1200	430	
SCA300E	115				Dual
SCA330E	125				Single
SCG330E					
SCA340E	130				Dual
SCG340E					
SCG400E	125				

05. 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 unit lifting procedure provided, adhere to WH&S regulations for safe and secure lifting practices in order to prevent physical injury.

Suggested lifting procedures are outlined 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.

A hanging bracket assembly and rubber grommet 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.

NOTE

In locations where high humidity is expected, additional insulation shall be applied to the indoor unit.

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 some units) 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.

NOTE

The included safety tray is provided for collection of internal condensation and for back up in case of main drain blockage.
In locations where high humidity is expected, additional insulation or safety tray may be required to provide protection for externally formed condensation.

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.

NOTES

In locations where high humidity is expected, ensure appropriate duct insulation level is considered for the environment. Inadequate insulation can result in condensation forming on the ductwork's surface, potentially leading to dripping condensation on the ceiling.
Ducted work should be adequately supported in order to prevent cold bridging.
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 to maintain the efficiency and prolong the operation of the unit. These are also paramount to satisfy requirement for a clean and hygienic room condition. Return Air filters must be placed in an easily accessible location for service and maintenance.

NOTES

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

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.

NOTE

All exposed metal surfaces of the duct spigots should be adequately insulated when connecting ductwork to ensure performance and reduce the risk of condensation. All air gaps shall be appropriately sealed.

Split Fan Coil System (Optional)

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.

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.

NOTES

This indoor unit is designed to match only with an ActronAir Series outdoor unit as specified in the Technical Selection Catalogue.

The unit is supplied with factory charged dry air. Be aware of the pressurised air charge when purging. Remove the caps from the connection points and purge the system only when the field pipe connections are ready to be completed.

06. Unit Lifting Procedures

06.01. Crane Lifting Method

⚠ WARNING

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

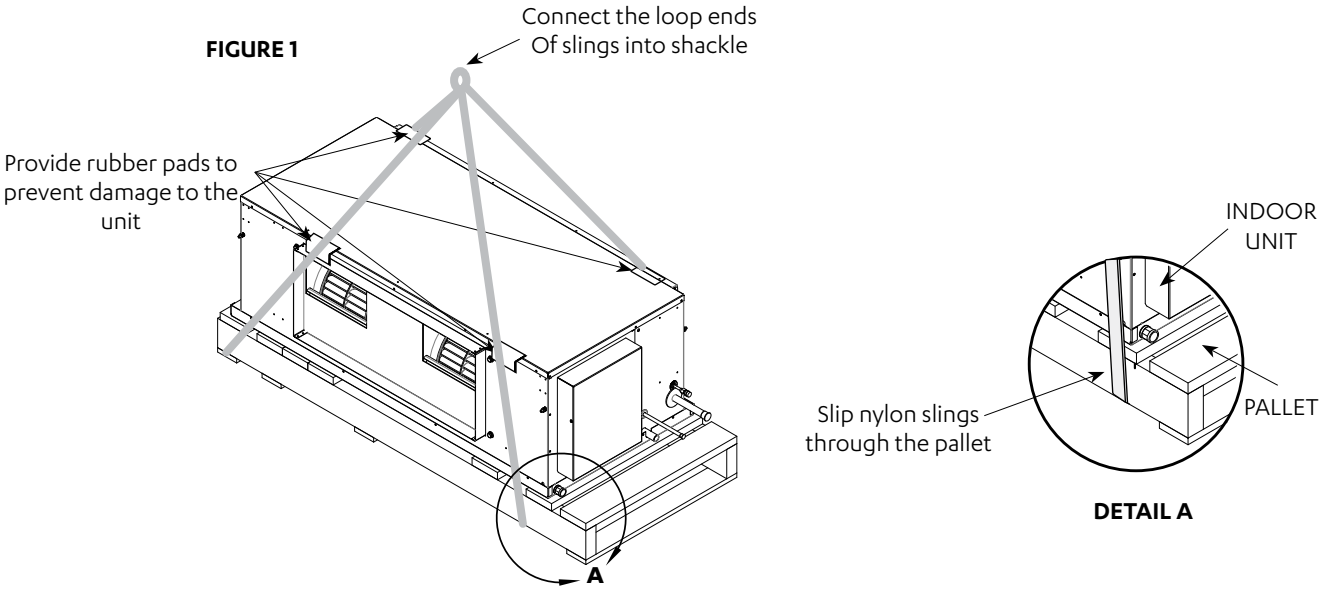
⚠ DANGER

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.

NOTES

- 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.

FIGURE 1



Equipment Required For Crane Lifting:

- 1 x shackle
- 2 x nylon slings
- 4 x rubber pads

NOTE

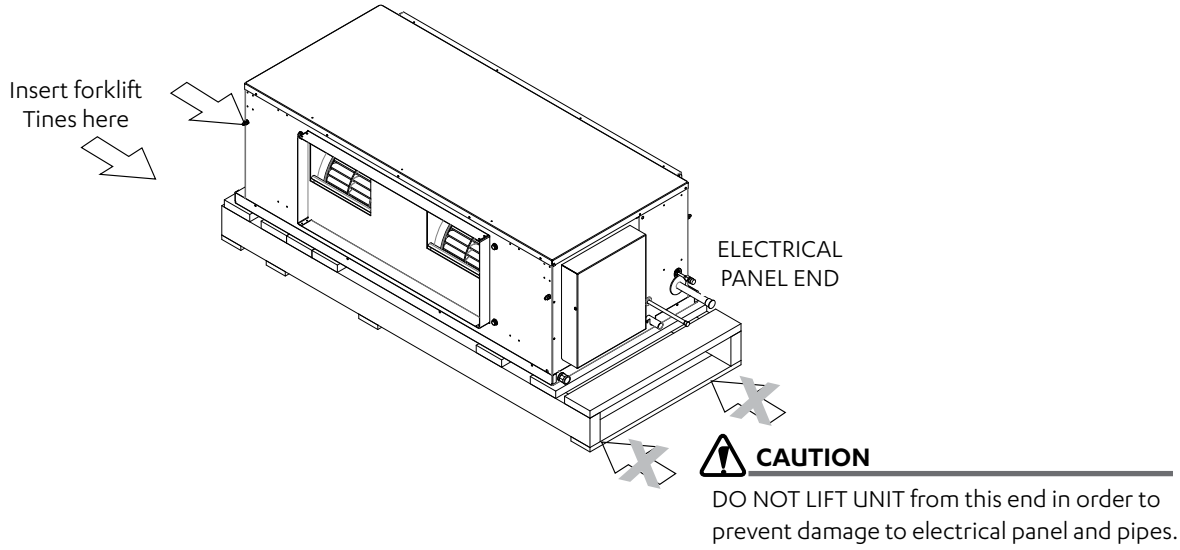
Refer to catalogue for unit weight before selecting shackles and slings.

Procedure:

1. Slip nylon slings through the pallet as shown in Figure 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.

06.02. Fork Lift Method

FIGURE 2



Procedure:

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

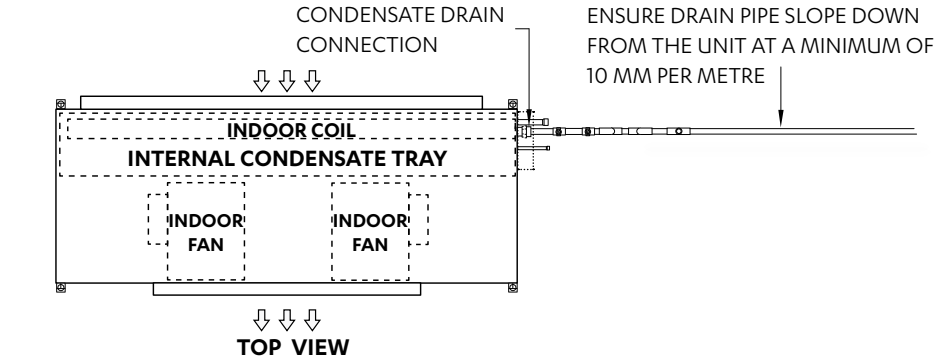
⚠ CAUTION

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

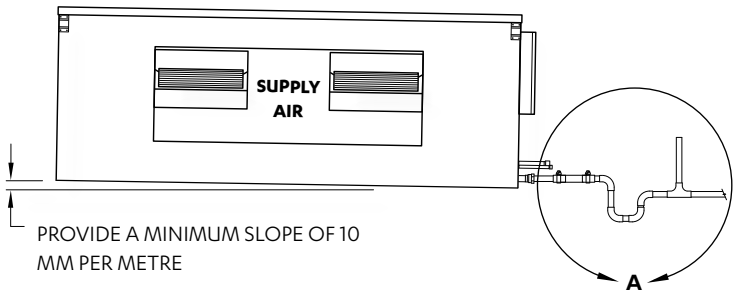
07. Safety Drain Tray

NOTES

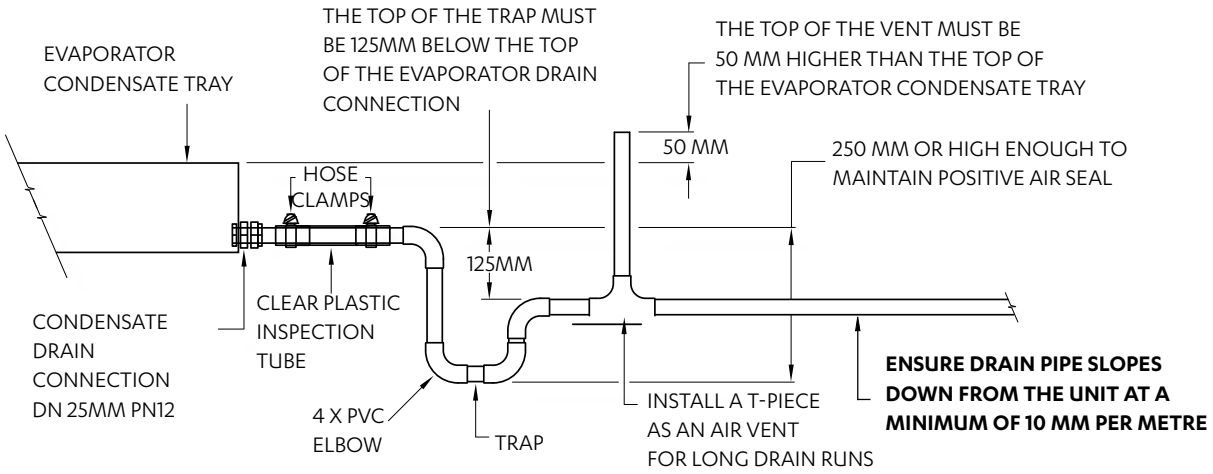
- Do not use pipes or tube coming out from the unit to lift the unit.
- Support drain line for long pipe run.
- Refer to indoor unit dimension page for specification of drain connectors.
- To reduce the risk of condensation forming on the drain line, the drain line should be covered with appropriate thermal insulation
- Test condensate drain installation to ensure that water flows freely and does not leak. Also check that the drain tray does not overflow. Parts for the Condensate Trap are not supplied with the unit.
- All drawings are for illustration purposes only. Actual unit may vary depending on the model.



TOP VIEW



FRONT VIEW



DETAIL A
(SUGGESTED TRAP DETAILS)

08. Electrical Installation

All electrical work must be carried out by a qualified technician. Make sure all wiring is in accordance with local wiring rules. Wiring connections should be made in accordance with the wiring diagram provided.

DANGER

Live Electrical Supply !

- During installation of your air conditioning unit, it may be necessary to work in close proximity to live electricity. Only qualified technicians are allowed to perform these tasks.
- Follow all electrical safety precautions when exposed to live electrical components.
- Always make sure that all power supply, including remote controls, are disconnected before performing maintenance. Observe proper LOCK-OUT / TAG-OUT (LOTO) procedures to ensure that power cannot be inadvertently energised. Failure to disconnect power before maintenance procedure can result in serious injury or death.
- All electrical wiring must be in accordance with the relevant electrical authority rules and regulations.

CAUTION

STATIC SENSITIVE ELECTRONIC DEVICES !

- DO NOT handle electronic devices unless you are wearing an Anti-Static Wrist Strap that is connected to a GOOD EARTH. Failure to protect the electronic devices from static electricity may cause unrepairable damage.
- Static damaged electronic devices are NOT COVERED for replacement under warranty.

Wiring Diagram

The wiring diagrams specific for your air conditioning system are located on the inside panel of the electrical access panel. Always refer all wiring installation, servicing and troubleshooting of this equipment to this diagram to ensure correct electrical connections are satisfied.

Supply Power Requirements and Procedures

It is the installer's responsibility to provide power supply wiring to the sub-mains isolator. Wiring should conform to the current electrical authority regulations and all wiring connections to be as per electrical diagram provided with the unit.

- Confirm that the power supply available is compatible with the unit nameplate ratings. The supply power must be within +10% to -6% of the rated voltage as per AS60038.
- Protect electrical service from over current and short circuit conditions in accordance with the latest edition of the AS/NZS 3000 "Australian / New Zealand Wiring Rules". Protection devices are to be sized according to the electrical specifications of the unit.
- Complete the indoor unit power supply and control wiring to the outdoor unit as per unit wiring diagram.
- Secure the power cords and control cables that enters in/exits the unit. Use the cable ties provided in the electrical panel.
- Provide proper unit earthing in accordance with local and national wiring rules.

09. Split Unit Electrical Connection

NOTE

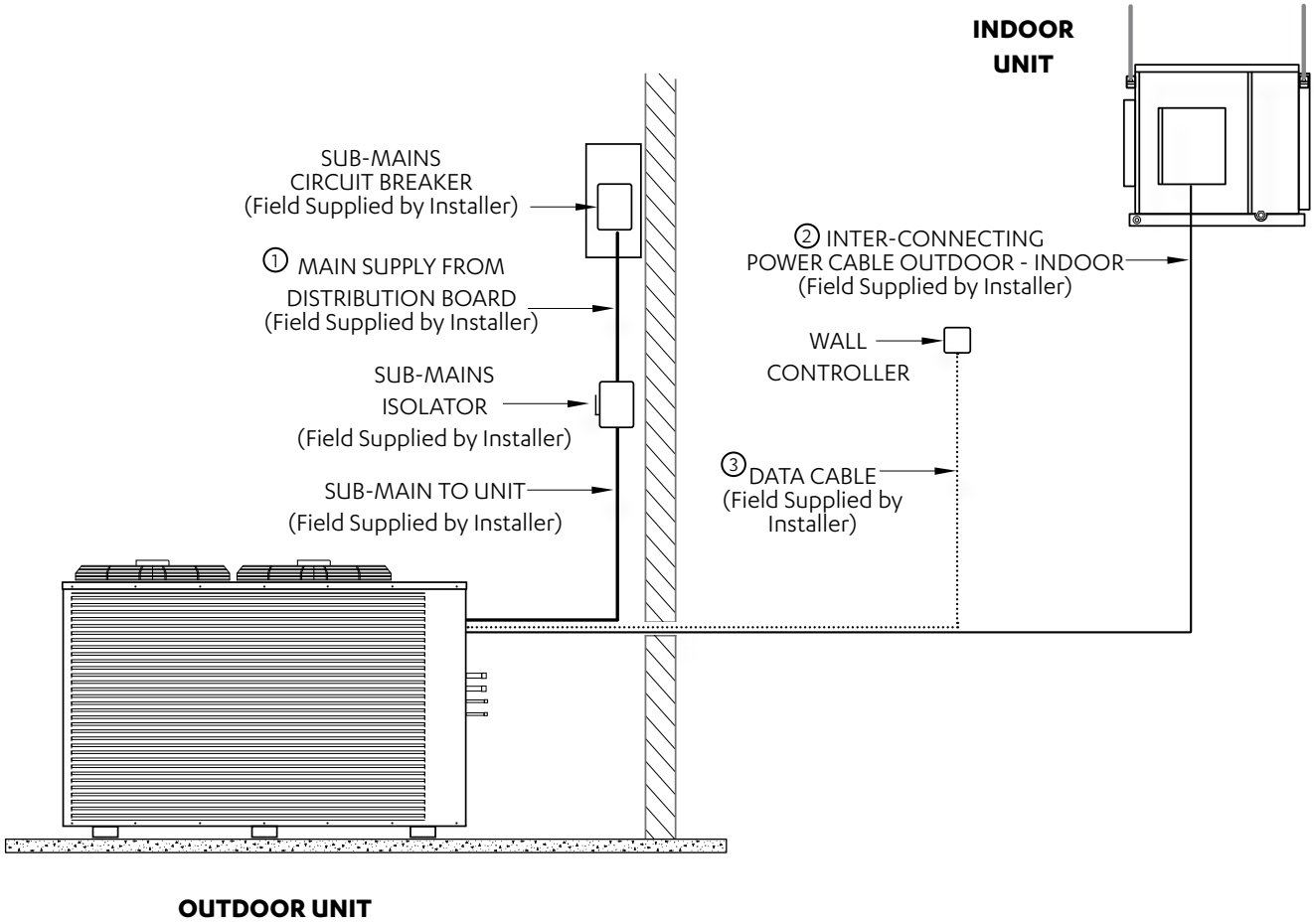
To minimise noise interference, Data and Power cable clearance should be maintained as much as possible.

DETAILED WIRING DIAGRAM IS PROVIDED WITH THE UNIT.

Outdoor Unit: Located at the back of electrical/compressor access panel.
Indoor Unit: Located at the back of electrical box cover.

① MAINS WIRING (400VAC)
(Three Phase + Neutral +Earth) 50Hz
② INTER-CONNECTING POWER CABLE (230 VAC)
(Singe Phase + Neutral + Earth) 50Hz
(230 VAC Active Indoor Fan On/Off Signal) 50Hz

③ DATA CABLE TO WALL CONTROLLER
(2 Core 14/0.20 0.44mm^2 Shielded Data Cable)

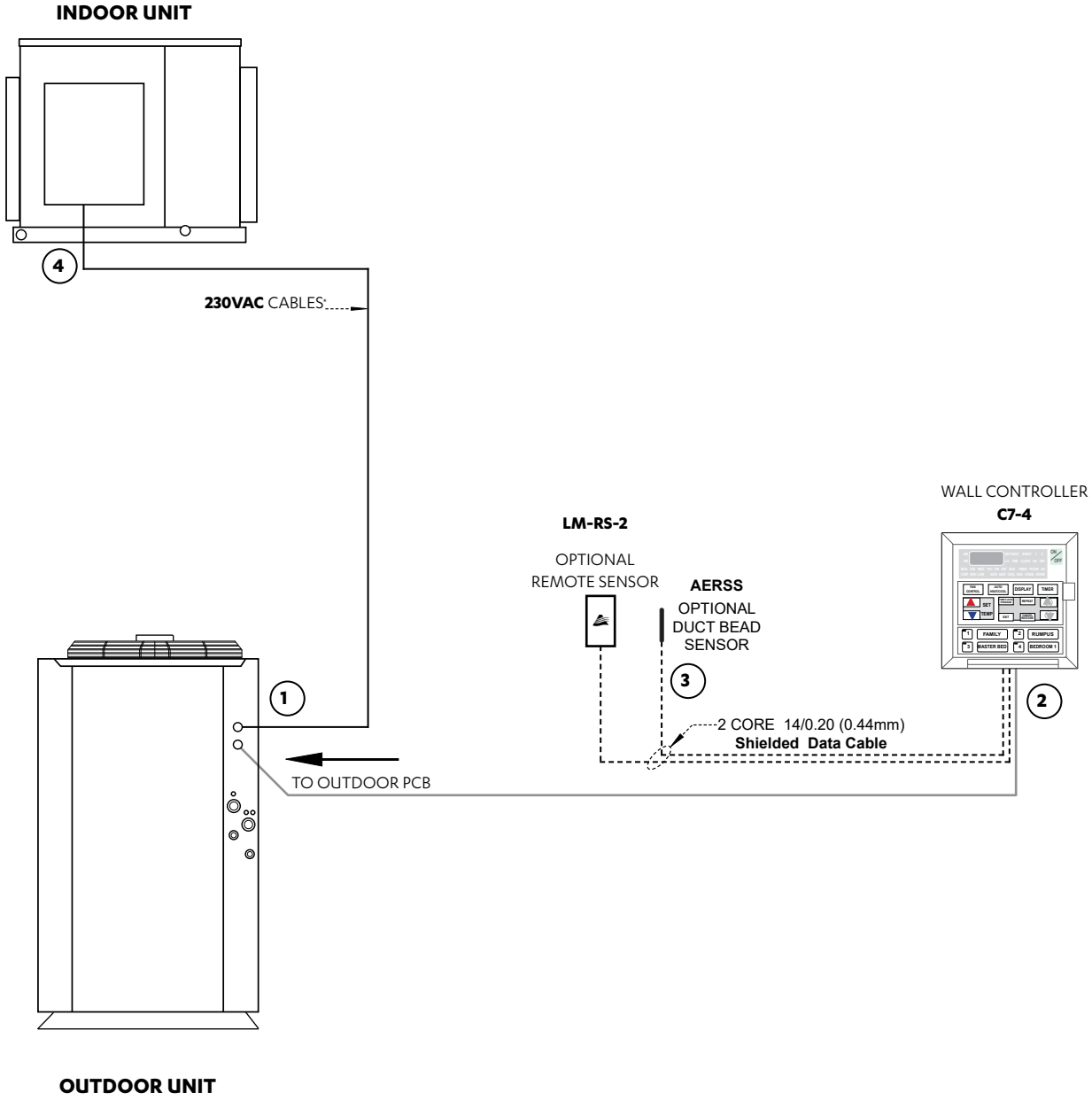


Circuit Breaker Size and Cable Size Requirement			
Model	Circuit Breaker Size	Cable Size * (mm²)	
	Amps	MAIN	O.D. to I.D.
SCA260C / SCG260E	32.0	6.0	1.0
SCA290C / SCG290E	32.0	6.0	1.5
CRA300T / EVA300S	32.0	6.0	1.5
SCA300C / SCA300E **	32.0	6.0	1.0
SCA330C / SCA330E **	32.0	6.0	1.0
SCA330C / SCG330E	40.0	10.0	1.5
SCA340C / SCA340E **	32.0	6.0	1.0
SCA340C / SCG340E	40.0	10.0	1.5
SCA400C / SCG400E	50.0	10.0	2.5

***** Suggested Minimum Cable Size should be used as a guide only. Larger size cables may be required dependent on installation method,length of cables and ambient temperature. Refer to the latest edition of the AS/NZS 3000 "Australian / New Zealand Wiring Rules" for more details.

****** Refer to unit wiring diagram for further clarity of required cables for single and dual speed indoor fan operation.

10. Control Cable Length and Specification



ITEM	DESCRIPTION	MAXIMUM CABLE LENGTH * ^
1 to 2	Outdoor PCB to Master Controller	50 m (60 m without CZ-1)
1 to 4	Outdoor PCB to Indoor Fan (**230VAC**)	50 m
2 to 3	Master Controller to Remote Sensor (Max. of 2 Optional Sensors)	50 m each

* **Suggested Maximum Cable Length.**
Long runs beside Mains cables or TV antenna cables should be avoided where possible, 2 CORE 14/0.20 (0.44mm) Shielded Data Cable must be used.
^ Total Cumulative length of all the aggregate cable lengths must not exceed 500 meters. Consult ActronAir® for longer cable length requirement.

NOTE

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

11. Standard Indoor Fan Commissioning

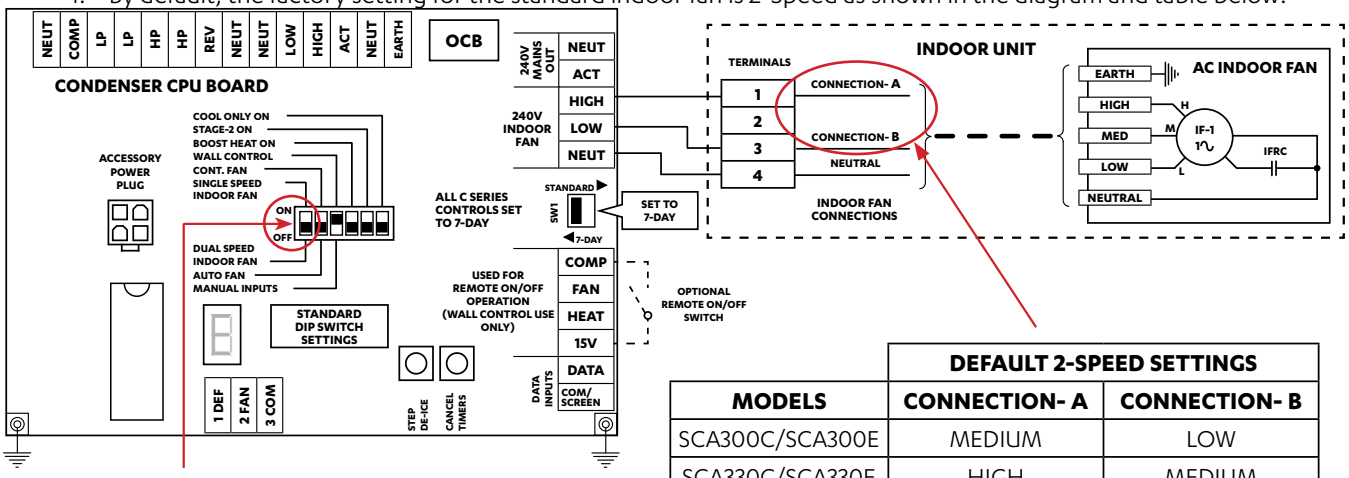
Models: SCA300C/SCA300E SCA330C/SCA330E SCA340C/SCA340E

NOTE

- Commissioning of AC indoor fan should be carried out by a qualified/licensed installer or service technician.
- Make sure that all instructions are followed accordingly.
- Ensure that connecting duct work and air filters are properly installed.

Fan Adjustment Procedure:

1. By default, the factory setting for the standard indoor fan is 2-Speed as shown in the diagram and table below:

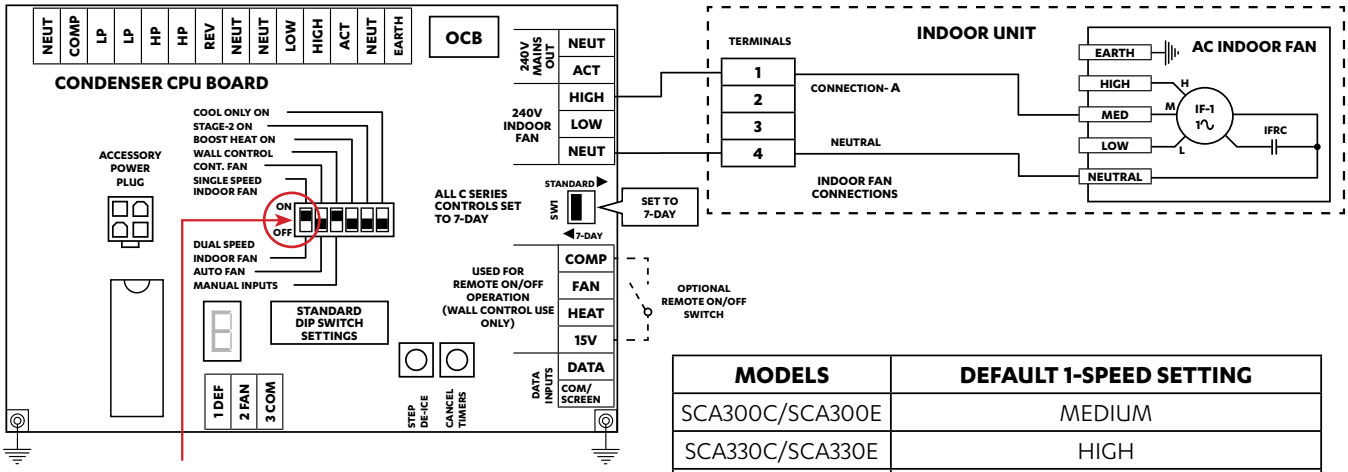


The DIP switch is set on
DUAL SPEED INDOOR FAN

	DEFAULT 2-SPEED SETTINGS	
MODELS	**CONNECTION- A**	**CONNECTION- B**
SCA300C/SCA300E	MEDIUM	LOW
SCA330C/SCA330E	HIGH	MEDIUM
SCA340C/SCA340E	HIGH	MEDIUM

As an example, SCA300C / SCA300E (AC Indoor Fan) condenser CPU Board and Indoor Fan connections are shown.

2. An option to choose a 1-Speed Setting is available for the End User/Customer. This can be done by setting the DIP switch to **SINGLE SPEED INDOOR FAN**, as shown below. The factory default setting is shown on the following table:



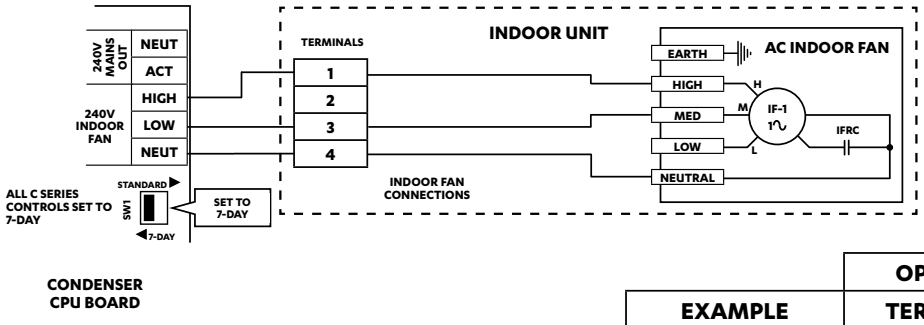
The DIP switch is set on
SINGLE SPEED INDOOR FAN

MODELS	DEFAULT 1-SPEED SETTING
SCA300C/SCA300E	MEDIUM
SCA330C/SCA330E	HIGH
SCA340C/SCA340E	HIGH

NOTE

When the Indoor Fan DIP switch setting on the Condenser CPU Board is set to **SINGLE SPEED INDOOR FAN**, the Indoor Fan output on the Condenser CPU Board is always from the **HIGH** terminal output.

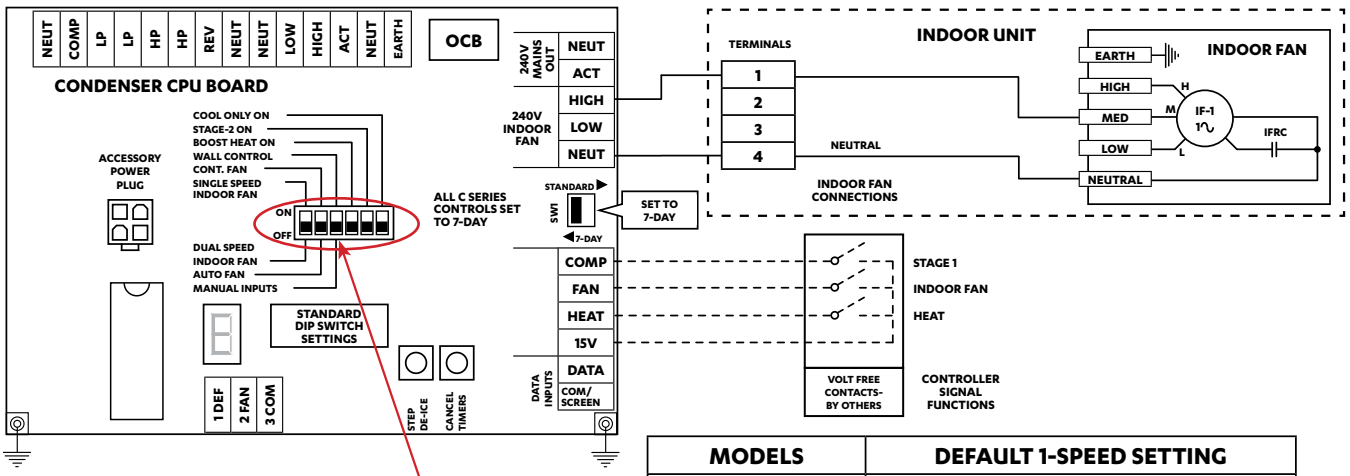
3. An option is also available for the End User/Customer to choose any speed by re-wiring the Indoor Fan.
   For example: SCA300C/SCA300E (AC Indoor Fan) 2-Speed setting is changed from Medium and Low to High and Medium, is shown below:



	OPTIONAL 2-SPEED SETTINGS	
EXAMPLE	**TERMINAL 1**	**TERMINAL 3**
SCA330C/SCA330E	HIGH	MEDIUM

4. Optional Manual Inputs are another control option available to run the units, which can be done by setting the DIP switch to **MANUAL INPUTS**, as shown below.

As an example, SCA300C / SCA300E (AC Indoor Fan) condenser CPU Board and Indoor Fan connections are shown. The factory default settings are as shown in the table below:



MODELS	DEFAULT 1-SPEED SETTING
SCA300C/SCA300E	MEDIUM
SCA330C/SCA330E	HIGH
SCA340C/SCA340E	HIGH

NOTE

When the Indoor Fan DIP switch setting on the Condenser CPU Board is set to **MANUAL INPUTS**, the Indoor Fan speed will only be a **SINGLE SPEED INDOOR FAN**. And the Indoor Fan output on Condenser CPU Board will always be from the **HIGH** terminal output.

5. The End User/Customer has also an option to change the Indoor Fan speed for the Optional Manual Inputs by re-wiring the Indoor Fan. Refer to Step 3.

12. EC Indoor Fan Commissioning

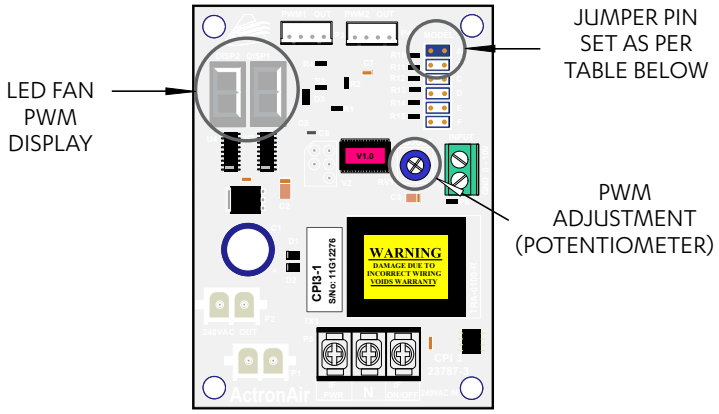
Models: EVA300S/CRA300T SCA260C/SCG260E SCA290C/SCG290E SCA330C/SCG330E SCA340C/SCG340E SCA400C/SCG400E

NOTES

- Commissioning of EC fan should be carried out by a qualified/licensed installer or service technician. Make sure that all instructions are followed accordingly.
- Ensure that connecting duct work and air filters are properly installed.

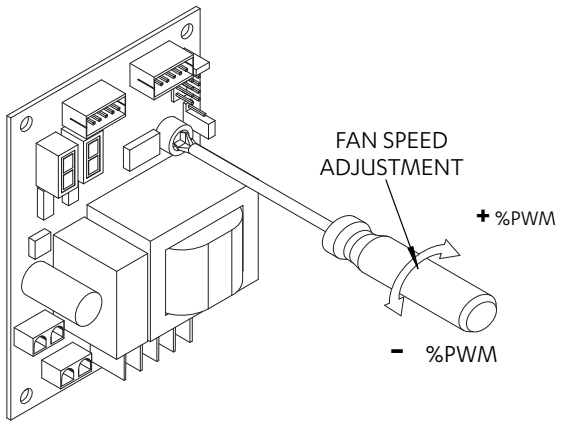
Fan Adjustment Procedure:

1. Locate CPI Fan Controller :
   Split Systems - Indoor Unit's Electrical Box
2. Turn ON the unit through the installed wall controller or thermostat.



(CPI)
COMMERCIAL PWM INDOOR BOARD

3. Using the fan table provided , select the corresponding fan %PWM by plotting the external static pressure requirement (duct static pressure) and nominal airflow requirement of the unit. (Data may need to be calculated to get the desired value).
4. Using slotted screwdriver adjust CPI board 0-99% PWM output by rotating the potentiometer to obtain the desired %PWM. Rotate clockwise to increase the %PWM and counter-clockwise to lower the %PWM.



NOTES

- LED will show PWM without %.Example: 71% PWM = 71 in LED.
- LED adjustments are in 1 digit increment.

Jumper Pin Position and CPI% PWM Range

Table below shows factory default jumper position to corresponding air conditioning models to limit fan operating range. Refer to specific fan performance data and fan curve on next page for factory default fan setting.

(CPI) INDOOR FAN VARIABLE SPEED BOARD MATRIX ACTRON PART NO. 2020-101				
MODELS	**JUMPER PIN POSITION**	**CPI % PWM RANGE**		
		MINIMUM	**NOMINAL**	**MAXIMUM**
EVA300S/CRA300T	D	53	61	95
SCA260C/SCG260E	F	55	78	99
SCA290C/SCG290E	E	51	61	94
SCA330C/SCG330E	C	53	69	95
SCA340C/SCG340E	B	50	69	95
SCA400C/SCG400E	A	53	71	95

13. Indoor Fan Table and Fan Curve

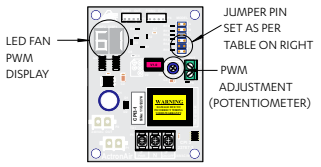
13.01. CRA300T/EVA300S

AIRFLOW (l/s)	EXTERNAL STATIC PRESSURE (Pa)											
	50		100		150		200		250		300	
	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W
1275	---	---	---	---	53	801	57	924	62	1093		
1300	---	---	---	---	54	810	58	947	63	1112		
1350	---	---	52	741	57	870	61	1012	66	1178		
1400	51	677	55	776	60	922	64	1070	69	1245	MOTOR / BLOWER LIMIT	
1450	54	709	58	838	63	989	67	1141	73	1312		
1500	57	762	**61**	**902**	66	1052	70	1214	76	1380		
1550	60	838	65	972	69	1132	74	1298	80	1458		
1600	64	899	68	1042	73	1211	78	1375	84	1528		
1650	67	979	72	1132	77	1300	82	1458	88	1676		

NOTES

W = Indoor Fan Power (Watts)
PWM = Pulse Width Modulation Setting, % PWM (Adjustable through CPI3-1 Board located in electrical panel).Factory PWM Setting = 61 % PWM for 100 Pa. - Data in the box indicates Factory Default Setting.
Performance Fan Curve shown is at Dry Coil Condition. Airflow should be reduce with respect to the moisture content in the air. All data provided does not include filters. Please review filter manufacturer for application. 2.5 m/s face velocity point will occur at 1625 l/s.

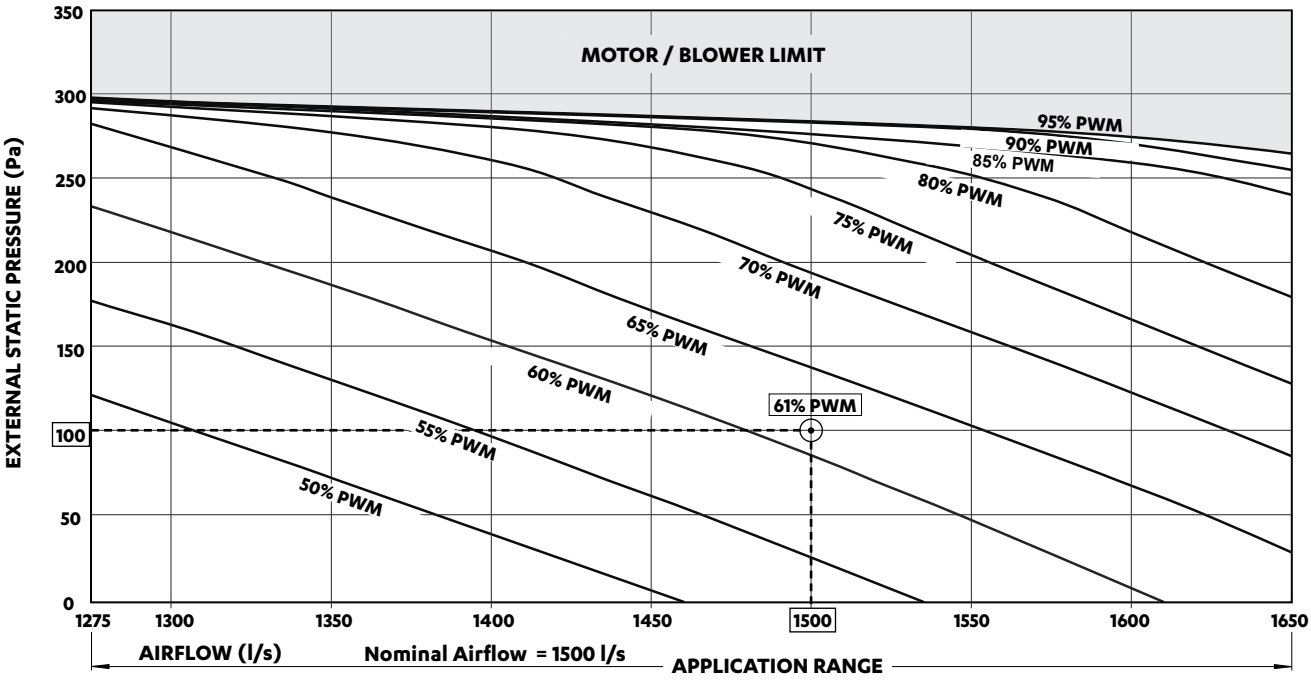
(CPI3-1) COMMERCIAL PWM INTERFACE BOARD



NOTES:
- LED will show PWM without %.
  Example: 61% PWM = 61 in LED.
- LED adjustments are in 1 digit increment.

JUMPER PIN POSITION	INDOOR FAN
A	SCG400E PCG400U/L/R
B	SCG340E PCG340/L/R
C	SCG330E PCG330/L/R
D	EVA300S PCG300L/R PKA300T-T/L/R
E	SCG290E PCG290U/L/R
F	SRG260E PCG260U/V

INDOOR UNIT FAN CURVE



13.02. SCA260C/SCG260E

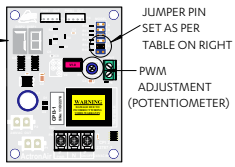
AIRFLOW (l/s)	EXTERNAL STATIC PRESSURE (Pa)											
	50		100		150		200		250		300	
	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W
1120	55	440	60	542	64	634	69	731	82	832	99	934
1150	57	468	62	574	67	677	72	769	86	872		
1200	61	521	66	624	71	728	77	835	93	943		
1250	66	587	71	692	76	797	84	909				
1300	71	654	76	765	81	874	93	995				
1320	73	682	**78**	**786**	83	904						
1350	76	723	80	818	86	950						
1400	81	795	86	912	93	1036						
1450	86	862	92	1002								

MOTOR / BLOWER LIMIT

NOTES

W = Indoor Fan Power (Watts)
PWM = Pulse Width Modulation Setting, % PWM (Adjustable through CPI3-1 Board located in electrical panel).Factory PWM Setting = 78 % PWM for 100 Pa. - Data in the box indicates Factory Default Setting.
Performance Fan Curve shown is at Dry Coil Condition. Airflow should be reduce with respect to the moisture content in the air. All data provided does not include filters. Please review filter manufacturer for application. 2.5 m/s face velocity point will occur at 1400 l/s.

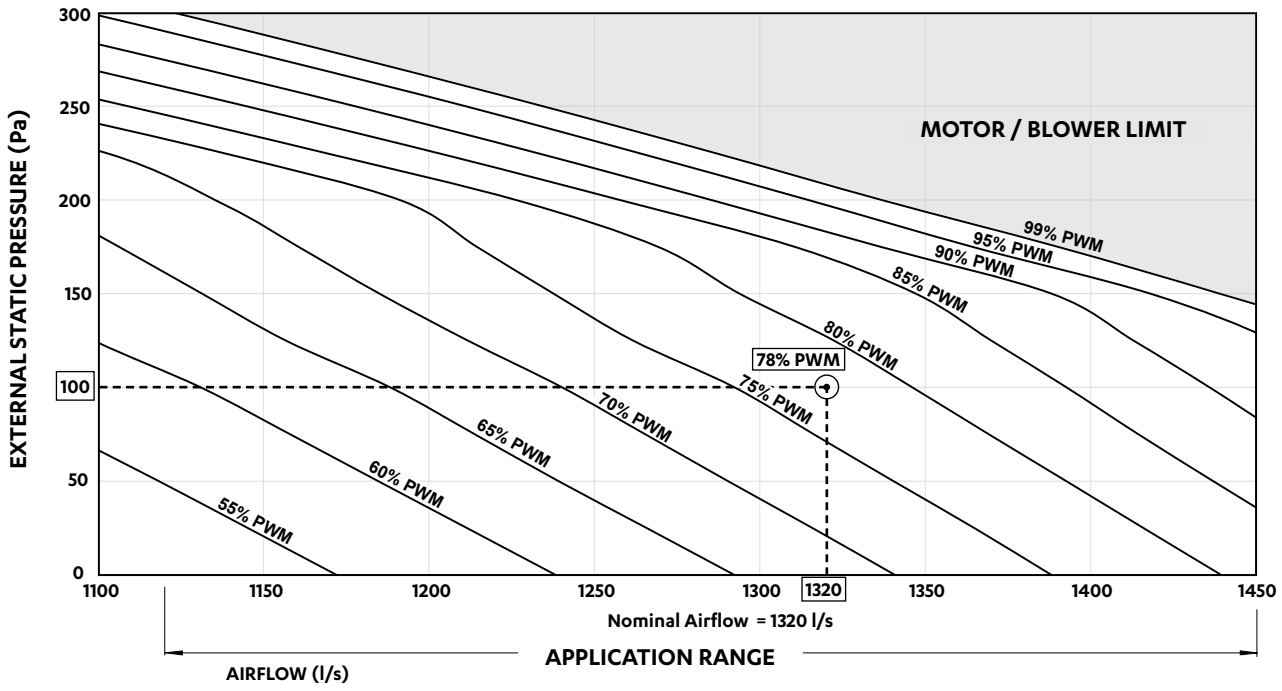
(CPI3-1) COMMERCIAL PWM INTERFACE BOARD



JUMPER PIN POSITION	INDOOR FAN
A	SCG400E PCG400U/L/R
B	SCG340E PCG340/L/R
C	SCG330E PCG330/L/R
D	EVA300S PCG300L/R PKA300T-T/L/R
E	SCG290E PCG290U/L/R
F	SRG260E PCG260U/V

NOTES:
- LED will show PWM without %.
  Example: 78% PWM = 78 in LED.
- LED adjustments are in 1 digit increment.

INDOOR UNIT FAN CURVE



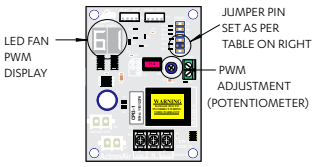
13.03. SCA290C/SCG290E

AIRFLOW (l/s)	EXTERNAL STATIC PRESSURE (Pa)											
	50		100		150		200		250		300	
	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W
1275	---	---	---	---	53	801	57	924	62	1093		
1300	---	---	---	---	54	810	58	947	63	1112		
1350	---	---	52	741	57	870	61	1012	66	1178		
1400	51	677	55	776	60	922	64	1070	69	1245	MOTOR / BLOWER	
1450	54	709	58	838	63	989	67	1141	73	1312	LIMIT	
1500	57	762	**61**	**902**	66	1052	70	1214	76	1380		
1550	60	838	65	972	69	1132	74	1298	80	1458		
1600	64	899	68	1042	73	1211	78	1375	84	1528		
1650	67	979	72	1132	77	1300	82	1458	88	1676		

NOTES

W = Indoor Fan Power (Watts)
PWM = Pulse Width Modulation Setting, % PWM (Adjustable through CPI3-1 Board located in electrical panel).Factory PWM Setting = 61 % PWM for 100 Pa. - Data in the box indicates Factory Default Setting.
Performance Fan Curve shown is at Dry Coil Condition. Airflow should be reduce with respect to the moisture content in the air. All data provided does not include filters. Please review filter manufacturer for application. 2.5 m/s face velocity point will occur at 1625 l/s.

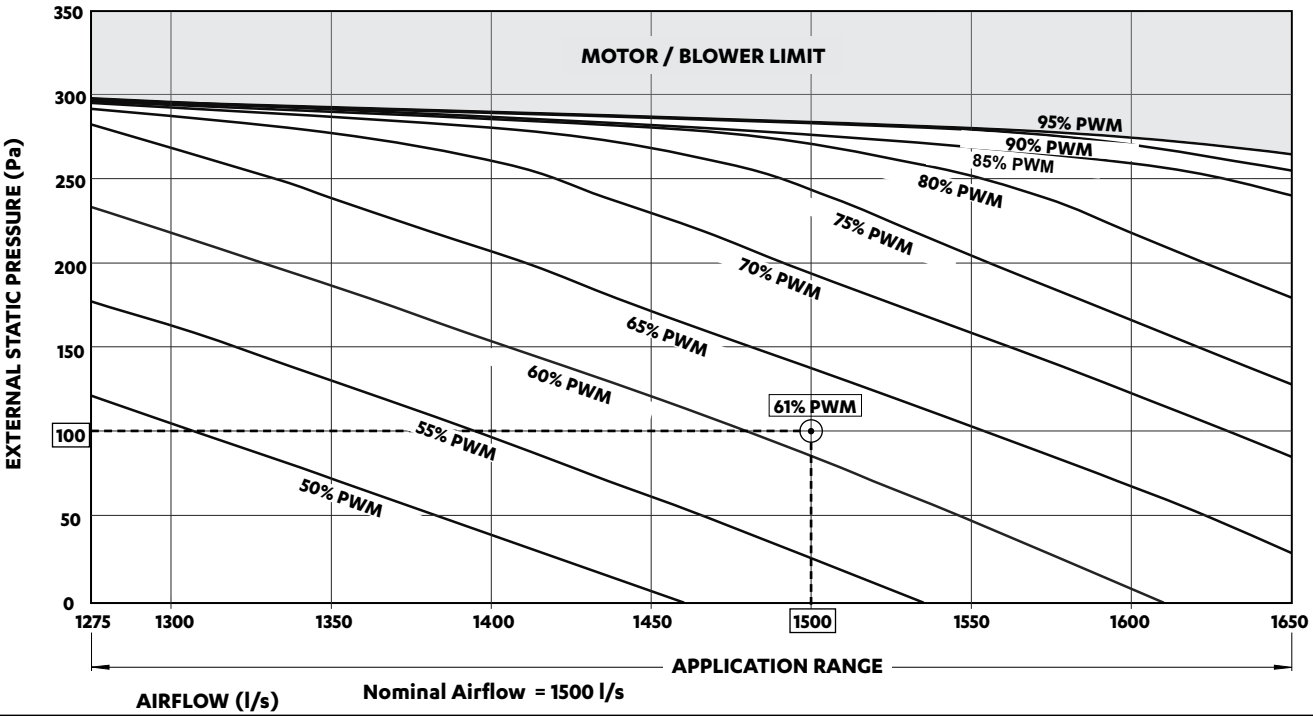
(CPI3-1) COMMERCIAL PWM INTERFACE BOARD



NOTES:
- LED will show PWM without %. Example: 61% PWM = 61 in LED.
- LED adjustments are in 1 digit increment.

JUMPER PIN POSITION	INDOOR FAN
A	SCG400E PCG400U/L/R
B	SCG340E PCG340/L/R
C	SCG330E PCG330/L/R
D	EVA300S PCG300L/R PKA300T-T/L/R
E	SCG290E PCG290U/L/R
F	SRG260E PCG260U/V

INDOOR UNIT FAN CURVE



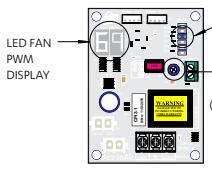
13.04. SCA330C/SCG330E

AIRFLOW (l/s)	EXTERNAL STATIC PRESSURE (Pa)											
	50		100		150		200		250		300	
	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W
1450	---	---	50	626	55	767	59	892	64	1042	73	1192
1500	---	---	53	680	57	797	62	953	67	1096	77	1253
1550	51	597	56	734	60	853	65	1012	70	1172	81	1316
1600	54	647	58	761	63	912	68	1076	73	1217	86	1387
1650	57	700	61	816	66	969	71	1138	75	1278	90	1453
1700	60	750	65	898	69	1029	74	1198	79	1348	95	1531
1750	63	804	68	958	72	1089	77	1261	83	1419		
1770	64	820	**69**	**974**	74	1127	78	1279	85	1452		
1800	66	858	71	1015	75	1146	80	1324	88	1503		
1850	69	913	74	1072	79	1244	84	1410	93	1585		
1900	72	969	77	1131	82	1304	88	1494	MOTOR / BLOWER LIMIT			

NOTES

W = Indoor Fan Power (Watts)
PWM = Pulse Width Modulation Setting, % PWM (Adjustable through CPI3-1 Board located in electrical panel).Factory PWM Setting = 69 % PWM for 100 Pa. - Data in the box indicates Factory Default Setting.
Performance Fan Curve shown is at Dry Coil Condition. Airflow should be reduce with respect to the moisture content in the air. All data provided does not include filters. Please review filter manufacturer for application. 2.5 m/s face velocity point will occur at 2156 l/s.

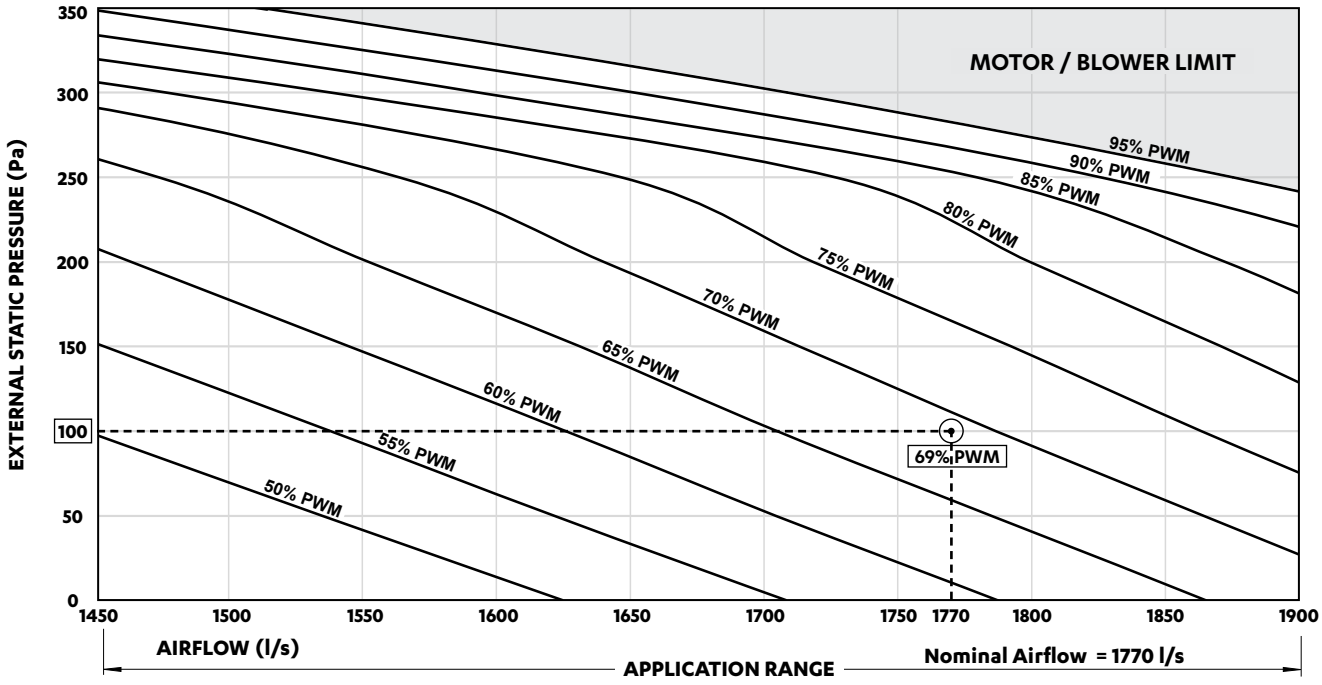
(CPI3-1) COMMERCIAL PWM INTERFACE BOARD



NOTES:
- LED will show PWM without %. Example: 69% PWM = 69 in LED.
- LED adjustments are in 1 digit increment.

JUMPER PIN POSITION	INDOOR FAN
A	SCG400E PCG400U/L/R
B	SCG340E PCG340/L/R
C	SCG330E PCG330/L/R
D	EVA300S PCG300L/R PKA300T-T/L/R
E	SCG290E PCG290U/L/R
F	SRG260E PCG260U/V

INDOOR UNIT FAN CURVE



13.05. SCA340C/SCG340E

AIRFLOW (l/s)	EXTERNAL STATIC PRESSURE (Pa)											
	50		100		150		200		250		300	
	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W
1450	---	---	50	626	55	767	59	892	64	1042	73	1192
1500	---	---	53	680	57	797	62	953	67	1096	77	1253
1550	51	597	56	734	60	853	65	1012	70	1172	81	1316
1600	54	647	58	761	63	912	68	1076	73	1217	86	1387
1650	57	700	61	816	66	969	71	1138	75	1278	90	1453
1700	60	750	65	898	69	1029	74	1198	79	1348	95	1531
1750	63	804	68	958	72	1089	77	1261	83	1419		
1770	64	820	**69**	**974**	74	1127	78	1279	85	1452		
1800	66	858	71	1015	75	1146	80	1324	88	1503		
1850	69	913	74	1072	79	1244	84	1410	93	1585		
1900	72	969	77	1131	82	1304	88	1494	MOTOR / BLOWER LIMIT			

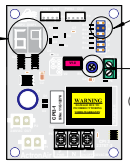
NOTES

W = Indoor Fan Power (Watts)

PWM = Pulse Width Modulation Setting, % PWM (Adjustable through CPI3-1 Board located in electrical panel).Factory PWM Setting = 69 % PWM for 100 Pa. - Data in the box indicates Factory Default Setting.

Performance Fan Curve shown is at Dry Coil Condition. Airflow should be reduce with respect to the moisture content in the air. All data provided does not include filters. Please review filter manufacturer for application. 2.5 m/s face velocity point will occur at 2156 l/s.

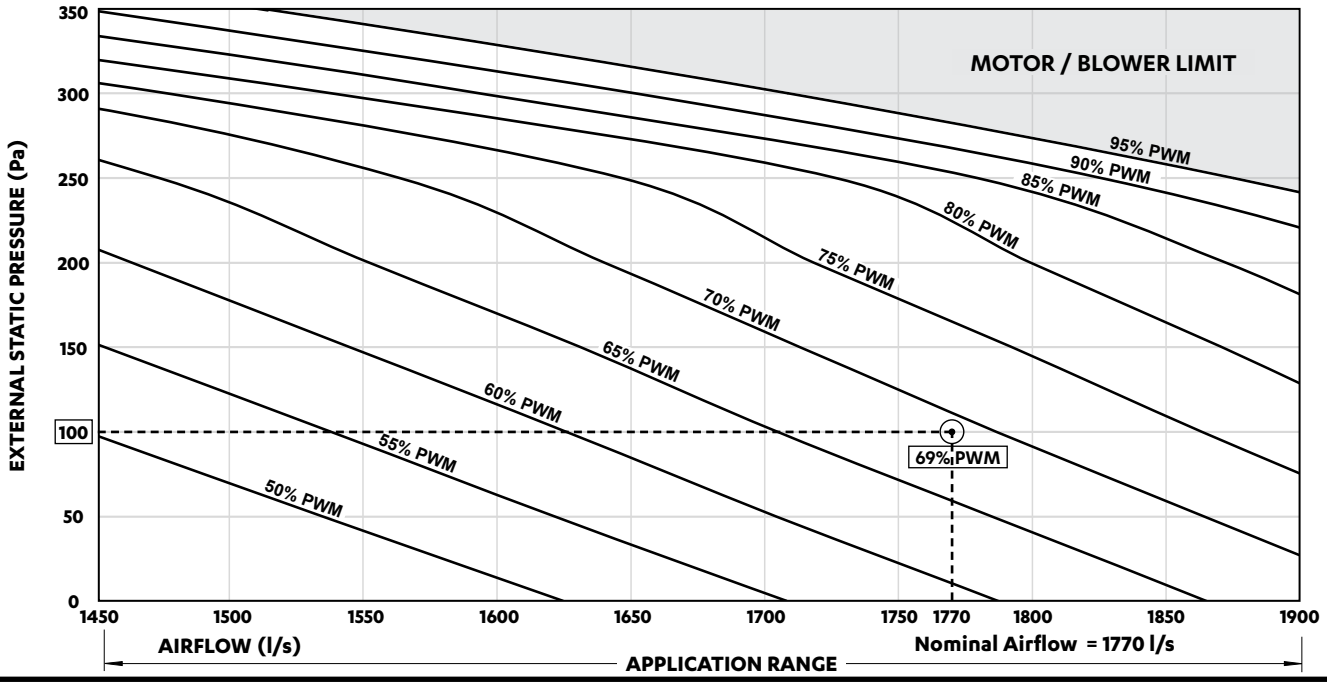
(CPI3-1) COMMERCIAL PWM INTERFACE BOARD



NOTES:
- LED will show PWM without %. Example: 69% PWM = 69 in LED.
- LED adjustments are in 1 digit increment.

JUMPER PIN POSITION	INDOOR FAN
A	SCG400E PCG400U/L/R
B	SCG340E PCG340/L/R
C	SCG330E PCG330/L/R
D	EVA300S PCG300L/R PKA300T-T/L/R
E	SCG290E PCG290U/L/R
F	SRG260E PCG260U/V

INDOOR UNIT FAN CURVE



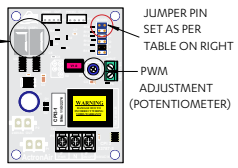
13.06. SCA400C/SCG400E

AIRFLOW (l/s)	EXTERNAL STATIC PRESSURE (Pa)											
	50		100		150		200		250		300	
	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W	% PWM	W
1750	53	909	56	1044	58	1189	62	1345	66	1487	88	1670
1800	56	981	58	1094	60	1248	65	1425	69	1566	93	1757
1850	58	1035	60	1170	64	1336	67	1504	75	1666		
1900	60	1089	63	1246	67	1424	70	1582	81	1766		
1950	63	1152	66	1329	70	1519	73	1685	88	1868		
2000	66	1241	69	1412	72	1613	77	1788	95	1969		
2050	68	1314	**71**	**1495**	75	1710	81	1892				
2100	71	1423	75	1620	79	1806	86	1995				
2150	74	1564	78	1721	82	1916	95	2197	MOTOR / BLOWER LIMIT			
2200	77	1705	81	1821	85	2025						
2250	80	1762	84	1888	89	2116						

NOTES

W = Indoor Fan Power (Watts)
PWM = Pulse Width Modulation Setting, % PWM (Adjustable through CPI3-1 Board located in electrical panel).Factory PWM Setting = 71 % PWM for 100 Pa. - Data in the box indicates Factory Default Setting.
Performance Fan Curve shown is at Dry Coil Condition. Airflow should be reduce with respect to the moisture content in the air. All data provided does not include filters. Please review filter manufacturer for application. 2.5 m/s face velocity point will occur at 2578 l/s.

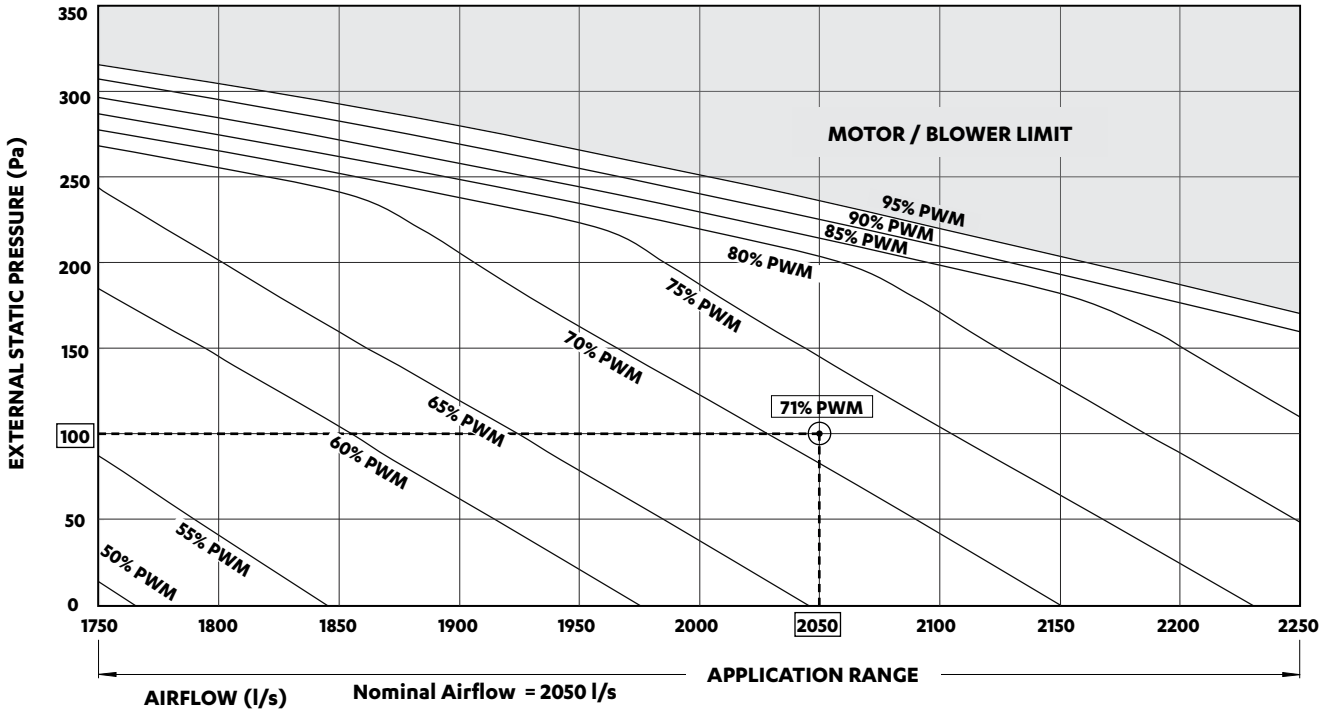
(CPI3-1) COMMERCIAL PWM INTERFACE BOARD



NOTES:
- LED will show PWM without %.
  Example: 71% PWM = 71 in LED.
- LED adjustments are in 1 digit increment.

JUMPER PIN POSITION	INDOOR FAN
A	SCG400E PCG400U/L/R
B	SCG340E PCG340/L/R
C	SCG330E PCG330/L/R
D	EVA300S PCG300L/R PKA300T-T/L/R
E	SCG290E PCG290U/L/R
F	SRG260E PCG260U/V

INDOOR UNIT FAN CURVE



14. 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

Parts	Service Period								Detail of Service Check	Service Methods
	1 Mth	3 Mth	6 Mth	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs		
Printed Circuit Boards				✓					Visual Inspection	Tighten Terminals as necessary on printed circuit boards
Electrical Connections				✓					Check all electrical terminals, mains, communications, etc	Re-tighten if loose.

Indoor Unit

Parts	Service Period								Detail of Service Check	Service Methods
	1 Mth	3 Mth	6 Mth	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs		
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. Reading should be more than 1MΩ.
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*		✓							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.

15. Key Parts List

DESCRIPTION	PART NUMBER	EVA300S	SCG260E	SCG290E	SCA300E	SCA330E	SCG330E	SCA340E	SCG340E	SCG400E
Indoor Fan	2520-313	---	1	---	---	---	---	---	---	---
	2520-329	1	---	1	---	---	1	---	1	---
	2520-324	---	---	---	1	1	---	1	---	---
	2520-327	---	---	---	---	---	---	---	---	1
Indoor Control Board - CPI	2020-101	1	1	1	---	---	1	---	1	1
ECM Filter	4080-013	2	1	2	---	---	2	---	2	2
Metering Device - (0.100") Piston	4540-100	---	1	---	---	---	---	---	---	---
Metering Device - (0.0748") Piston	4540-074	---	---	2	---	---	---	---	---	---
Metering Device - (0.0781") Piston	4540-078	2	---	---	---	---	---	---	---	---
Metering Device - (0.0846") Piston	4540-084	---	---	---	2	---	---	---	---	---
Metering Device - (0.0880") Piston	4540-088	---	---	---	---	2	2	---	---	---
Metering Device - (0.0906") Piston	4540-090	---	---	---	---	---	---	2	2	---
Metering Device - (0.0945") Piston	4540-094	---	---	---	---	---	---	---	---	2

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