

# EG4<sup>®</sup> 24K/36K MULTIZONE MINI-SPLIT AC/DC

## USER MANUAL



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VERSION 1.0 | INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE.  
INDOOR MODEL #: DGA3-ACDC1-12KR2(US), DGA5-ACDC-18KR2(US), DGA2-ACDC-24KR2(US)  
OUTDOOR MODEL #: DW3B1-ACDC-24KR2(US), DW4E1-ACDC-36KR2(US)



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**1. CHANGELOG**

<b>Revision</b>	<b>Date</b>	<b>Description of change</b>
Version 1.0	4-10-26	First release

## 2. TECHNICAL SPECIFICATIONS

<b>ELECTRICAL [AC]</b>	<b>24K MULTIZONE</b>	<b>36K MULTIZONE</b>
RATED VOLTAGE	208 – 230 VAC	
RATED CURRENT	8.4 – 9.2A	20.9 – 18.9A
FREQUENCY	60Hz	
MINIMUM CIRCUIT AMPACITY	17.3A	24.4A
MAXIMUM BREAKER SIZE	25A	32A
MAXIMUM STARTING CURRENT	1.3A	2A
<b>ELECTRICAL [DC]</b>		
RATED VOLTAGE	150 – 410 VDC	105 – 360 VDC
RATED CURRENT	4.1 – 12.6A	4.16 – 13A
MAXIMUM PV VOLTAGE	≤410 VOC	
MAXIMUM PV INPUT CURRENT [A]	20A	13A per port
MAXIMUM PV AMPERAGE [ISC]	28A	20A per port
RATED PV WATTAGE	5 PCS x 550W	4 PCS x 550W + 4 PCS x 550W
MPPT PORTS	1	2
<b>RATED COOLING</b>		
NOMINAL CAPACITY	24,000 BTU/h	36,000 BTU/h
OPERATING RANGE	7,800 – 27,500 BTU/h	8,500 – 41,300 BTU/h
INPUT POWER [AC]	1900W	2920W
RATED CURRENT [AC]	8.4 – 9.2A	18.88 – 20.88A
EER [BTU/W]	12.6	12.3
SEER/SEER 2 [W/W]	22.3 / 22	22.4 / 22.5
<b>RATED HEATING</b>		
NOMINAL CAPACITY	24,000 BTU/h	36,000 BTU/h
OPERATING RANGE	8,400 – 28,000 BTU/h	9,100 – 41,000 BTU/h
INPUT POWER [AC]	1675W	2620W
RATED CURRENT [AC]	7.4 – 8.1A	18.44 – 20.39A
COP [BTU/W]	14.3	13.7
HSPF [W/W]	11	11.4
HSPF2 [W/W]	10	10
<b>SYSTEM DATA</b>		
DESIGN PRESSURE [PSIG]	<652 PSI	<652 PSI
REFRIGERANT	R32   57.85 oz. (1.71L)	R32   86.42 oz. (2.56L)
PRE-CHARGED REFRIGERANT LINE OPTIONS	16.4 ft. (5 m) 26.6 ft. (8.1 m)	
CHARGE REQUIRED PER ADDITIONAL FOOT [BEYOND FACTORY CHARGE OF 75 FT.]*	0.19 oz. (5.62 ml)	0.21 oz. (6.2 ml)
LIQUID VALVE DIAMETER	1/4 in. (6.35 mm)	
GAS VALVE DIAMETER	3/8 in. (9.52 mm)	
MAX REFRIGERANT PIPE LENGTH [ALL UNITS]	196 ft. (59.7 m)	262 ft. (80 m)
MAX LENGTH ONE INDOOR UNIT	114 ft. (34.7 m)	
MAX ELEVATION BETWEEN INDOOR AND OUTDOOR UNITS	49 ft. (14.9 m)	
MAX ELEVATION BETWEEN INDOOR UNITS	32 ft. (9.6 m)	

\* When using pre-vacuumed line set extensions. Pre-charged line set extensions do not require additional freon.

<b>COMPRESSOR DATA</b>	<b>24K MULTIZONE</b>	<b>36K MULTIZONE</b>	
TYPE		Rotary	
INPUT POWER	1825W	2651W	
RATED LOAD AMPERAGE [RLA]	8.3A	5.3A	
<b>OUTDOOR UNIT DATA</b>			
MAX INDOOR UNITS	3	4	
OUTPUT POWER	75W	90W	
RATED LOAD AMPERAGE [RLA]	8.34A	12.82A	
SPEED [HI/MED/LO]		820 r/min	
AIR FLOW [HI/MED/LO]	1765 CFM	2355 CFM	
SOUND PRESSURE	58 dB(A)	60 dB(A)	
UNIT DIMENSIONS [W×D×H]	34.96 x 12.5 x 27.55 in. (888 x 318 x 700 mm)	37.1 x 14.8 x 33.2 in. (942 x 375 x 844 mm)	
PACKAGING DIMENSIONS [W×D×H]	39.6 x 16.45 x 29.72 in. (1006 x 418 x 755 mm)	42.7 x 18.7 x 39.8 in. (1085 x 475 x 1011 mm)	
UNIT/PACKAGED WEIGHT	118/126.75 lbs. (53.5/57.5 kg)	172/198.4 lbs. (78/90 kg)	
OPERATING TEMPERATURE [COOLING]		5 – 125°F (-15 – 52°C)	
OPERATING TEMPERATURE [HEATING]		5 – 75°F (-15 – 24°C)	
<b>INDOOR UNIT DATA</b>			
	<b>12K</b>	<b>18K</b>	<b>24K</b>
OUTPUT POWER	15W	30W	45W
RATED LOAD AMPERAGE [RLA]	0.4A	0.44A	0.48A
SPEED R/MIN		850 – 1250 r/min	900 – 1350 r/min
AIR FLOW VOLUME	365 CFM	559 CFM	765 CFM
SOUND PRESSURE VOLUME	43 dB(A)	46 dB(A)	50 dB(A)
UNIT DIMENSIONS [W×D×H]	33.1 x 8.1 x 11.6 in. (840 x 205 x 295 mm)	37.4 x 9.1 x 12.2 in. (950 x 231 x 310 mm)	42.5 x 9.3 x 13.0 in. (1080 x 236 x 330 mm)
PACKAGING DIMENSIONS [W×D×H]	36.2 x 11.4 x 14.2 in. (920 x 290 x 360 mm)	41.0 x 12.4 x 14.6 in. (1041 x 315 x 371 mm)	44.9 x 11.8 x 15 in. (1141 x 300 x 381 mm)
UNIT/PACKAGED WEIGHT	20.94/26.0 lbs. (9.5/11.8 kg)	26.5/33.1 lbs. (12.0/15 kg)	33.1/38.6 lbs. (15/17.5 kg)
OPERATING TEMPERATURE [COOLING]		61 – 90°F (16 – 32°C)	
OPERATING TEMPERATURE [HEATING]		32 – 90°F (0 – 32°C)	
<b>WARRANTY</b>			
LIMITED WARRANTY		5-Year limited warranty	

## 3. SAFETY

### 3.1 SYMBOLS USED IN MANUAL



This type of notation indicates a severe hazard that presents an immediate risk of serious injury or death.



This type of notation indicates that a hazard may pose a risk to human health and safety.



Use team lift whenever load weight, size, or center of gravity exceeds safe single-person handling limits. Coordinated lifting improves stability, control, and significantly reduces injury risk.



This type of notation indicates that the hazard could potentially damage the equipment.



This type of notation indicates that the information provided is important for the installation, operation, and/or maintenance of the equipment. Failure to follow the recommendations in such a notation could result in the equipment warranty being voided.



This type of notation indicates useful information.

### 3.2 SYMBOLS USED ON EQUIPMENT

	<p><b>WARNING:</b> Read the instructions before installation, operation, and maintenance of the system.</p>
	<p><b>WARNING:</b> Read the instructions before installation, operation, and maintenance of the system.</p>
	<p><b>WARNING:</b> Hazardous Voltage Circuits!</p>

### 3.3 SAFETY INSTRUCTIONS & NOTIFICATIONS

International safety regulations have been strictly observed in the design and testing of the mini-split. Before beginning any work, carefully read all safety instructions, and always observe them when working on or with the mini-split.

The installation must comply with all applicable national and local standards and regulations.

#### **Incorrect installation may cause:**

Injury or death to the installer, operator, or third party

Damage to the inverter or other attached equipment



#### **WARNING**

**All tasks related to this product**, including system design, installation, operation, setup, configuration, and maintenance, must be performed by trained personnel. To prevent electric shock, avoid performing any maintenance beyond what is outlined in the operating instructions unless qualified to do so.



#### **DANGER**

**Hazardous Voltage Circuits!** There are various safety concerns that must be carefully observed before, during, and after installation, as well as during future operation and maintenance. The following are important safety notifications for the installer and any end users of this product under normal operating conditions.

1. Installation must be done following the installation instructions. Improper installation could lead to water leaks, electrical shocks, fires, and may void the warranty.
2. This equipment requires the handling and installation of high-pressure gases and hazardous levels of AC and DC voltages. Ensure that all the wiring is compliant with local regulations.
3. All electrical work must be performed by a licensed technician in accordance with local regulations and the instructions provided in this guide.
4. Only authorized service technicians should repair or perform maintenance on this unit.
5. If the unit malfunctions (such as making strange noises or smelling something burning), turn it off immediately and disconnect the power to prevent electric shock, fire, or injury. Contact the distributor for further help.
6. When relocating the air conditioner, consult experienced service technicians for proper disconnection and reinstallation of the unit.
7. Personal Protective Equipment (PPE) must be worn during installation. The manufacturer and any reseller of this equipment assume no responsibility for inadequate protection of personnel from injury.
8. Not complying with all relevant safety standards will invalidate the warranty.
9. The unit contains fluorinated gases. For details on the type of gas used, please check the label on the outdoor unit.
10. Never supply power to the unit unless all wiring and tubing are securely connected and thoroughly double-checked.
11. If the heat pump is operated in conjunction with other heating equipment, it is essential to ensure thorough ventilation of the room to prevent oxygen deficiency.
12. This unit must be properly grounded and connected to a GFCI-rated outlet.
13. Use designated cables for all electrical tasks. Connect and clamp cables firmly to avoid damage. Incorrect connections can lead to overheating, fires, or shocks.
14. The unit and any solar modules must be correctly grounded according to local

electrical and building codes.

15. Compatible MC4 connectors must be used.
16. Use only the supplied parts and accessories for installation. Using any non-standard parts could cause water leaks, electrical shock, fire, or unit failure.
17. Only install the unit in a location that can support its weight. Failure to do so could cause the unit to fall, injuring personnel or damaging property.
18. If the supplied communication cable is damaged, it must be replaced by the manufacturer, its service agent, or a similarly qualified person to prevent a hazard.

**DO NOT**: Install the unit within 1 meter of any combustible materials.

**DO NOT**: Share the electrical circuit with other appliances. You must use an independent power supply. An improper or insufficient power supply could cause fire or electrical shock.

**DO NOT**: Allow any substances or gases to enter the unit when connecting the refrigerant piping. The presence of other gases or substances will lower the unit's capacity and may cause abnormally high pressure during the operation cycle. This could cause an explosion and/or injury.

**DO NOT**: Allow children to play with the air conditioner. Children should always be supervised around the unit.

**DO NOT**: Insert your fingers, rods, or other objects into the air inlet or outlet. The fan within the unit may be rotating at high speeds, which could cause injury.

**DO NOT**: Use flammable sprays such as hair spray, lacquer, or paint near the unit. These could cause fire and/or an explosion.

**DO NOT**: Install or operate the unit in a room where it could be exposed to excessive amounts of water (*such as a bathroom or laundry room*). Too much exposure to water can cause electrical components to short-circuit.

**DO NOT**: Expose your skin or body directly to the cool air coming from the unit for a prolonged period.

**DO NOT**: Operate the air conditioner with wet hands. This could cause electrical shock.

**DO NOT**: Turn on the power until the installation is complete.



Cancer and reproductive harm – See [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov) for more details.



## WARNING

### When using R32 refrigerant:

- When flammable refrigerants are employed, appliances shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- Appliance shall be installed, operated, and stored in a room with a floor area larger than 43 ft<sup>2</sup>. (4m<sup>2</sup>). Appliance shall not be installed in an unventilated space if that space is smaller than 43 ft<sup>2</sup>. (4m<sup>2</sup>).
- Reusable mechanical connectors and flared fittings are not permitted indoors. (EN Standard Requirements)
- Mechanical connectors used indoors shall have a rate of not more than 3 g/year at 25% of the maximum allowable pressure. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated. (UL Standard Requirements)
- When mechanical connectors are reused indoors, sealing parts must be replaced. When flared joints are reused indoors, the flare part must be re-fabricated. (IEC Standard Requirements)
- Mechanical connectors used indoors shall comply with ISO14903.



## NOTE

### This unit contains fluorinated greenhouse gases.

- For specific information on the type of gas and the amount, please refer to the relevant label on the unit itself.
- Service, maintenance, and repair of this unit must be performed by a certified technician.
- Product uninstallation and recycling must be performed by a certified technician.
- For equipment that contains fluorinated greenhouse gases in quantities of 5 tons of CO<sub>2</sub> equivalent or more, but less than 50 tons of CO<sub>2</sub> equivalent, and has a leak-detection system installed, it must be checked for leaks at least every 24 months.
- It is recommended to keep a record of all leak checks throughout the unit's lifetime.

## **DISCLAIMER**

EG4 reserves the right to make changes to the material herein at any time without notice.

Please refer to [www.eg4electronics.com](http://www.eg4electronics.com) for the most updated version of our manuals/spec sheets.

## 4. SÉCURITÉ

### DANGER

Ce type de signalisation indique un danger grave présentant un risque immédiat de blessures graves, voire mortelles.

### AVERTISSEMENT

Ce type de signalisation indique qu'un danger peut présenter un risque pour la santé et la sécurité humaines.

### LEVAGE EN ÉQUIPE

Utilisez le levage à deux personnes lorsque le poids, les dimensions ou le centre de gravité de la charge dépassent les limites de manutention sécuritaire pour une seule personne. Un levage coordonné améliore la stabilité et le contrôle, et réduit considérablement les risques de blessure.

### IMPORTANT

Ce type de notation indique que les informations fournies sont importantes pour l'installation, le fonctionnement et/ou l'entretien de l'équipement. Le non-respect des recommandations figurant dans cette notation pourrait entraîner l'annulation de la garantie de l'équipement.




### RAPPEL

Ce type de notation indique des informations précédemment mentionnées qui doivent être prises en compte pour garantir un fonctionnement et une sécurité optimaux.

### NOTE

Ce type de notation indique des informations utiles.

### 4.1 SYMBOLES UTILISÉS SUR L'ÉQUIPEMENT

	<b>AVERTISSEMENT :</b> Lisez les instructions avant l'installation, l'utilisation et l'entretien du système.
	<b>AVERTISSEMENT :</b> Lisez les instructions avant l'installation, l'utilisation et l'entretien du système.
	<b>AVERTISSEMENT :</b> Circuits à tension dangereuse.

## 4.2 CONSIGNES DE SÉCURITÉ ET AVIS

Les réglementations internationales de sécurité ont été rigoureusement respectées lors de la conception et des tests du mini-split. Avant de commencer tout travail, lisez attentivement toutes les instructions de sécurité et respectez-les toujours lors de l'intervention sur le mini-split. L'installation doit respecter toutes les normes et réglementations locales ou nationales en vigueur.

### Une installation incorrecte peut entraîner les effets suivants :

- Blessure ou décès de l'installateur, de l'exploitant ou d'un tiers
- Domages à la batterie ou à tout autre équipement attaché



### AVERTISSEMENT

**Pour réduire le risque de blessure, lisez toutes les instructions !** Toutes les tâches relatives à ce produit, y compris la conception du système, l'installation, le fonctionnement, la configuration et la maintenance, doivent être effectuées par du personnel qualifié. Afin de prévenir tout risque d'électrocution, il est impératif de ne procéder à aucune opération de maintenance autre que celles décrites dans le manuel d'utilisation, sauf si vous possédez les qualifications requises.



### DANGER

**Circuits à haute tension!** Il existe diverses précautions de sécurité qui doivent être scrupuleusement respectées avant, pendant et après l'installation, ainsi que lors de l'utilisation et de la maintenance futures. Vous trouverez ci-dessous des consignes de sécurité importantes destinées à l'installateur et à tout utilisateur final de ce produit dans des conditions normales d'utilisation.

1. Cet appareil nécessite la manipulation de gaz sous haute pression et de tensions CA/CC dangereuses. Assurez-vous que tout le câblage est conforme aux réglementations locales.
2. Tous les travaux électriques doivent être réalisés par un technicien agréé, conformément aux réglementations locales et aux instructions de ce guide.
3. Seuls des techniciens autorisés doivent réparer ou effectuer l'entretien de cette unité.
4. Si l'appareil fonctionne de manière anormale (bruits inhabituels ou odeur de brûlé), éteignez-le immédiatement et coupez l'alimentation pour éviter tout risque d'électrocution, d'incendie ou de blessure. Contactez le distributeur pour obtenir de l'aide.
5. En cas de déplacement ou de réinstallation du climatiseur, faites appel à un technicien qualifié pour le démontage et la remise en service.
6. Des équipements de protection individuelle (EPI) doivent être utilisés lors de l'installation. Le fabricant et tout revendeur déclinent toute responsabilité en cas de blessure résultant d'une protection insuffisante du personnel.
7. Le non-respect des normes de sécurité applicables entraînera l'annulation de la garantie.
8. L'unité contient des gaz fluorés. Pour connaître le type de gaz utilisé, consultez l'étiquette sur l'unité extérieure.
9. Ne branchez jamais l'alimentation tant que tout le câblage et la tuyauterie ne sont pas complètement connectés et vérifiés.
10. Si le climatiseur est utilisé en même temps que des brûleurs ou autres dispositifs de chauffage, assurez une ventilation suffisante pour éviter un manque d'oxygène.
11. Cette unité doit être correctement mise à la terre et branchée à une prise avec protection différentielle (GFCI).
12. Pour tous les travaux électriques, utilisez les fusibles appropriés. Serrez bien les câbles et fixez-les solidement pour éviter que des forces extérieures n'endommagent les bornes. Des connexions mal réalisées peuvent surchauffer et provoquer un incendie ou une électrocution.
13. L'unité et les modules solaires doivent être correctement mis à la terre conformément aux codes locaux d'électricité et du bâtiment.

14. Des connecteurs MC4 compatibles doivent être utilisés.
15. Utilisez uniquement les pièces et accessoires fournis pour l'installation. L'utilisation de pièces non standard peut entraîner des fuites d'eau, des électrocutions, des incendies ou une défaillance de l'unité.
16. Installez l'unité uniquement dans un emplacement capable de supporter son poids. Le non-respect de cette consigne peut entraîner la chute de l'unité, des blessures ou des dommages matériels.
17. Dans certains environnements fonctionnels (comme les cuisines, les salles serveurs, etc.), l'utilisation d'unités de climatisation spécialement conçues est fortement recommandée.
18. Si le câble de communication fourni est endommagé, il doit être remplacé par le fabricant, son agent de service ou une personne qualifiée de même niveau afin d'éviter tout danger.

**NE PAS** : installer l'unité à moins de 1 mètre de tout matériau combustible.

**NE PAS** : partager le circuit électrique avec d'autres appareils. Une source d'alimentation indépendante doit être utilisée. Une alimentation incorrecte ou insuffisante peut provoquer un incendie ou une électrocution.

**NE PAS** : laisser entrer des substances ou des gaz dans l'unité lors du raccordement de la tuyauterie de réfrigérant. La présence de gaz ou de substances étrangers réduit les performances de l'unité et peut entraîner une pression anormalement élevée pendant le fonctionnement, ce qui pourrait causer une explosion et/ou des blessures.

**NE PAS** : laisser les enfants jouer avec le climatiseur. Les enfants doivent toujours être surveillés en présence de l'appareil.

**NE PAS** : insérer les doigts, des tiges ou d'autres objets dans les entrées ou sorties d'air. Le ventilateur à l'intérieur de l'unité peut tourner à grande vitesse et provoquer des blessures.

**NE PAS** : utiliser de sprays inflammables (comme la laque, la peinture ou les aérosols) à proximité de l'unité. Cela pourrait provoquer un incendie et/ou une explosion.

**NE PAS** : installer ou faire fonctionner l'unité dans une pièce exposée à de grandes quantités d'eau (comme une salle de bain ou une buanderie). L'exposition à l'eau peut entraîner un court-circuit des composants électriques.

**NE PAS** : exposer directement la peau ou le corps à l'air froid de l'unité pendant une période prolongée.

**NE PAS** : faire fonctionner le climatiseur avec les mains mouillées. Cela pourrait entraîner une électrocution.

**NE PAS** : mettre l'alimentation sous tension tant que l'installation n'est pas entièrement terminée.



## AVERTISSEMENT

Cancer et dommages reproductifs – Voir [www.P654warnings.ca.gov](http://www.P654warnings.ca.gov) pour plus de détails.

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**AVERTISSEMENT****Lors de l'utilisation du réfrigérant R32 :**

- Lorsqu'un réfrigérant inflammable est utilisé, l'appareil doit être stocké dans un endroit bien ventilé, dont la superficie correspond à celle spécifiée pour son fonctionnement.
- Pour les modèles utilisant du réfrigérant R32 :
  - Les appareils doivent être installés, utilisés et stockés dans une pièce d'une superficie supérieure à 4 m<sup>2</sup> (43 pi<sup>2</sup>).
  - Les appareils ne doivent pas être installés dans un espace non ventilé si celui-ci fait moins de 4 m<sup>2</sup> (43 pi<sup>2</sup>).
  - Exigences minimales de surface de la pièce :  
> 12000 BTU/h et < 18000 BTU/h : 26 m<sup>2</sup> (280 pi<sup>2</sup>)  
Les raccords mécaniques réutilisables et les tuyaux évasés ne sont pas autorisés à l'intérieur.  
(Exigence selon la norme EN)
  - Les raccords mécaniques utilisés à l'intérieur doivent avoir un taux de fuite inférieur ou égal à 3 g/an à 25 % de la pression maximale admissible. Si les raccords mécaniques sont réutilisés à l'intérieur, les éléments d'étanchéité doivent être remplacés. Si des joints évasés sont réutilisés à l'intérieur, la partie évasée doit être refaite.  
(Exigence selon la norme UL)
  - Les raccords mécaniques réutilisés à l'intérieur doivent comporter des joints d'étanchéité neufs. Les joints évasés doivent être refabriqués.
  - Les raccords mécaniques utilisés à l'intérieur doivent être conformes à la norme ISO 14903.

**NOTE****Cette unité contient des gaz à effet de serre fluorés.**

- Pour des informations précises sur le type et la quantité de gaz, veuillez consulter l'étiquette correspondante apposée sur l'unité.
- L'entretien, la maintenance et la réparation de cette unité doivent être effectués par un technicien certifié.
- La désinstallation et le recyclage du produit doivent être réalisés par un technicien certifié.
- Pour les équipements contenant des gaz à effet de serre fluorés en quantité équivalente à 5 tonnes de CO<sub>2</sub> ou plus, mais inférieure à 50 tonnes de CO<sub>2</sub>, et équipés d'un système de détection de fuites, une vérification des fuites doit être effectuée au moins tous les 24 mois.
- Il est recommandé de conserver un registre de toutes les vérifications de fuites tout au long de la durée de vie de l'unité.

**DISCLAIMER**

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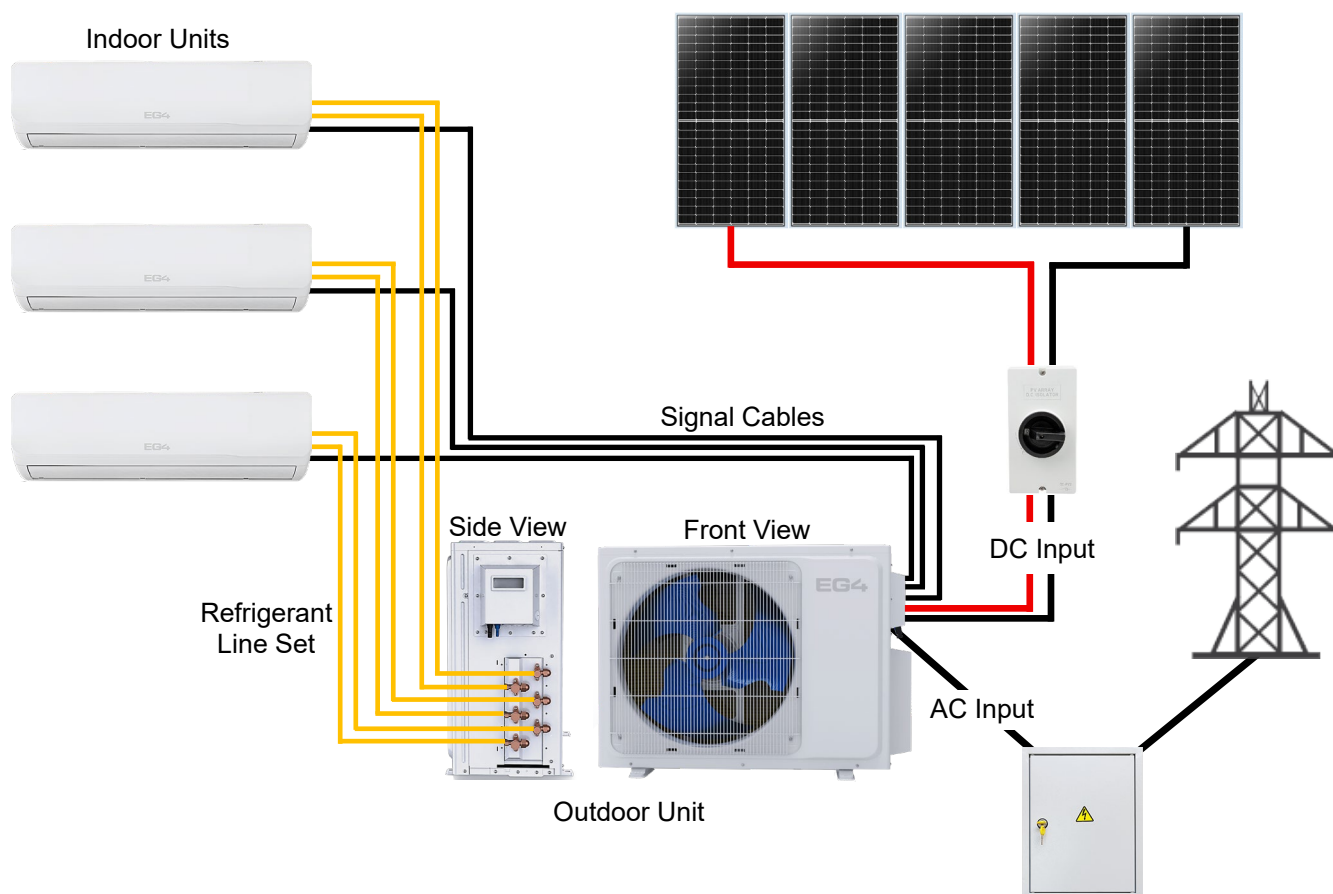
## 5. INTRODUCTION

### 5.1 MINI-SPLIT FEATURES

EG4® multizone mini-split air conditioning systems include an outdoor unit and up to three indoor units for the 24k outdoor model, and up to four indoor units for the 36k outdoor model. Each unit provides both cooling and heating functions as needed. All units are pre-charged with refrigerant, allowing for DIY installation.

The units can operate on DC power when connected to a dedicated solar array. Although hybrid models can run entirely on solar energy, it is not necessary. Connecting AC power is recommended to ensure operation during days with limited sunlight or at night. The unit will automatically switch to AC power when needed to keep running continuously. Installation is similar to a standard mini-split air conditioning system, with the added option of connecting solar input directly to the DC terminals of the outdoor unit.

Each unit comes with a remote control and can also be controlled by a smartphone via a third-party application.



**Multizone Hybrid AC-DC Mini-Split Overview**

## 5.2 UNIT COMBINATIONS AND LINE SET SPECIFICATIONS

Review the information below for specific details about supported outdoor-to-indoor unit combinations and line set (refrigerant line) specifications before starting the installation.

### NOTICE

**At least two indoor units must be installed for a single outdoor unit.** Installing only one indoor unit could potentially damage system components by overcharging the system with freon.

OUTDOOR UNIT	INDOOR UNIT QTY	INDOOR UNIT SIZE COMBINATION
24K	2	12K + 12K <b>or</b> 12K + 18K <b>or</b> 18K + 18K
	3	12K + 12K + 12K
36K	2	12K + 12K <b>or</b> 12K + 18K <b>or</b> 12K + 24K <b>or</b> 18K + 18K <b>or</b> 18K + 24K
	3	12K + 12K + 12K <b>or</b> 12K + 12K + 18K <b>or</b> 12K + 12K + 24K
	4	12K + 12K + 12K + 12K <b>or</b> 12K + 12K + 12K + 18K <b>or</b> 12K + 12K + 12K + 24K

### NOTICE

To ensure the correct length of the line set (refrigerant lines) and signal cable (indoor unit power cable) are supplied for installation, they are not included with the units and must be purchased separately. The line set is available in 16 ft. (5 m) and 26 ft. (8 m) lengths. The signal cable is available in 30 ft. (9.1 m) and 56 ft. (17 m) lengths. Before purchasing, plan the placement of the outdoor unit relative to the indoor unit(s) and measure the distance between the units to determine the appropriate lengths. Multiple line sets can be connected when the distance exceeds 26 ft. (8 m).

### NOTICE

The table below displays the maximum length and height that the line sets can be installed for each system, based on its respective capacity. To achieve some of these lengths, multiple line sets must be used. Any attempt to increase the line set length beyond what is specified in the table below could result in reduced heating/cooling performance, system damage or failure, and **WILL VOID THE WARRANTY.**

ITEM	24K	36K
Maximum supported length of all piping	196 ft. (60 m)	262 ft. (80 m)
Longest single pipe (outdoor unit to indoor unit)	114 ft. (35 m)	114 ft. (35 m)
Maximum height difference between indoor and outdoor units	49 ft. (15 m)	
Maximum height difference between indoor units	32 ft. (10 m)	

## 5.3 PACKING LIST

INDOOR UNIT COMPONENTS		
NUMBER	QUANTITY	DESCRIPTION
1	1	Indoor Unit
2	1	Indoor Unit Mounting Plate (ships attached to the indoor unit)
3	1	Remote Control w/holder
4	2	AA Battery
5	1	Installation Template
6	2	Screws Accessories
7	1	Weather Protection Wrapping Tape
8	1	Drainpipe 5 ft. length x .59 in. diameter (1.5 m x 15 mm)
9	1	Sealant Putty
10	1	Wall Sleeve

OUTDOOR UNIT COMPONENTS		
NUMBER	QUANTITY	DESCRIPTION
1	1	Outdoor Unit
2	1	Unlocking tool, plastic (141 x 37 x 16.5 mm)
3	2	Connector VP-D4B-CTSMO, plastic waterproof male
4	2	Connector VP-D4B-CTSFO, plastic waterproof female
5	2	Connector, 30A
6	2	Connector 30A
7	1	Manual
8	1	5mm hexagonal wrench
9	1	Water outlet nozzle
10	1	Foam Tape

### NOTICE

The line set (refrigerant lines) and signal cable (indoor unit power cable) are not included with the units and must be purchased separately. Refer to section 5.2 for more information.

## 6. INSTALLATION TOOLS

The following list of tools may be needed to install the indoor and outdoor units properly.

- Drill with drill bit set
- 2.5 in. or 3.5 in. hole saw
- Phillips head screwdriver
- Adjustable wrenches
- Level
- Painter's tape
- Marker or pencil
- MC4 crimp tool (*if using MC4 connectors provided with parts kit*)

## 7. SELECT INSTALLATION LOCATION

### 7.1 INDOOR UNIT

Before installing each indoor unit, choose a suitable location.

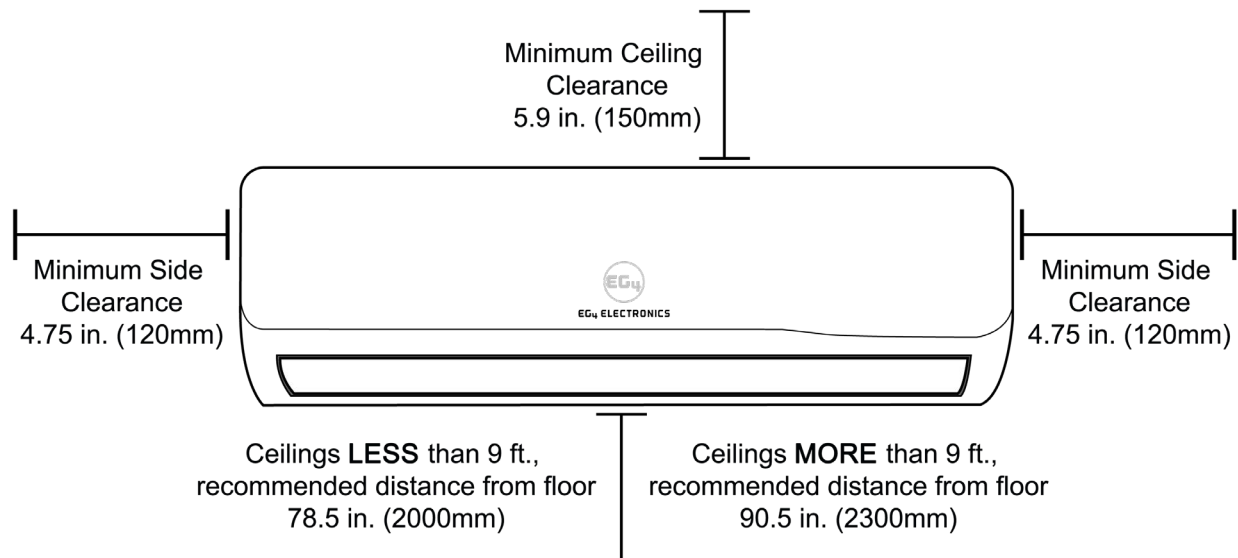
Proper installation locations meet the following criteria:

- Proper airflow around the unit (*see clearances listed below*)
- Adequate drainage
- Wall that supports the full weight of the unit
- A wall that limits vibration while the unit is running
- At least 3.3 ft. (1m) from any other electrical devices (*e.g., TV, radio, computer*)
- Allow the associated tubing to fit through the wall without interfering with other wiring or piping already in place

**DO NOT** install the unit in the following areas:

- Near any heat source, steam, or flammable gas
- Near flammable items like curtains or clothing
- Near objects that block air flow
- Near doorways or areas where outdoor air may blow on the unit
- In direct sunlight exposure

The indoor unit requires the following clearances once mounted in place on the wall.



#### NOTE

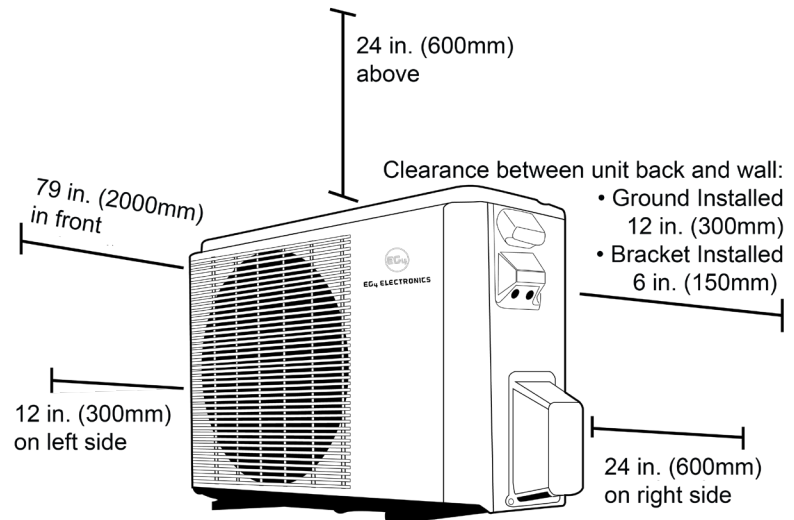
When selecting a location for the indoor unit, verify that there is ample room for a wall hole (see section 8) to accommodate the condensation hose, refrigerant line set, and signal wire. The hole is positioned on the right side of the bracket.

## 7.2 OUTDOOR UNIT

Before installing the outdoor unit, a suitable location must be chosen. The following standards will determine the location.

Proper installation locations meet the following standards:

- Meets all spatial requirements shown in the “Clearance Requirements” image to the right.
- Good air circulation and proper ventilation.
- Stable and sturdy location that bears the weight of the unit and reduces vibration.
- Noise from the unit will not disturb others.
- Protected from prolonged exposure to direct sunlight or rain.
- In areas where snowfall is expected, elevate the unit above the base pad to prevent coil damage caused by ice buildup.
- Mount the unit high enough to be above the average accumulated area snowfall. The minimum height must be at least 18 inches above ground.



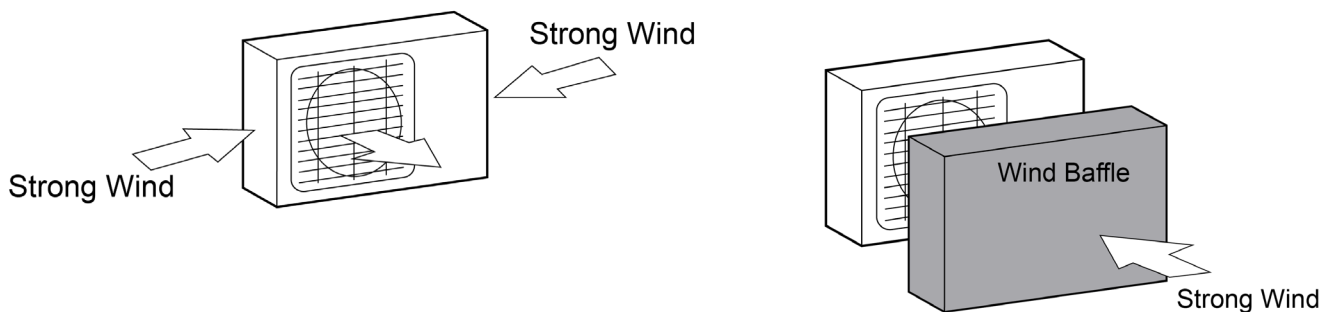
**Clearance Requirements**

### DO NOT INSTALL

- Near an obstacle that will block air inlets and outlets
- Near public streets, crowded areas, or other locations where noise from the unit will disturb others
- Near animals or plants that will be harmed by hot air discharge
- Near any source of combustible gas or in a location that is exposed to large amounts of dust
- In a location exposed to excessive amounts of salty air

### NOTICE

**Special considerations for extreme weather:** If the unit is exposed to strong winds, position it so the air outlet fan faces at a 90° angle to the wind direction. If necessary, build a barrier in front of the unit to protect it from very strong winds. Verify that the wind barrier does not obstruct essential airflow.



## 8. INDOOR UNIT INSTALLATION

### 8.1 WALL BRACKET INSTALLATION

The mounting bracket is used to attach the indoor unit to the wall.

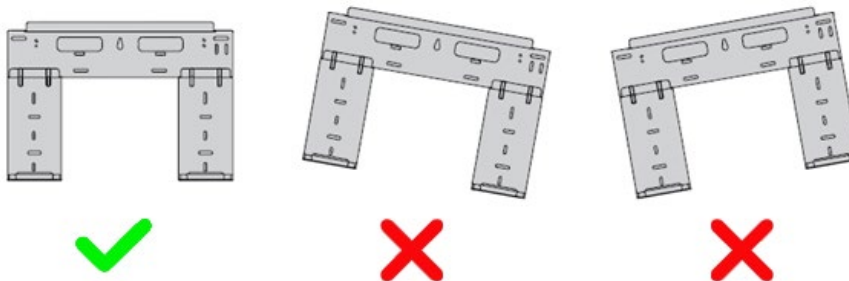
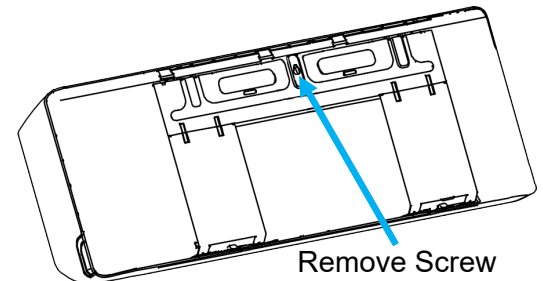


#### NOTE

- Verify the bracket is installed on a secure surface that is sufficiently dense to support the unit and prevent unwanted noise and vibration.
- If the mounting surface is made of sheetrock, install the mounting screws into studs or use adequate sheetrock anchors (not supplied) that can support the weight of the unit.
- If the mounting surface is made of brick, concrete, or similar material, drill 13/64 inch (5 mm) pilot holes and place the provided sleeve anchors in the holes. Secure the mounting plate to the wall by tightening the screws into the bracket and sleeve anchors.

#### INSTALLATION STEPS:

1. The mounting bracket arrives attached to the back of the indoor unit. Remove the bracket using a Phillips-head screwdriver before installation.
2. Place the mounting plate against the wall in a location that meets the standards as defined in section 7.
3. Drill a hole for the center mounting screw that:
  - has a stud or a wall anchor that can support the weight of the unit
  - corresponds to the screw holes in the mounting plate
4. Secure the indoor mounting plate to the wall using the center mounting hole.
5. Use a level to ensure the mounting plate is level.



6. Mark the remaining installation screw holes. Drill pilot holes and insert the screws. If sheetrock anchors are needed, swivel the bracket side to side to install each anchor. Then realign the bracket with the anchor and install the screws.

## 8.2 DRILL A WALL HOLE

A hole must be drilled in the wall for the refrigerant line set, the condensation hose, and the signal cable that will connect the indoor and outdoor units.

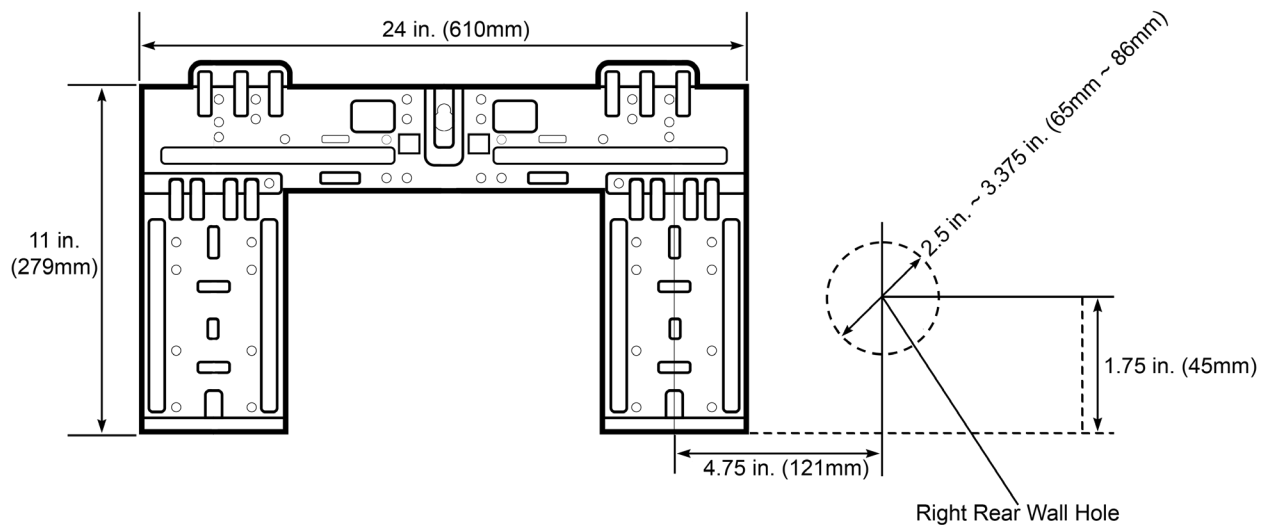


### NOTE

A cardboard template for marking the wall hole placement is included in the box. The measurement on the template corresponds to the measurements listed in the image below.

### INSTALLATION STEPS:

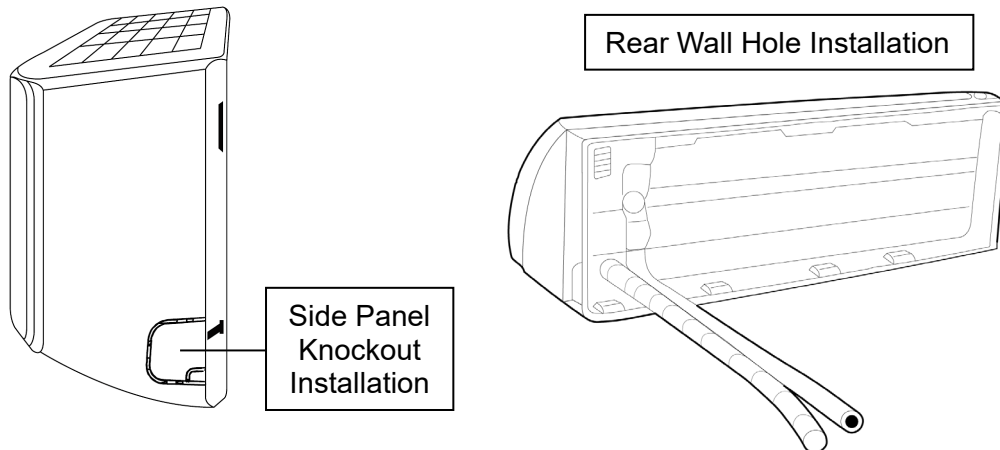
1. Measure 4.75 in. (121 mm) horizontally from the middle of the right-side leg and mark this location with a line. See image below.
2. Measure 1.75 in. (45 mm) vertically from the bottom of the right-side leg of the bracket and mark this location with a line. See image below.
3. Mark the location where the lines from steps 1 & 2 intersect. This mark is the center of the hole that will be drilled in the next section. Please refer to the image below for reference.





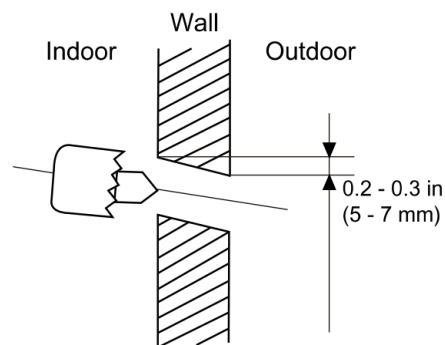
## NOTE

The preferred installation method is to drill a hole behind the unit for the piping and wiring. If a hole cannot be made behind the indoor unit, run the piping and wiring through the optional knockout panel on the side of the unit, as shown below.



- Using the appropriately sized hole saw and a drill, make a hole in the marked location. Be sure to angle the hole saw at a downward angle to aid with condensation pipe drainage, as shown below.

INDOOR UNIT	HOLE SAW SIZE
12K	2 1/2 in. (65 mm)
18K & 24K	3 3/8 in. (86 mm)



## CAUTION

When drilling the wall hole, be sure to avoid wires, plumbing, and other sensitive components

- Insert the specified wall sleeve into the wall opening. This sleeve protects the wiring and pipes that will be installed through the hole in a later step.

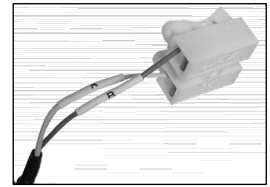
## 8.3 CONNECT THE SIGNAL CABLE

To prepare the indoor unit for electrical connectivity, install one end of the signal cable to the electrical connections of the indoor unit.



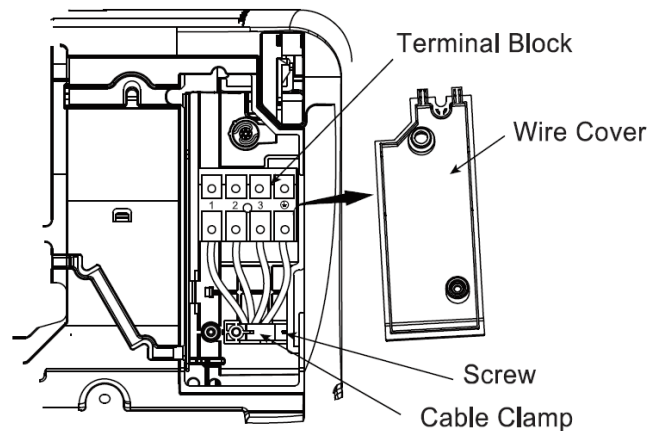
### NOTE

When preparing the indoor unit for installation, ignore the 2-pronged female connector that might be present in the unit. This connector serves no function and should remain unused. The connector can vary in shape, size, and color.

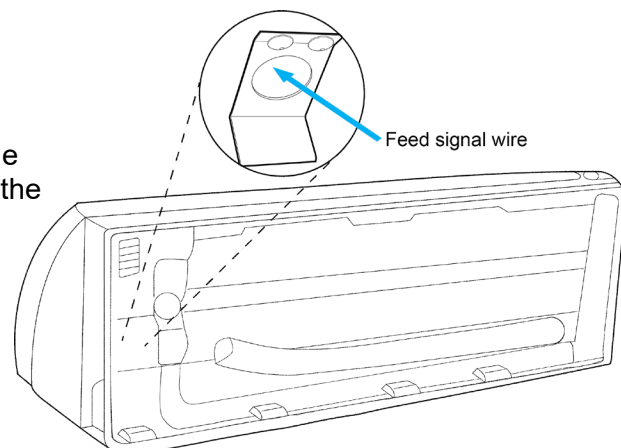


### INSTALLATION STEPS:

1. Open the front panel of the unit and locate the wiring box cover on the right side of the unit.
2. Open the wire box cover using a screwdriver to reveal the terminal block.
3. Unscrew the cable clamp below the terminal block and place it to the side.



4. While facing the back of the unit, feed the signal wire through the metal bracket to the terminal block area on the front side.



- While in front of the unit, match the wire colors with the labels on the terminal block. Connect each wire's spade connector to its corresponding terminal, securely fastening each screw. See table below.

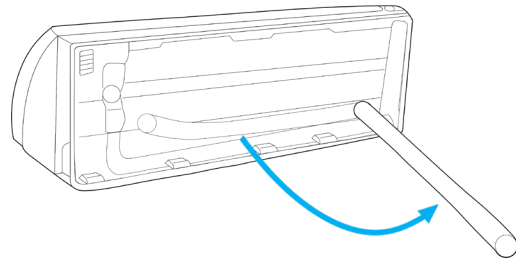
TERMINAL NUMBER	WIRE COLOR
1	Brown
2	Blue
3	Black
G	Yellow/Green

- After checking to make sure every connection is secure, use the cable clamp to fasten the signal cable to the unit. Screw the cable clamp tightly.
- Replace the wire cover on the front of the unit.

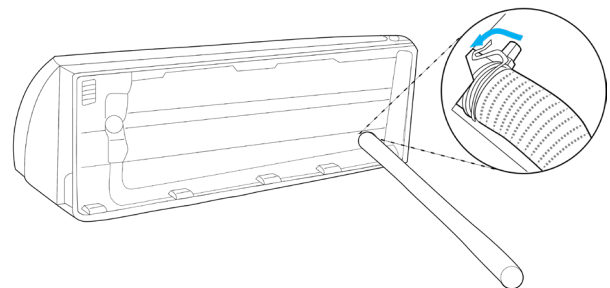
## 8.4 PREPARE THE PIPING

To prepare the piping for installation, straighten the refrigerant lines and move the condensation drain hose to the same side as the refrigerant lines. This will help all lines pass through the wall together as a single bundle.

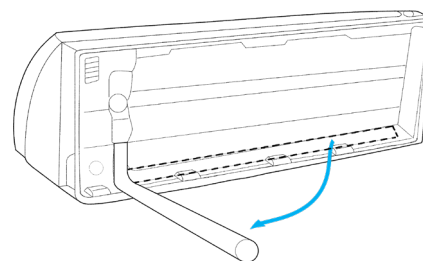
- Safely set the indoor unit on a secure table/platform to expose the back of the unit. This will allow access to the condensation drain hose and refrigerant lines.



- Pull the condensation drain hose away from the back of the unit. This hose will be made of plastic and is located on the right side when standing at the back of the unit.



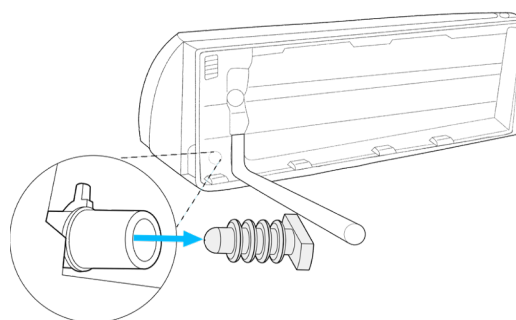
3. Locate the swivel clip where the condensation drain hose attaches to the unit. Rotate the swivel clip counterclockwise to unlock the clip. Then remove the condensation drain hose by gently rotating it side to side in a twisting motion and pulling outwards.



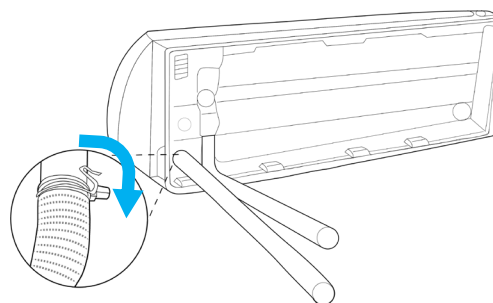
**CAUTION**

**Be extremely careful not to dent or damage the refrigerant lines while bending them away from the unit.**

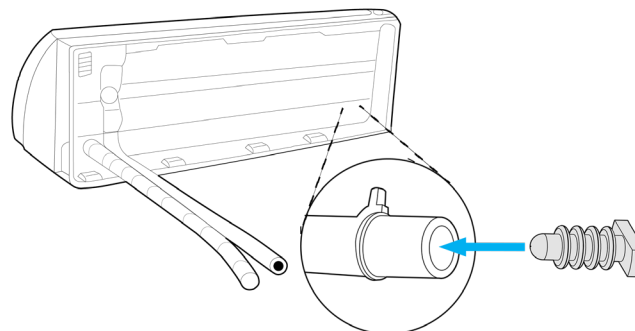
4. Locate the black rubber plug on the side of the unit near the refrigerant lines. Carefully remove the plug by slowly twisting it side to side while pulling outward. The plug fits snug, so be careful not to tear or damage it.



5. Connect the condensation drain hose to the drain fitting where the rubber drain plug was removed. Twist the swivel clip into place to secure the hose. Gently pull the hose to ensure it is securely connected and leak-free.



6. Insert the plug into the drain fitting where the condensation hose was removed from on the right side of the unit. Make sure the plug is inserted all the way past the ribs to create a tight, leak-free seal.

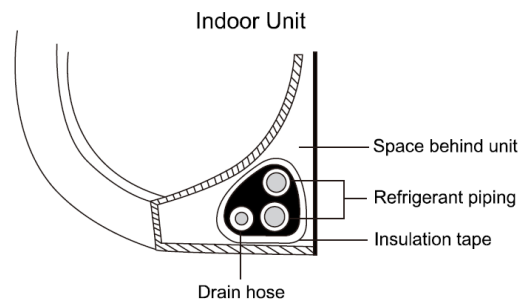


7. Locate the 5 ft. (1.5 m) condensation drain hose that comes with the unit. Attach it to the drain hose already connected to the indoor unit. Make sure the hose connects securely. Wrap the joint with waterproof tape to prevent the hoses from coming apart.
8. It is recommended to wrap the condensation drain hose, which will be housed indoors, with foam pipe insulation to prevent excess condensation buildup.
9. Bundle the refrigerant line set and the condensation drain hose together using vinyl tape. Be sure to attach the drain hose to the underside of the refrigerant pipes.

**CAUTION**

Verify that the condensation drain hose is positioned at the bottom of the bundle. Placing the drain hose at the top can cause the drain pan to overflow, potentially leading to fire or water damage.

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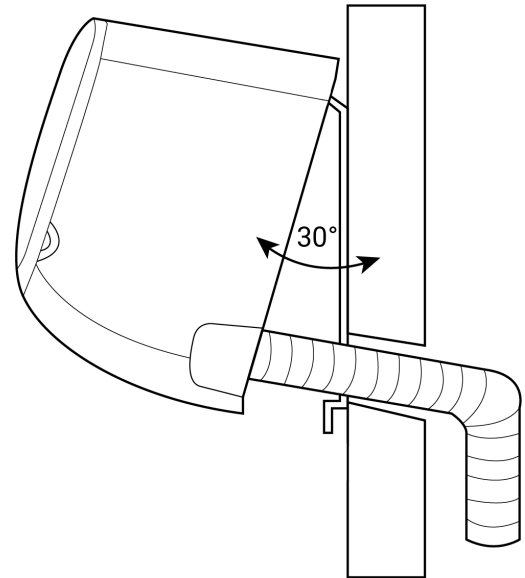


10. Wrap the refrigerant pipes and drain hose tightly together with insulation tape.
11. Bundle the pipes and signal wiring together as one bundle before passing them through the wall. Painter's tape can be used here as it can be easily removed after the indoor unit is installed, leaving no residue.

## 8.5 MOUNT THE INDOOR UNIT

Follow the steps below to install the indoor unit on the wall bracket:

1. Double-check that the ends of the refrigerant line set are sealed with the factory-installed caps to prevent dirt or foreign material from contaminating the pipes.
2. Slowly pass the wrapped bundle of refrigerant, condensation hose, and wiring through the hole in the wall.
3. Hook the top of the indoor unit on the upper hook of the mounting plate.
4. Apply even pressure and push down on the bottom half of the unit. Continue until the unit snaps onto the hooks along the bottom of the mounting plate.
5. The communication wire and the refrigerant line set will be connected to the outdoor unit after the outdoor unit is securely mounted in place.



### CAUTION

Verify that the condensation drain hose is properly configured to ensure proper drainage, as shown in the images below. Improper drainage can cause water damage to a home and the property.

Proper drainage	Upward turns anywhere in the length of the drain hose will cause water traps.	Kinks in the drain hose will cause water traps.	Do not place containers at the end of the drain hose that could prevent proper drainage.

### NOTE

Repeat section 8 for each additional indoor unit installation.

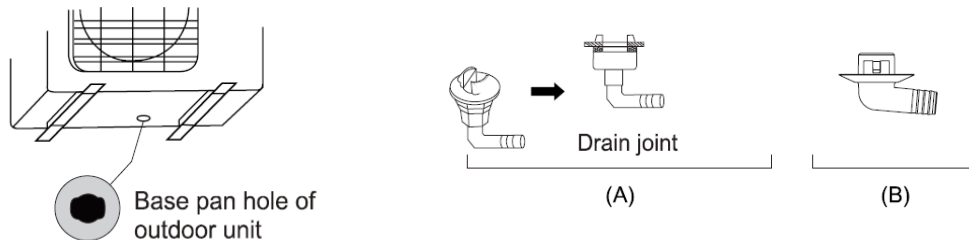
## 9. OUTDOOR UNIT INSTALLATION

### 9.1 INSTALL DRAIN JOINT

Follow these steps to install the drain joint. Running the unit in heat mode will require a drain joint. Before bolting the outdoor unit in place, install the drain joint at the bottom of the unit.

1. Insert the drain joint into the hole in the base pan of the unit.
2. Facing the front of the unit, rotate the drain joint 90° until it locks in place.
3. If needed, connect a drain hose extension (not included) to the drain joint to redirect water from draining under the unit during heating mode.

There are two different types of drain joints depending on the type of outdoor unit.



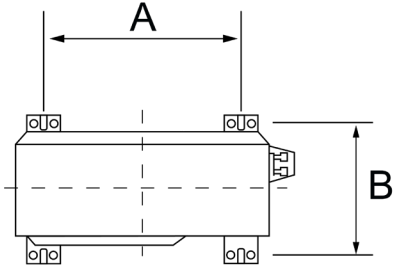
#### CAUTION

In cold climates, verify that the drain hose is properly sloped to ensure quick water drainage. If water drains slowly or becomes trapped, it can freeze in the hose, causing flooding in the unit.

### 9.2 SECURE THE OUTDOOR UNIT

The outdoor unit can be mounted on the ground or attached to a wall-mounted bracket. The distances between the mounting feet are provided in the chart below to help prepare the outdoor unit for installation.

<b>24K Outdoor Unit</b>	A	24 <sup>7</sup> / <sub>8</sub> in. (632 mm)
	B	13 <sup>7</sup> / <sub>8</sub> in. (352 mm)
<b>36K Outdoor Unit</b>	A	24 <sup>13</sup> / <sub>16</sub> in. (630 mm)
	B	14 <sup>7</sup> / <sub>16</sub> in. (418 mm)



The diagram shows the outdoor unit with four mounting feet. Dimension A is the distance between the two top mounting feet. Dimension B is the distance between the two bottom mounting feet. The unit is shown from a top-down perspective with a dashed center line.

**Unit Mounting Dimensions**

## GROUND MOUNTING

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### WARNING

When drilling into concrete, always wear eye protection.

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To install the unit on the ground or on a concrete mounting platform, complete the following:

1. Mark the positions for four expansion bolts based on the dimensions in “Table 6.3” above.
2. Pre-drill holes for expansion bolts.
3. Clean concrete dust away from holes.
4. Temporarily place a nut on the end of each expansion bolt to protect the threads from damage.
5. Hammer expansion bolts into the pre-drilled holes.
6. Remove the nuts from the expansion bolts and set the outdoor unit on the bolts.
7. Put a washer on each expansion bolt, then replace the nuts.
8. Using a wrench, tighten each nut until it is snug.

## WALL MOUNTING

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### CAUTION

Before installing a wall-mounted unit, verify that the wall is made of solid brick, concrete, or a similarly strong material. The wall must be able to support at least FOUR times the weight of the unit.

---

To install the outdoor unit on a wall-mounted bracket, perform the following:

1. Mark the position of bracket holes based on the dimensions in Table 6.3 on the previous page.
2. Pre-drill the holes for the expansion bolts.
3. Clean dust and debris away from holes.
4. Place a washer and nut on the end of each expansion bolt.
5. Thread expansion bolts through holes in mounting brackets, put the mounting brackets in position, and hammer the expansion bolts into the wall.
6. Ensure that the mounting brackets are level.
7. Carefully lift the unit and place its mounting feet on the brackets.
8. Using a wrench, bolt the unit firmly into the brackets.

### NOTE

If available, install rubber gaskets under the wall-mounted outdoor unit to reduce vibration and noise.

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## 9.3 CONNECT SIGNAL AND POWER CABLES

The outside unit's terminal block is protected by an electrical wiring cover on the side of the unit. A detailed wiring diagram is printed on the inside of the wiring cover and is included in this guide.

### CAUTION

**Before performing electrical work, read the following regulations:**

- All wiring must meet local and national electrical codes and be installed by a licensed electrician.
- All electrical connections must be made following the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
- If there are any safety issues with the supply of power from the main panel, stop working immediately. Contact a licensed electrician for assistance with resolving the issue.
- Power supply voltage should be within 90-100% of the rated voltage. An insufficient power supply can cause malfunctions, electrical shocks, or fires.
- All circuits, including any switches, should have a capacity 1.25 times the maximum unit current (amps).
- The qualified technician must use an approved circuit breaker or switch that disconnects all poles and has a contact separation of at least 1/8 in. (3mm).
- Make sure to ground the air conditioner properly.
- Every wire must be firmly connected. Loose wiring can cause the terminal to overheat, resulting in a malfunction and potentially leading to a fire.
- All wiring must be properly arranged to ensure that the electrical wiring cover can close properly on the outside unit. If the control board cover is not closed properly, it can lead to corrosion, which can cause the connection points on the terminal to overheat, potentially resulting in a fire and/or electric shock.
- DO NOT connect any other appliances to the same circuit.
- DO NOT let wires touch or rest against refrigerant tubing, the compressor, or any moving parts within the unit.

To install signal and power cables, follow these steps:

1. Remove the nine screws and the electrical wiring cover from the unit. See figure 8.1.
2. Remove the appropriate caps on the wiring cover to support the installation of the conduit tube. Each wiring cover has 4 knockouts, figure 8.2 represents the 24K unit and figure 8.3 represents the 36k unit. Each knockout is a 1/2" nominal trade size.
3. Attach conduit (*not included*) to the wiring cover, then use lock nuts to secure the conduit.

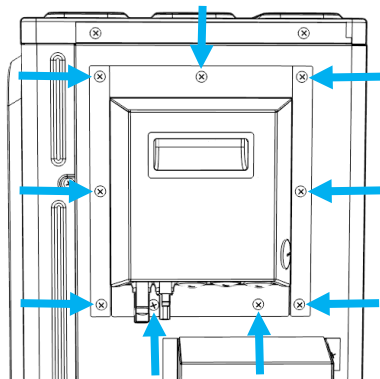


Figure 8.1

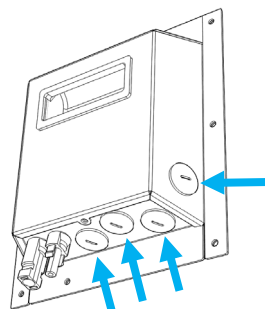


Figure 8.2

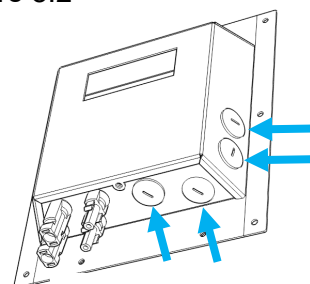



Figure 8.3

U.S. NOM. TRADE SIZE	ACTUAL KNOCKOUT SIZE
1/2 in.	0.88 in. (22.4 mm)

4. Connect AC input power and the indoor signal cables to their respective terminal blocks:
  - a. The 24k indoor unit (Figure 8.3) supports up to three indoor units (A, B, C), while the 36k outdoor unit (Figure 8.4) supports up to four indoor units (A, B, C, D). When connecting the signal cables to the outdoor unit, connect the first indoor unit to the terminal block marked 'A', the second to 'B', and so on. Each wire within the signal cable is labeled 1, 2, 3, and G, along with color codes (see table below). Match the individual terminals for areas A, B, C, and D.
  - b. Ensure the unit is properly grounded according to local standards and codes. Each ground wire must be attached under a ground screw that is labeled with the ground symbol.  The AC input must be properly grounded to the electrical system ground, and each signal cable should be grounded under a ground screw (circled in green).
  - c. Each signal cable wire should be placed under the wire hold-down.
  - d. Be sure to size each wire length several inches longer than required to create ample working room inside the wiring cover.

WIRE SOURCE	LABEL	WIRE COLOR
SIGNAL CABLE	1	Brown
	2	Blue
	3	Black
	G	Yellow/Green
AC INPUT	L1(L)	Black
	L2(N)	Red
	G	Green or bare copper

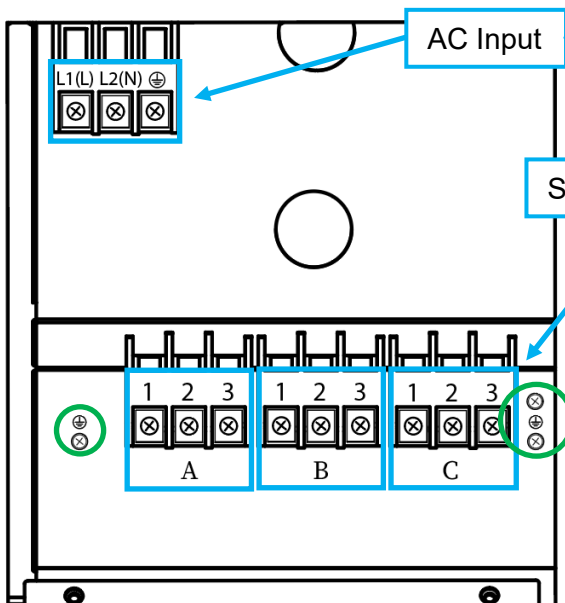


Figure 8.3

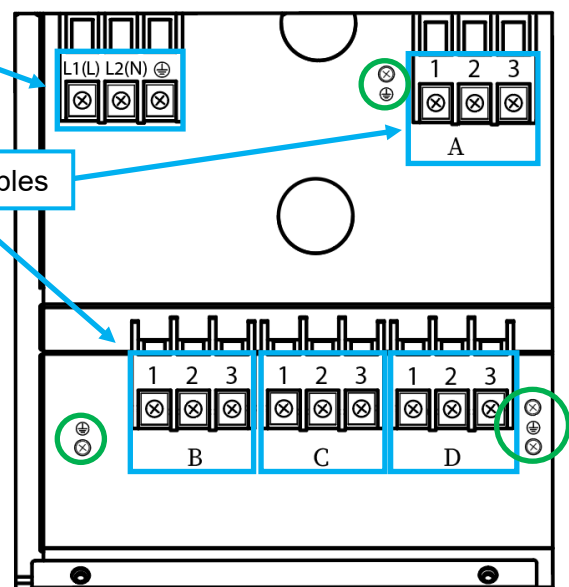
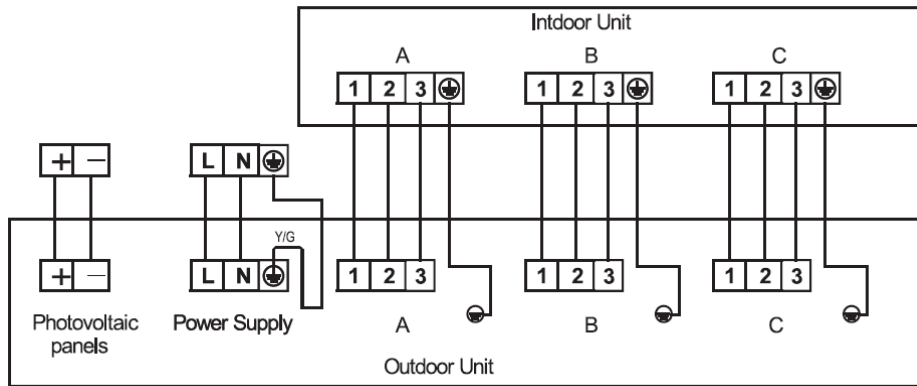


Figure 8.4

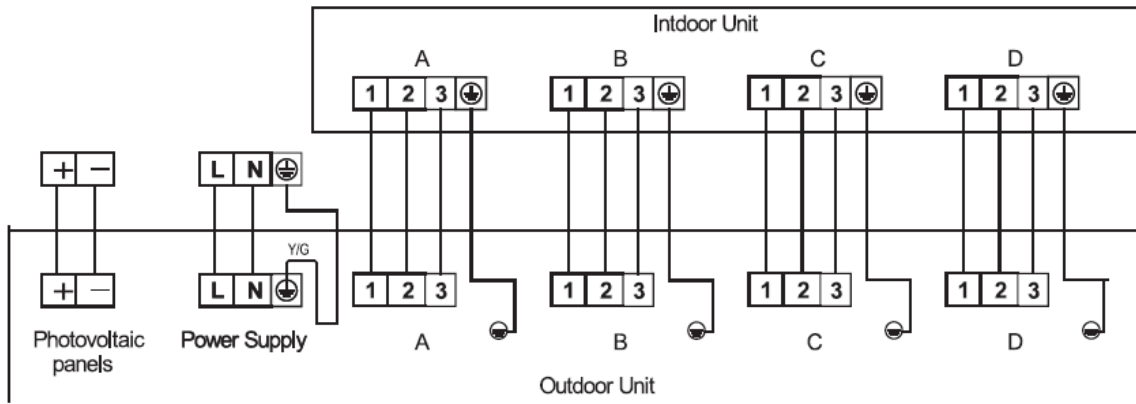
5. Reinstall the wire cover and the screws.

## 9.4 WIRING DIAGRAMS

### 24K WIRING DIAGRAM [208-240VAC]



### 36K WIRING DIAGRAM [208-240VAC]



#### NOTE

The air conditioner's printed circuit board (PCB) is designed with a fuse to provide overcurrent protection. The specifications of the fuse are printed on the circuit board, such as: T3.15AL/250VAC, T5AL/250VAC, T3.15A/250VAC, T5A250VAC, T20N250VAC, and T30A/250VAC. Only the blast-proof ceramic fuse can be used.

## 9.5 INSTALL REFRIGERANT LINE SET

The refrigerant line set consists of copper tubing, factory-assembled with quick-connect fittings to ensure leak-proof connections. The quick-connect fitting has a double-sealing system with an automatic safety valve that releases refrigerant only when the outdoor unit is connected and sealed.

### CAUTION

#### When working with the refrigerant line set:

- Do not change the length of the quick-connect line set. It is pre-charged at the factory. Coil any extra tubing behind the outdoor unit to prevent blocking airflow.
- Extreme caution is necessary to avoid kinking the line set tubing, as it can lead to leaks.
- The minimum bend radius for the line set is 4 inches (102 mm).
- The tubing ends are covered with protective caps to keep dirt or debris from touching the connections. DO NOT remove the caps until just before making the connection.
- If the line set connections are tightened with too little torque, they will leak. If they are tightened with too much torque, the connections could be damaged. Refer to the torque specifications when making the connections.
- Line sets are designed for single-use installation. Reinstalling them may damage the seals and could lead to leaks over time.
- The line sets use a compression fitting that creates a seal without needing thread sealant like Teflon tape. Using sealant could cause leaks over time.
- Consult a licensed HVAC technician if there are any concerns regarding the connection of the line set connectors.

### NOTE

Verify the line set connections are properly aligned, with each refrigerant line set having matching diameters. Unscrew the protective caps, then insert the threaded connector just inside the threads at the opposite end and tighten the first few threads by hand.

### INSTALLATION STEPS:

1. Prepare the indoor unit line set by positioning a hand beneath the piping that passes through the opening in the exterior wall. Use the other hand to apply consistent pressure, carefully bend the piping downward toward the wall, taking care to avoid causing damage or kinks to the copper piping.
2. Prepare the line set by carefully unwinding it to the required length needed to connect the outdoor unit to the indoor unit. Unwind only the necessary amount, and keep the remaining line set coiled.
3. Pack the wall hole with the supplied neoprene (or spray foam can be used) to seal the hole, filling any space that was not taken up by the line set and communication wire.
4. Remove the protective cover from the M1 connector of the indoor unit. See Figure 8.5 below.

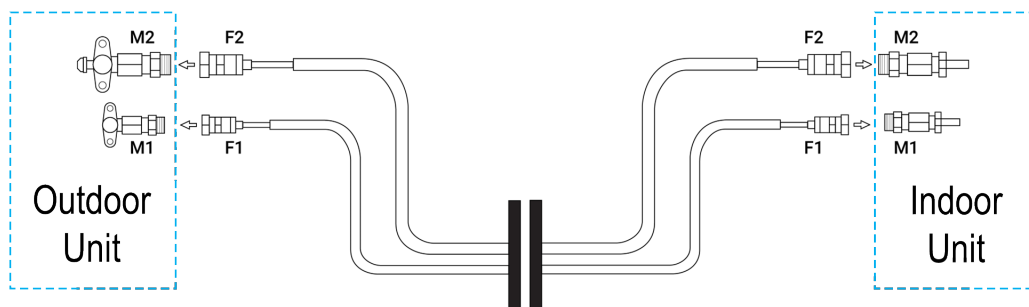
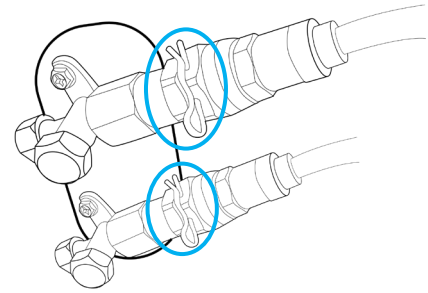


Figure 8.5

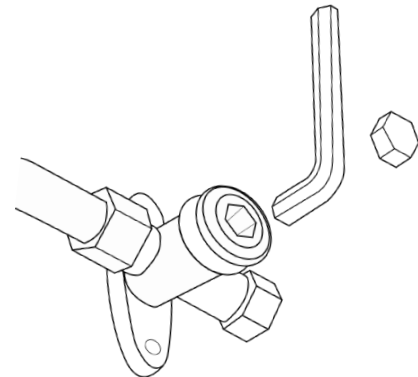
5. Locate the unrolled end of the line set and remove the protective cover from the F1 connector. See Figure 8.5 on the previous page.
6. Connect the line set quick connector F1 to M1. Tighten to 19 – 22 ft-lbs. (25 – 30 Nm).
7. Repeat the steps for the indoor connector M2 and the line set connector F2. If the line set is being extended, install it before moving on to step 8.
8. Coil the extra tubing behind the outdoor unit.
9. Remove the protective covers from the M1 connector on the outdoor unit and the F1 connector on the line set.
10. Connect the line set connector F1 to the outdoor unit connector M1. Tighten to 19 – 22 ft-lbs. (25-30 Nm).
11. Repeat the steps for the indoor connector M2 and the line set connector F2.
12. Install the retaining pins at each indoor and outdoor connection point, M1 and M2. Example of outdoor connection points with retaining pin shown to the right.
13. Wrap the indoor unit line set connection points with the weather-resistant wrapping that comes with the system.
14. Repeat steps 1 – 13 for each indoor unit installed.



## 9.6 RELEASE REFRIGERANT INTO THE SYSTEM

Perform the following steps at the outdoor unit.

1. Remove the protective cap from the upper valve body.
2. Insert a hex key wrench and turn the top valve counterclockwise until it seats against the outer seal (stops turning).
3. Reinstall the protective cap and tighten it to 22-30 ft-lbs. (30-40Nm). Take care not to overtighten.
4. Repeat the above steps for the bottom valve.
5. After both valves are open and the caps are reinstalled, complete the leak test in the next section.
6. Repeat steps 1 – 5 for each indoor unit installed.



### CAUTION

If the valves are not fully opened, it could cause the system to malfunction or cause damage.

## 9.7 GAS LEAK TESTS

Check all the line set connections at the indoor unit and outdoor unit for leaks. There are two different methods to check for gaseous leaks:

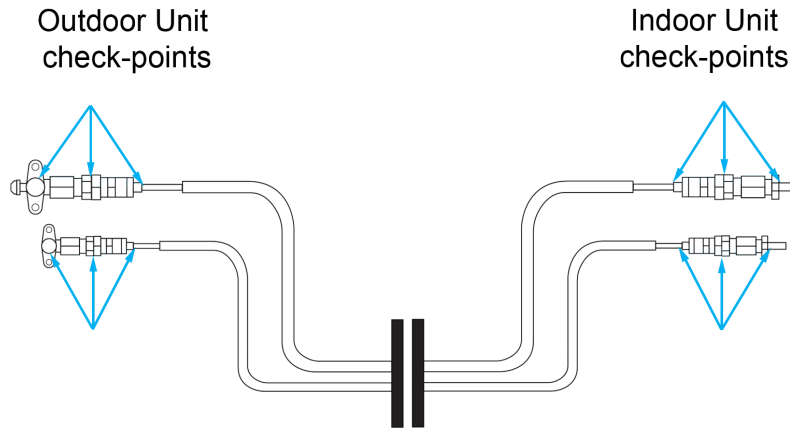
### LEAK DETECTOR METHOD

If using a leak detector, refer to the device's operation manual for proper usage instructions.



## SOAP AND WATER METHOD

Use a soft brush to apply soapy water or liquid detergent to all line set connection points on both the indoor and outdoor units. If bubbles form, it means there's a leak, and the connection needs to be tightened. Tighten the connection and recheck for leaks. See image below.



## 10. PHOTOVOLTAIC MODULE INSTALLATION

### 10.1 OVERVIEW

This section provides information on installing and safely handling solar Photovoltaic (PV) modules. All instructions must be read and understood before installing the PV modules and electrical connections. The installer should follow all safety precautions listed in this guide during the installation process.

PV modules must be installed in accordance with all applicable codes. These include local building codes, such as NEC AS/NZS 4777 and AS/NZS 5033, CSA C22.1, and others. Installation must be performed by an approved solar technician.

The solar technician should identify the following:

- The specifications of the solar photovoltaic system include:
  - Cable material
  - Connecting components
  - Brackets and support parts
  - Switching and circuit protection

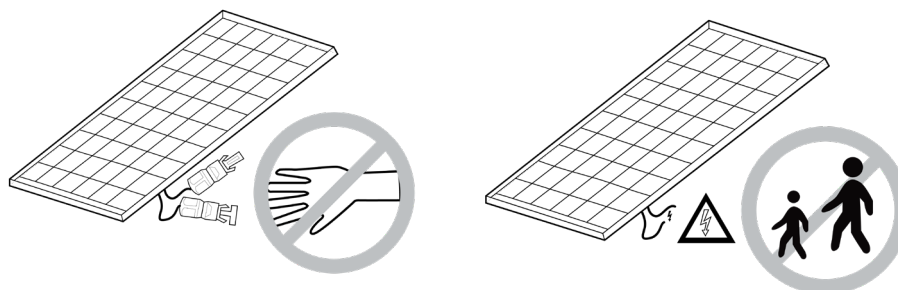


### CAUTION

- Only a qualified technician should install PV modules.
- PV modules are large and need careful handling.
- PV arrays are current-limited sources. Use proper protection measures when working on them, as they contain dangerous DC voltages. Many solar modules produce DC voltage exceeding 30V when exposed to sunlight. Contact with a DC voltage of 30V or more could be potentially dangerous. Do not touch the electrical terminal contacts.
- All electrical connections must use approved MC-4 connectors from the same manufacturer. [AS/NZS 5033 clause 4.3.7 (k)].

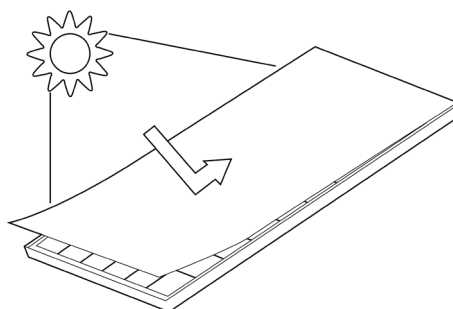
## DANGER

- Hazardous voltage circuits!
- Do not touch the module contacts.
- Keep children away from the system during the transportation and installation of mechanical and electrical parts.



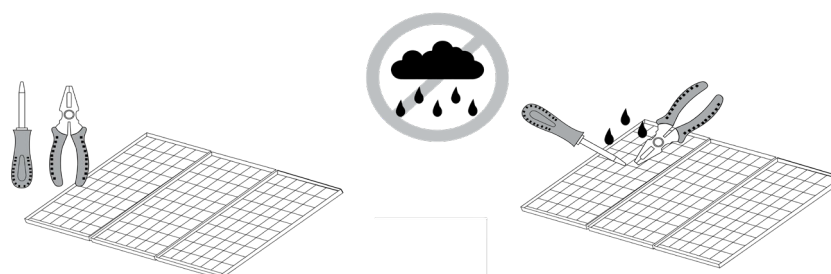
## WARNING

Cover the entire module with non-transparent material during installation to prevent electricity generation. Avoid touching the ends of live wires. Do not wear metallic rings, watchbands, earrings, nose rings, lip rings, or other metal objects while installing or troubleshooting photovoltaic systems.



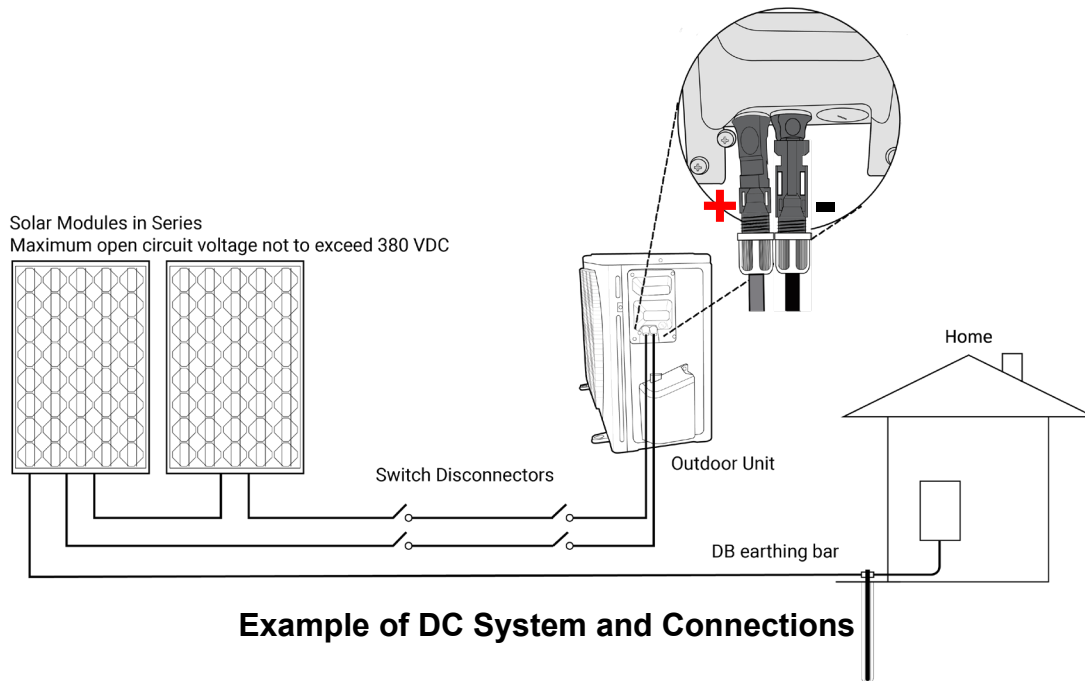
## CAUTION

Use only insulated tools approved for electrical work. Avoid working in wet conditions.



## 10.2 SOLAR ARRAY WIRING

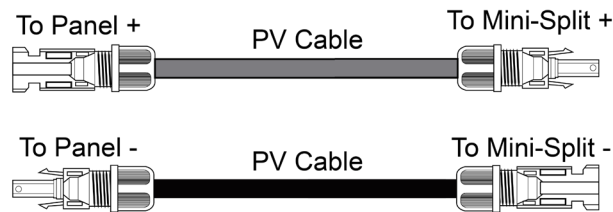
The solar array is formed of multiple PV modules connected in a series. The switch disconnectors must be approved for disconnecting solar DC under load. The MC4 connectors must be approved and from the same manufacturer at each joint. Mismatching connectors can cause failures, which may result in fire.





## NOTE

- DO NOT use modules with different models, sizes, or configurations within the same solar array.
- The total system voltage of the solar array must not exceed 410 volts DC open circuit. When installed in areas where temperatures can drop below 20°C, the open circuit voltage will rise. It is recommended to have array sizing calculations performed by a qualified solar technician.
- Both sides of an MC4-type connection must be of the same type and manufacture.
- The minimum supported multistrand solar wire is 14 AWG (2.5 mm<sup>2</sup>) or larger.
- Cable installation must follow all local and national codes and regulations.
- A switch rated for DC disconnect must be installed between the array and the outdoor unit. If not, a separate switch can be installed next to the solar array.

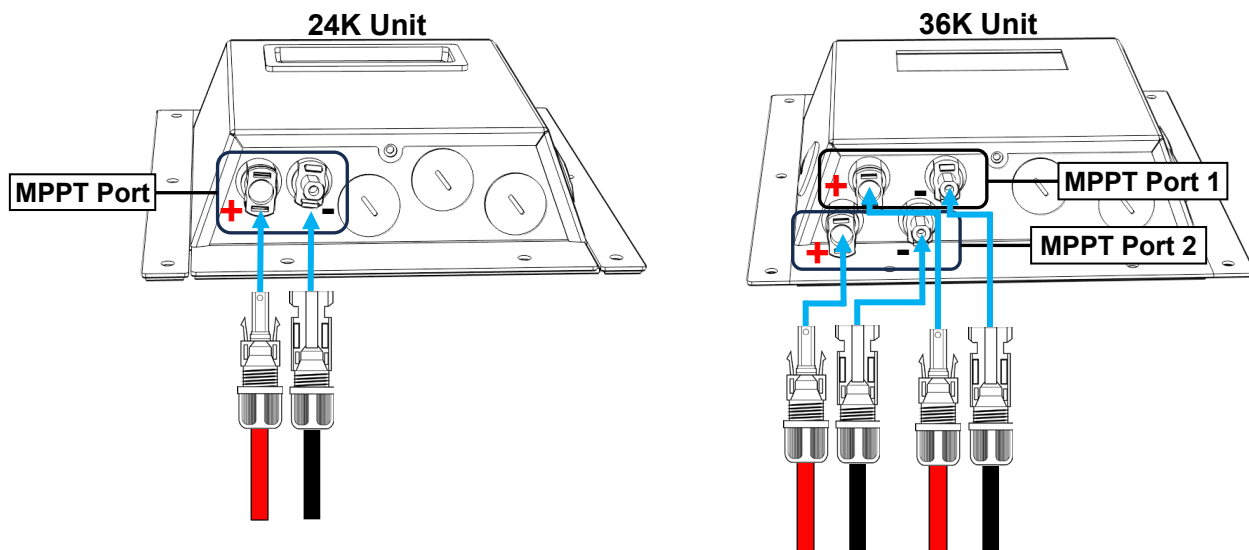


**Example of DC Wire with Connectors**

## 10.3 CONNECT PV ARRAY TO OUTDOOR UNIT

To connect the solar panels to the outdoor unit, follow the steps below:

1. Verify the following:
  - PV array meets the required specifications before attaching it to the outdoor unit. See “Electrical DC” specifications on page 1.
  - Easily accessible DC disconnect switch is installed between the panels and the outdoor unit.
2. Connect the negative PV wire to the right MPPT connector on the outdoor unit.
3. Attach the positive PV wire to the left MPPT connector on the outdoor unit.
4. Close (turn on) the DC disconnect switch.



## 11. ELECTRICAL CHECKS

After installation, confirm that all electrical wiring is installed in accordance with local and national regulations before proceeding.

1. Check all wiring connections to ensure there are no loose or uncovered ends that expose bare connections or wires. Using a multimeter, verify the proper voltage at each connection point.
2. Measure grounding resistance using a grounding resistance tester. The resistance must be below 5 ohms.



### WARNING

All wiring must comply with local and national electrical codes and must be installed by a licensed electrician.

## 12. TEST RUN

### 12.1 BEFORE TEST RUN

Only perform a test run after completing all the following steps:

- Electrical Safety Checks - Confirm that the electrical system is safe and operating properly.
- Gas Leak Checks - Check all flare nut connections and confirm that the system is not leaking.
- Confirm that gas and liquid (*high and low pressure*) valves are fully open.

### 12.2 INSTRUCTIONS

Perform the test run for at least 30 minutes.

1. Connect power to the unit.
2. Press the ON/OFF button on the remote controller to turn it on.
3. Press the MODE button to scroll through the following functions, one at a time:
  - a. COOL - Select the lowest possible temperature.
  - b. HEAT - Select the highest possible temperature.
4. Let each function run for 5 minutes, and perform each of the checks listed in the table below:

CHECK TO PERFORM	PASS	FAIL
No electrical leakage		
Unit is properly grounded		
All electrical terminals are properly covered		
AC disconnect and breaker function properly		
DC disconnect functions properly		
Indoor and outdoor units are securely installed		
All line set connection points do not leak		
Water drains properly from the drain hose		
All line sets are properly insulated		
Unit performs Cool function properly		
Unit performs Heat function properly		
Indoor unit louvers rotate up and down properly		
Indoor unit responds to remote control		

## **13. OPERATING INSTRUCTIONS**

### **13.1 HYBRID AND AC OPERATION**

The mini-split can be powered by three different methods.

- Solar only
- Solar with supplemental AC
- AC only

#### **SOLAR ONLY:**

The unit runs entirely on solar energy. The outdoor unit receives solar power and supplies energy to both the outdoor and indoor units. The minimum solar input needed to start the unit is 90 VDC.

During low solar conditions, like early mornings or cloudy days, the unit may go into sleep mode. In this mode, the compressor turns off, stopping all cooling and heating. The unit will try to wake up three times: the first attempt 15 minutes after sleep mode starts, the second 45 minutes later, and the last one 1 hour after that. If all three attempts fail, the unit will stay in sleep mode and switch to Low Power (LP) mode. In LP mode, the indoor unit's display shows "LP" on the LCD panel. This safety feature protects the compressor from frequent stopping and starting, which can cause damage. Before trying to restart the unit from LP mode, ensure there is enough solar input. To clear LP mode, manually restart by turning the unit off, then back on.

#### **SOLAR WITH SUPPLEMENTAL AC:**

The unit will use solar power along with additional AC power. This is the recommended mode for areas with long cloudy days, seasons with little or no sunlight, or when used at night. The supplemental AC will ensure a steady power supply to the unit even when solar input is not available.

The system automatically prioritizes solar input over AC input. To further restrict the AC input, there is a power-saving feature called the "AC Power Limiter." This feature can be turned on using the remote control or the phone app. By default, the AC limiter will not automatically turn back on when the power is cycled.

To configure the unit to always power on into AC Limiter mode, perform the following steps:

1. Run the unit in cooling mode and set the fan speed to low.
2. Set the temperature to 90°F.
3. Press the AC Limiter button on the remote 8 times within 10 seconds and listen for the rapid tones.
4. Once the rapid tones are heard, the AC limiter function is always on. To cancel the AC limiter function, repeat steps 1-3.

To manually set the amount of AC power that is limited while using solar, see section 13.6.

#### **AC ONLY:**

The unit is powered solely by AC input, which can come from the grid or an inverter. This is ideal for customers who want to take advantage of the unit's efficiency but already have an energy storage system that can run the mini-split. Using AC input also means there's no need to add dedicated solar panels directly connected to the mini-split.

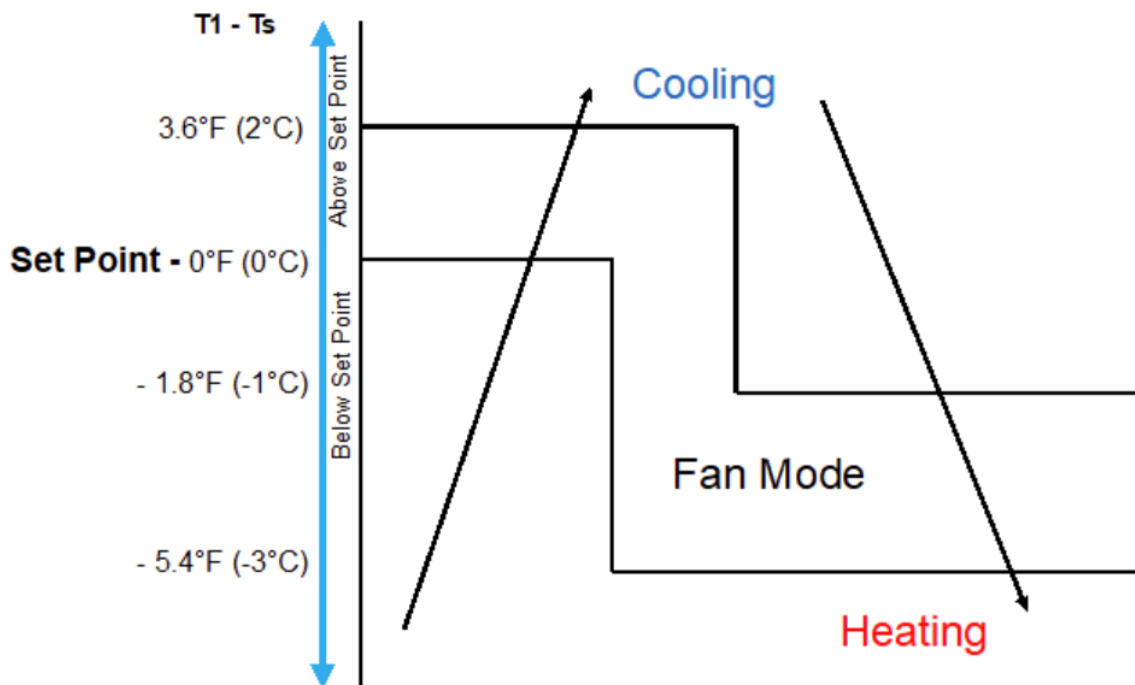
## 13.2 UNIT OPERATION OVERVIEW

### COOLING MODE

- As the room temperature approaches the set point, the compressor slows to a very low speed.
- When the room temperature difference is less than 1.8°F (1°C) below the set point, the system switches to fan mode.
- The system switches to heating mode if the temperature difference falls below 5.4°F (3°C) of the set point.

### HEATING MODE

- When the room temperature nears the set point, the compressor slows significantly.
- If the room temperature becomes within the set point to 3.6°F (2°C) above the set point, the system operates in fan mode.
- The system transitions into cooling mode if the temperature difference exceeds 3.6°F (2°C) above the set point.



The indoor fan remains active in auto mode, with only the outdoor compressor unit shutting down. This is due to the system's design, which allows it to operate dynamically across cooling, heating, and fan modes, depending on the temperature conditions.

### SUMMARY

The unit is designed to function in fan mode once the target temperature is reached, with a tolerance of  $\pm 3.6^\circ\text{F}$  ( $\pm 2^\circ\text{C}$ ) in heating mode and  $\pm 5.4^\circ\text{F}$  ( $\pm 3^\circ\text{C}$ ) in cooling mode.

### 13.3 OPERATING TEMPERATURE RANGES

MODE	ROOM TEMPERATURE	OUTDOOR TEMPERATURE
Cool	61°F – 90°F (16°C – 32°C)	32°F – 131°F (0°C – 55°C)
Heat	32°F – 90°F (0°C – 32°C)	5°F – 86°F (-15°C – 30°C)
Dry	50°F – 90°F (10°C – 32°C)	32°F – 122°F (0°C – 50°C)

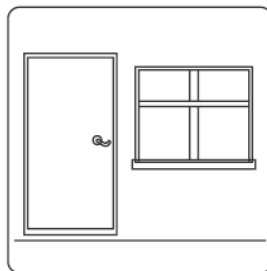
**Notes:**

- If the air conditioner operates for extended periods in cooling mode and the humidity is high (over 80%), condensed water may drip out of the unit. If this occurs, set the vertical airflow louver to its maximum angle (*vertical toward the floor*), and set it to HIGH fan mode.
- Optimum performance will be achieved within the above operating temperatures. If the air conditioner is operated outside of the above temperatures, certain safety protection features might be activated and cause the unit to function abnormally.
- The remote control cannot be used to turn on the COOL function when the ambient temperature is below 60°F (16°C). In this instance, use the MANUAL CONTROL button to test the COOL function. See *section 13.7*.

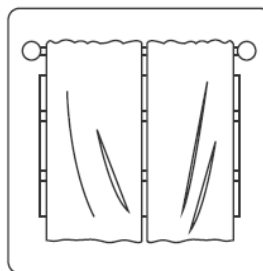
### 13.4 OPTIMAL OPERATION

To achieve optimal operating performance, please note the following:

- Do not place any objects near the air inlets or outlets. Doing so can reduce performance and may cause the unit to shut down.
- Adjust the airflow so it doesn't blow directly on personnel or at a sharp angle.
- Set the temperature to maintain comfortable levels. An extremely low or high setting wastes energy.
- Keep windows and doors shut to enhance performance.
- Use the TIMER function to limit energy consumption (run time).
- Check the air filters regularly and clean them when necessary.



Doors and windows should be kept closed.



Closing the curtains while heating also helps keep the heat in

## 13.5 AIRFLOW DIRECTION

Adjusting the vertical and horizontal louvers alters the airflow direction of the indoor unit, helping to prevent discomfort and uneven room temperatures.

### CAUTION

To reduce the risk of injury, read all instructions!

- DO NOT put fingers into the blower's panel or suction side. The high-speed fan inside may cause injury.
- DO NOT operate the unit for long periods in COOL or DRY mode with the vertical airflow set at too steep a downward angle. This could cause condensation to form on the vertical louver surface and allow moisture or water droplets to fall onto furnishings or the floor.
- DO NOT manually move the vertical louver, as this might cause it to become out of sync. If this happens, follow these steps:
  1. Turn off the power to the unit.
  2. Remove the wireless module from the back of the front cover.
  3. Turn off the power to the circuit at the breaker.
  4. Wait a few seconds and turn the power back on at the breaker.
  5. Reinstall the wireless module into the front cover.
  6. Turn the power to the unit back on.

### NOTE

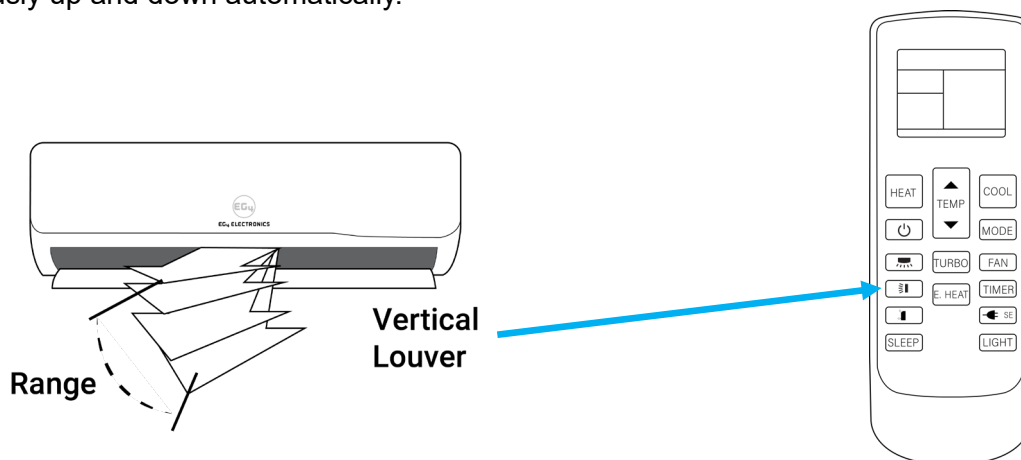
After a quick restart, the vertical louver may remain static for approximately 10 seconds

### NOTE

The open angle of the vertical louver should not be set too small when using COOL or HEAT mode, as it will restrict airflow and reduce the performance of the unit.

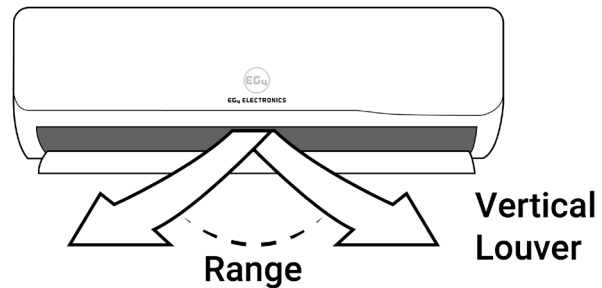
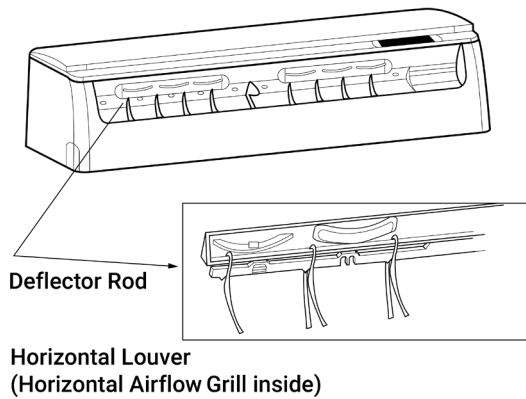
### VERTICAL AIRFLOW “UP/DOWN” ADJUSTMENT:

This function is performed by pressing the SWING/DIRECT button on the remote control while the unit is operating. The vertical louver can move in small increments with each press or swing continuously up and down automatically.



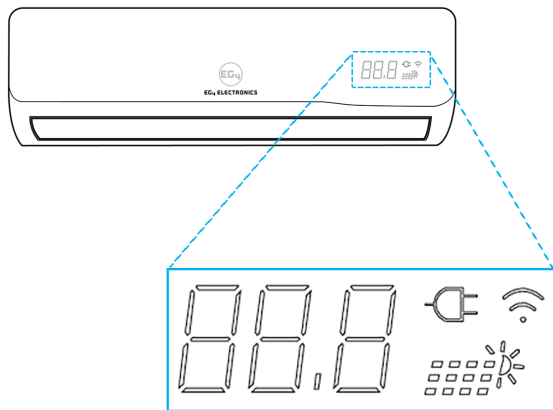
## HORIZONTAL AIRFLOW (LEFT/RIGHT) ADJUSTMENT:

The angle of the horizontal louver must be set manually. Move the deflector rod, located on the underside of the unit, by pushing the tab left or right to adjust the airflow from side to side as desired.



## 13.6 INDOOR UNIT DISPLAY

The indoor unit LED panel displays information to inform the user about the operating mode and any error codes that may occur.



Displayed when the photovoltaic controller operates on hybrid units.



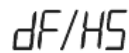
Shown when the Wireless Control feature is turned on (certain units).



When connected to AC power, the light turns white. When the AC power limiting function is enabled on hybrid units, the light turns blue.



This is the temperature display, which also shows operational features and error codes. See section 15 for a list of error codes.



Displayed when the unit is defrosting.

## 13.7 REMOTE CONTROL OPERATION

The air conditioner comes with an infrared remote that can fully operate the unit. Some functions on the remote might not be available for all units. For example, the AC power limiter is only found on hybrid models.

BUTTON	DESCRIPTION
Power	Switch the air conditioner off or on.
Mode	Select one of the following modes: <ul style="list-style-type: none"> <li>• Auto</li> <li>• Cooling</li> <li>• Dehumidifying</li> <li>• Air Supply</li> <li>• Heating</li> </ul>
Cool	Sets the unit to enter the cooling mode with a set temperature of 78°F (26°C). <ul style="list-style-type: none"> <li>• With the unit on or off, press the button and the unit will enter cooling mode with a set temperature of 78°F (26°C).</li> <li>• In the "timer on" state, press this button to cancel the timer setting and turn on cooling mode with a set temperature of 78°F (26°C).</li> <li>• In sleep state, press this button to run the cooling mode with a set temperature of 78°F (26°C).</li> </ul>
Heat	Set the air conditioner into heating mode with a set temperature of 75°F (24°C). <ul style="list-style-type: none"> <li>• With the unit on or off, press the button and the unit will enter heating mode with a set temperature of 75°F (24°C).</li> <li>• In the timer on state, press this button to cancel the timer setting and turn on heating mode with a set temperature of 75°F (24°C).</li> <li>• In sleep state, press this button to run the heating mode with a set temperature of 75°F (24°C).</li> </ul>
Temp	In cooling, heating, and dehumidifying modes, press the "up arrow" or "down arrow" to adjust the temperature setting ranging from 60°F – 90°F (16°C – 32°C). <b>Note:</b> The temperature is not adjustable in the air supply mode.
Fan	Select the blower output speed of: "Breeze / Low / Mid / Med-High / High / Auto". <b>Note:</b> There is no automatic wind speed in air supply mode.
Timer	Press the "timer" button to turn on the timer, then press the "up/down" button to set the time. The range is 1-24 hours. Press the "timer" button to complete the selection. If the timing has been set, press the "timer" button again to cancel the timing.

Turbo	<p>Enables the fan to run at a maximum speed. When in turbo mode, the fan speed display on the remote control will disappear. The indoor unit will be noticeably louder when running in Turbo mode.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• Pressing the fan speed will cancel the "Turbo" function.</li> <li>• Enabling Sleep mode will cancel the Turbo function.</li> <li>• Turbo mode cannot be enabled in automatic mode, dehumidification mode, air supply mode, or when the timer or sleep mode is running.</li> </ul>
AC Power Limiter	<p>Press the "AC Power Limiter" button to set how much AC power is used. The limit can be set to 25%, 50% and 75% of the AC input.</p> <p>To set or change the AC Power Limiter input level, use the following steps:</p> <ol style="list-style-type: none"> <li>1. Press the "AC Power Limiter" button on the remote control.</li> <li>2. Press the "Down Outlet" button to select the limit percentage of 25%, 50%, or 75%. Each level can be seen on the indoor unit by the 3<sup>rd</sup> digit on the display panel as follows: 25% will be displayed with a "xx.1", 50% with a "xx.2", and 75% with a "xx.3".</li> <li>3. After the desired level is selected, press the "AC Power Limiter" button again to exit the setup.</li> </ol> <p><b>Note:</b> This feature is only supported with hybrid models. DC power input will not be affected when limiting AC input.</p>
Light	Turns the indoor unit's LED display on or off.
Sleep	<p>Press the "Sleep" button to activate sleep mode. The fan speed and temperature automatically adjust, but the remote control display remains unchanged. The unit will automatically exit sleep mode after 8 hours of continuous operation and revert to its previous running state.</p> <p><b>Note:</b> Sleep mode cannot be turned on in air supply mode.</p>
Up/Down Wind Direction	Adjusts the air output direction up or down.
Left and Right Wind Direction	This feature is not available on this unit.
Electric Heating	This feature is not available on this unit.
Down Outlet	This button enables the configuration of the AC Power Limiter feature. See the "AC Power Limiter" button for more details.

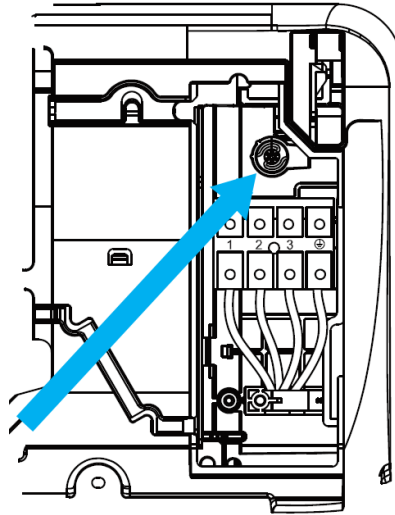
 **NOTE**

The remote control can switch the temperature display between C° and F°. The unit includes one of two different models of remotes. Each remote uses a unique button sequence to change the temperature reading using one of the methods below:

- Method 1: Press the TEMP Up and Down buttons simultaneously.
- Method 2: Hold the Power button down on the remote and hold both the TEMP Up button and the Fan button simultaneously for ~5 seconds.

## 13.8 MANUAL OPERATION

The unit can be operated using the manual control button located beneath the wire cover on the indoor unit. This button is intended for testing and emergency use only. Use this function only if the remote control is lost and it becomes necessary.



### NOTICE

- The unit needs to be turned off before enabling the manual operation function.
- To resume normal operation, use the remote control to activate the unit.

## 14. PHONE APP

The mini-split can be controlled and monitored through an iOS or Android app. This section will outline the installation and setup steps for the app, as well as how to operate it.

### 14.1 INSTALLATION

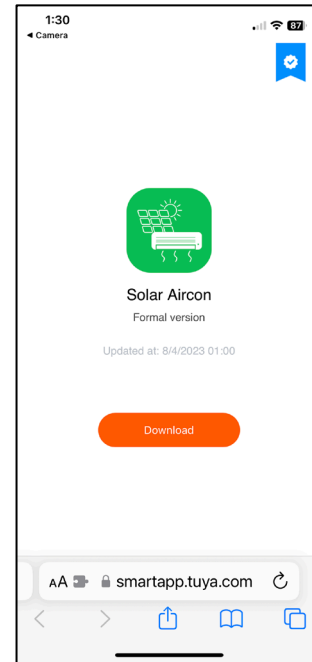
Perform the following installation steps to install and set up the app:

1. To download and install the phone app, scan the QR code below. (The same code can also be found on the side of the indoor unit)

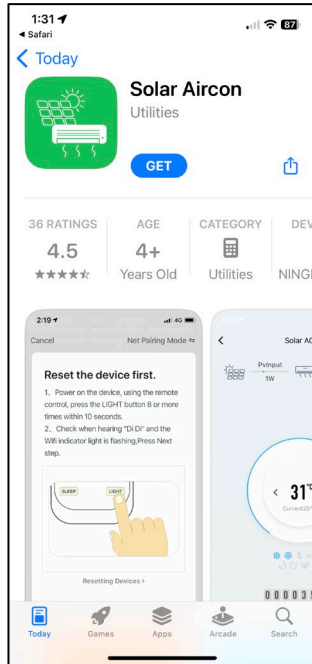


iOS and  
Android

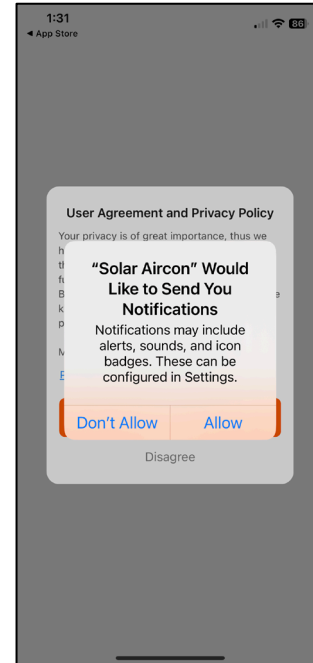
2. Select **Download**.



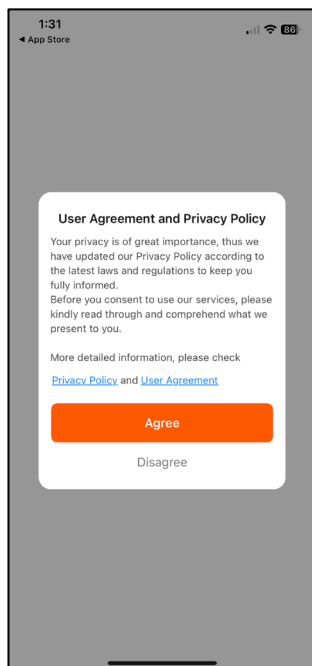
### 3. Select **Get**.



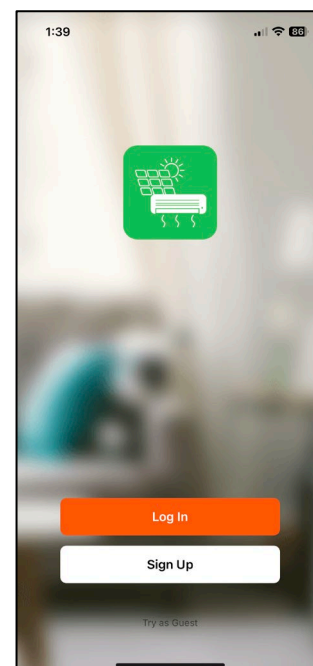
### 4. Select **Allow**.



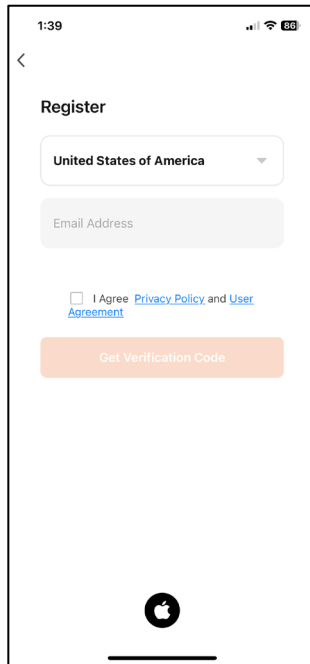
### 5. Select **Agree**.



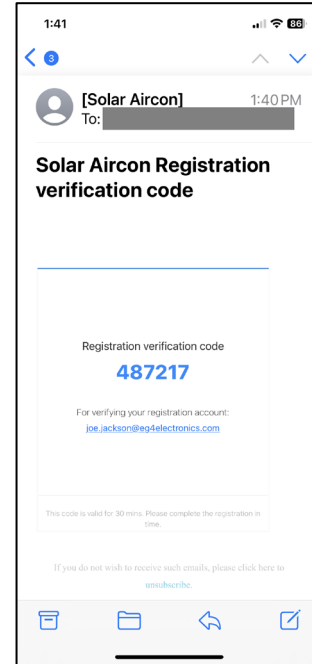
### 6. Select **Sign Up**.



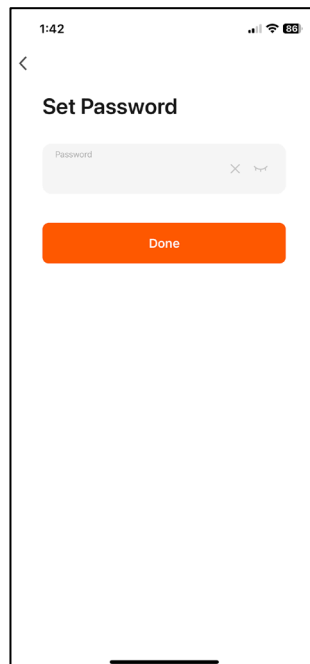
7. Provide an **email address**, select **I Agree**, click **Get Verification Code**.



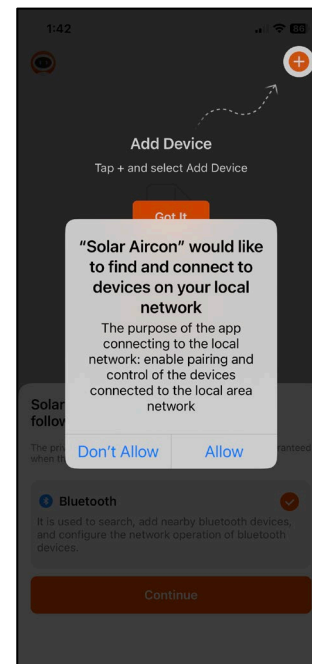
8. Locate the verification code emailed to the email address used in the previous step. Provide the code when requested by the app.



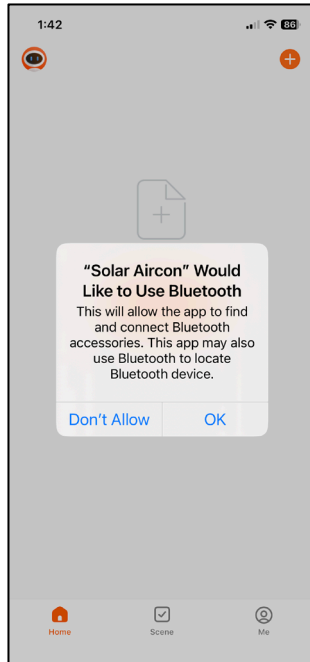
9. Enter a password, then select **Done**.



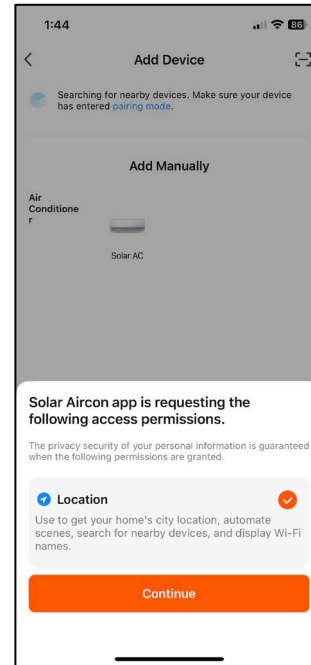
10. Select **Allow**. This will provide access to the hardware device's Wi-Fi.



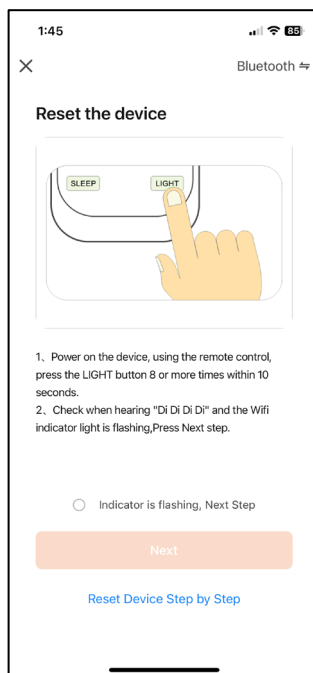
11. Select **OK**. This will provide the app access to the hardware device's Bluetooth.



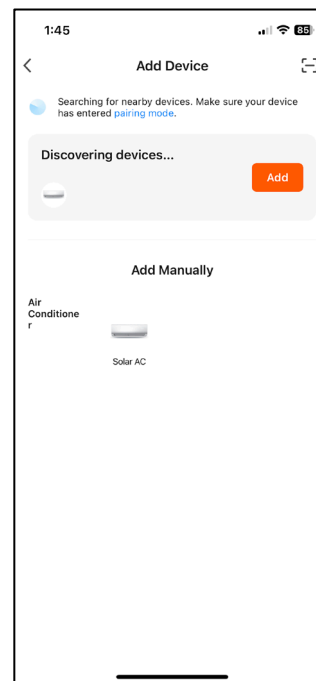
12. Select **Continue**. This will allow the app to use location services



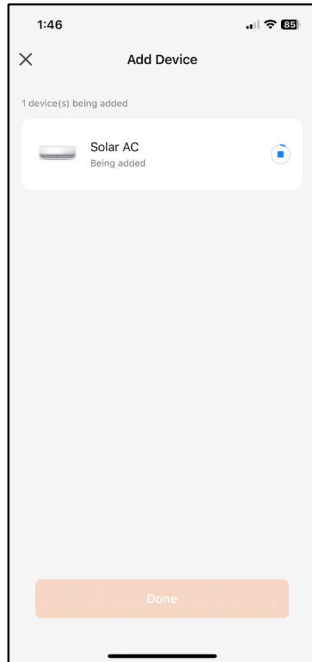
13. Turn the air conditioner on using the remote. Press the **LIGHT** button 8 times or more within 10 seconds. When the incremental beeps are heard, the Wi-Fi indicator should be flashing.



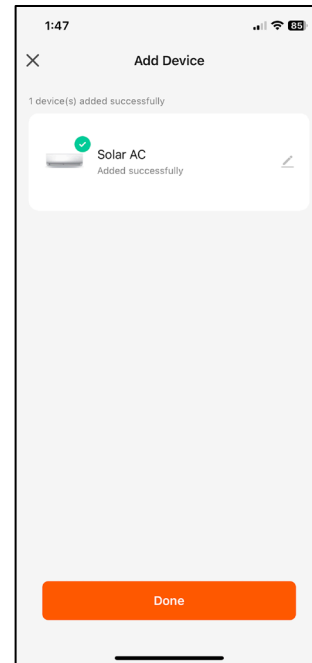
14. Select **Add**. If the mini-split unit does not appear, verify that pair mode is enabled in the previous step.



15. The device will be displayed as “Being added”.



16. Select **Done**. The App is now configured to the mini-split and is ready for use.

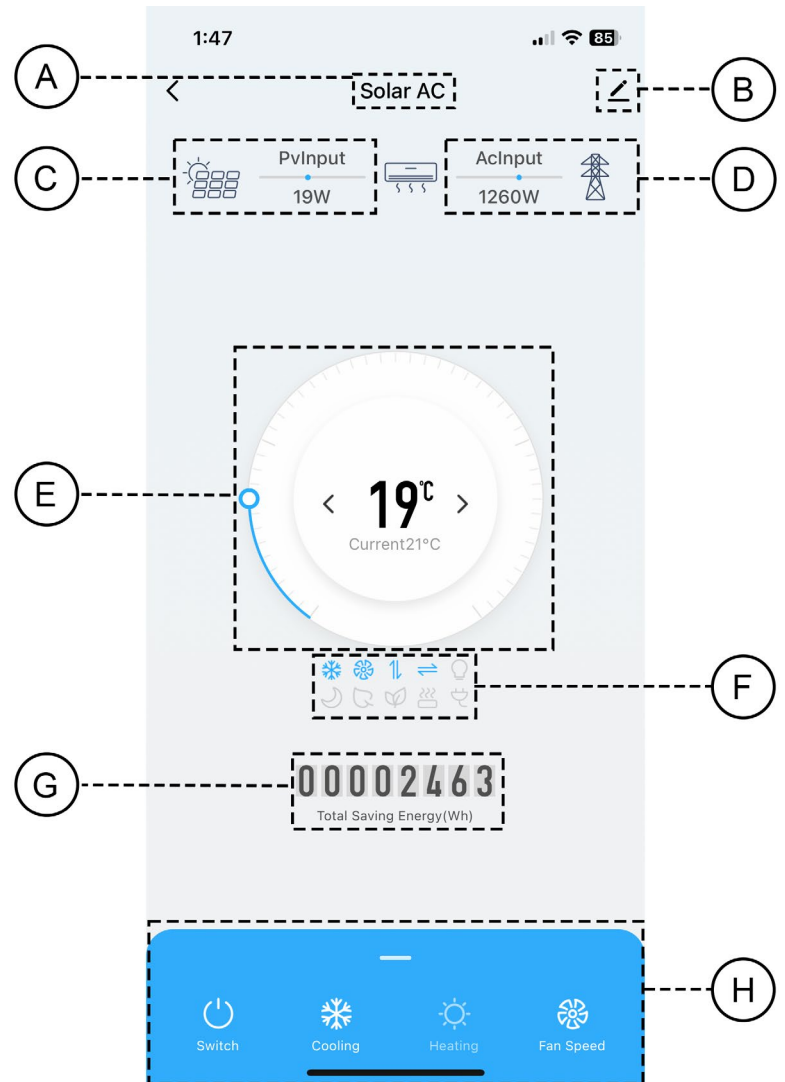


## 14.2 USING THE APP

The following information shows some of the settings that can be viewed and adjusted using the phone app.

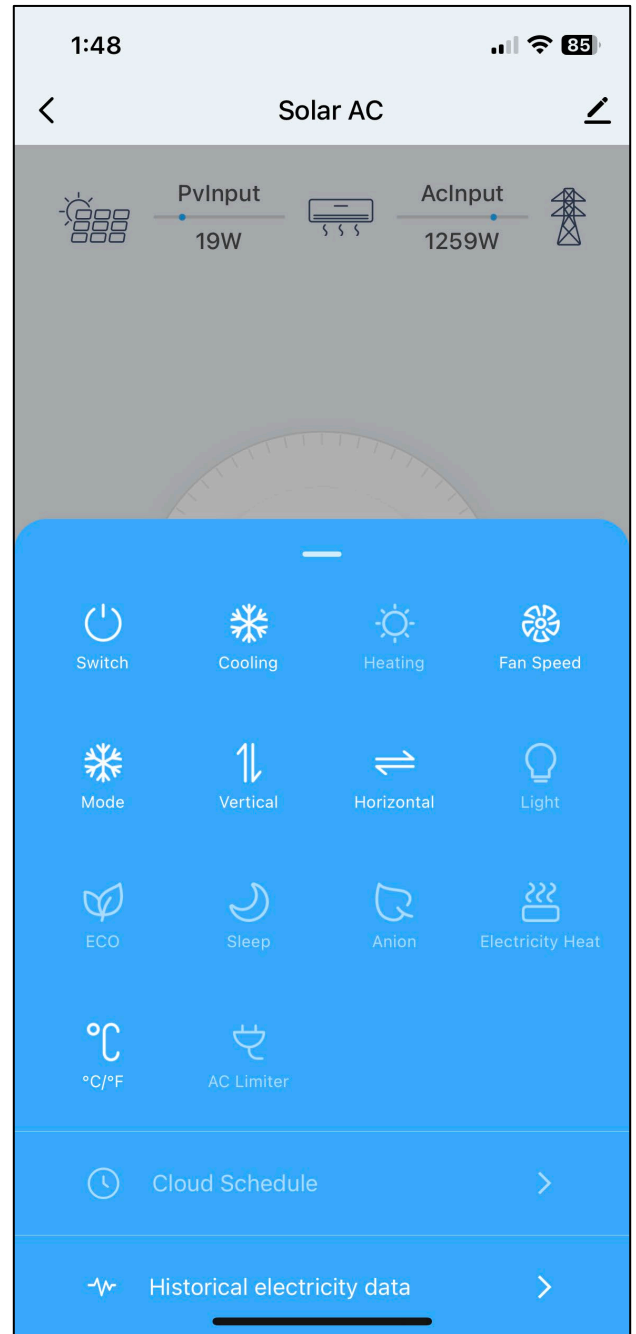
ITEM	DESCRIPTION
A	Displays the system name
B	Select to edit settings within the APP.
C	Real-time PV input measured in watts
D	Real-time AC input measured in watts
E	Displays the current temperature and the set temperature.
F	The illuminated icons represent features that are currently enabled.
G	A counter that displays cumulative energy saving in watt-hours.
H	A pull-up menu that provides settings for the following: <ul style="list-style-type: none"> <li>• Power</li> <li>• Cooling</li> <li>• Heating</li> <li>• Fan Speed</li> <li>• Mode</li> <li>• Vertical</li> <li>• Light</li> <li>• Eco</li> <li>• Sleep</li> <li>• C°/F°</li> <li>• AC Limiter</li> </ul>

**Main Screen**



## PULL UP MENU SETTINGS

ITEM	DESCRIPTION
Power Switch	Turns the unit on or off
Cooling	Selects the cooling mode
Heating	Selects the heating mode
Fan Speed	Selects the desired fan speed: <ul style="list-style-type: none"> <li>• Auto</li> <li>• Low</li> <li>• Mid</li> <li>• High</li> <li>• Turbo</li> </ul>
Mode	Selects the desired mode: <ul style="list-style-type: none"> <li>• Auto</li> <li>• Cold</li> <li>• Hot</li> <li>• Wind</li> <li>• Dry</li> </ul>
Vertical	Enables or disables the vertical louvers from moving up and down
Horizontal	Does not function on this model.
Light	Turns the indoor unit LED display on or off.
ECO	Enables ECO mode.
Sleep	Enables Sleep mode.
Anion	Does not function on this model.
Electricity Heat	Does not function on this model.
°C/°F	Toggles between Celsius and Fahrenheit.
AC Limiter	Enables the AC limiter function. When enabled, AC power is limited to 0 – 600W.



## 15. CARE AND MAINTENANCE

### CAUTION

Always turn off the power completely before cleaning and maintenance. Use the remote control to power down the unit. Then switch off (open) the breaker(s) that supply (AC and DC) electricity to the outdoor unit. Not doing so could cause electrical shock and injury.

When cleaning the unit:

- DO NOT use benzene, thinner, polishing powder, or similar solvents for cleaning. These could cause the plastic to deform and/or crack.
- DO NOT clean the unit with excessive amounts of water.
- DO NOT touch the metal parts of the unit when removing the filter. Injuries can occur when handling the sharp metal edges.
- DO NOT use water to clean the inside of the unit. Exposure to water can damage the insulation, potentially leading to an electric shock.
- DO NOT use a chemically treated cloth or duster to clean the unit.
- DO NOT touch the air freshening filter for at least 10 minutes after turning off the unit.
- DO NOT clean the unit with combustible cleaning agents. These could cause fire and/or deformation of the unit.
- DO NOT wash the air filter with water hotter than 104°F (40°C).
- DO NOT expose the filter to direct sunlight, as this could cause it to shrink. Allow the filter to dry in the shade.

### 15.1 CLEANING THE INDOOR UNIT

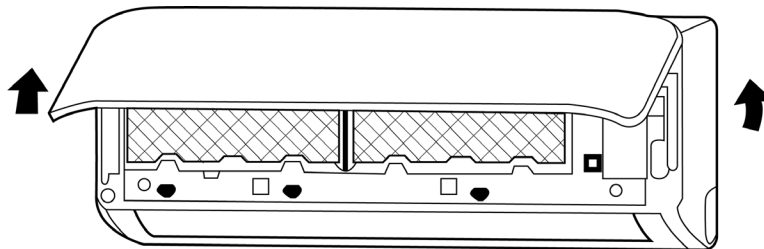
Wipe the exterior of the indoor unit with a soft, dry cloth. If the unit is very dirty, wipe it with a cloth soaked in warm water.

### NOTICE

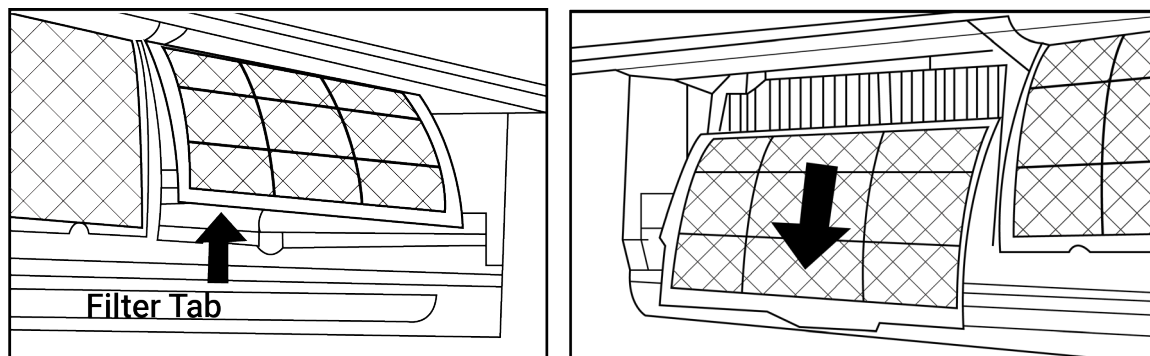
A clogged air filter can significantly reduce the heating and cooling efficiency of this unit. It is recommended to clean the unit every 2 weeks.

#### AIR FILTER AND AIR FRESHENER:

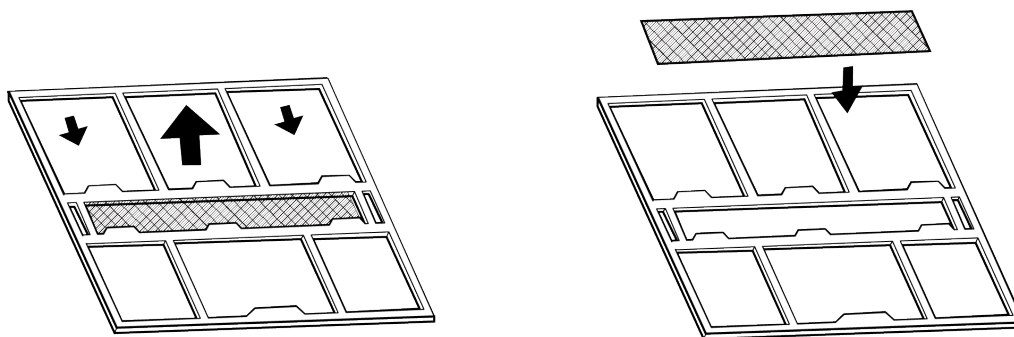
1. Open the front by carefully lifting both ends at the same time. Lifting the lid to a certain angle produces a click, making it self-supporting.



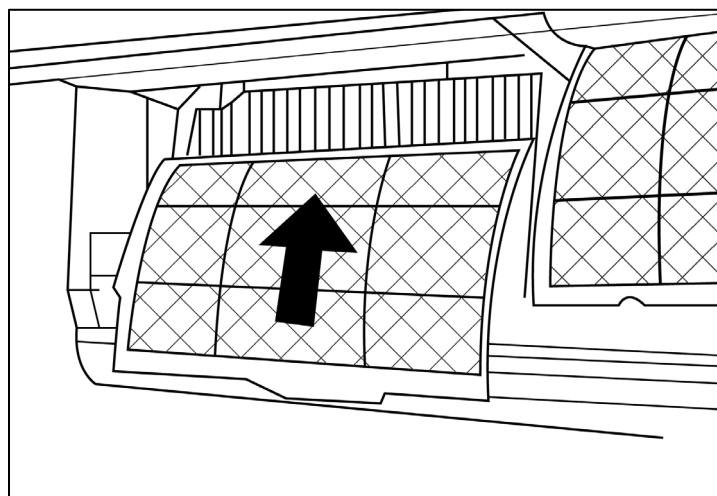
2. Use the filter tabs to lift the filter slightly upward, then pull it outward from the front of the unit. Remove the filter by gently pulling it downward.



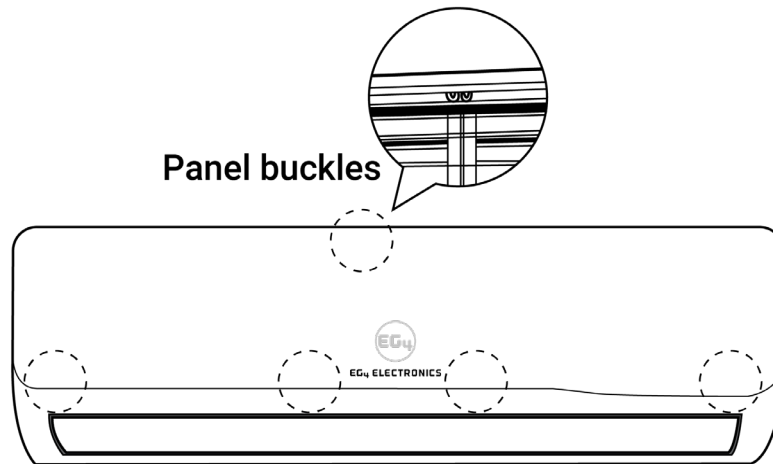
Remove the small air-freshening filter from the larger air filter. Clean the large air filter with a vacuum or warm, soapy water. Use a mild detergent and rinse with clean water. Shake off the excess water and let it dry in a cool, dry place. Once the larger air filter is dry, reattach the small air-freshening filter. Replace the small filter if necessary.



3. Reinstall the air filter by carefully pushing the top into the unit and then lowering the bottom into place.



4. Close the front panel of the unit. Make sure the buckles snap securely into the chassis and that the front panel is completely in place and closed.



## 15.2 PREPARATION FOR EXTENDED NON-OPERATION

If the unit is not used for a long period (e.g., from the end of summer to the start of next summer), perform the following:

1. Clean the indoor unit and filters as outlined in section 15.
2. Operate the unit in FAN-Only mode for at least 8 hours to dry out the inside of the unit.
3. Turn off the unit. Then, turn off the power to the circuit at the breaker. The unit should be the only appliance on this circuit.
4. Remove the batteries from the remote control.
5. The outdoor unit also requires periodic maintenance. However, it is highly recommended to contact a qualified service professional to perform this.

## 15.3 PRE-SEASON INSPECTION

After prolonged non-operation, perform the following:

1. Check for damaged or disconnected wires.
2. Check/clean the indoor unit and filters.
3. Check for water and oil leaks.
4. Check for blockages in the airflow inlet and outlet.
5. Change the batteries in the remote.
6. Turn on the power to the circuit breaker when the unit is ready for use.

## 16. TROUBLESHOOTING

### 16.1 COMMON ISSUES AND CAUSES

ISSUE	POSSIBLE CAUSE
The unit does not turn on when pressing the Power button	The unit has a 3-minute protection feature that prevents overloading. It will not restart within three minutes after being turned off.
The unit changes from COOL/HEAT mode to FAN mode.	The unit can change its setting to stop frost from forming. Once the temperature rises, it will return to its previous state.
	The set temperature has been reached, so the unit turns off the compressor. The compressor will restart as needed to keep the set temperature.
The indoor unit emits a white mist.	In humid areas, a significant temperature difference between the room's air and the conditioned air can cause white mist.
Both the indoor and outdoor units emit white mist	When the unit restarts in HEAT mode after defrosting, a white mist may appear due to moisture from the defrosting process.
The indoor unit makes noises.	A rushing air sound may occur when the louver resets its position.
	A squeaking sound may occur after running the unit in HEAT mode due to the expansion and contraction of the unit's plastic parts.
Both the indoor unit and outdoor unit make noises	A low hissing sound during operation is typical and occurs when refrigerant gas flows through both indoor and outdoor units.
	A low hissing sound, usually heard when the system starts, stops, or is defrosting, is normal and occurs when the refrigerant gas stops or changes direction.
	Squeaking sound: The normal expansion and contraction of plastic and metal parts, caused by temperature changes during operation, can produce squeaking noises.
The outdoor unit makes noises.	The unit emits different sounds depending on its current operating mode.
Dust is emitted from either the indoor or outdoor unit	The unit may gather dust during long periods of non-use, and this dust will be released when it is turned on. To reduce this, cover the unit during extended periods of inactivity.
The unit emits a foul odor.	The unit may absorb odors from the environment (such as furniture, cooking, and cigarettes) that are emitted during operations.
	The unit's filters have developed mold and need to be cleaned.
The fan of the outdoor unit does not operate.	During operation, the fan speed is adjusted to maximize product performance.
The operation is erratic, unpredictable, or the unit is unresponsive	<p>Interference from cell phone towers and remote boosters can disrupt the unit's operation.</p> <p>In this case, try the following:</p> <ul style="list-style-type: none"> <li>• Disconnect the power, then reconnect.</li> <li>• Press the ON/OFF button on the remote control to restart the device.</li> </ul>

## 16.2 PROBLEMS, CAUSES, AND SOLUTIONS

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Poor cooling performance	The temperature setting may be higher than the ambient room temperature	Lower the temperature setting
	The heat exchanger on the indoor or outdoor unit is dirty	Clean the affected heat exchanger
	The air filter is dirty.	Remove the filter and clean it according to the instructions.
	The air inlet or outlet of either unit is blocked	Turn the unit off, remove the obstruction, and turn it back on
	Doors and windows are open.	Verify all doors and windows are closed during operation.
	Excessive heat is generated by sunlight.	Close windows and curtains during periods of high heat or bright sunshine
	Too many sources of heat in the room ( <i>people, computers, electronics, etc.</i> )	Reduce the number of heat sources.
	The SLEEP function is activated.	The SLEEP function can lower product performance by reducing operating frequency. Turn off the SLEEP function.
	Solar power alone isn't sufficient. The grid is down, and the air conditioner only runs on solar power.	Turn on grid power
The unit is not working.	Both solar and grid power are off.	Enable grid and/or solar power.
	The remote-control batteries are dead.	Replace batteries.
	The timer is activated.	Turn off the timer function.
Poor heating performance	The outdoor temperature is below 44°F (7°C).	Use a supplementary heating device.
	Cold air is coming in through the doors and windows.	Verify all doors and windows are closed while in use.
An error code appears in the LED display of the indoor unit.	The unit may stop functioning or continue to operate safely. If the indicator light persists in displaying an error code, wait about 10 minutes; the issue might resolve itself. If it doesn't, disconnect both solar and grid power, then reconnect them after 2 minutes. Turn the unit back on. If the problem persists, turn off the unit and contact an authorized service center. See error codes listed in section 16.	

## 16.3 INDOOR UNIT LED ERROR CODES

CODE	DESCRIPTION
01	Fault from the indoor unit
02	Zero-crossing detection fault of an indoor AC motor
03	No communication between the indoor and outdoor units
04	Indoor key stuck fault.
05	The outdoor unit EPROM is faulty.
06	The outdoor fan motor is faulty.
11	The evaporator outlet sensor is faulty.
12	The evaporator inlet sensor is faulty.
14	The compressor suction temperature sensor is faulty.
15	The high-pressure sensor is faulty.
17	PFC overtemperature protection
18	The PFC temperature sensor is faulty.
19	The condenser middle temperature sensor is faulty.
20	The indoor unit is in overheating protection.
21	Indoor water pump drainage failure
22	Wire controller communication failure
24	High-voltage switch disconnect protection
25	Low-voltage switch disconnect protection.
27	Communication fault between the outdoor PCB and the driver module
29	The four-way valve is faulty.
31	The indoor air temperature sensor is faulty.
32	The indoor evaporator coil temperature sensor is faulty.
35	The outdoor ambient air temperature sensor is faulty.
36	The outdoor heat exchanger temperature sensor is faulty.
37	The exhaust temperature sensor is faulty.
39	Exhaust overtemperature protection
41	Refrigeration anti-overload protection
42	High voltage protection
43	Low-voltage protection
51	The indoor fan motor lost speed.
58	Outdoor fan motor failure
73	Input current control failure.
76	Voltage protection
81	PFC over current

CODE	DESCRIPTION
91	IMP over temperature
93	The compressor lost speed.
95	IPM over current
LO	Oil return failure protection (insufficient light protection)
LP	Low speed (stall) protection (low light protection)
P1	Booster (solar board) overcurrent protection
P2	Booster (solar board) leakage protection
P3	The output voltage of the booster (solar) board is too low.
P4	The output voltage of the booster (solar) board is too high.
P5	PV input voltage is too low.
P6	PV input voltage is too high.
P7	Communication between the outdoor PCB and the booster (solar) plate is faulty.

## 17. WARRANTY INFORMATION

For information regarding warranty registration for EG4® Electronics products, navigate to <https://eg4electronics.com/warranty/> and select the corresponding product to begin the registration process.



# **EG4** ELECTRONICS

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