

# FURRION A/C



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## OVERVIEW

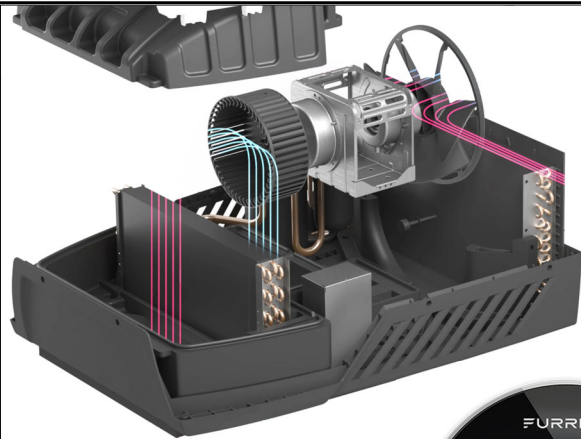
- White or Black
- Manual or remote electronic control
- Single and Multizone
- Ducted or non-ducted
- 2 Fans with 2 motors, 2-way airflow, and 3 fan speeds
- Requires 3 - 6" roof thickness and 14 ¼" x 14 ¼" (+/- ½") roof opening

### Manual Setup

1. Single Zone Rooftop Unit
2. Manually Controlled Air Distribution Box

### Electronic Setup

1. Single or Multiple Rooftop Units
2. Controller
3. Thermostat
4. Electronic Air Distribution Box



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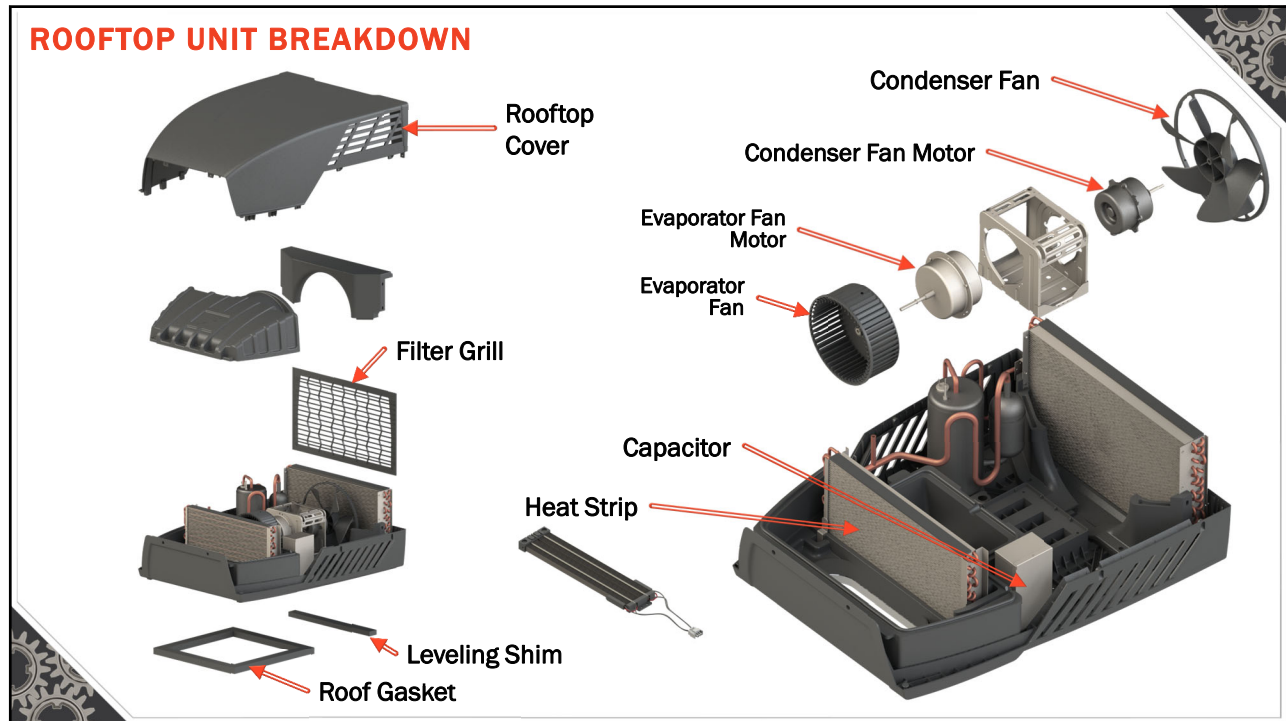
## ROOFTOP UNIT



Original Standard Models			Current HE Models		
Name	Model #	Part #	Name	Model #	Part #
14.5K Black Rooftop Unit	FACR14SA-BL	2021123563	13.5K HE Black Rooftop Unit	FACR13HESA-BL-AM	2021130012
14.5K White Rooftop Unit	FACR14SA-PS	2021123613	13.5K HE White Rooftop Unit	FACR13HESA-PS-AM	2021130014
15.5K Black Rooftop Unit	FACR15SA-BL	2021123630	15K HE Black Rooftop Unit	FACR15HESA-BL-AM	2021130008
15.5K White Rooftop Unit	FACR15SA-BL	2021123799	15K HE White Rooftop Unit	FACR15HESA-PS-AM	2021130011
Conversion Kit	C-FACR15SA-A01	2021123542	Conversion Kit	C-FACR15SA-A01	2021123542

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## ROOFTOP UNIT BREAKDOWN



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## MANUAL AIR DISTRIBUTION BOX

- Controller is included in the air distribution box
- Manual only requires rooftop unit and ADB for installation
- Cleanable and Replaceable filter
- Original and HE rooftop units use the same manual ADB.

Original Standard Models		
Name	Model #	Part #
Basic Side Flow ADB	FACT11MA	2021123818
Standard Direct Flow ADB	FACT11CA	2021123784

Current HE Models		
Name	Model #	Part #
Standard Direct Flow ADB	FACT11CA	2021123784

**Manual Basic Side Flow**



**Manual Standard Direct Flow**

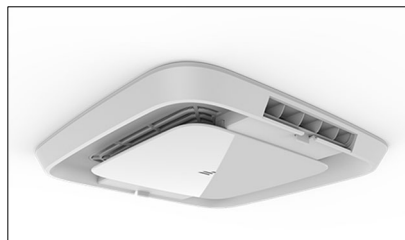


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## ELECTRONIC AIR DISTRIBUTION BOX

- Electronic ADB requires rooftop unit, controller and thermostat
- Up to 4 zones available
- Cleanable and Replaceable filter
- Original and HE rooftop units use the same ADB.

**Electronic Basic Side Flow**



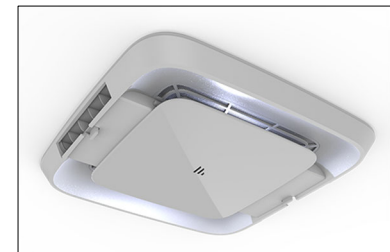
**Electronic Standard Direct Flow**



Original Standard Models		
Name	Model #	Part #
Basic Side Flow ADB	FACT12SA	2021122781
Standard Direct Flow ADB	FACT12CA	2021123541
Premium with LED Side Flow ADB	FACT12LA	2021123796

Current HE Models		
Name	Model #	Part #
Standard Direct Flow ADB	FACT12CA	2021123541
Premium with LED Side Flow ADB	FACT12LA	2021123796

**Electronic Premium Side Flow with LED**



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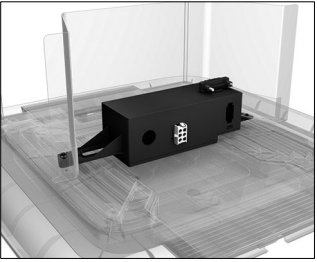
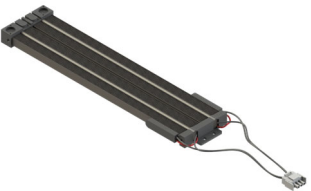
## CONTROLLERS AND HEAT STRIPS

Original Standard Models

Name	Model #	Part #
Single Zone Controller	FACC12SA	2021123629
Single Zone Controller (Fan not constant)	FACC10SA	2021123584
Multizone Controller	FACC12ZA	2021123704
1500 Watt Heat Strip for Manual ADB	C-FACR15SA-A02	2021123592
1500 Watt Heat Strip for Electronic ADB	C-FACR15SA-A04	2021123626

**Controller**

**Heat Strip**

- Controllers are not interchangeable between A/C Models
- Original standard controllers had temperature sensor. Current HE models have the temperature sensor on the thermostat.
- HE single controller does not have the relay to drive a heat strip. If heat strip is being added then the controller needs to be replaced.
- It is recommended to stick with multizone controllers and thermostats even if single zone. Less parts to keep in stock overall with greatest flexibility.

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## THERMOSTATS

**Single Zone Basic/Standard**




**Single Zone Premium**

**Multizone**

Original Standard Models

Name	Model #	Part #
Basic Thermostat	FACW12SA	2021123800
Standard Thermostat	FACW10SA	2021123577
Premium Thermostat	FACW12PA	2021123759
Multizone Thermostat	FAZW12ZA	2021123794

**NOTE:** No temperature sensor equipped on thermostat

Current HE Models




Name	Model #	Part #
Enhanced Single Zone Thermostat	FACW10ESSA-BL	2021130946
Enhanced Multizone Thermostat	FACW12ESZA-BL	2021130947
Enhanced Multizone App Controlled Thermostat	FACW12APZA	2022068580

**NOTE:** Temperature sensor equipped on thermostat

**Enhanced Single Zone Basic**

**Enhanced Multizone**

**Enhanced Multizone App Controlled**

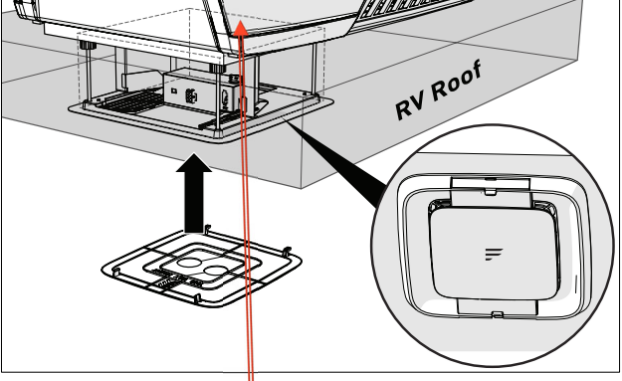





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### ● LABEL LOCATIONS

**Rooftop Unit Label**  
Remove air distribution box from interior ceiling. Locate label inside opening of air conditioner.

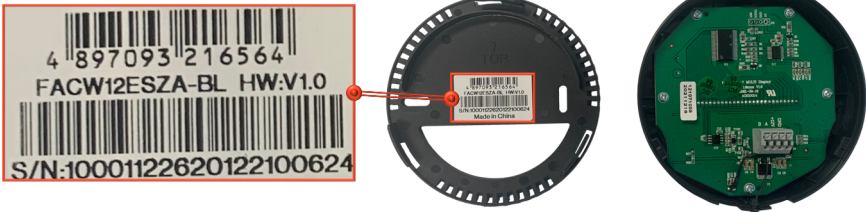
- **LRA** → Locked Rotor Amps:
  - IF the compressor should lock up, it would max out at this rating just before the breaker cuts it off. The starting Amps will be between 1/2 and 2/3's of this rating.
- **RLA** → Rated Load Amps:
  - Amp draw at the compressor after 15 minutes at 95 degrees, with 115 volts, and 50% humidity.
- **FLA** → Fan Load Amps:
  - Amp draw at the fan while running on high. If reading at the controller, the combined FLA's will be the reading

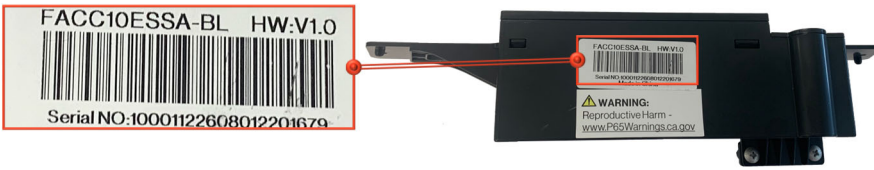
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### ● LABEL LOCATIONS

**Thermostat Label**  
Turn thermostats and remove from mounting plate to find thermostat label.



**Controller Label**  
Remove ADB from ceiling. Uninstall controller to mounting bracket and turn controller to find controller label.



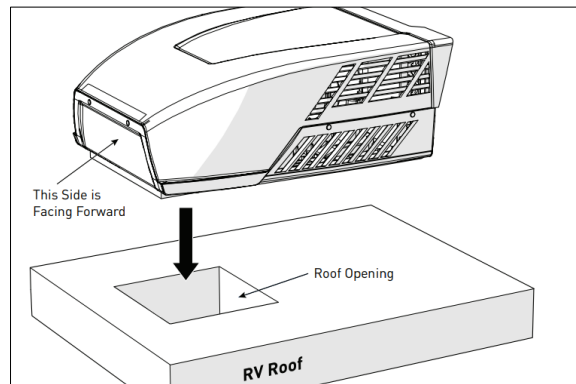
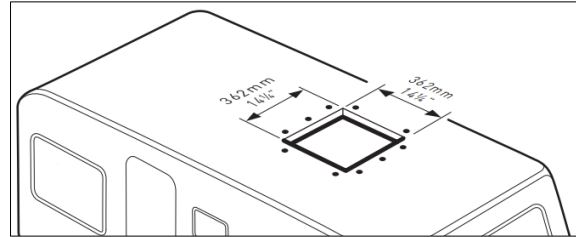
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## INSTALLING ROOFTOP UNIT

- Rooftop unit weights approximately 80 lbs.
  - Roof must be 3 to 6" thick
  - Roof should have no more than 15° slant.
1. Disconnect the 115VAC power from RV before installing.
  2. Unscrew and remove the roof vent.
  3. Opening must be  $14 \frac{1}{4}" \times 14 \frac{1}{4}" (+/- \frac{1}{2}"$ ). Enlarge opening if necessary.
  4. Seal any additional holes in the cavity with foil tape and remove all caulking compound around the opening.
  5. Grasp the bottom of two sides of the unit, lift and position the rooftop unit into the prepared opening using the gasket at the bottom of the rooftop unit as a guide.

**NOTE:** Do not slide unit. It may damage the gasket and cause leakage. Do not grasp by ventilation slots to lift unit.

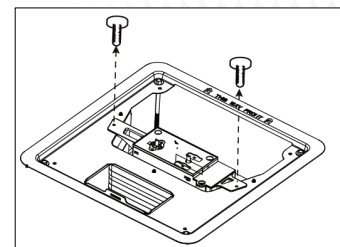
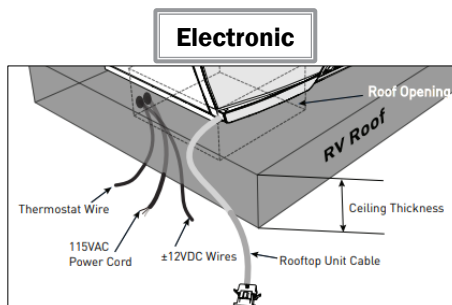
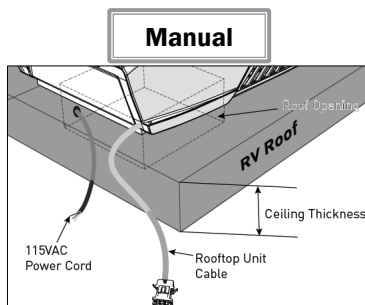
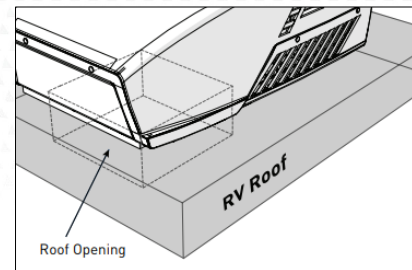


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## INSTALLATION

1. Check the gasket alignment of the rooftop unit inside the RV over the roof opening and adjust as necessary by lifting and moving slightly.
2. Reach up into the return air opening and pull the rooftop unit electric cord, 115VAC power cord, 12VDC and thermostat wires.

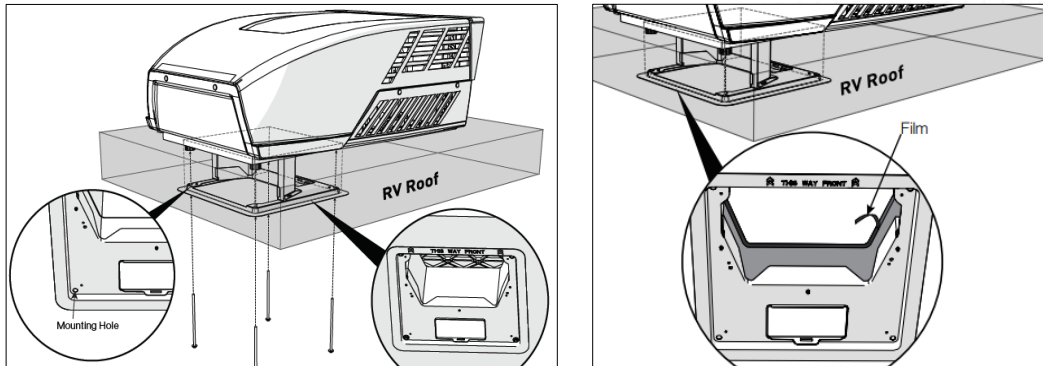
**NOTE:** If manual ADB, remove control box from mounting frame.



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## INSTALLATION

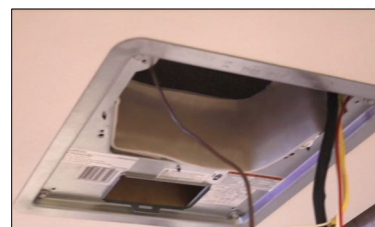
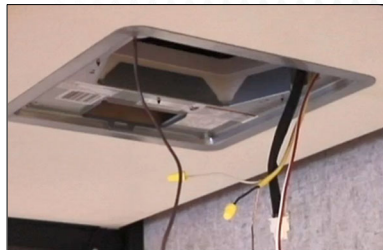
- Fix the assembled mounting frame and lower duct divider into the rooftop unit using 4 bolts provided. "This way front" facing front, the direction of the vehicle.  
**NOTE:** If bolts are left loose there may not be an adequate roof seal or if over tightened, damage may occur to the rooftop base or mounting frame. Evenly tighten the four bolts to a torque of 40 to 50 inch pounds. This will compress the roof gasket to approximately 9/16".
- Pull to remove the film off the double sided sticky tape on the inner side of the lower duct divider.



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## INSTALLATION

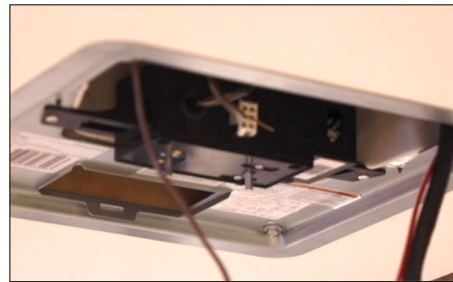
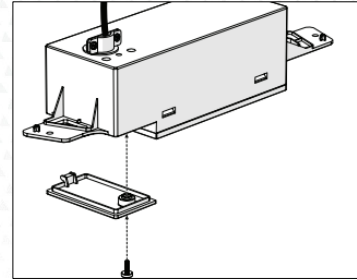
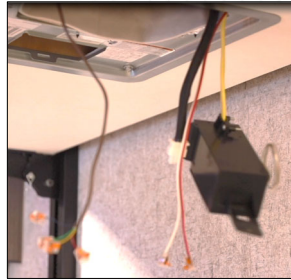
- Stick the upper duct divider into the assembled mounting frame.  
**NOTE:** Make sure the upper duct divider is compressing the top foam on the base of the unit and compressed to double sided tape on the lower duct divider to ensure a positive retention.
- Stick the upper duct divider into the mounting frame, this completes the gap from bottom of A/C and lower duct divider.
- Put foil tape over lower duct divider and after installing the upper duct divider over it. This should completely cover from end to end.



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## INSTALLATION

8. Cut the PE foam pad to the depth of the roof. Peel the release paper from the PE foam, overlap the sticky side over all gaps and compress to seal and insulate the entire section.
9. Check dip switches and set accordingly.
10. Unscrew the junction box cover. Pull out black (hot), white (neutral), and brown (ground) wires. Connect the controller wires to the 115VAC power cord from the A/C unit. 12 Gauge 20 amp breaker.
11. Screw junction box cover back on controller and install controller into mounting bracket.
12. Plug 6 pin cable into the controller.

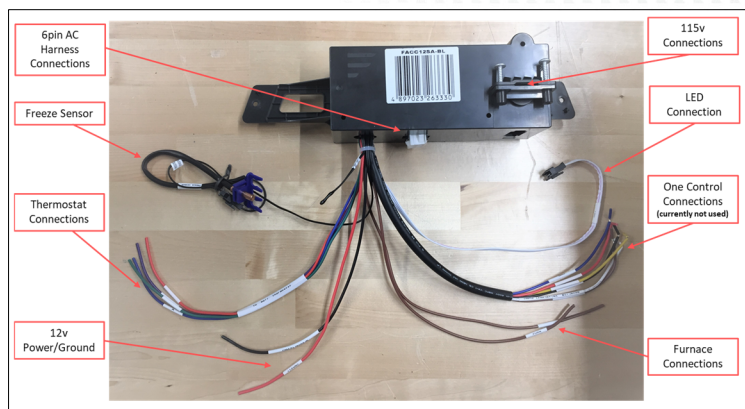
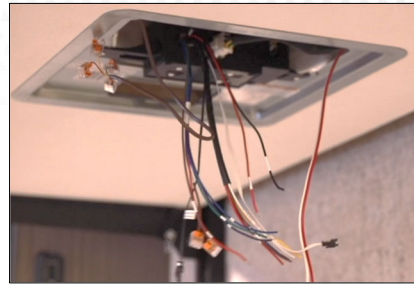


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## INSTALLATION

### CONTROLLER

13. 7 wire harness – only applicable if RV currently supports OneControl and can switch the dip switch to analog. If not applicable, 7 wire harness is dead. Stick back up in cavity and ignore those wires.
  - 4 wire harness – thermostat connections
  - 12V Input wires – black wire negative and red wire power
  - Brown wires – furnace
  - Freeze sensor – clips into coils, middle or above
  - Once all necessary wires are connected, place them above controller. Do not let them interfere with air flow having them all hanging down between controller and ADB shroud.



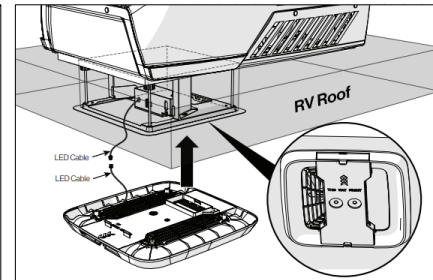
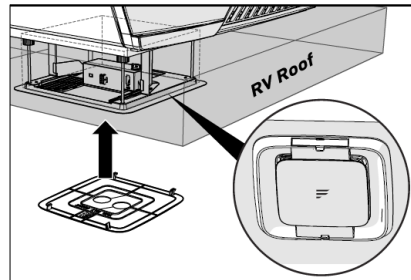
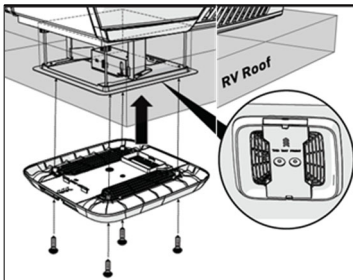
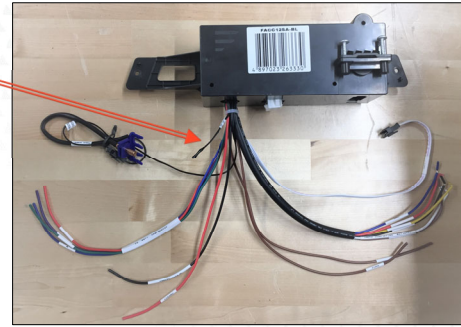
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## INSTALLATION

14. Place thermal coupler straight up in the middle of controller.
15. Install the ADB shroud over the mounting frame. Align the filter tabs and push to snap the filters into the ADB shroud. Connect LED cable from ADB shroud to control box if applicable.
16. Align the decoration tabs on the ADB shroud and push to snap into place.

Temp Probe

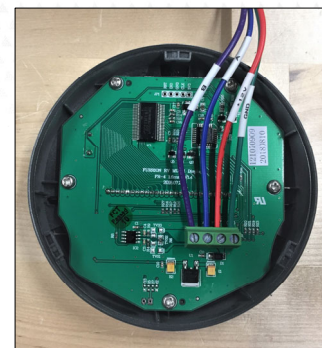
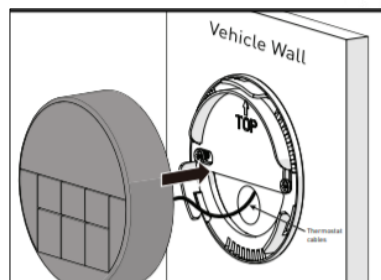
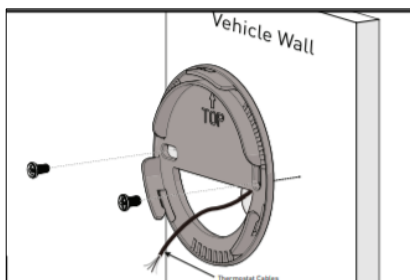


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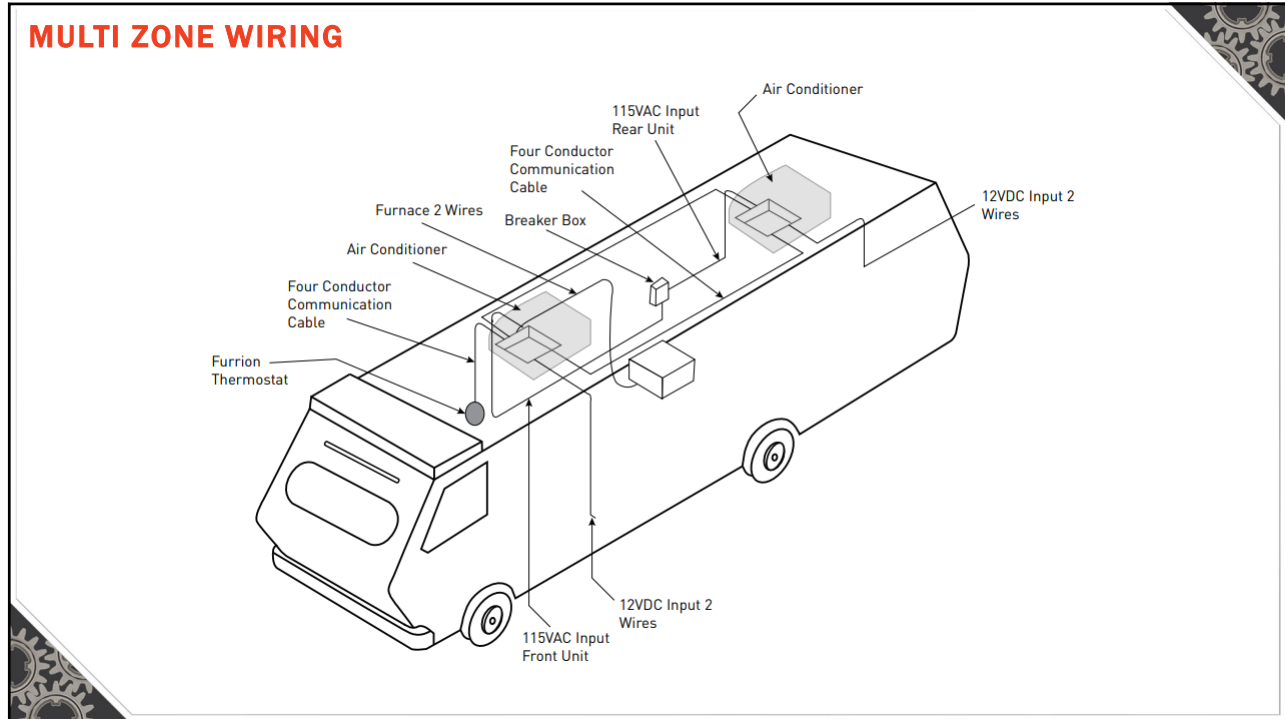
## INSTALLATION

### THERMOSTAT

17. Fix the base plate on the wall. Connect the cables to the thermostat. Rotate the thermostat clockwise until it clips into place.
18. Connect the cables to the thermostat. Rotate the thermostat clockwise until it clips into place.



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## SETTING DIP SWITCHES

### CONTROLLER

**Single Zone**

- Only switch ON from factory is furnace (dip switch #2)
- If changes are made, power must be cycled.

**Single Zone Default Setting**

Heat Pump (selected models)	DIP 3	Reserved	
Furnace	DIP 4	OFF	Furnace Off
		ON	Furnace On
Electric Heat (selected models)	DIP 5	OFF	Heat Stripe Off
		ON	Heat Stripe On
Analog / Digital	DIP 6	OFF	Digital
		ON	Analog

**Multi Zone**

- Only switch ON from factory is furnace (dip switch #4)
- If changes are made, power must be cycled.

**Multi Zone Default Setting**

Zone Selection	DIP 1 :DIP2	OFF	OFF	ZONE1
		OFF	ON	ZONE2
		ON	OFF	ZONE3
		ON	ON	ZONE4
Heat Pump (selected models)	DIP 3	Reserved		
Furnace	DIP 4	OFF	Furnace Off	
		ON	Furnace On	
Electric Heat (selected models)	DIP 5	OFF	Heat Stripe Off	
		ON	Heat Stripe On	
Analog / Digital	DIP 6	OFF	Digital	
		ON	Analog	

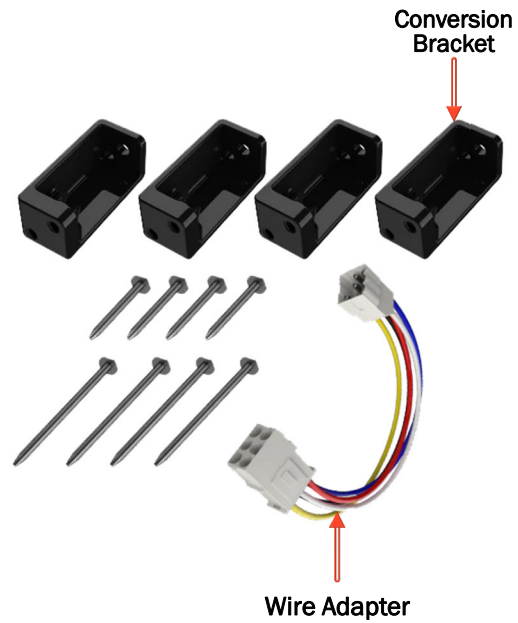
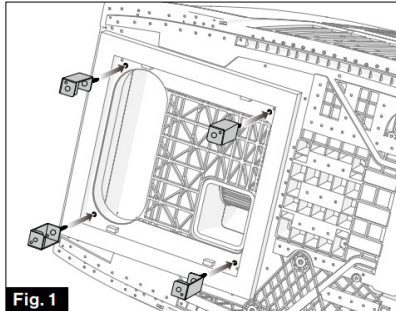
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## UNIVERSAL CONVERSION KIT

Kit is comprised of both electrical and mounting components required to install the Furrion Chill rooftop unit onto existing competitors air distribution box and thermostat.

- Compatible with most competitors (wire adapter not needed)
- Will downgrade to 2 speeds

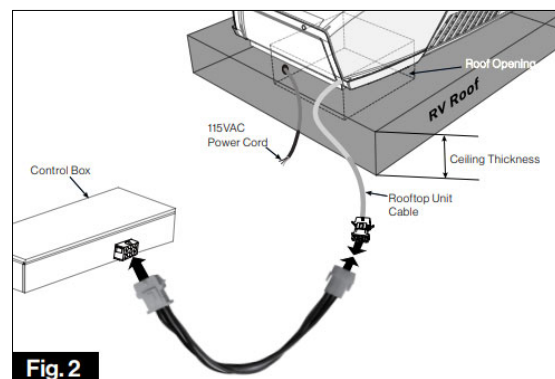
1. Install the four conversion brackets onto the bottom of the rooftop unit.



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## UNIVERSAL CONVERSION KIT

2. Replace existing metal bracket and duct divider, per existing installation requirements. Be sure to seal any gaps and openings with aluminum tape.
3. Use wire adapter to connect Furrion rooftop unit to ADB. Always adjust the thermostat to the lowest temperature when the 'FAN' mode is selected.
4. Refer to the existing trim kit installation manual to install the trim kit onto the RV roof and secure with long bolts.




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## SINGLE ZONE BASIC OPERATION



**Original**




**Enhanced**

- Cool Mode: Unit cycles compressor based on room temp vs customer set point. 4 fan speed selections High, Med, Low & Auto
- Heat Mode: Cycle Furnace or Heat strip based on set point vs room temp. The fan speed changes only change the fan speed the AC fan is running not the furnace fan. Fan options are Low, Med, High & Auto. Heat mode is only available after the furnace or heat strip has been enabled.
- Fan Mode: Temp set is not available, fan will run continuously in Low, Med or High speed depending on setting
- Dry Mode: Compressor will run continuously if room temp is above set point. Compressor cycle ON for 10 minutes & OFF for 6 minute when room temp is lower than set point. Fan runs continuously at low speed.
- Auto Fan: Whenever auto fan is selected the fan speed will vary based on the difference between the room temp and the set point temp.  
 Difference of more than 3 degrees = High fan speed  
 Difference of more than 1 degree = Medium fan speed  
 Difference of 1 degree or less = Low fan speed
- Compressor Time Delay: Any time the compressor is cycled there is a 3 minute delay before the compressor will come back on. This is to allow the system to equalize the pressure in the system to prevent damage.

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## SINGLE ZONE PREMIUM OPERATION



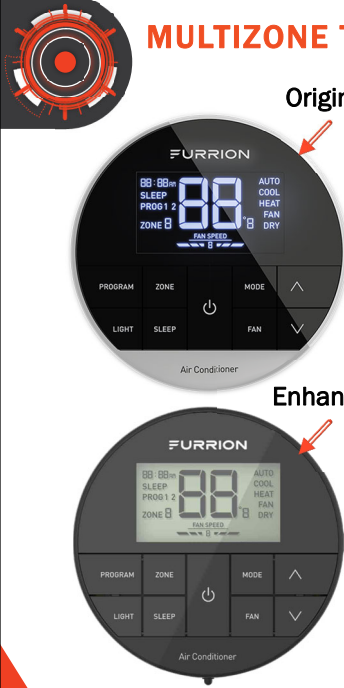
- Light Control: Use the light button to turn on and toggle through the 7 mood light color options. To turn off press light button repeatedly until light turns off.
- Auto Mode: This mode is a “set it & forget it”. The unit will auto change over between Heat and Cool mode depending on room air temp. When the room is below 68 degrees the system will operate the heat option. When the room air is above 77 degrees the system will operate in cool mode. When the temp is between 68-77 degrees the system will operate in Dry mode.
- Sleep Mode: Must be activated using the sleep button; COOL MODE: The temp set point will increase 2 degrees after 1 hour & increase another 2 degrees after running for 2 hours. Fan is fixed in LOW speed. HEAT MODE: The temp set point will decrease 2 degrees after 1 hour & decrease another 2 degrees after running for 2 hours. Fan is fixed in LOW speed.



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## MULTIZONE THERMOSTAT



**Original**


**Enhanced**

- Multizone thermostat control allows the customer to control different AC units across 4 zones. The first two dip switches are used to set the AC to a specific zone. If two AC units are set to the same zone they will operate in tandem with a 30 second delay between them.
- Zone Selection: Press the zone button repeatedly to cycle through the zone options, once the customer has selected the zone, they will be able to use the control buttons to adjust the system and hit the zone button when completed to move on to the next zone.
- Programmable settings: First to use the programmable settings the clock must be set. With thermostat off hit Program button for 3 seconds to enter clock set mode. Press the up to change hour (along with AM/PM) and down to change the minute. Press program when done to save.
- Once the clock is set, the program setting can be set. To set the program first press the program button. Prog 1 & the clock icons will begin to flash, use up and down arrows to adjust the time setting. Once the time is set press Mode to select the operation mode, then press Fan to select the fan speed setting. Lastly press Program to save and it will move to Prog 2. repeat the process for setting program 2.

ON		DIP 1	DIP 2	ZONE
1	2	3	4	5
OFF	OFF	ON	OFF	ZONE1
OFF	ON	OFF	ON	ZONE2
ON	OFF	ON	OFF	ZONE3
ON	ON	OFF	ON	ZONE4

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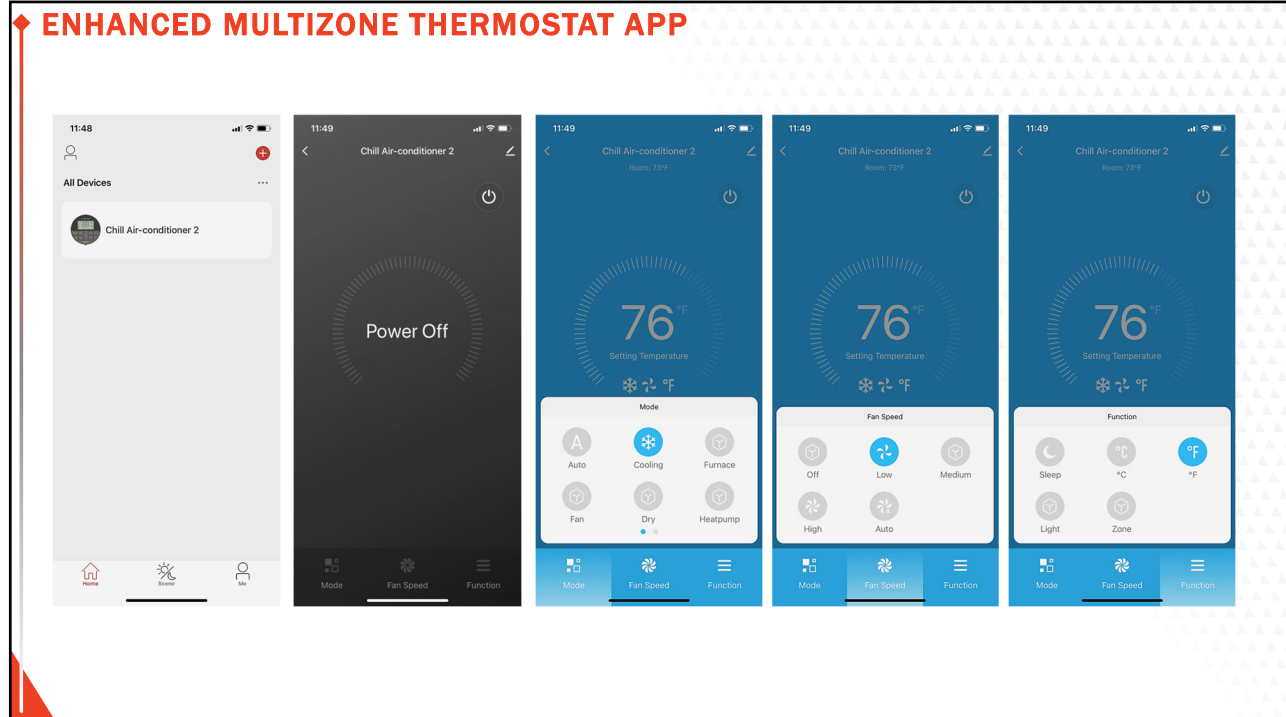
## ENHANCED MULTIZONE THERMOSTAT APP SETUP



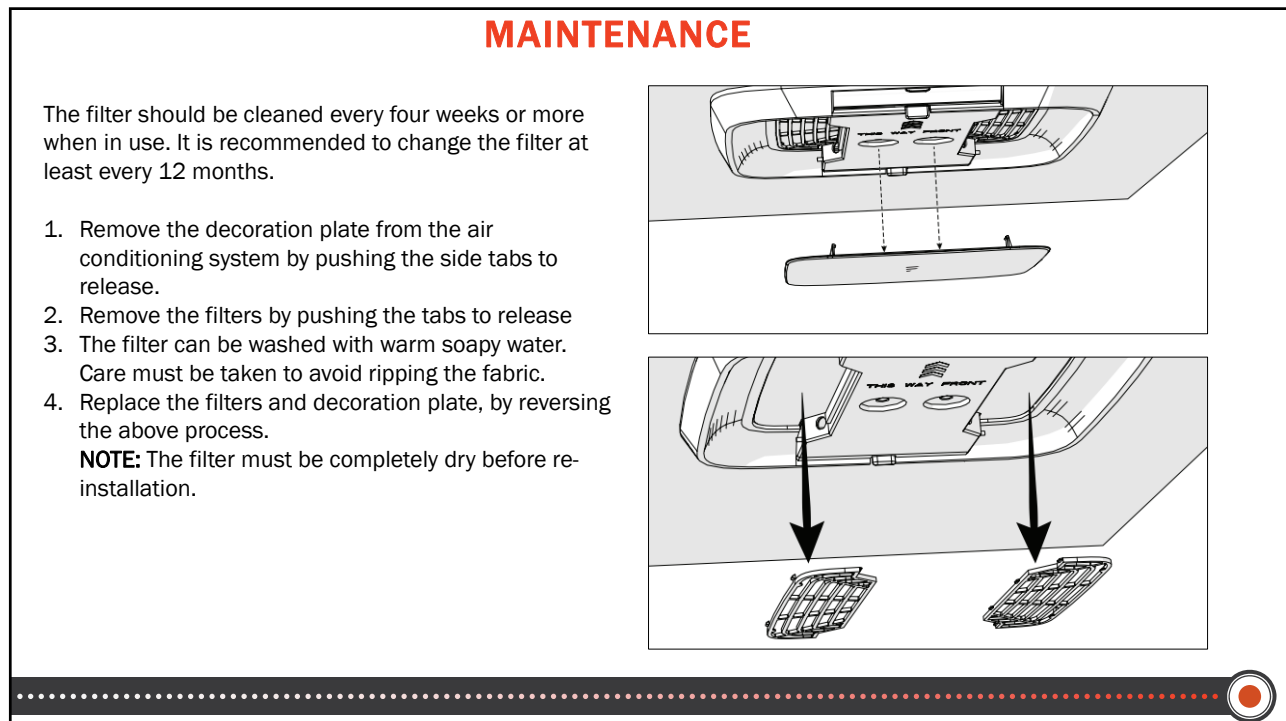
You can control your air conditioner from the “Furrion Control” app by using your iOS or Android phone. The app is available on the Google Play Store and the iOS App Store. Follow the App online instructions to finish the setup.

- Press and hold the SLEEP/APP button for 2 seconds, the icon on the screen will start blinking indicating the device has entered the pairing mode.  
**NOTE:** During the pairing process, press and hold the button for 2 seconds to stop pairing.
- Turn on the Bluetooth function on your phone, the available Bluetooth devices will be detected automatically.
- Select the device to be paired. The icon will stop blinking after the pairing has been completed.
- If you want to remove the device that has been paired, press and hold the SLEEP/APP button for 2 seconds.  
**NOTE:** If the pairing can not be completed within 5 minutes, the pairing process will be stopped automatically. You need to press and hold the SLEEP/APP button for 2 seconds to restart the pairing.

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## THERMOSTAT ERROR CODES

LCD Message	What's Happening?	What Should Be Done?
E1	Indoor temperature sensor out of order. System will shut down.	Confirm connections and wires Check sensor
E2	Evaporator temperature sensor (freeze sensor) out of order. System will shut down.	Confirm connections and wires Check sensor
E3	Loss of communication between the thermostat and controller. System will shut down.	Confirm wires are connected correctly Check controller dip switch is in the OFF position
E4	Condenser temperature sensor out of order. System will shut down.	Heat pump
E5	Outdoor temperature sensor out of order. System will shut down.	Heat pump
E6	Thermostat indoor temperature sensor out of order. System will shut down.	Confirm wires are connected correctly
L0	Insufficient low level of +12V power supply. System will shut down. Controller has low voltage (less than 10V)	If there is no power at controller and thermostat has power (if connected separately which is not normal connectivity) you may get E3 If thermostat is connected separately and only thermostat has low voltage, you will not get "L0" as it will work at lower voltage but will turn off if voltage is lower than 8v

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## TROUBLESHOOTING

### CONTROLLER

#### Line Voltage Check

- Check voltage 115V hot (black) to neutral (white)

#### Compressor Check

- Compressor to neutral pin = 115vdc  
**NOTE:** Select cool and lower setpoint temp below room temp

#### Select Low Fan on Controller

- Low fan to neutral = 115vdc

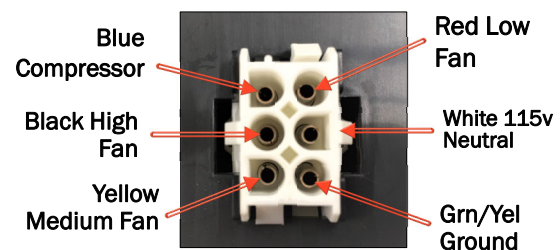
#### Select Med Fan on Controller

- Med fan to neutral = 115vdc


#### Select High Fan on Controller

- High fan to neutral = 115vdc

**NOTE:** Make sure fan is not selected on auto



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## TROUBLESHOOTING

**A/C NOT COOLING:**  
 Temperature of the thermostat is much colder than the actual room temperature. Compressor is cycling right away. Compressor turned off and coach never reached temperature.

In most cases this is due to leaking between the cold and warm side of the A/C giving a false indication of room temperature on the sensor as this makes the A/C think its much cooler than the room is.


1. Check for gap between metal discharge outlet and ADB opening.
2. Check duct divider is tight to the bottom of A/C unit.
3. Check foil tape is sealing between duct dividers including the sides in the cavity space.

**Foil tape is sealed on all seams and edges**




**Foil tape sealer between duct dividers**

**Foil sealed tight around surfaces and crevices of duct divider**



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## TROUBLESHOOTING - MANUAL ORIGINAL STANDARD


**A/C NOT COOLING:**  
 A/C unit is short-cycling, compressor stays on for 50 seconds, then shuts off for 1.5 minutes before restarting.

The temp sensor is running incorrectly as it should be running up toward the roof. If ran down through grommet into vents, this is incorrect.

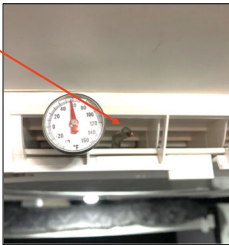
**Do not run through grommet**



**Ran correctly**



**Incorrect**



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## Question and Answer

If you have questions, please feel free to ask us now. Otherwise, we are available and happy to discuss anything presented with you.

# TECHNICAL SUPPORT



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