









2023 Tiffin Phaeton



Allegro Phaeton Alle









5-8	Module Locations	16	Mid M1 HC Half Bridge
9	Front M1 Overview	17	Mid M1 Low Current Card
10	M1 Slide Card	18	Mid M1 RSI-12
11	Tiffin Slide Adapter	19	Rear M1 Overview
12	Front M1 High Current Card	20	Rear M1 Cards 1 & 2
13	Front M1 Breaker (Card 3)	21	Rear M1 Cards 3 & 4
14	Front M1 Breaker (Card 4)	22	Interior Lighting
15	Mid M1 Overview		

Schematic Connections Legend

-  Constant Ground
-  Constant 12V+
-  Switched Ground
-  Switched 12V+
-  Reverse Polarity
-  Signal
-  120V AC Line
-  Network

23	Exterior Lighting	31	MoRyde TV Lift
24	Slides	32	Whisper Ride TV Lift
25	Slides Alternate Overrides	33	TV Lift Location
26	HVAC	34	Shades
27	Floor Heat	35	HCR-11
28	Vent Fans	36	Merge System
29	Tanks	37	Merge Logic
30	Bed Lift	38	EMS









Schematic Connections Legend

-  Constant Ground
-  Constant 12V+
-  Switched Ground
-  Switched 12V+
-  Reverse Polarity
-  Signal
-  120V AC Line
-  Network

39	Inverter Assist
40	Wireless Switches
41	Generator
42	Mechanical
43	Blue Network (Port 1)
44	Blue Network Continued
45	Yellow Network (Port 2)
46	Orange Network (Port 3)

47	Orange Network (Port 4)
48	Ports 5 & 6
49	Always On
50	DCD Panel
51	Power Diagram
52	Power Diagram Continued
53	Connectors

Schematic Connections Legend

	Constant Ground
	Constant 12V+
	Switched Ground
	Switched 12V+
	Reverse Polarity
	Signal
	120V AC Line
	Network



A Front M1 Panel

i Spyder Part # BENCZM2DS
Tiffin Part # 5126983
Dimensions 10" X 7.8"

D/S Ext Compartment

B Mid M1 Panel

i Spyder Part # BENCZM4DP
Tiffin Part # 5127299
Dimensions 10" X 7.8"

Inverter Bay

C Rear M1 Panel

i Spyder Part # BENCZM6DP
Tiffin Part # 5127300
Dimensions 9.1" X 10"

Rear Closet

D DCD Panel

i Spyder Part # BENCZ38DP
Tiffin Part # 5127298
Dimensions 13.5" X 12.5"

Inverter Bay



E 10" Pro LCD

i Spyder Part # BSSPZZXF
Tiffin Part # 5127306
Dimensions 10.5" X 7.3"

Hall Wall

F Mira Module

i Spyder Part # BMODZ56VF
Tiffin Part # 5114034
Dimensions 4" X 2.5"

Front Overhead Cabinet

G HCR15 TV Lift

i Spyder Part # BMODZQFCM
Tiffin Part # 5092297
Dimensions 3" X 3"

Rear Closet

H Bridge Module

i Spyder Part # BMODZTCTO
Tiffin Part # 5127271
Dimensions 2.7" X 2.7"

Rear Closet

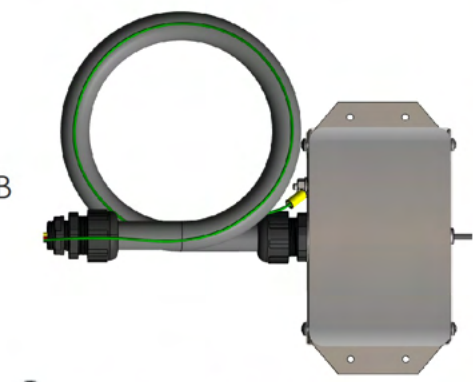


I ACR3

i
Spyder Part #
BMODZYACG-B

Tiffin Part #
5091114

Dimensions
6" X 4.8"



📍 Rear Closet

J RSI-11

i
Spyder Part #
BMODZQCA-E

Tiffin Part #
5127304

Dimensions
2.7" X 2.7"



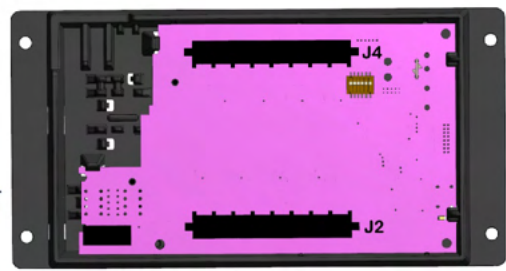
📍 Front D/S Compartment

K Dash Shade
Module

i
Spyder Part #
BMODZMKM1-T

Tiffin Part #
5127302

Dimensions
5.4" X 3.5"



📍 P/S Front Overhead Cabinet

L RF Hub

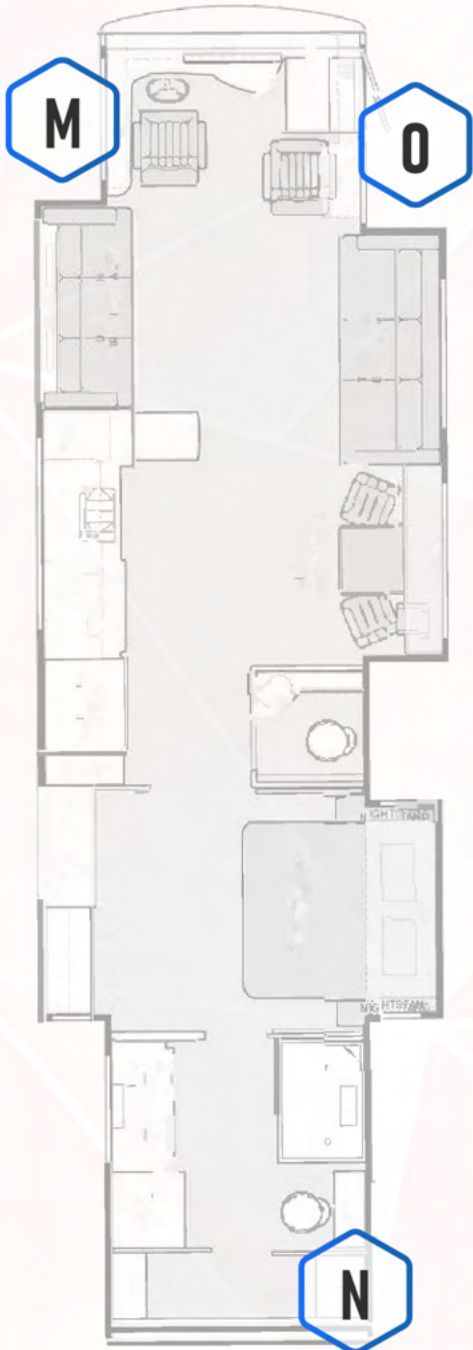
i
Spyder Part #
BMODZRFT0

Tiffin Part #
5127293

Dimensions
5.1" DIA



📍 Ceiling



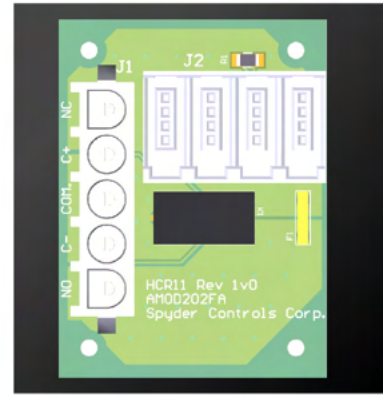
Terminator HCR-11



Spyder Part #
BMODZGAN6-1

Tiffin Part #
5131310

Dimensions
2.5" X 2"



Front D/S Compartment



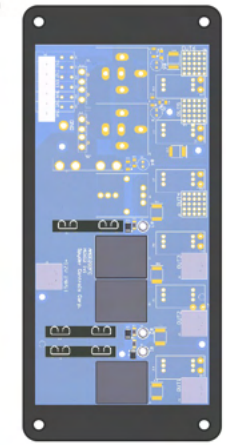
HCR-12



Spyder Part #
BMODZJ2T0

Tiffin Part #
5076028

Dimensions
8" X 3"



Rear Closet



5" Exterior LCD



Spyder Part #
BSSPZZSEK

Tiffin Part #
5127307

Dimensions
5.9" X 4"



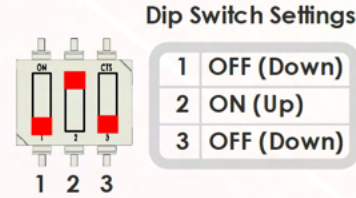
Outside Entry Door

M1 Slide Card

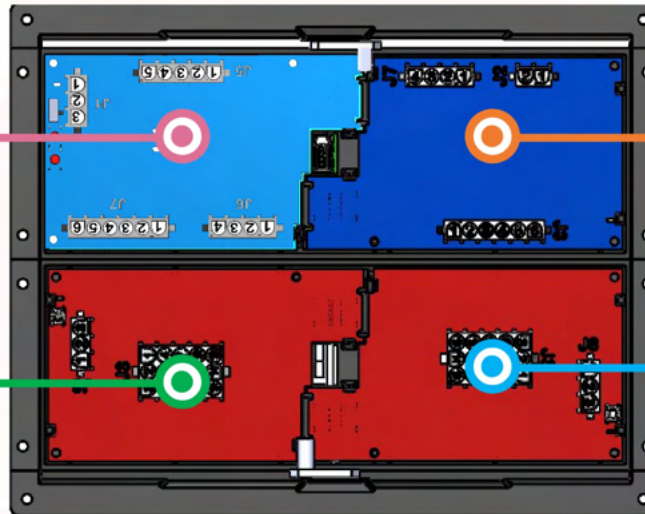
- Awning Constant
- Undercoach Constant
- Slide Breaker #1
- Slide Breaker #2
- Slide Breaker #3
- Ignition (12V)
- Park Brake (GND)
- P/S FR Slide EXT
- P/S FR Slide RET
- D/S FR Slide EXT
- D/S FR Slide RET
- P/S RR Slide EXT
- P/S RR Slide RET
- D/S RR Slide EXT
- D/S RR Slide RET
- Hydraulic Pump

M1 Breaker (Card 3)

- Camera/Radio (IGN)
- Jack Buzzer (IGN)
- CB/Satellite
- Panel Lamp/Head LT (IGN)
- 12V Outlet 1/USB PWR
- HCR11
- Pantry (IGN)
- TV Relay/Fridge/Dash SHD MOD (IGN)
- HVAC Denso (IGN)
- Dock Light
- Entry Step SW
- Dash USB/PS USB PWR
- IGN (+12V)



Front M1 Panel



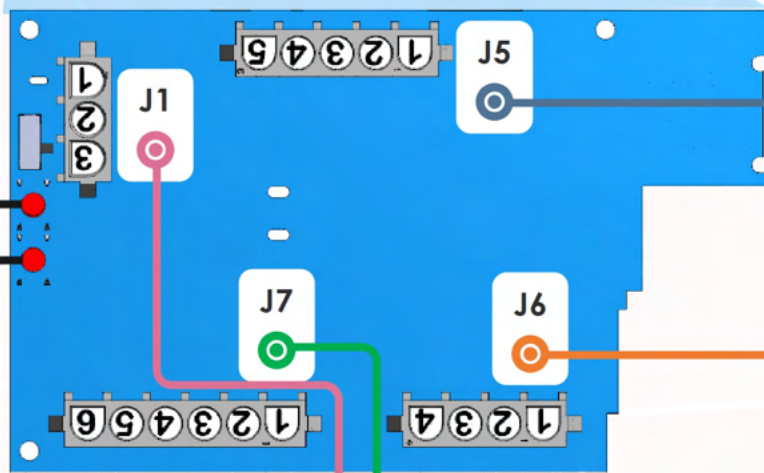
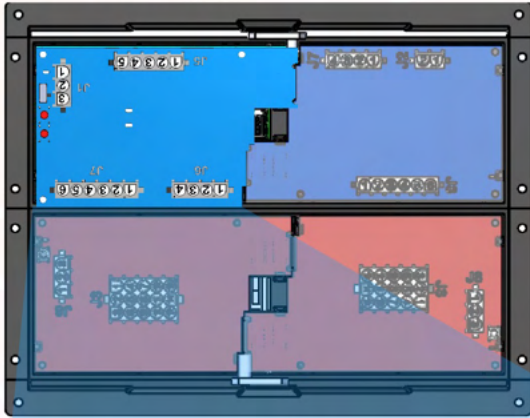
M1 High Current

- Windshield Accent
- Water Pump
- Headlights
- Door/Assist Handle
- Slide Box
- U-Coach
- Awning Lt
- Road Lt
- Porch Lt
- Map
- Spare LS
- Spare LS

M1 Breaker (Card 4)

- 12V Outlet 2/ USB PWR
- Engine Preheat SW
- Electric Step Cover
- Power Window (IGN)
- D/S Mirror PWR (IGN)
- P/S Mirror PWR (IGN)
- Seat Power #1
- Seat Power #2
- Dash Shade Module
- Map Lt/Fans/Radio
- Radio Mem/XM PWR
- HVAC Denso
- IGN (+12V)

Front M1 Panel



M1 Slide (Card 1)

OVERRIDE EXT

OVERRIDE RET



Emergency Overrides

For more information on the slide overrides please see Page 23 or 24

J5



- | | |
|-----------------------|--------------------|
| 1 Awning Constant | 4 Slide Breaker #2 |
| 2 Undercoach Constant | 5 Slide Breaker #3 |
| 3 Slide Breaker #1 | |

J6



- | | |
|--------------------|--------------------|
| 1 P/S FR Slide Ext | 3 D/S FR Slide Ext |
| 2 P/S FR Slide Ret | 4 D/S FR Slide Ret |

J7



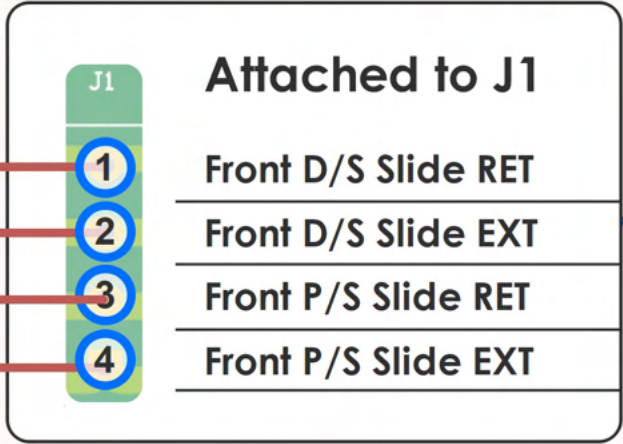
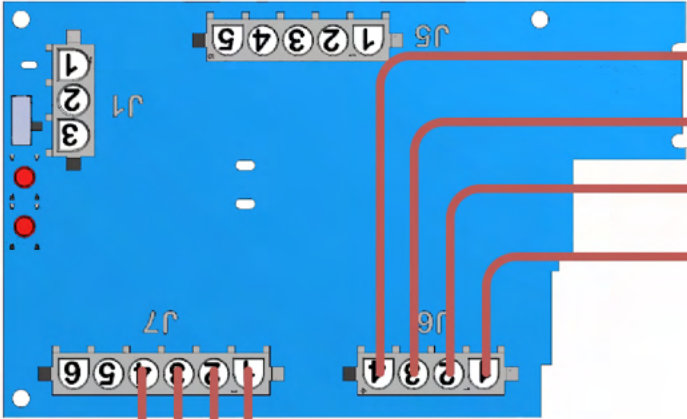
- | | |
|--------------------|--------------------|
| 1 P/S RR Slide Ext | 4 D/S RR Slide Ret |
| 2 P/S RR Slide Ret | 5 Hydraulic Pump |
| 3 D/S RR Slide Ext | 6 Spare |

J1



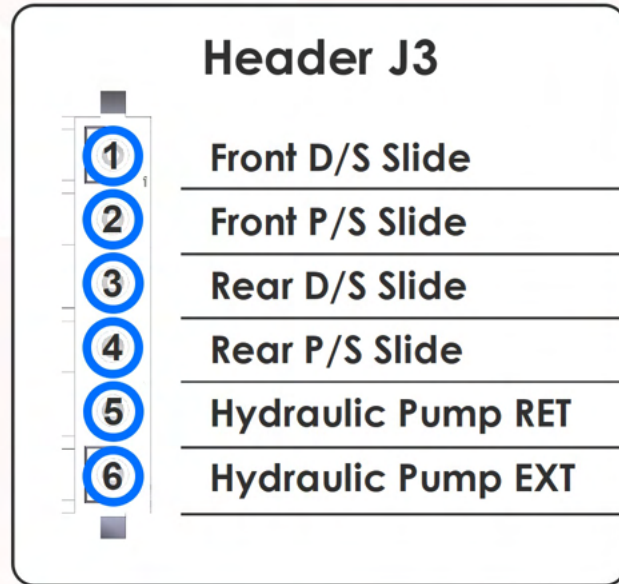
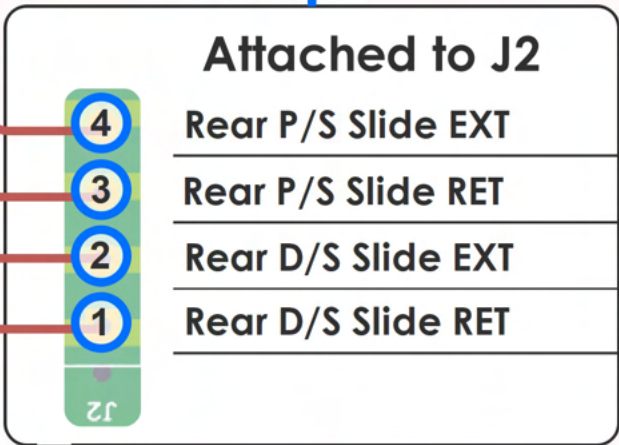
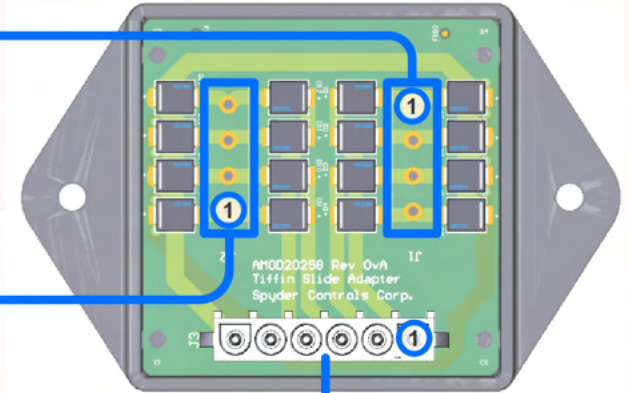
- | | |
|--------------------|-------|
| 1 Ignition (+12V) | 3 N/A |
| 2 Park Brake (GND) | |

M1 Slide Card



i **Important Information**
Tiffin Slide Adapter, is only used when Lippert slides are implemented into the coach.

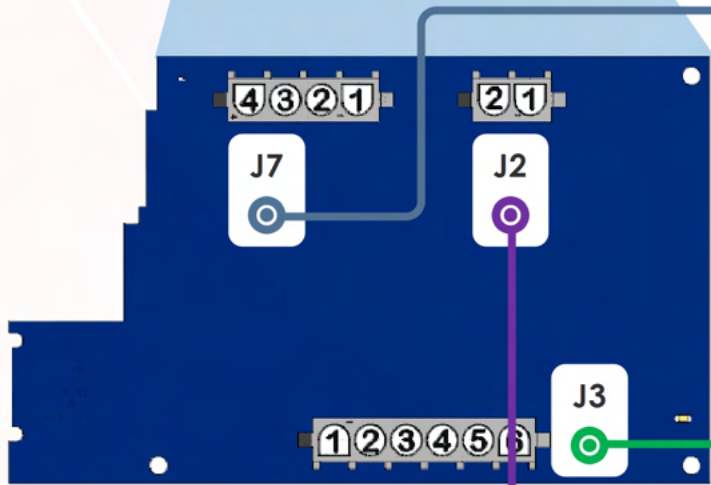
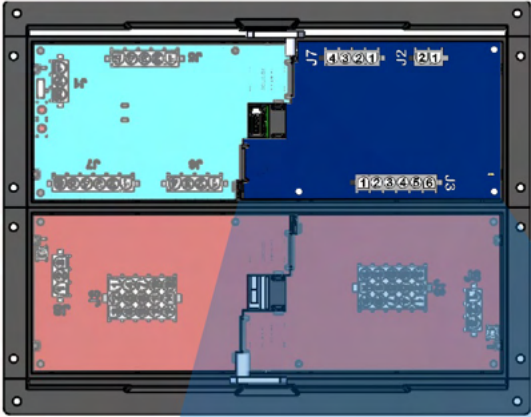
Tiffin Slide Adapter



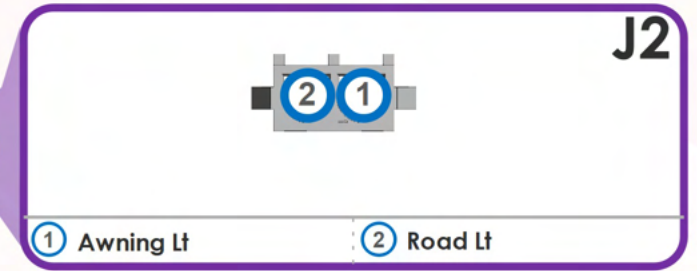
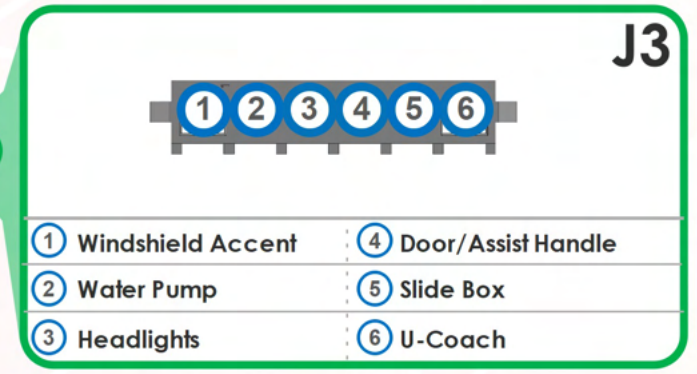
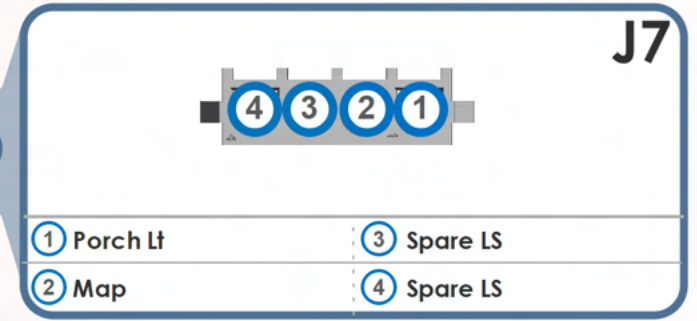
Front M1

M1 High Current (Card 2)

Front M1 Panel



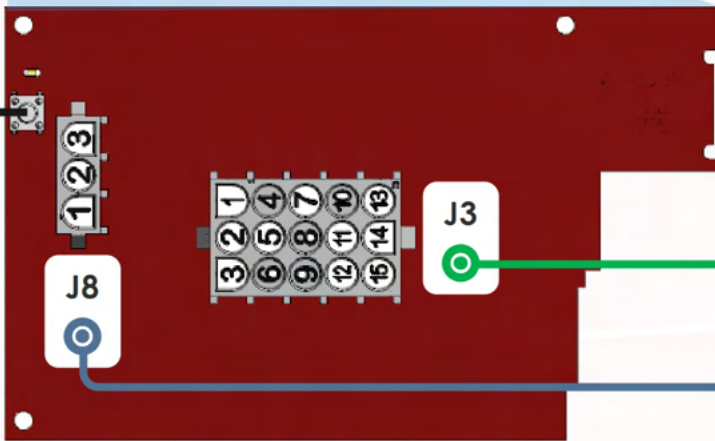
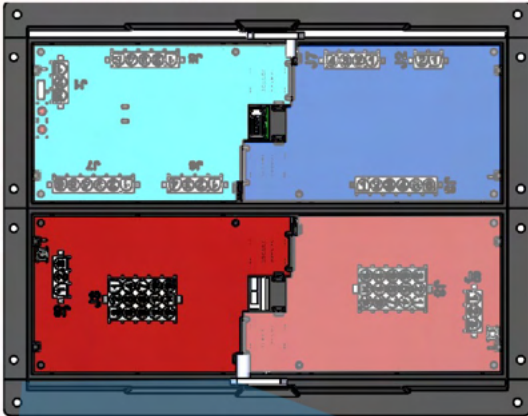
M1 HC Half Bridge (Card 2)



Front M1

M1 Breaker (Card 3)

Front M1 Panel



M1 Breaker (Card 3)

Breaker Reset

J3

1	4	7	10	13
2	5	8	11	14
3	6	9	12	15

1 Dash USB/ PS USB PWR	9 Panel Lamp/Head LT (IGN)
2 Camera/Radio (IGN)	10 HVAC Denso (IGN)
3 Jack Buzzer (IGN)	11 N/A
4 Entry Step SW	12 12V Outlet 1/USB PWR
5 N/A	13 TV Relay/Fridge/Dash SHD MOD (IGN)
6 CB/Satellite	14 Pantry (IGN)
7 Dock Light	15 HCR11 PWR
8 N/A	

J8

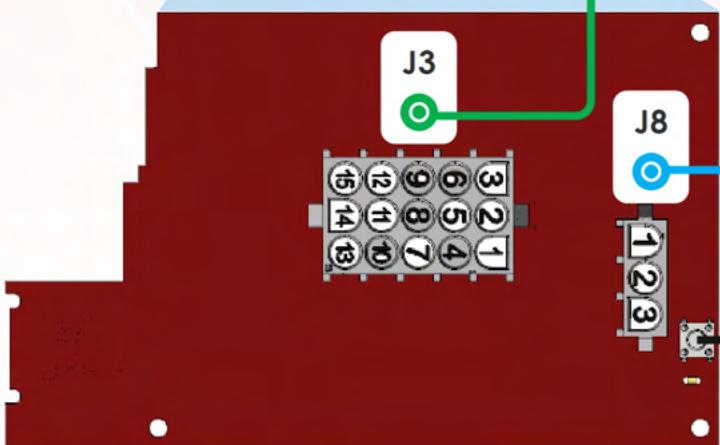
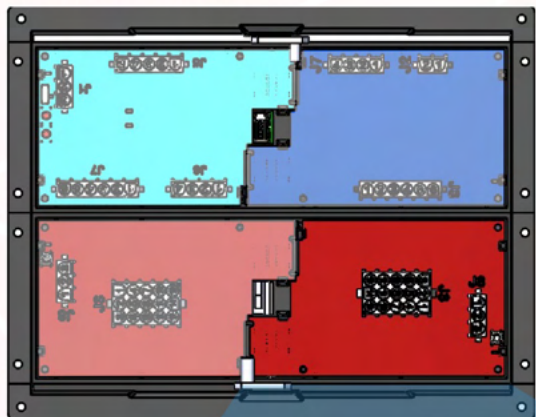
1	2	3
---	---	---

1 IGN (+12V)	2 N/A
--------------	-------

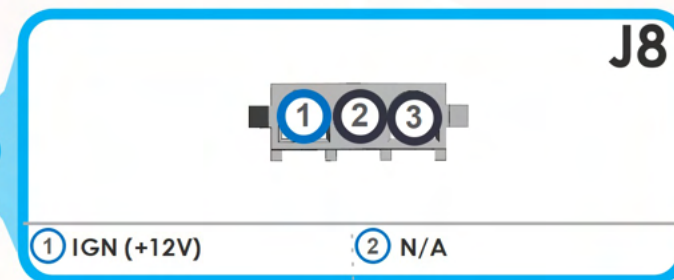
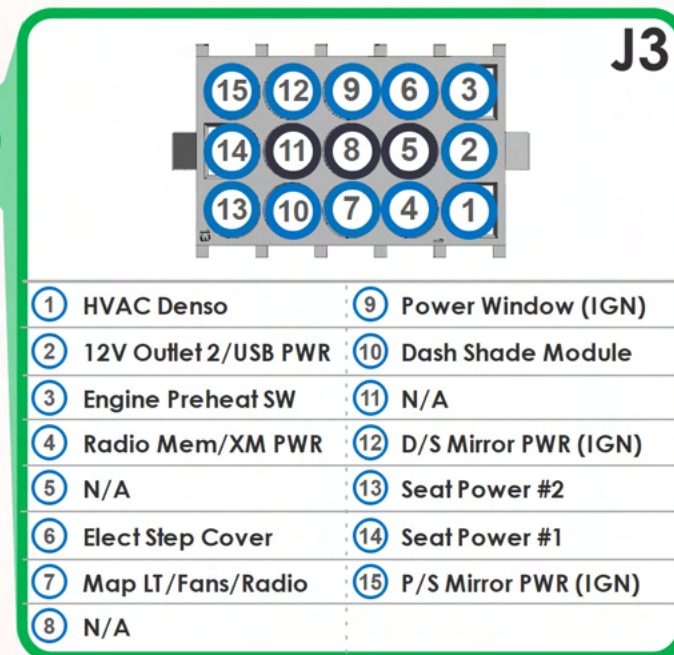
M1 Front

M1 Breaker (Card 4)

Front M1 Panel



M1 Breaker (Card 4)



Breaker Reset

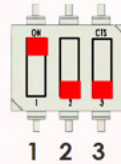
High Current

- Bed Lift UP
- Bed Lift DOWN
- PS Fan HI
- PS Fan LO
- Bay Door Lock
- Bay Door Unlock
- Step Cover EXT
- Step Cover RET
- Door Awning EXT
- Door Awning RET
- Entry Door Lock
- Entry Door Unlock

Low Current

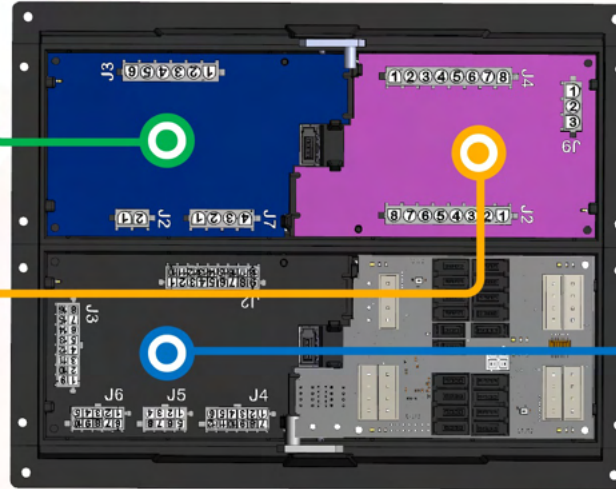
- Front Furnace
- Rear Furnace
- Gen Start (GND)
- Gen Stop (GND)
- Galley SHD DN
- Galley SHD UP
- Galley NT SHD DN
- Galley NT SHD UP
- Sofa Day SHD UP
- Sofa Day SHD DN
- Sofa NT SHD DN
- Sofa NT SHD UP

Dip Switch Settings



- 1 ON (Up)
- 2 OFF (Down)
- 3 OFF (Down)

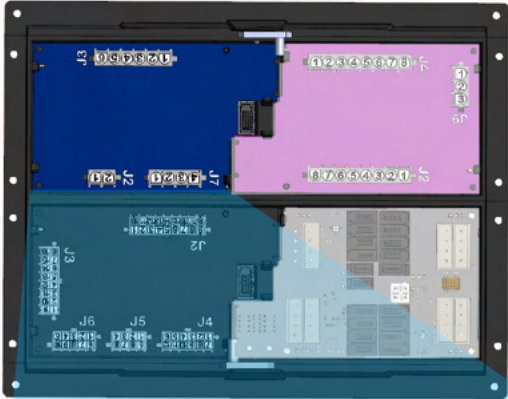
Mid M1 Panel



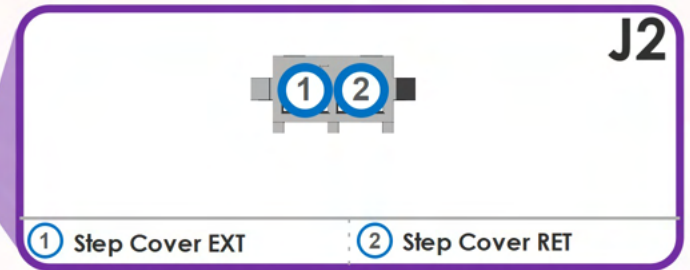
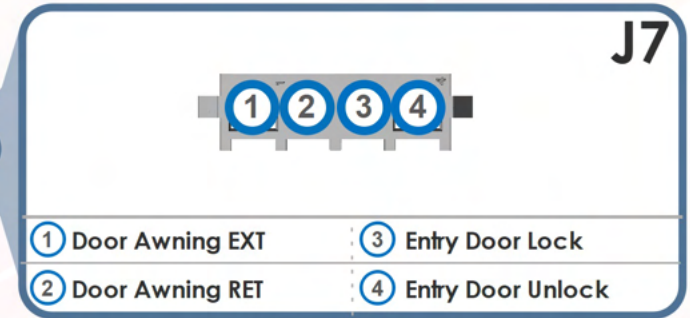
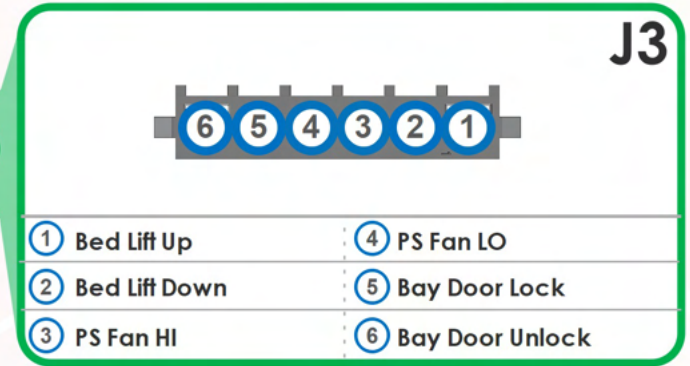
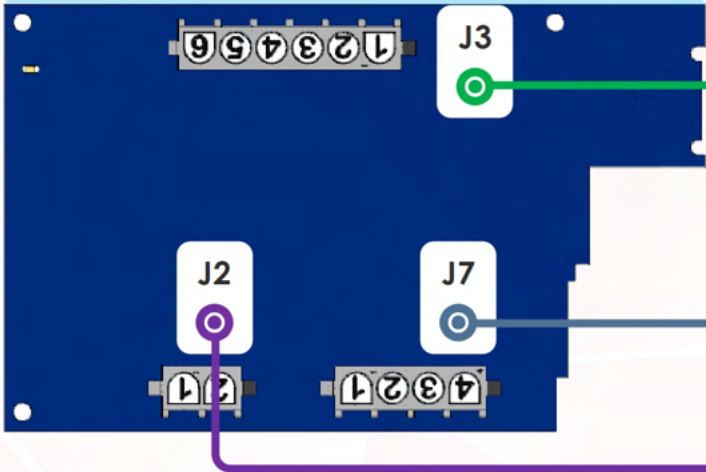
RSI-12

- IGN (+12V)
- GEN Fault (+12V)
- HSE Disconnect Sense (+12V)
- Bed Lift Plunger (+12V)
- Park Brake (GND)
- Water Pump (GND)
- Entry Door Pin SW (GND)
- Merge Input (GND)
- Dash Accent ON (GND)
- Dash Accent OFF (GND)
- LP Gas
- LP GND
- Spare
- GEN Run Signal (+12v)
- RTC 12V Constant PWR
- FR Floor Heat Thermistor
- RR Floor Heat Thermistor
- Front A/C Thermistor
- Mid A/C Thermistor
- Rear A/C Thermistor
- Bay Thermistor
- Ext Temp

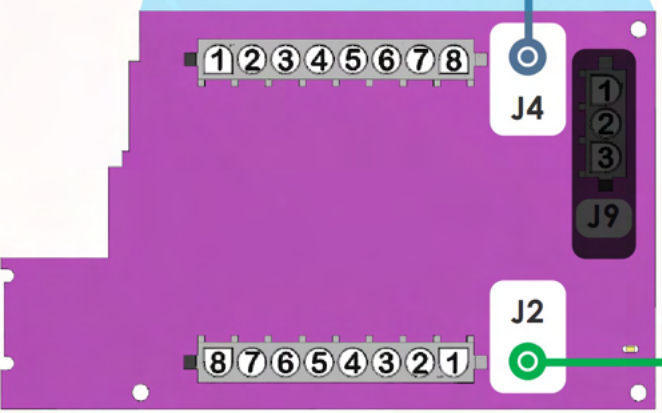
Mid M1 Panel



Mid M1 High Current (Card 1)



Mid M1 Panel



M1 Low Current

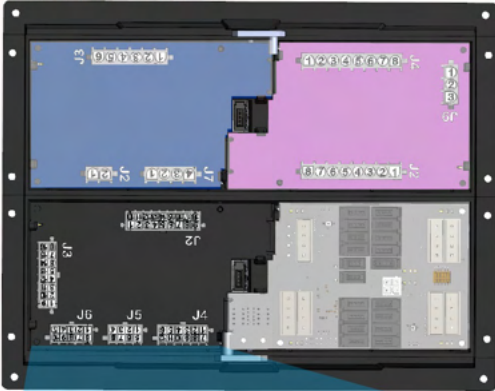
J4

① Spare	⑤ Furnace FR
② Spare	⑥ Furnace RR
③ Spare	⑦ GEN Start (GND)
④ Spare	⑧ GEN Stop (GND)

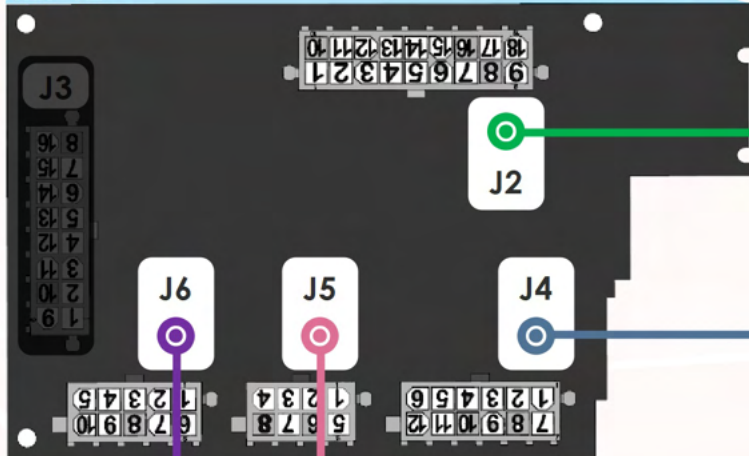
J2

① Galley SHD DN	⑤ Sofa Day SHD DN
② Galley SHD UP	⑥ Sofa Day SHD UP
③ Galley NT SHD DN	⑦ Sofa NT SHD DN
④ Galley NT SHD UP	⑧ Sofa NT SHD UP

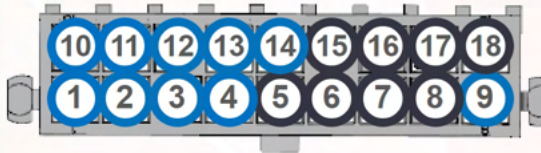
Mid M1 Panel



RSI-12

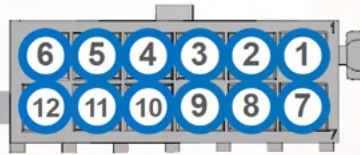


J2



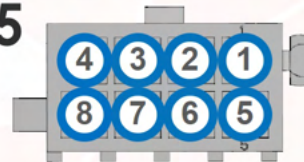
① IGN (+12V)	⑩ Water Pump (GND)
② GEN Fault (+12V)	⑪ Entry Door Pin SW (GND)
③ HSE Disconnect Sense (+12V)	⑫ Merge Input (GND)
④ Bed Lift Plunger (+12V)	⑬ Dash Accent ON (GND)
⑤ Spare (+12V)	⑭ Dash Accent OFF (GND)
⑥ Spare (+12V)	⑮ Spare (GND)
⑦ Spare (+12V)	⑯ Spare (GND)
⑧ Spare (+12V)	⑰ Spare
⑨ Park Brake (GND)	⑱ Spare

J4



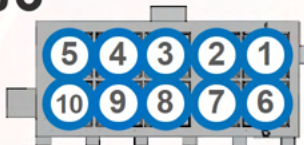
① FR Floor Heat Therm Sig.	⑦ FR Floor Heat Therm GND
② RR Floor Heat Therm Sig.	⑧ RR Floor Heat Therm GND
③ Front A/C Therm Sig.	⑨ Front A/C Therm GND
④ Mid A/C Therm Sig.	⑩ Mid A/C Therm GND
⑤ Rear A/C Therm Sig.	⑪ Rear A/C Therm GND
⑥ Bay Therm Sig.	⑫ Bay Therm GND

J5



① Spare	⑤ Spare
② Spare	⑥ Spare
③ Spare	⑦ Spare
④ EXT Temp Sig.	⑧ Ext Temp GND

J6



① LP Gas	⑥ LP GND
② Spare	⑦ Spare
③ Spare	⑧ Spare
④ Spare	⑨ GEN Run Signal (+12v)
⑤ Spare	⑩ RTC 12V Constant PWR

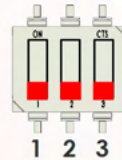
M1 Dimmer Card 1

- Entry Lt
- Main OH/Liv Lt
- PS Ceiling Lt
- DS Ceiling Lt
- Hall Lt
- FR Sconce
- RR Sconce
- DS Slide
- PS Slide
- FR Courtesy
- RR Courtesy

M1 Dimmer Card 3

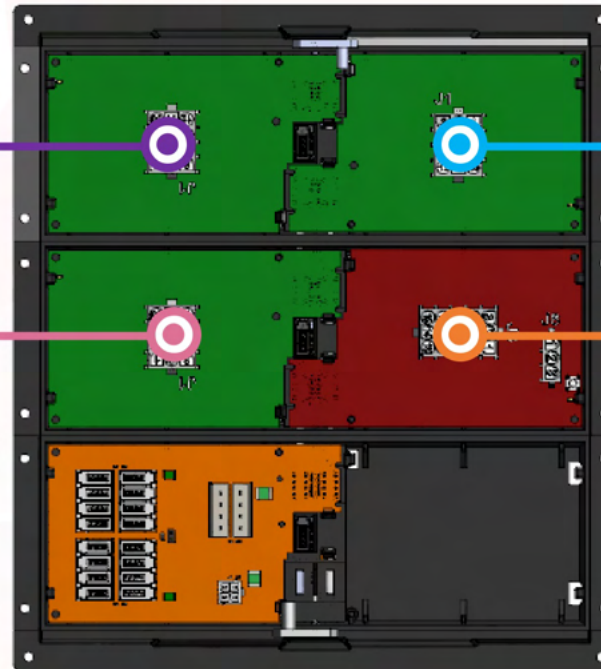
- TV Accent Lt
- Closet Lt
- Floor HT FR Zone
- Floor HT RR Zone
- Fireplace Override
- Rear TV Lift Up
- Rear TV Lift Down
- Ceiling Fan HI
- Ceiling Fan LO

Dip Switch Settings



- | | |
|---|------------|
| 1 | OFF (Down) |
| 2 | OFF (Down) |
| 3 | OFF (Down) |

Rear M1 Panel



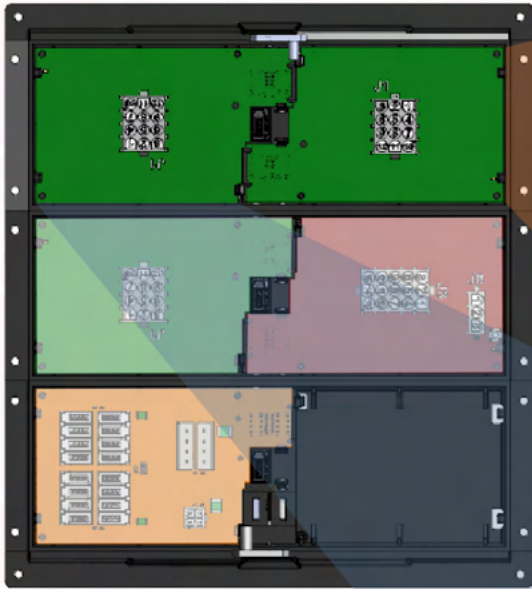
M1 Dimmer Card 2

- Bedroom Ceiling Lt
- Bed Accent Lt
- FR Accent 1
- FR Accent 2
- Task Lt
- Mid Bath Lt
- Mid Bath Vanity Lt
- Rear Bath Lt
- Rear Bath Vanity Lt
- FR Bed Reading
- RR Bed Reading
- RR Accent

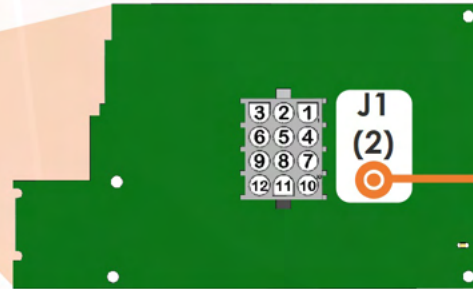
M1 Breaker Card 4

- Basment 12v PWR/Ext TV Lift
- SEELEVEL
- Front Furnace
- Prox A/C RYL SW/Galley Motion LT
- Switcher/IR Blaster
- Vent Fan Power
- Rear Furnace
- Mid Toilet
- FR pass Slide/Dinette SHD
- USB Bed Slide/Partition Wall USB
- Truma Water Heater
- Front/Rear TV Lift

Rear M1 Panel



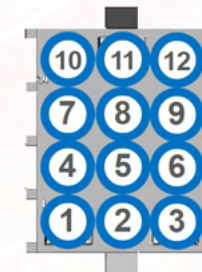
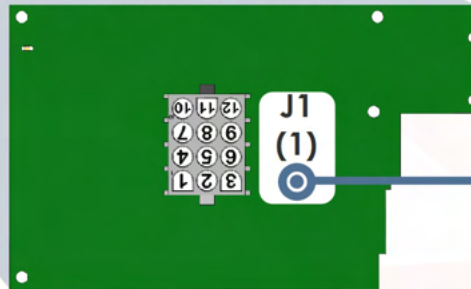
M1 Dimmer (Card 2)



J1 (2)

- | | |
|----------------------|-----------------------|
| 1 Bedroom Ceiling Lt | 7 Mid Bath Vanity Lt |
| 2 Bed Accent | 8 Rear Bath Lt |
| 3 FR Accent 1 | 9 Rear Bath Vanity Lt |
| 4 FR Accent 2 | 10 FR Bed Reading Lt |
| 5 Task Lt | 11 RR Bed Reading Lt |
| 6 Mid Bath Lt | 12 RR Accent |

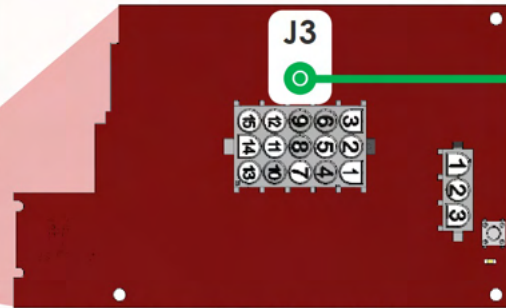
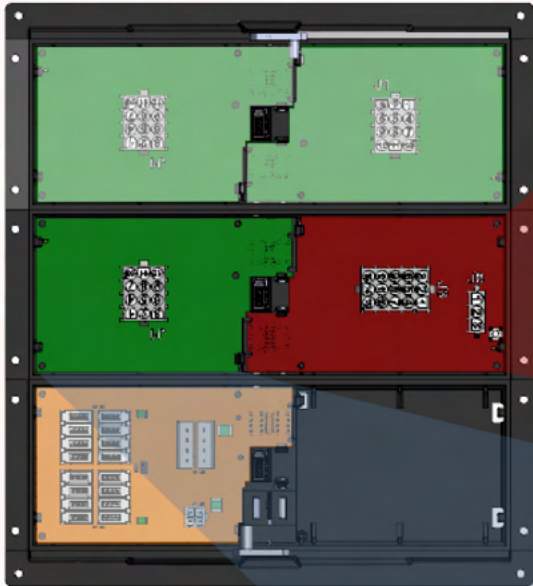
M1 Dimmer (Card 1)



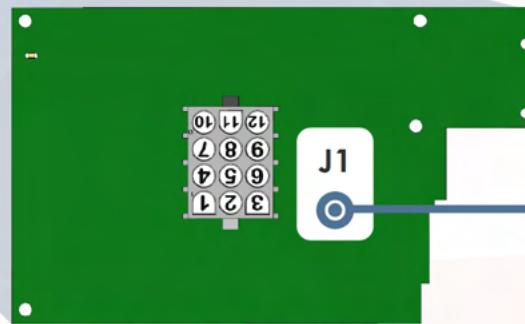
J1 (1)

- | | |
|------------------|----------------|
| 1 Entry Lt | 7 FR Sconce |
| 2 Main OH/Liv Lt | 8 RR Sconce |
| 3 Spare | 9 DS Slide |
| 4 PS Ceiling Lt | 10 PS Slide |
| 5 DS Ceiling Lt | 11 FR Courtesy |
| 6 Hall Lt | 12 RR Courtesy |

Rear M1 Panel



Rear M1 Breaker (Card 4)



Rear M1 Dimmer (Card 3)

J3

15	12	9	6	3
14	11	8	5	2
13	10	7	4	1

① FR/RR TV Lift	⑨ Prox A/C RLY SW/ Galley Motion Lt
② Basment 12v PWR/Ext TV Lift	⑩ FR Pass Slide/Dinette SHD
③ SEELEVEL	⑪ N/A
④ Truma Water Heater	⑫ Switcher/IR Blaster
⑤ N/A	⑬ Mid Toilet
⑥ Front Furnace	⑭ Rear Furnace
⑦ USB Bed Slide/Partition Wall USB	⑮ Vent Fan PWR
⑧ N/A	

J1

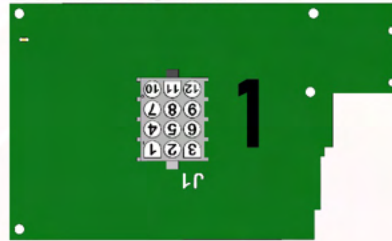
10	11	12
7	8	9
4	5	6
1	2	3

① TV Accent Lt	⑦ Spare
② Closet Lt	⑧ Fireplace Override
③ Spare	⑨ Rear TV Lift Up
④ Spare	⑩ Rear TV Lift Down
⑤ Floor HT FR Zone	⑪ Ceiling Fan HI
⑥ Floor HT RR Zone	⑫ Ceiling Fan LO

Rear M1 Panel



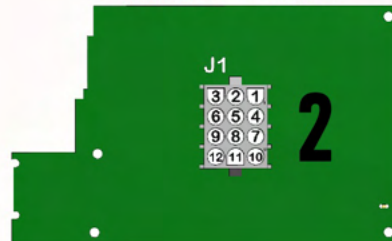
Dimmer Card 1



1

① Entry Lt	⑦ FR Sconce
② Main OH/Liv Rm Lt	⑧ RR Sconce
③ Spare	⑨ DS Slide
④ PS Ceiling Lt	⑩ PS Slide
⑤ DS Ceiling Lt	⑪ FR Courtesy
⑥ Hall Lt	⑫ RR Courtesy

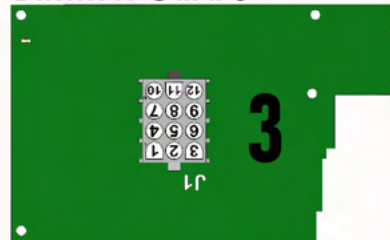
Dimmer Card 2



2

① Bedroom Ceiling Lt	⑦ Mid Bath Vanity Lt
② Bed Accent	⑧ Rear Bath Lt
③ FR Accent 1	⑨ Rear Bath Vanity Lt
④ FR Accent 2	⑩ FR Bed Reading Lt
⑤ Task Lt	⑪ RR Bed Reading Lt
⑥ Mid Bath Lt	⑫ RR Accent

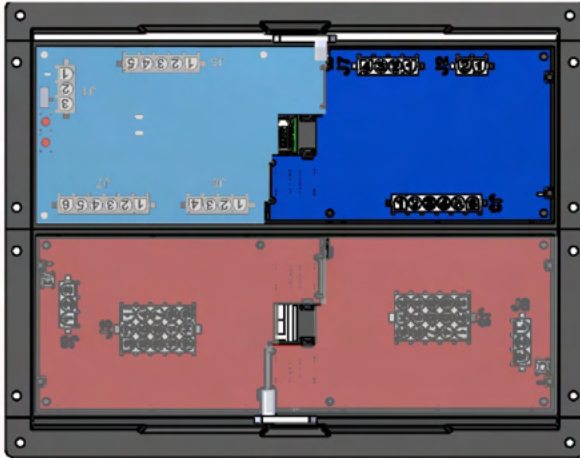
Dimmer Card 3



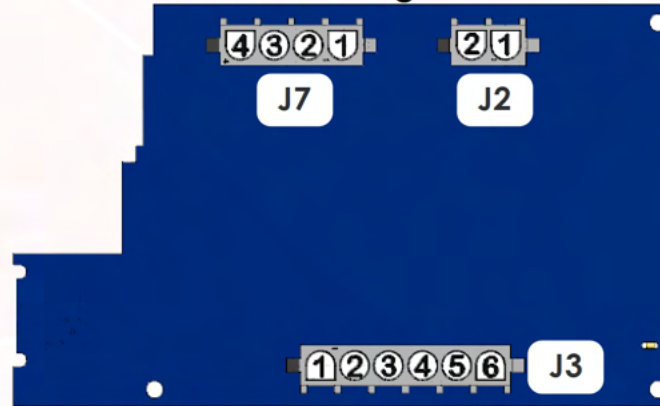
3

① TV Accent Lt	⑦ Spare
② Closet Lt	⑧ N/A
③ Spare	⑨ N/A
④ Spare	⑩ N/A
⑤ N/A	⑪ N/A
⑥ N/A	⑫ N/A

Front M1 Panel



M1 HC Half Bridge



J3

① Windshield Accent	④ N/A
② N/A	⑤ Slide Box
③ Headlights	⑥ U-Coach

J7

① Porch Lt	③ N/A
② Map	④ N/A

J2

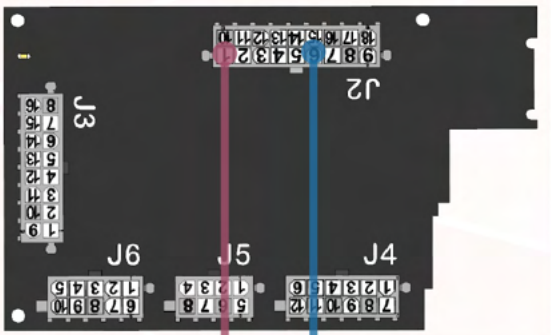
① Awning Lt	② Road Lt
-------------	-----------

i **Emergency Override**
 Park brake and ignition must be on for slides to operate.
 In case of a system failure, use manual overrides on the slide card to operate slides.
 Engage overrides using a pen or other pointed object.

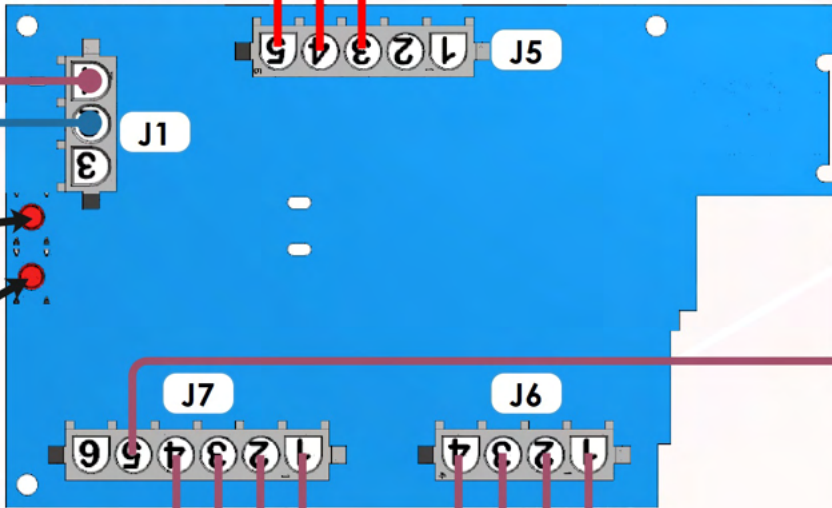
Ignition Switch

Park Brake Switch

RSI-12



M1 Slide Card



- Slide Breakers**
- ⑤ Slide Breaker #3
 - ④ Slide Breaker #2
 - ③ Slide Breaker #1

- Hydraulic Pump**
- Power Output
- ⑤ Hydraulic Pump

- Rear Slide Outputs**
- D/S RR Slide RET ④
 - D/S RR Slide EXT ③
 - P/S RR Slide RET ②
 - P/S RR Slide EXT ①

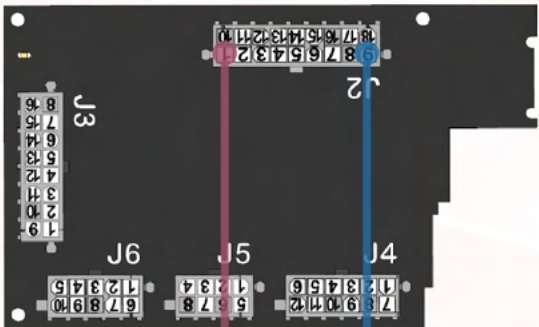
- Front Slide Outputs**
- ① P/S FR Slide EXT
 - ② P/S FR Slide RET
 - ③ D/S FR Slide EXT
 - ④ D/S FR Slide RET

Emergency Override
 Park brake and ignition must be on for slides to operate.
 In case of a system failure, use manual overrides on the slide card to operate slides.
 Engage overrides using a pen or other pointed object.

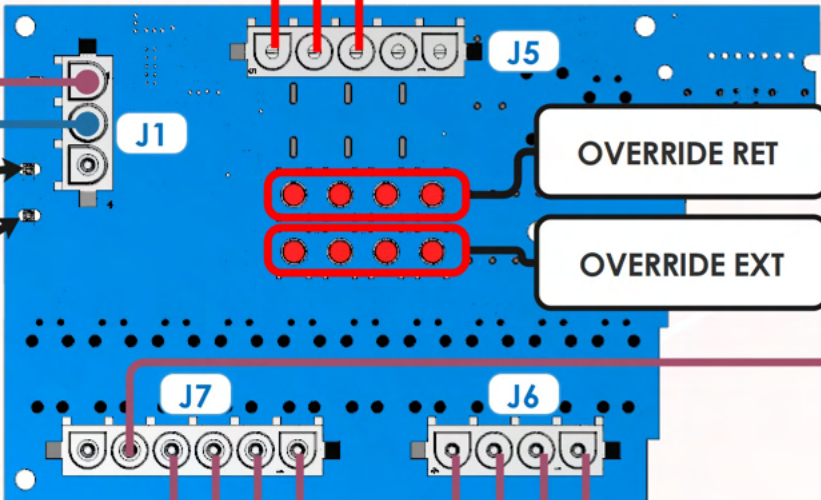
Ignition Switch

Park Brake Switch

RSI-12



M1 Slide Card



- Slide Breakers**
- ⑤ Slide Breaker #3
 - ④ Slide Breaker #2
 - ③ Slide Breaker #1

- Hydraulic Pump**
- Power Output
- ⑤ Hydraulic Pump

- Rear Slide Outputs**
- D/S RR Slide RET ④
 - D/S RR Slide EXT ③
 - P/S RR Slide RET ②
 - P/S RR Slide EXT ①

- Front Slide Outputs**
- ① P/S FR Slide EXT
 - ② P/S FR Slide RET
 - ③ D/S FR Slide EXT
 - ④ D/S FR Slide RET

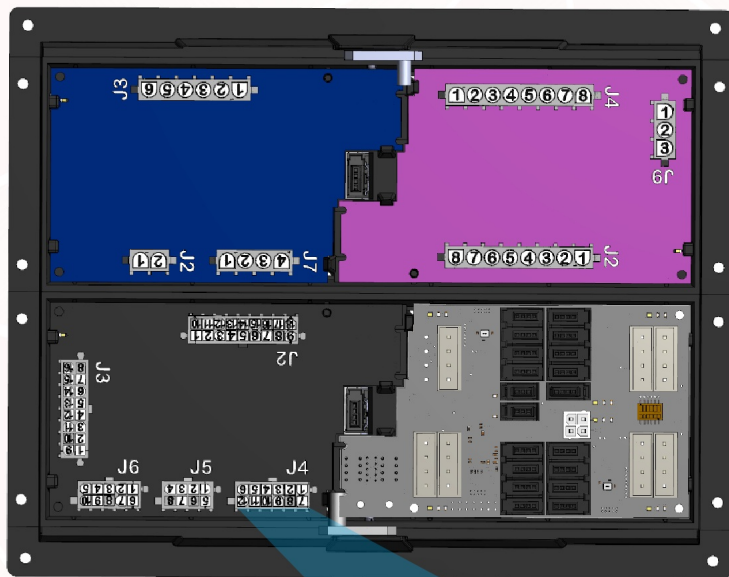
Awnings Ready LED

Slides Ready LED

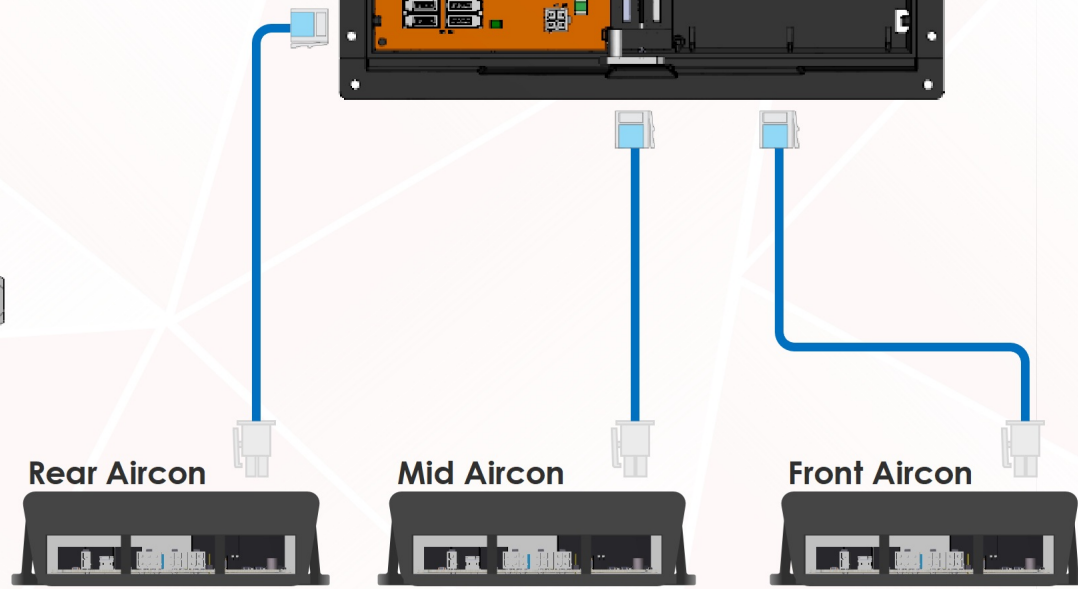
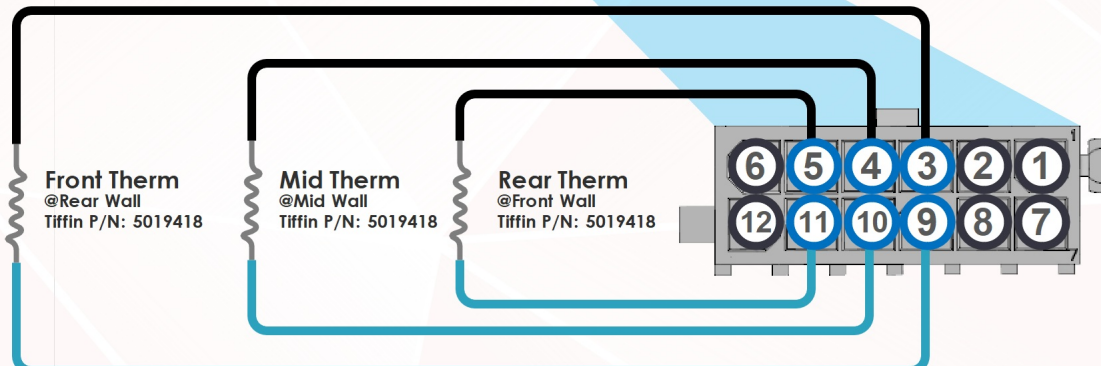
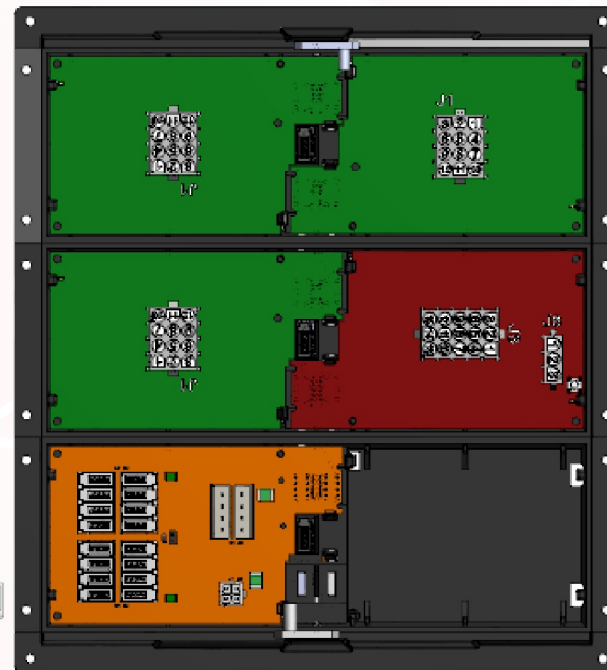
OVERVERRIDE RET

OVERVERRIDE EXT

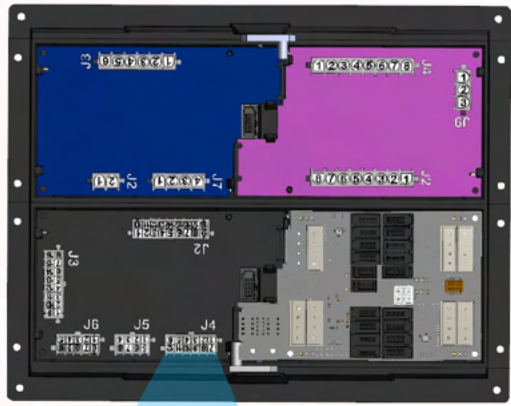
Mid M1 Panel



Rear M1 Panel



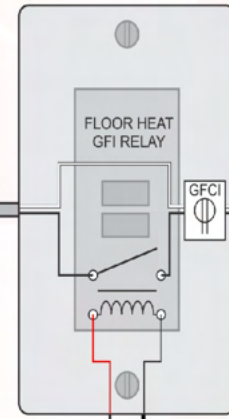
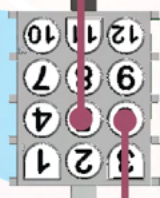
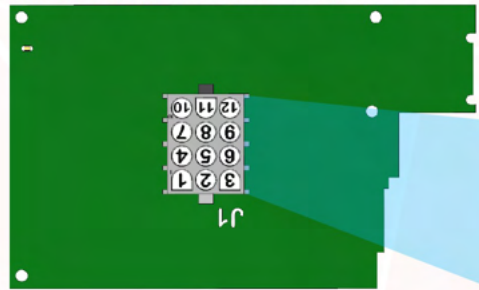
Mid M1 Panel



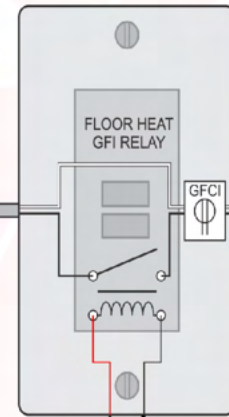
120V BREAKER PANEL @Rear Closet



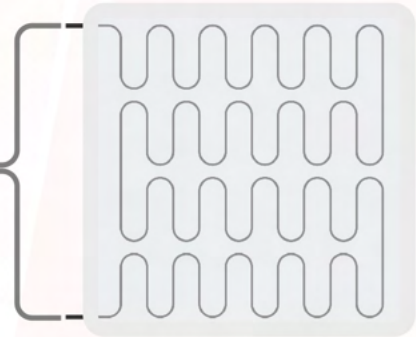
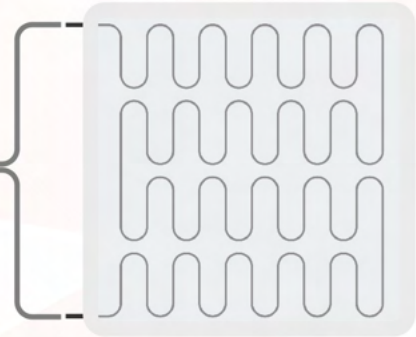
Rear M1 Panel Card 3

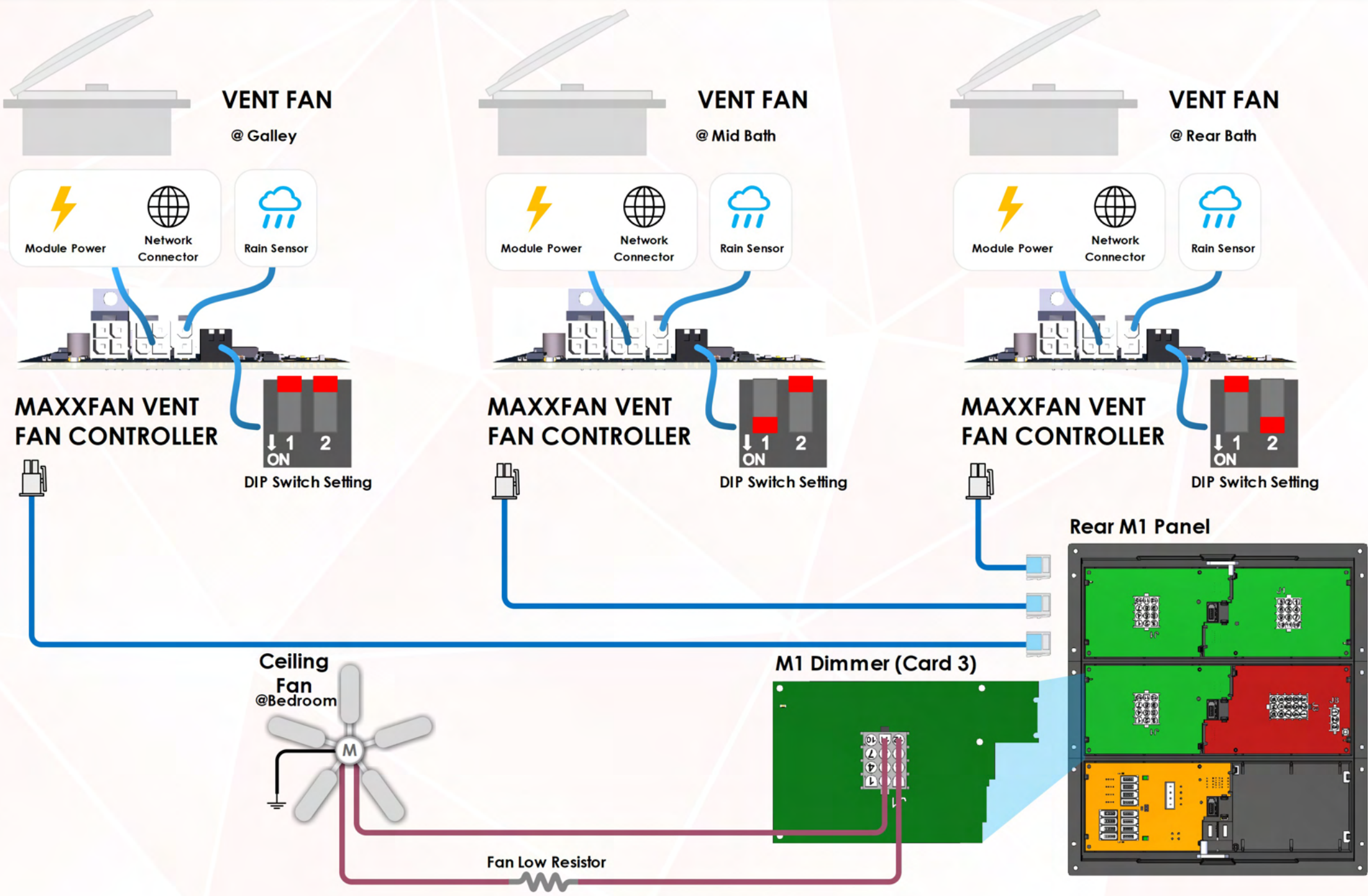


**FR Floor Heat
GFI Relay
@Rear Closet**

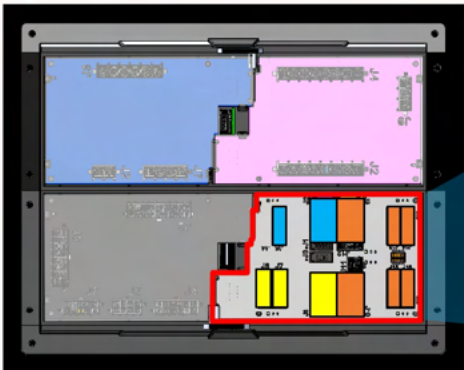


**RR Floor Heat
GFI Relay
@Rear Closet**

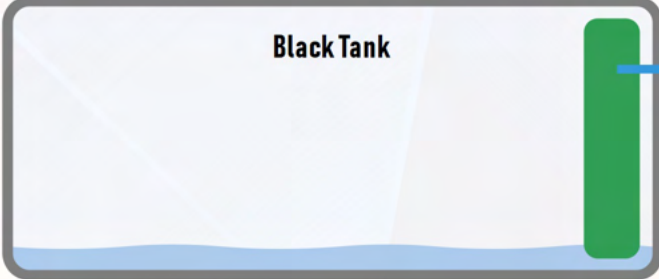
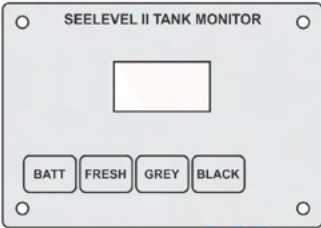
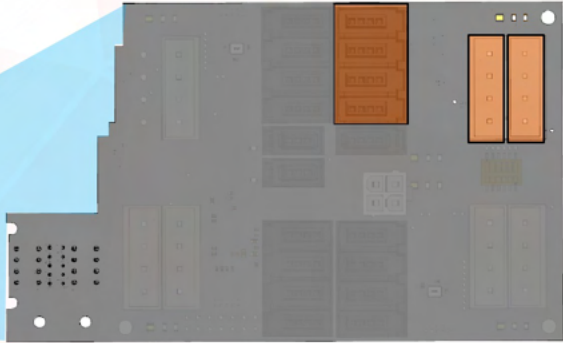


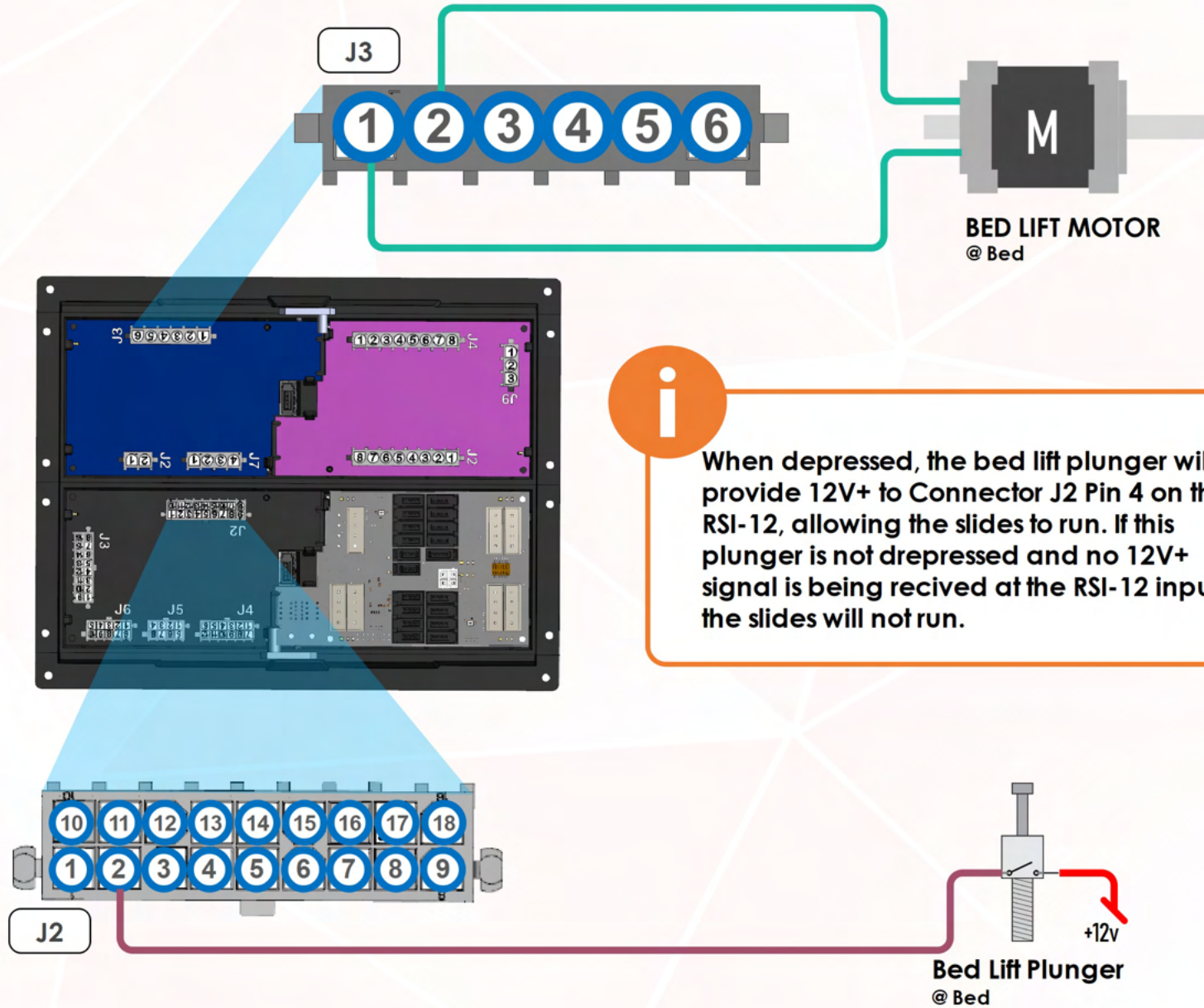


Mid M1 Panel



Can Router



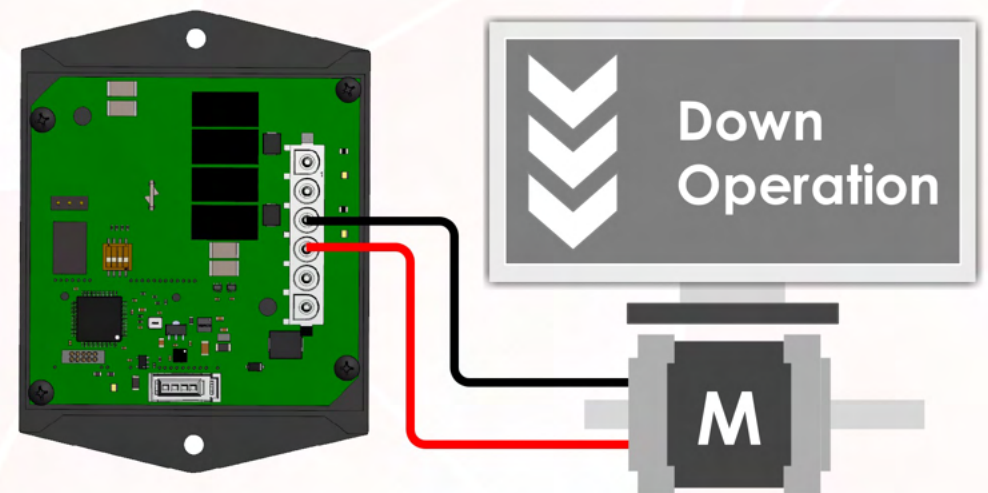
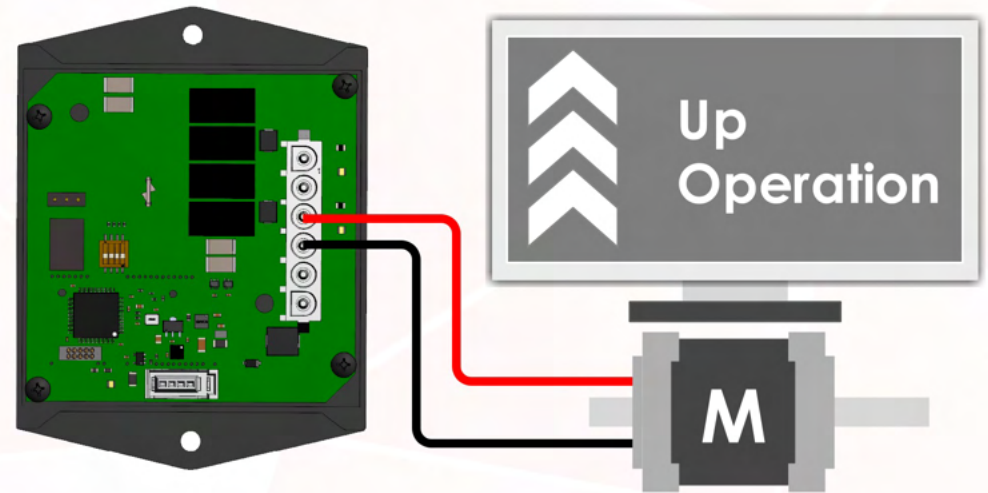
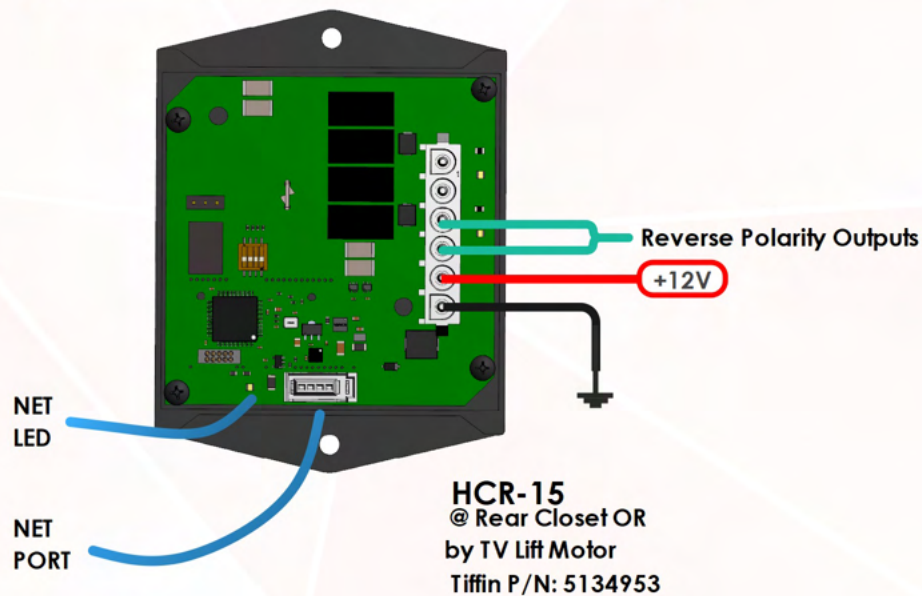


Trouble Shooting

This information is only applicable to coaches with a MoRyde TV Lift. The module above is an HCR-15 and is responsible for providing reverse polarity output to the MoRyde TV Lift Motor.

If the TV lift is not raising or lowering check to ensure the NET LED on the HCR-15 is on solid green. If it is flashing or off completely there is an issue with network connectivity. If the module is online (solid green LED) and the TV lift still fails to work, use a multimeter to probe the connector.

Insert one probe into 1A and the other probe into 1B. Correct function would have the module output 12V+ in one direction and ground in the other direction. If this is not occurring, please call Spyder Controls.

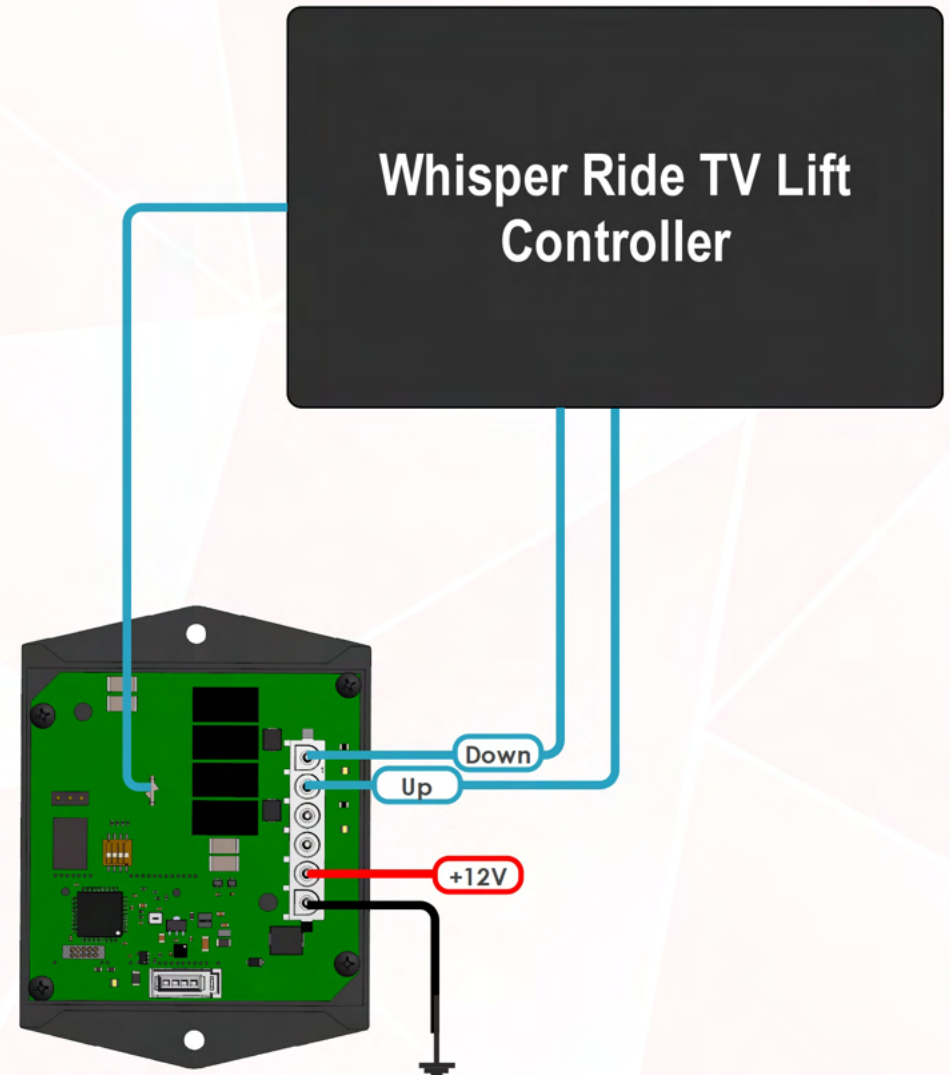
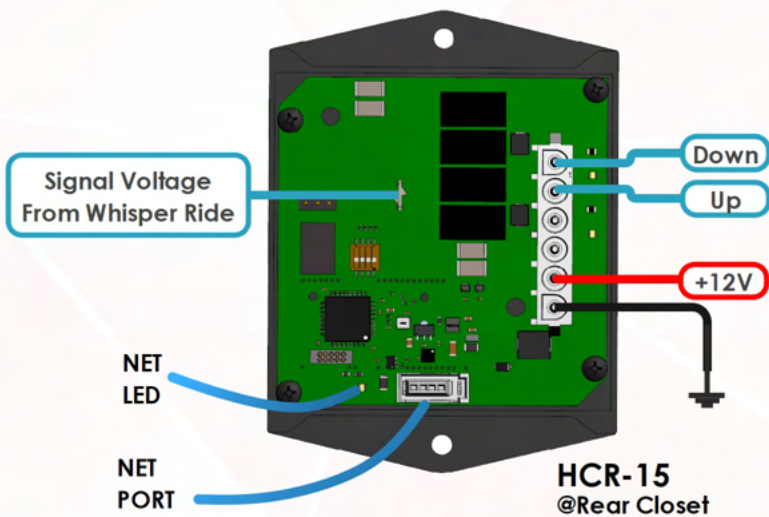


Trouble Shooting

The module below is an HCR-15 and is responsible for providing 12V output to the TV lift motor.

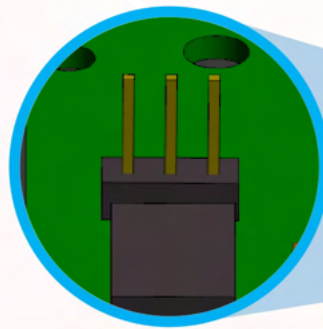
If the TV lift is not raising or lowering check to ensure the NET LED on the HCR-15 is on solid green. If it is flashing or off completely there is an issue with network connectivity. If the module is online (solid green LED) and the TV lift still fails to work, use a multimeter to probe the connector.

To troubleshoot this further, please contact Spyder Controls.

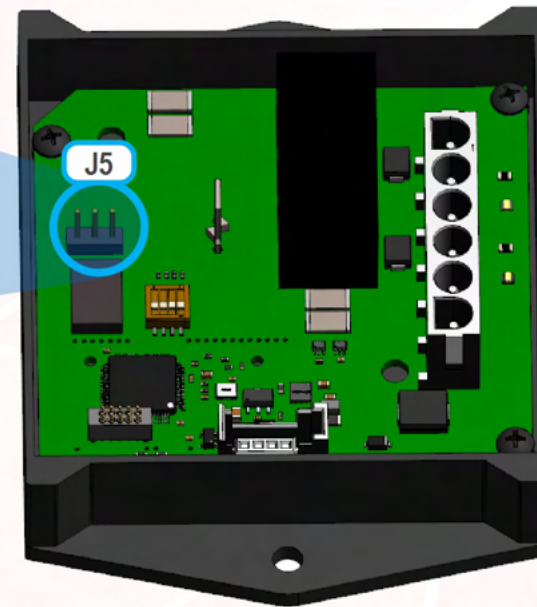


Location Setting
The location setting for the HCR 15 can be changed via connector J5.

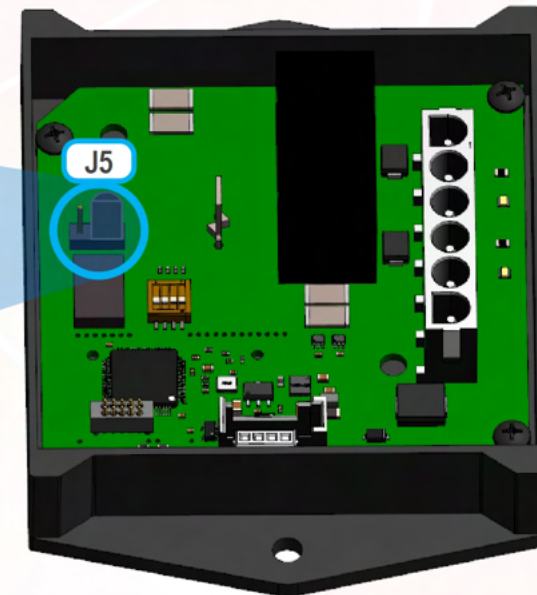
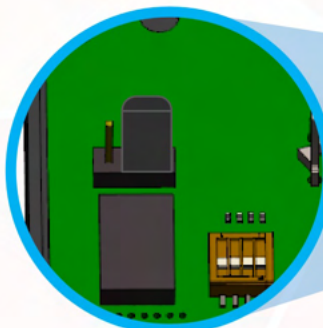
Front TV Lift



HCR 15

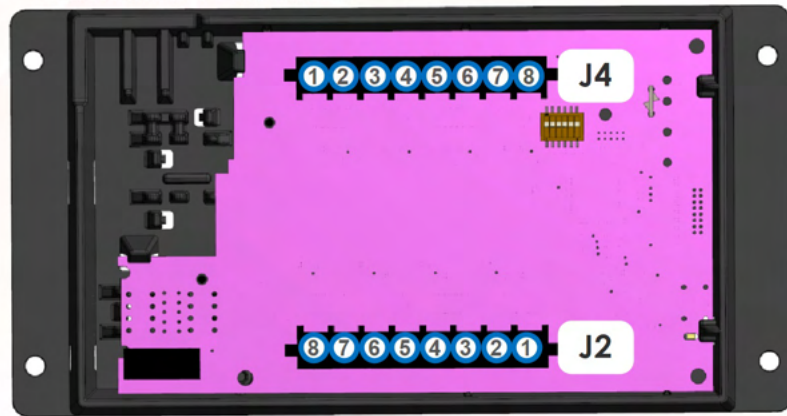


Rear TV Lift

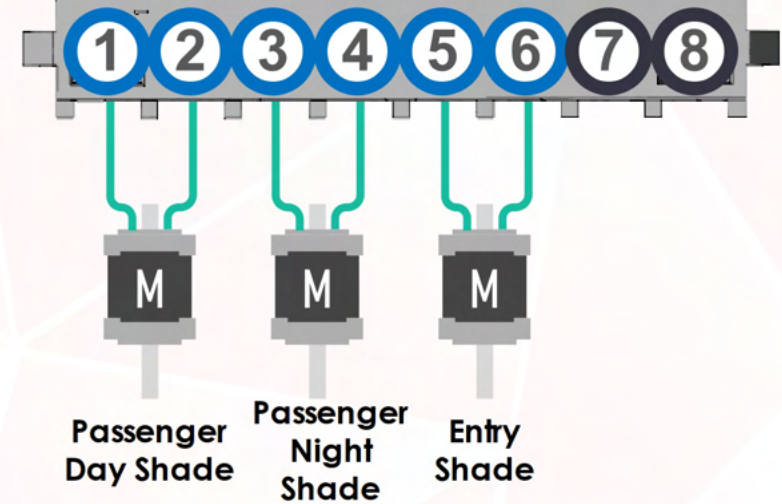




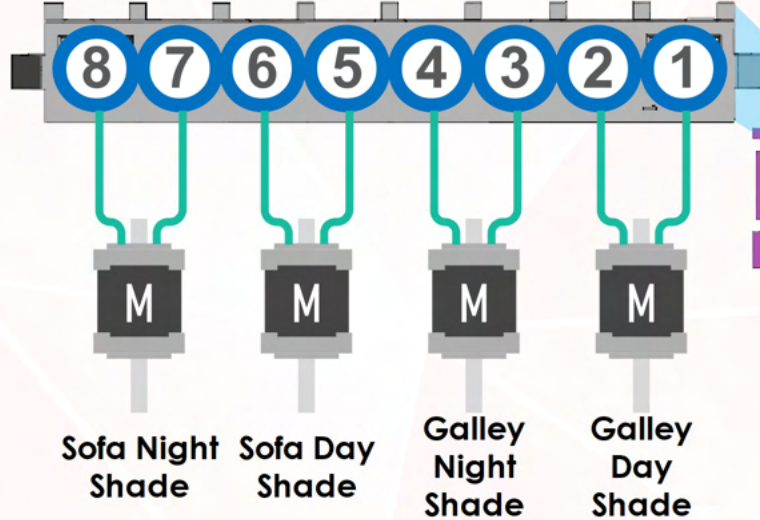
Dash Shade Module



J4 (Shade Module)



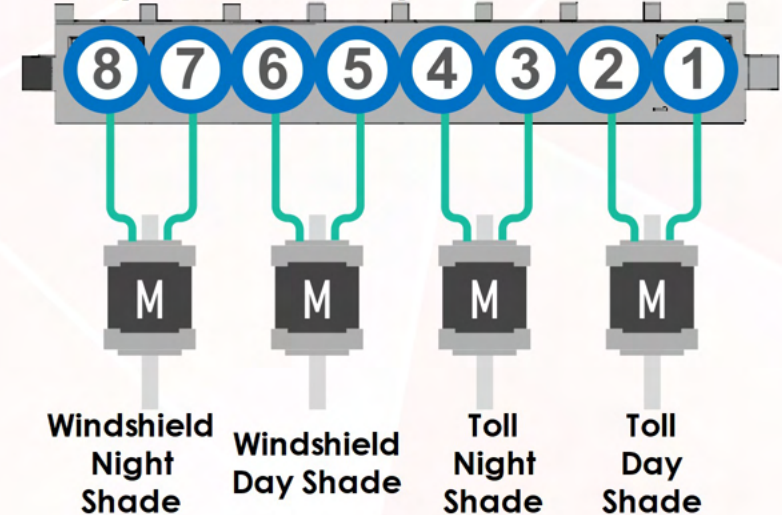
J2 (M1 Low Current)



M1 Low Current @M1 Mid Panel



J2 (Shade Module)

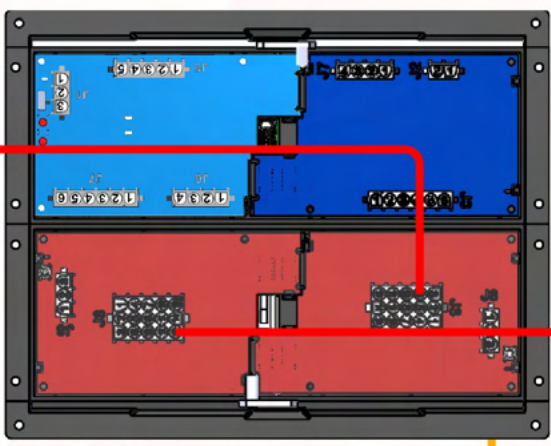
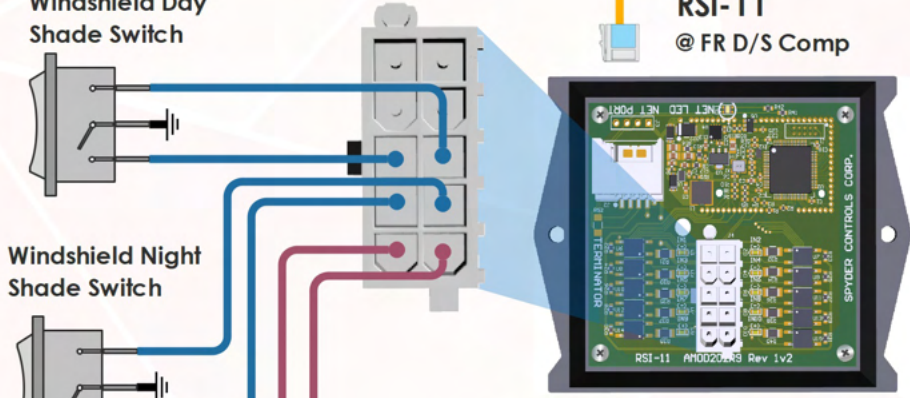


i **NOTE**
Only momentary operation allowed for lowering shades while ignition is on.

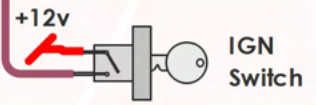
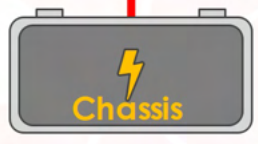
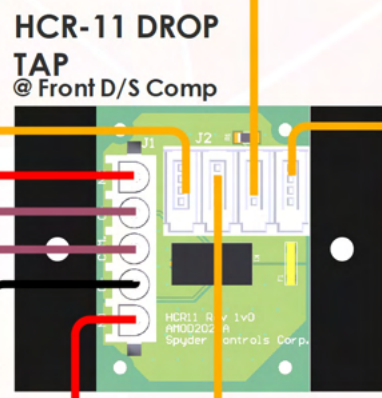
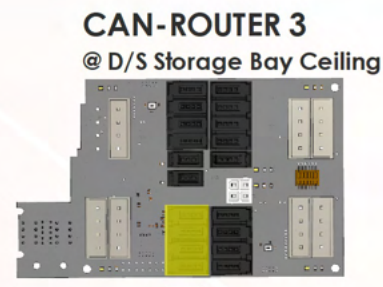
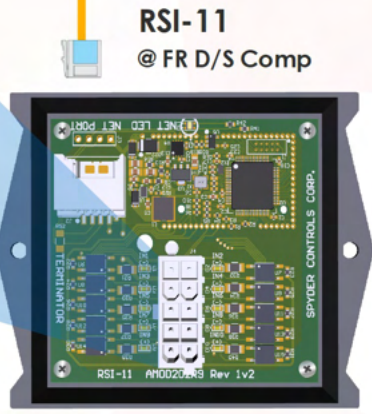
Windshield Day Shade Switch

Windshield Night Shade Switch

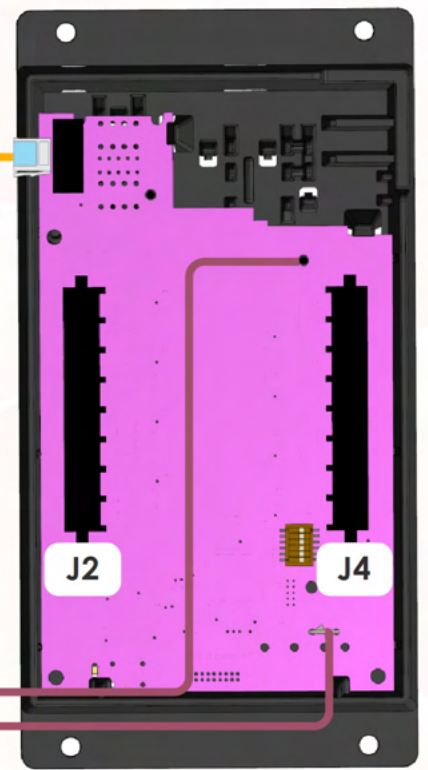
Step Cover Switch



Front M1 Panel

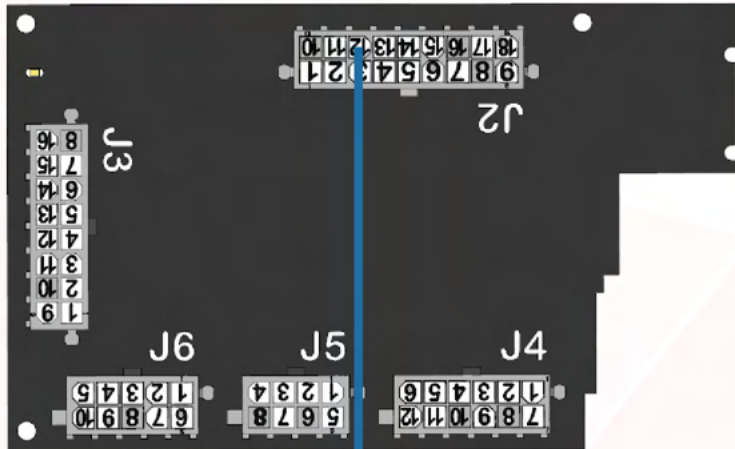


Dash M1 Shade Module
@ Dash - Overhead Cabinet
by Entry Door



DIP Switch Setting

RSI-12
@Mid M1 Panel

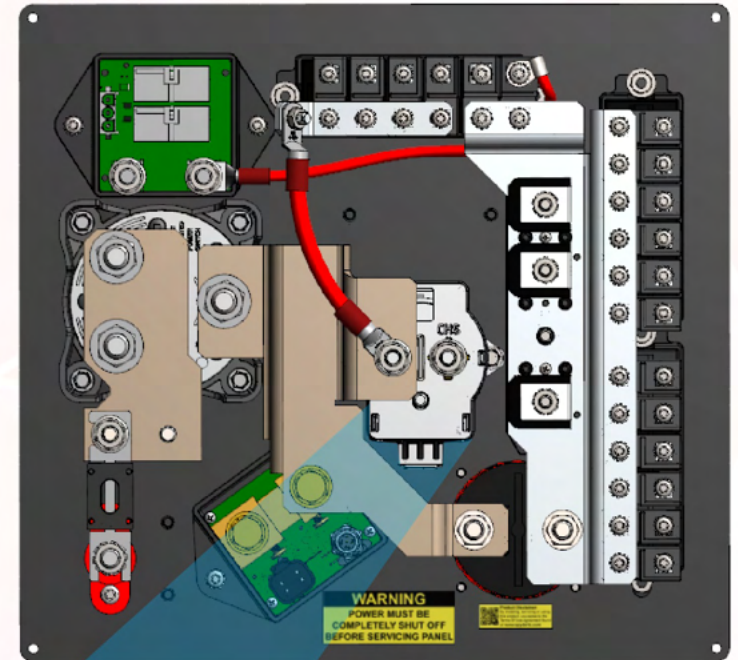


COACH RUNNING INPUT

Depending on the chassis used in the coach the coach running input will either come from the engine (switched GND) or from the ignition (switched 12V+)

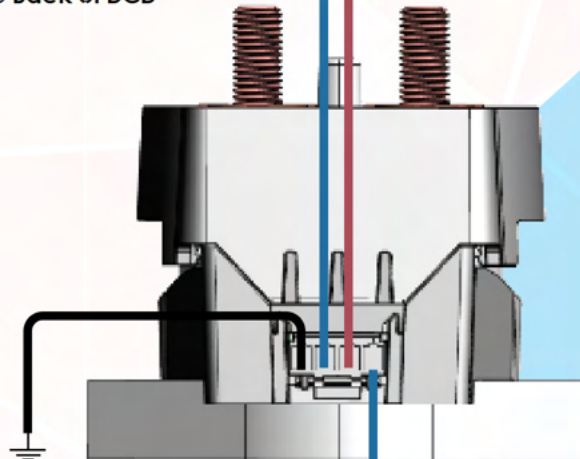


DCD Panel

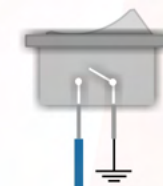


MERGE SOLENOID

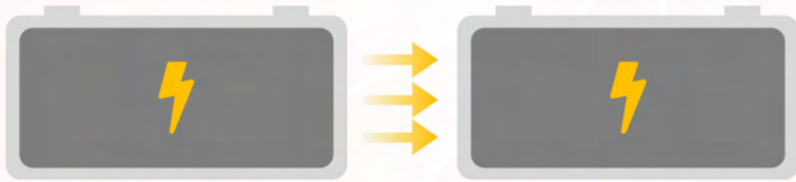
@ Back of DCD



Auto / Manual Merge Input (GND)



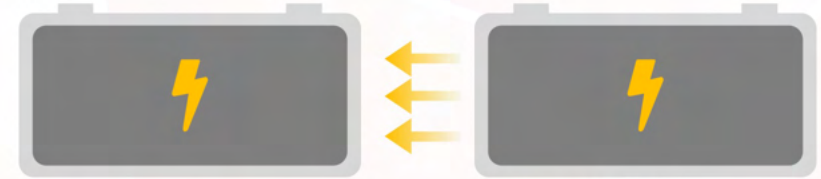
Manual Merge
Override Switch
@ Dash



CHASSIS BATTERY

- ⚡ 13.3V+ Or Higher
- 🕒 30 Seconds
- 🔧 V+

HOUSE BATTERY



CHASSIS BATTERY

- ⚡ 12.4V+ Or Lower
- 🕒 30 Seconds
- V+

HOUSE BATTERY

- ⚡ 12.5V+ Or Higher
- 🕒 30 Seconds
- V+

MERGE LOGIC - CHASSIS CHARGING HOUSE

The merge solenoid will engage if the following conditions are present:

- Engine run or ignition signal is present and chassis voltage is above 13.3V (charging) for 30 seconds.

The merge solenoid will disengage under either of the following conditions

- Engine run or ignition signal is removed
- Chassis voltage drops below 12.6V for more than 30 seconds (unmerge until engine is started again)

MERGE LOGIC - HOUSE CHARGING CHASSIS

The merge solenoid will engage if the following conditions are present:

- House voltage is above 12.5V (charging) and chassis voltage is below 12.4V (low battery voltage) for 30 seconds

The merge solenoid will disengage under either of the following conditions:

- House voltage drops below 12.2V for more than 30 seconds, OR
- 60 minutes timed battery merge period expires. Re-merge will occur again if the merge conditions are still present



Merge Logic - Note

The voltages used in this spec are what are read directly at the merge solenoid which is installed at the DCD panel and may vary from the voltages displayed on the LCD screens for general informational purposes

What is EMS?

The EMS or Energy Management System is designed to keep your coach from tripping the shore or generator breaker while using shore or generator power.

How does it work?

The EMS works by allowing or disallowing AC power to specific loads. Keep in mind that not all AC loads are controlled by the EMS. All loads that can be controlled by EMS are displayed in the center column of the Power Page on the main hall LCD. EMS must be enabled to view this page.

What does "SHED" mean?

When EMS has disallowed AC power to a load we consider that load "SHED". This simply means that there currently is not enough AC power available for the load and the EMS will provide power when it is available.

10" Pro LCD



Loads that can "SHED"



Dishwasher



Washer / Dryer



Engine Preheat



All AC Units



All Floorheat

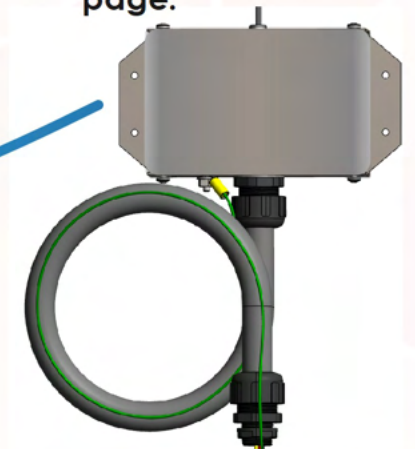


Fireplace



TRC TRANSFER SWITCH

The TRC Transfer switch provides the AC power readings found on the power page.



ACR3

The ACR3 allows the EMS to "SHED" the washer/dryer, dishwasher, fireplace and the engine preheat when required.

IF ENABLED INVERTER ASSIST WILL ACTIVATE IF THE FOLLOWING CONDITIONS ARE TRUE

Inverter assist is a state in which power is temporarily drawn from the batteries to keep EMS loads from shedding.

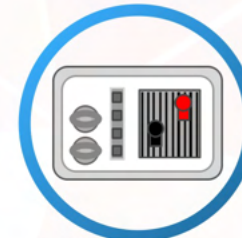
- 1 SHORE OR GENERATOR POWER IS AVAILIABLE
- 2 THE CHARGER IS IN FLOAT MODE
(BATTERIES ARE CLOSE TO FULL CHARGE)
- 3 THE CHARGE RATE HAS BEEN REDUCED
- 4 A NON-EMS INVERTED LOAD IS ACTIVATED,
SUCH AS THE MICROWAVE



Batteries close to full



Connected to Shore Power or Gen Charging



Charger in Float



Close to Shore / Gen Breaker Max



Non-EMS Inverted Load Activated



If the conditions above are true. To keep any EMS load from shedding the inverter will go from passthrough to inverting to temporarily invert for 5 minutes. Please note inverter assist will temporarily decrease your battery voltage. This is normal the voltage will stabilize relatively quickly once the inveter assist period has expired. Please note inverter assist can only occur once every charge cycle. Therefore, the coach will not frequently be in inverter assist mode.



Inverter assist can be enabled or disabled from the inverter settings page. On you main LCD navigate to the power page > inverter settings > advanced battery settings > inverter assist.

To Replace The Battery

To replace the battery firmly grasp the outside edge of the wireless rocker switch. Pull to the left or right until the switch snaps off the wall. Use a pen or other thin object to push the coin cell out of the retaining clip. Insert new battery with the + symbol facing upwards, ensure battery is seated into retaining clip all the way.

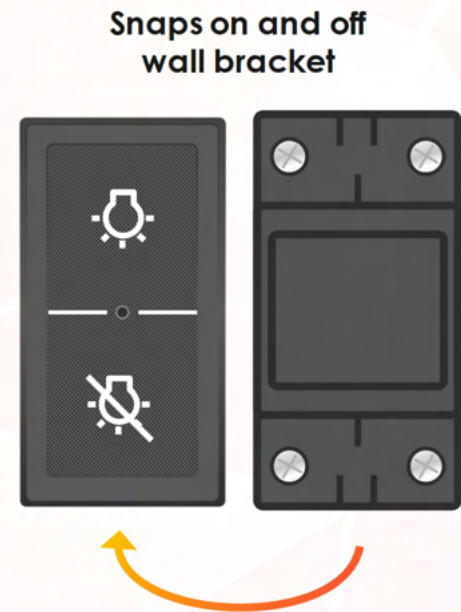
Use the up arrows on the back of the switch panel to orientate placement back onto the mounting bracket. Snap the wireless rocker switch back into place.

Test the switch and dispose of the old battery responsibly.

WARNING
ONLY REPLACE THE COIN CELL BATTERY WITH A CR2032. DOING OTHERWISE WILL VOID THE PANEL WARRANTY AND COULD DAMAGE THE PANEL

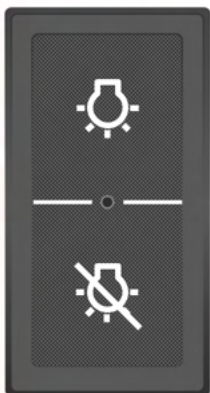


Insert Battery with + sign facing up.

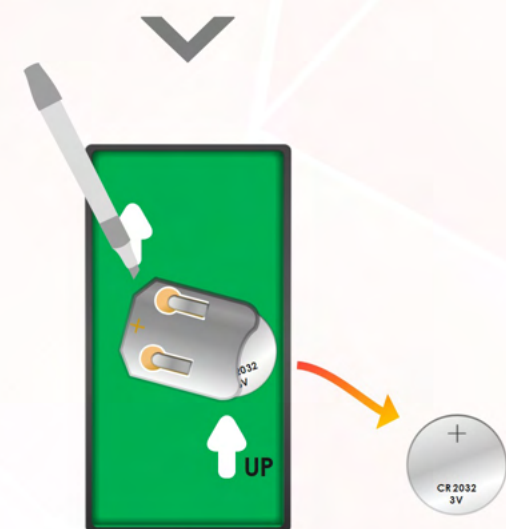
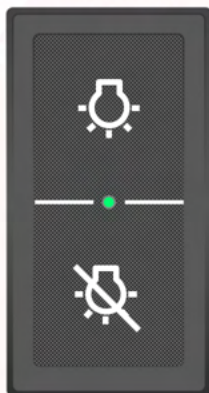


A green LED will turn on when a button is pressed. This is the transmit LED and confirms that the switch panel is transmitting information. This LED will flash occasionally indicating the switch panel is transmitting its battery status.

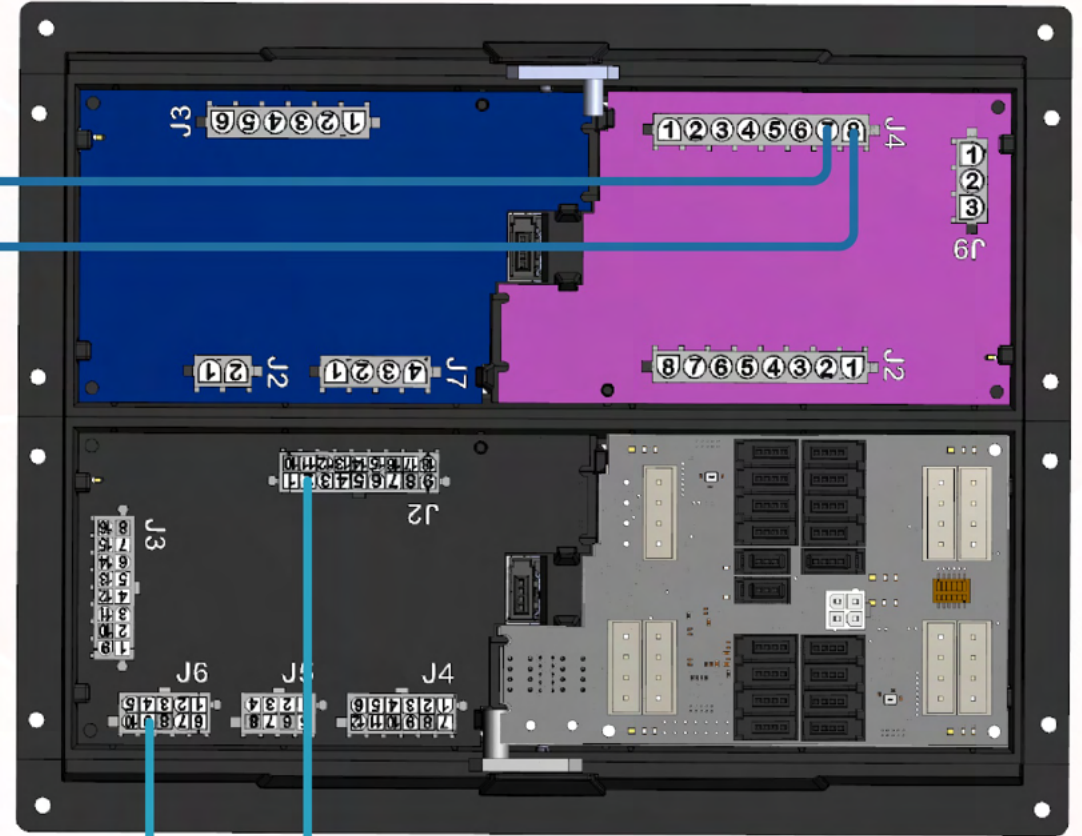
Not Transmitting



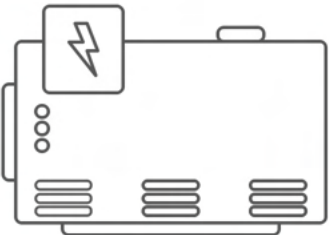
Transmitting



Mid M1 Panel

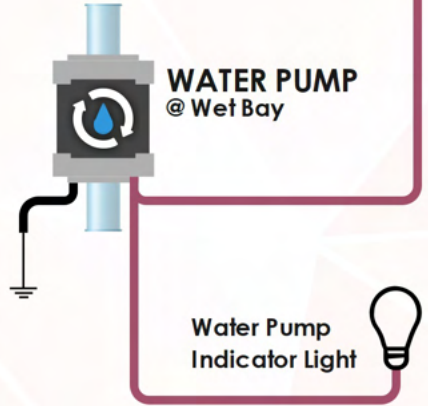
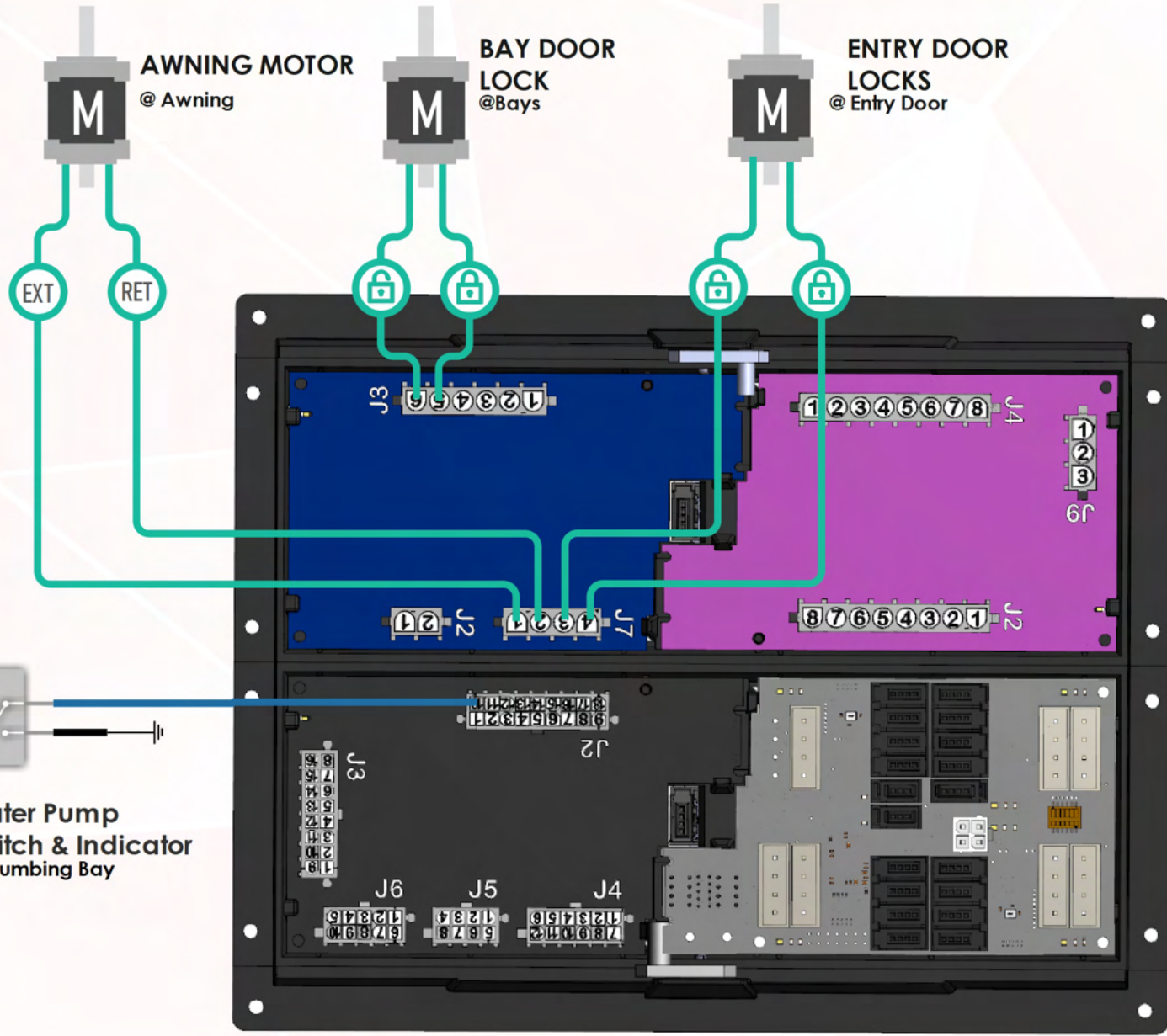
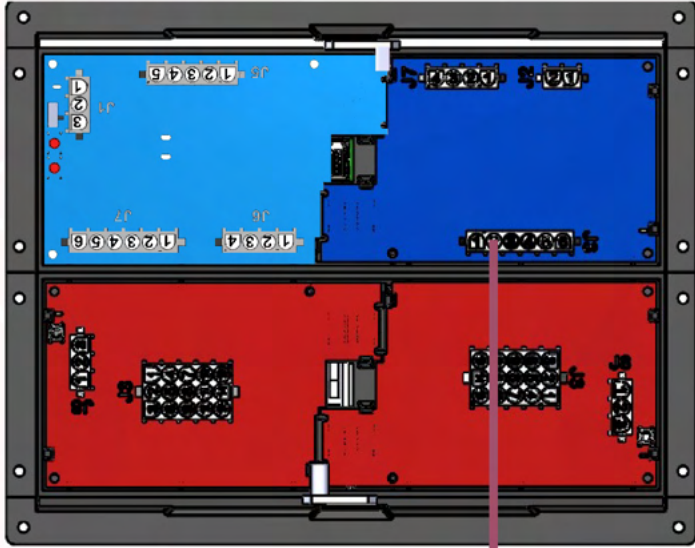


Generator

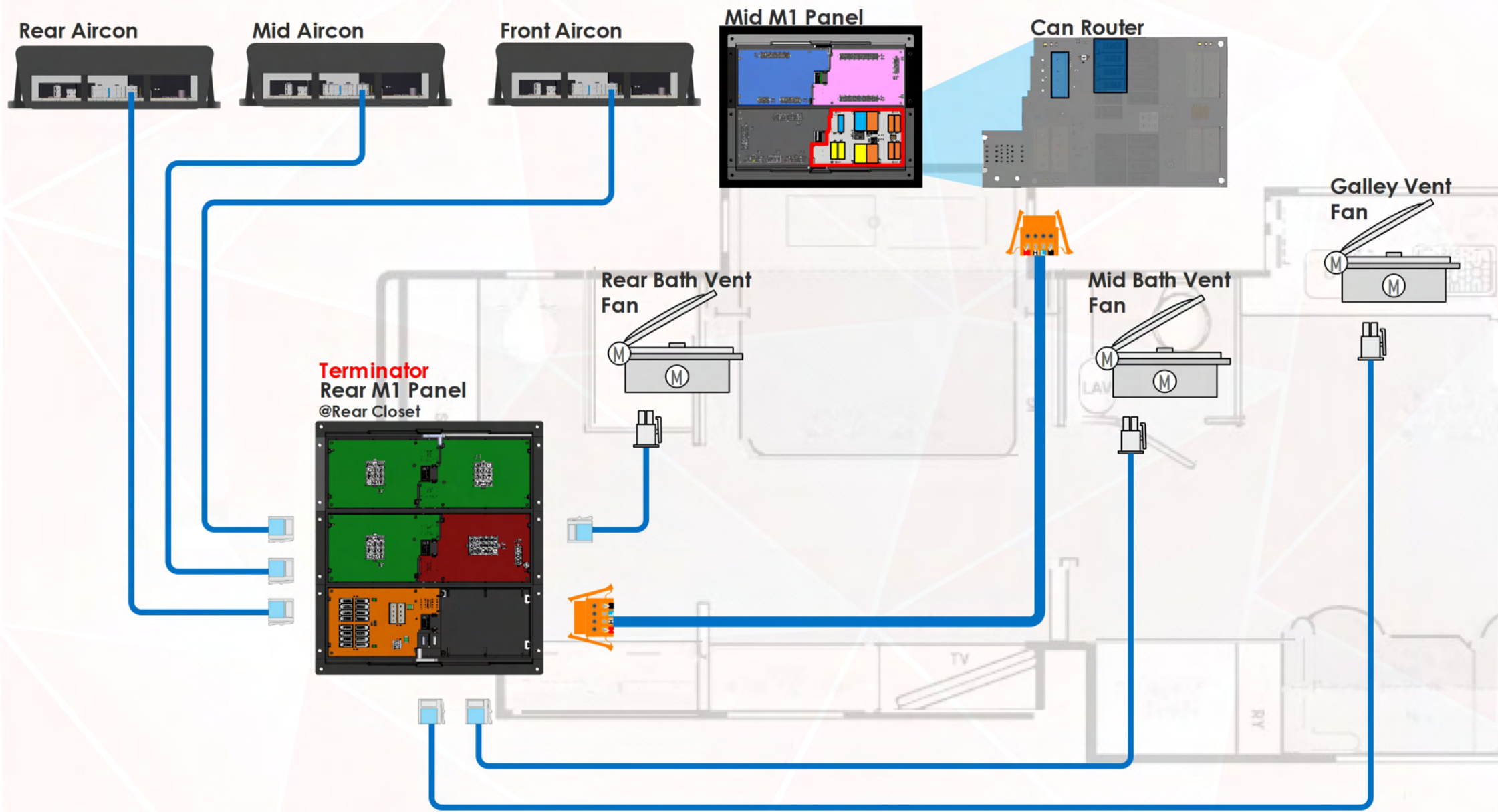


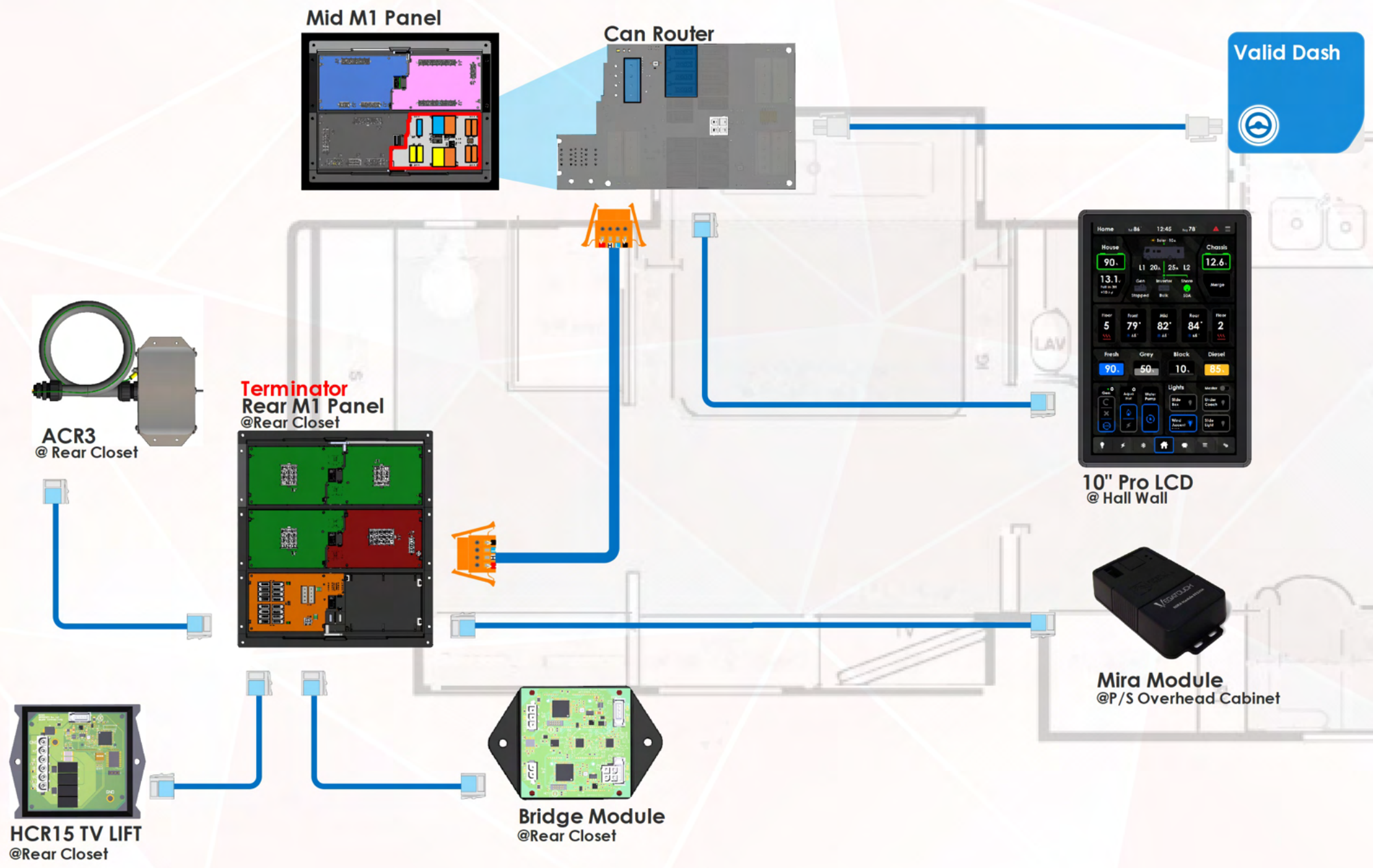
- Gen Start (GND)
- Gen Stop (GND)
- Gen Run Signal (+12v)
- Gen Fault Status (+12v)

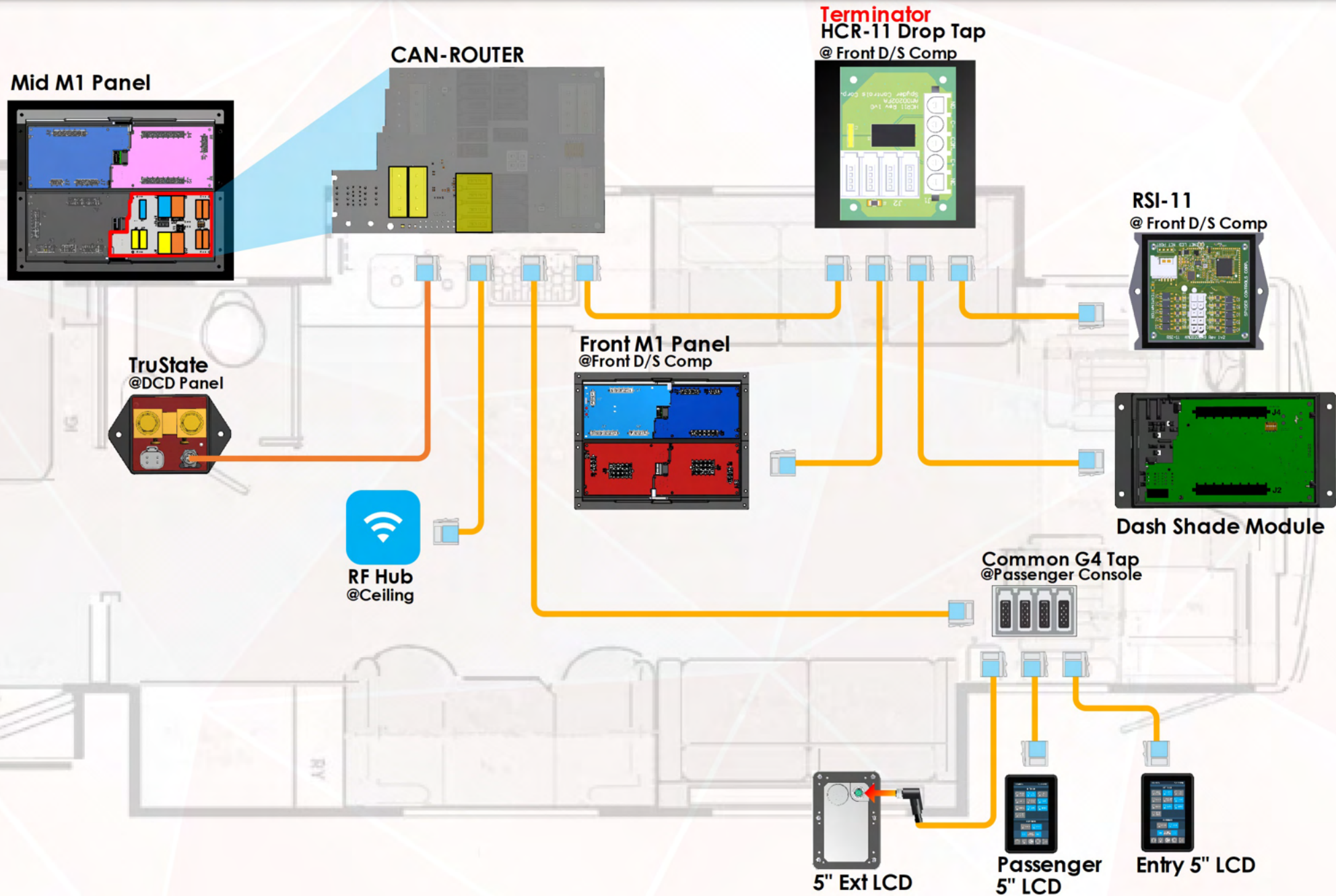
Front M1 Panel



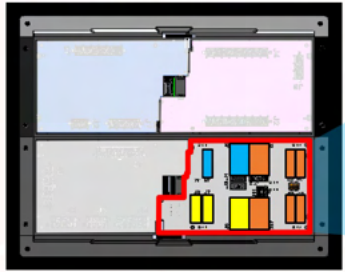
Mid M1 Panel



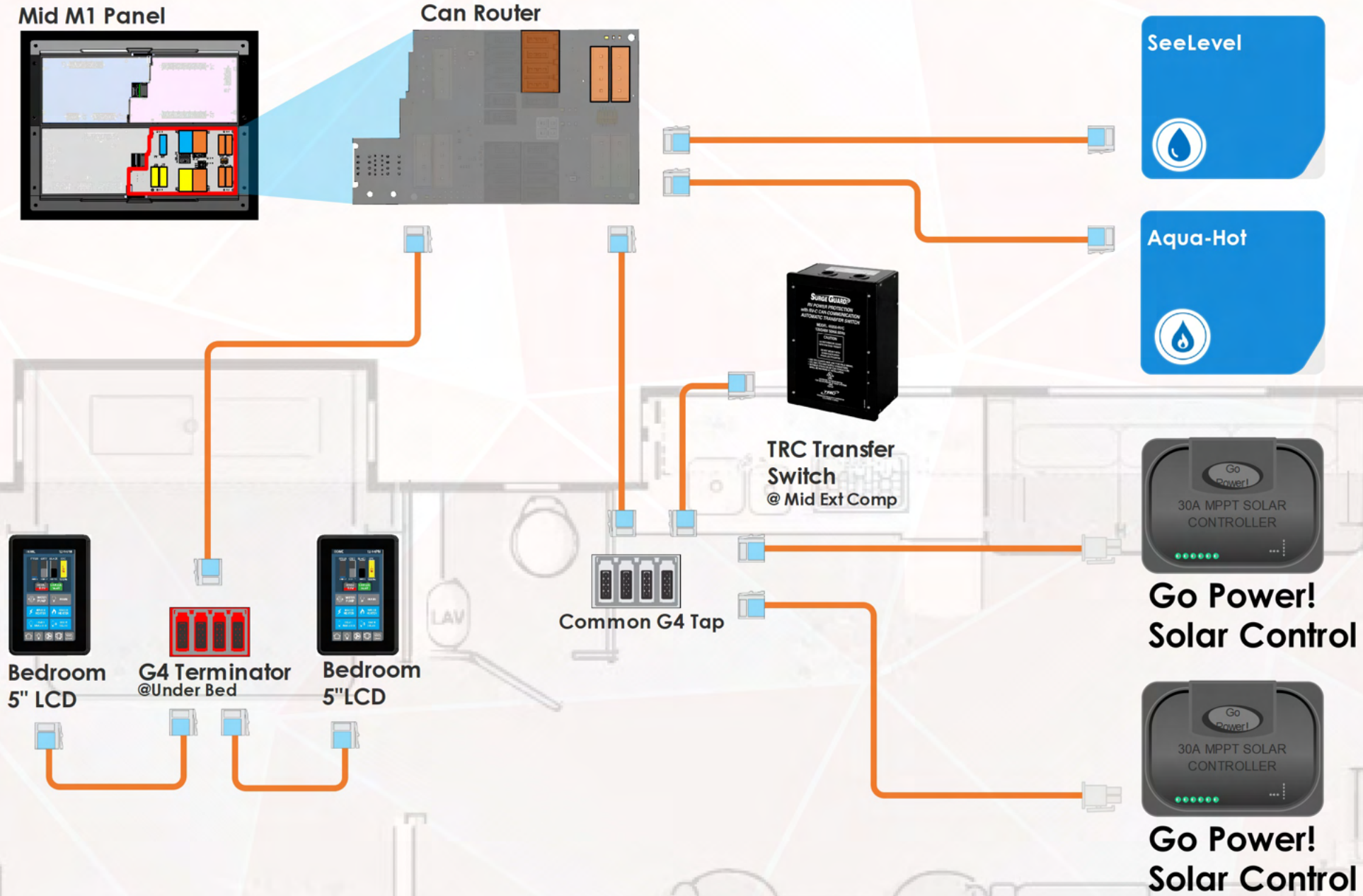
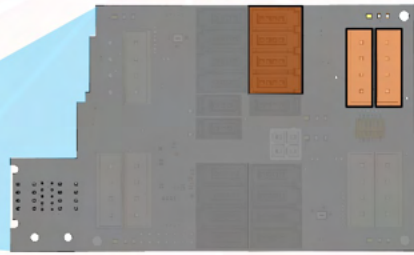




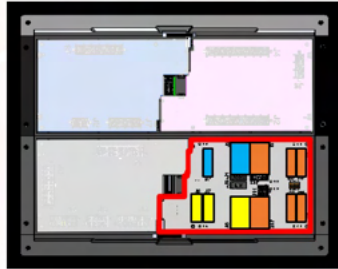
Mid M1 Panel



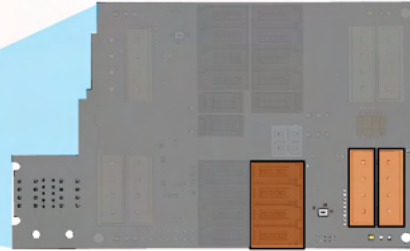
Can Router



Mid M1 Panel



Can Router



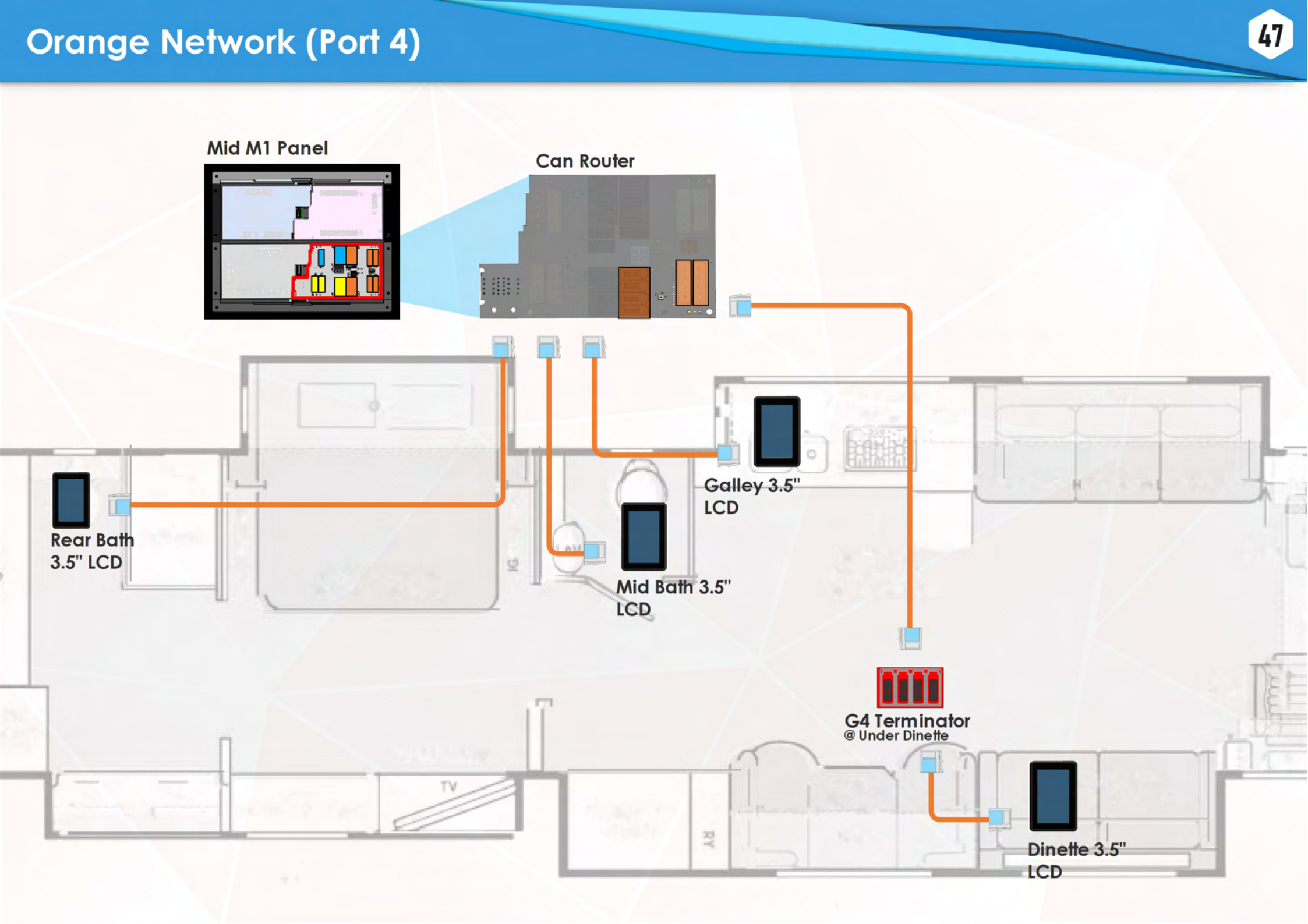
Rear Bath 3.5" LCD

Galley 3.5" LCD

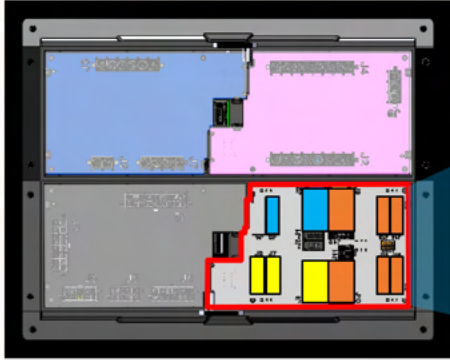
Mid Bath 3.5" LCD

G4 Terminator
@ Under Dinette

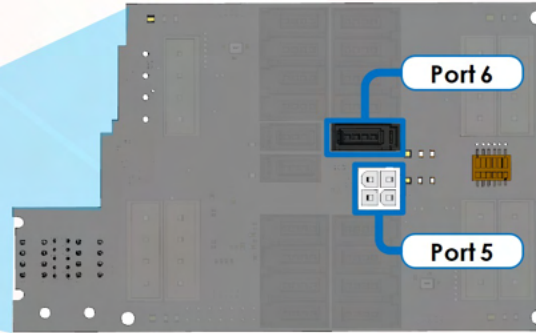
Dinette 3.5" LCD



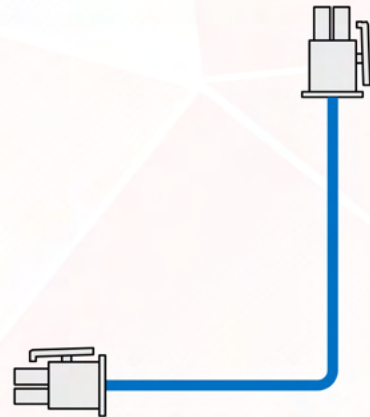
Mid M1 Panel



Can Router



Port 5



Port 6

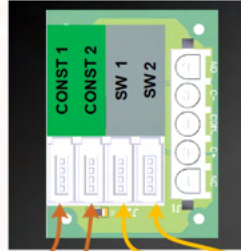


Xantrax Inverter/Charger (Optional)

THE ORDER OF THE NETWORK CABLES AT THIS TAP IS IMPORTANT !

The M1 Shade Standalone and RSI-11 MUST be plugged into the ports shown. The always on ports are powered when the house disconnect is off.

Tiffin P/N: 5105426
Terminator
HCR-11 Drop Tap
@ Front D/S Comp

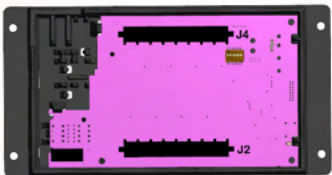


Always On Network
This network to remain powered while house disconnect is off.

Always On Switched



RSI-11
@ Front D/S Comp
Tiffin P/N: 5127304

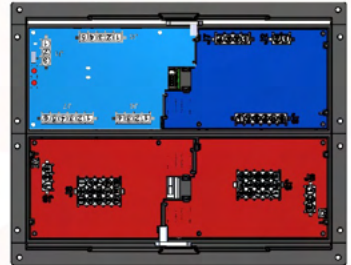


Dash Shade Module
Tiffin P/N: 5127302

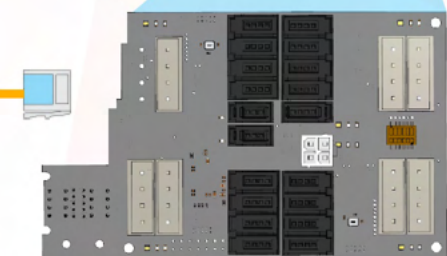
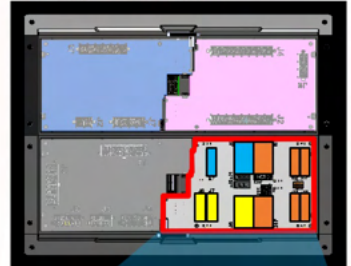


RF Hub
Tiffin P/N: 5127293

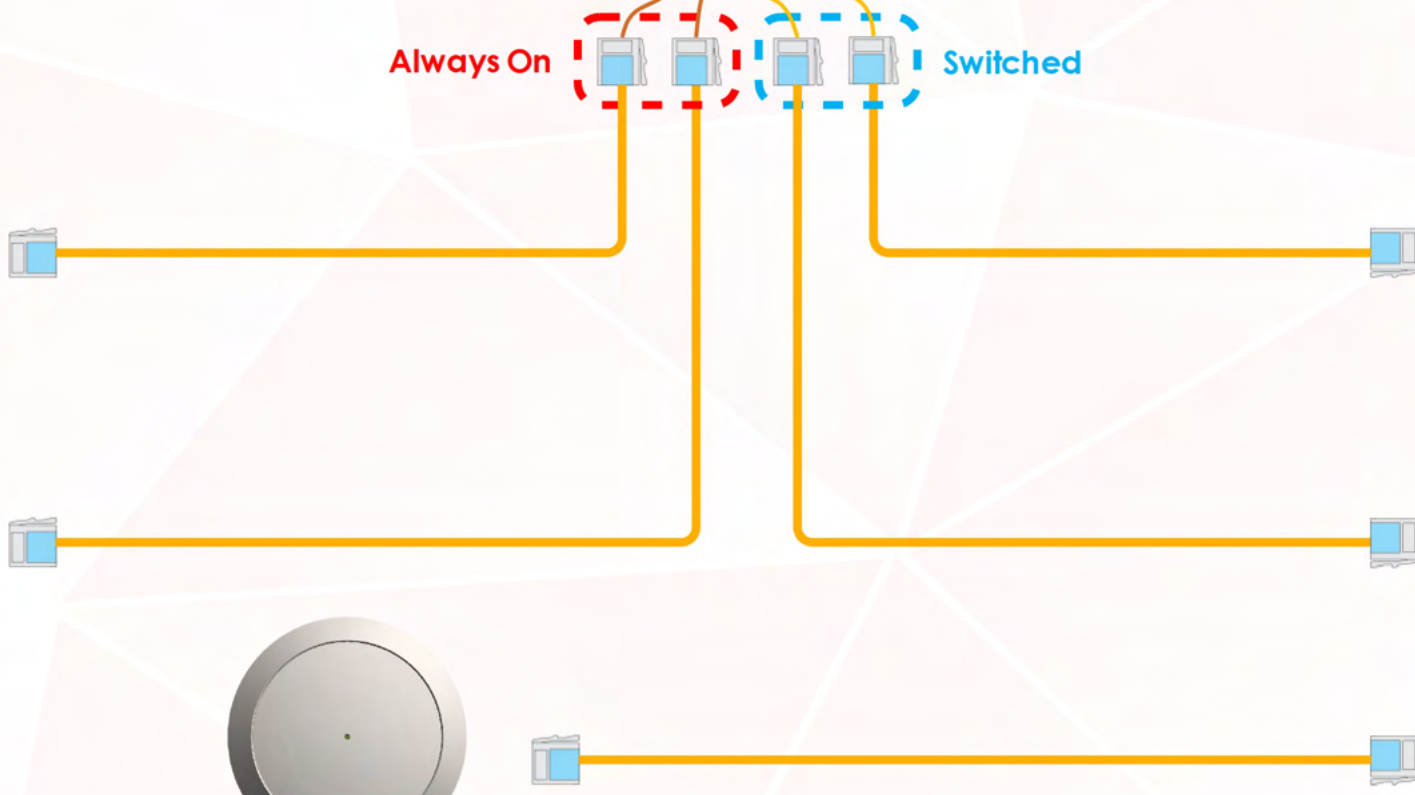
Front M1 Panel
@Front D/S Comp

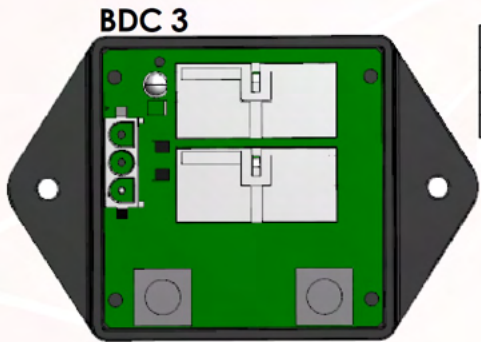


Mid M1 Panel
Tiffin P/N: 5127299



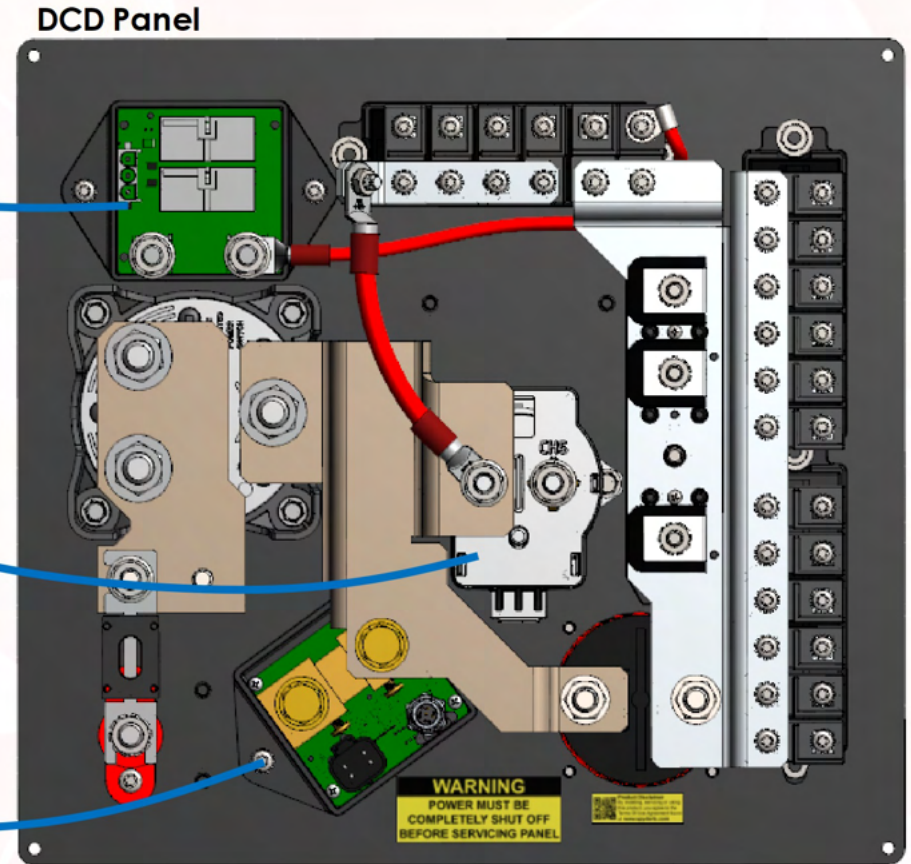
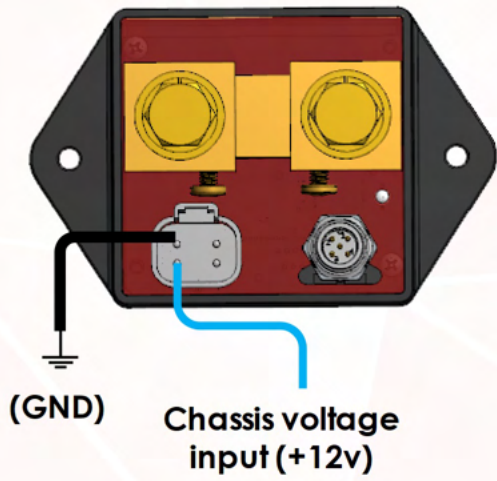
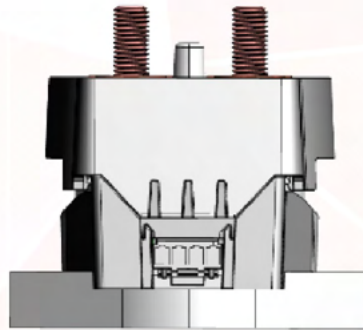
Can Router

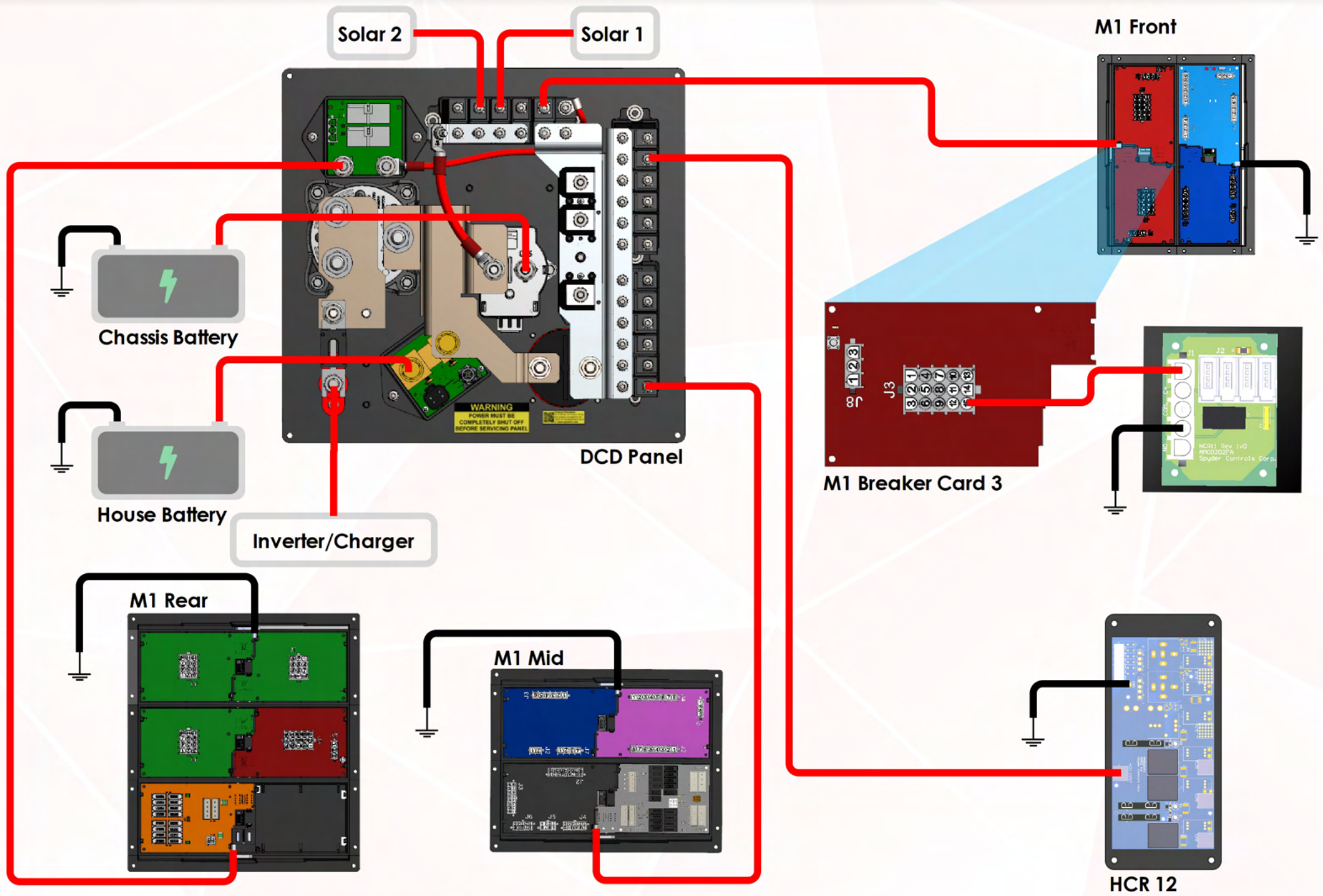


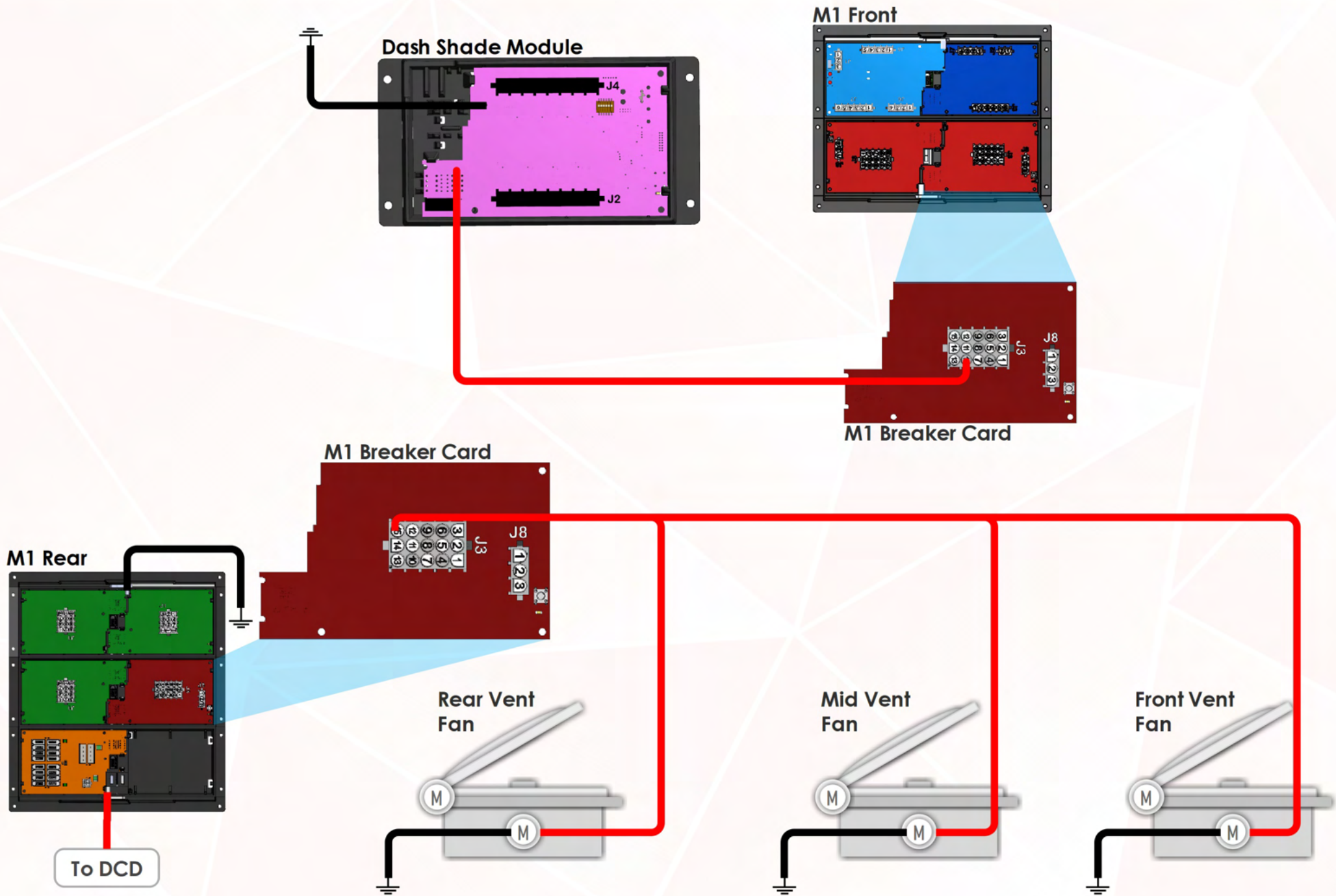


J1		Momentary Switch
Pin	Description	
3	COIL SET Input	
2	COIL RESET Input	
1	SWITCH SUPPLY (+12V) Output	

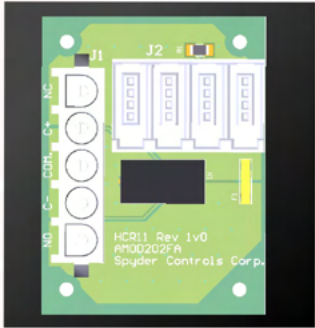
*Coil should not be powered for more than 10 sec



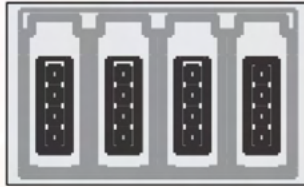




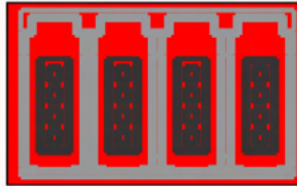
TERMINATOR
HCR-11
 Tiffin P/N: 5105426



G4 Common Drop Tap
 Tiffin P/N: 5016592



G4 Terminator Drop Tap
 Tiffin P/N: 5051936



Mini-Clamp Plug
 Tiffin P/N: 5066157
 3M P/N: 37104-2165-000 FL 100



Mini-Clamp Socket
 Tiffin P/N: 5066158
 3M P/N: 37304-2165-000 FL 100



Wago Hook Tool
 Wago P/N: 231-131



4 Pos Wago Connector
 Tiffin P/N: 5015508



MiniFit Jr Connector
 Digi-Key P/N: 0039012040



MiniFit Jr Pins
 Digi-Key P/N: 0039000181

