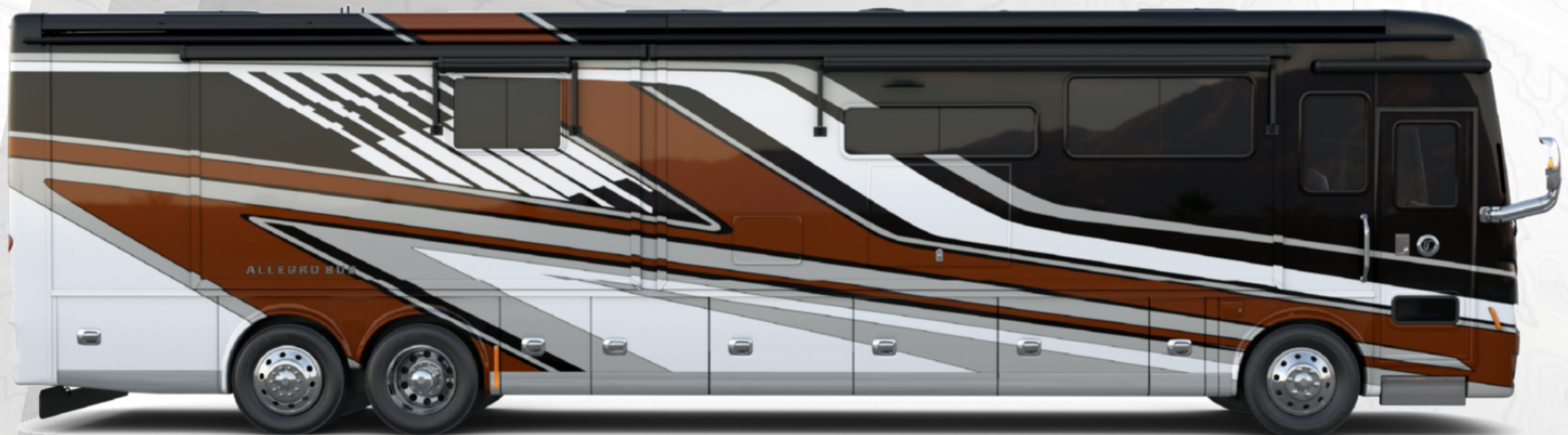


The Adventure Starts Now. Explore. Find Out. Live. Free. Bus

2024

Tiffin Allegro Bus

Integration Schematic



SPYDER
CONTROLS CORP

Allegro Bus Allegro Bus Allegro Bus Allegro Bus Allegro Bus



1-4	Module Locations	12	Mid M1 Low Current Card
5	Front M1 Overview	13	Mid M1 RSI-12
6	Front M1 Slide Card	14	Mid M1 Overview (6 Card)
7	Front M1 HC Relay Card	15	Mid M1 (Cont.) (6 Card)
8	Front M1 Breaker (Card 3)	16	Mid M1 HC 5 (6 Card)
9	Front M1 Breaker (Card 4)	17	Rear M1 Overview
10	Mid M1 Overview (4 Card)	18	Rear M1 Cards 1 & 2
11	Mid M1 HC Relay Card	19	Rear M1 Cards 3 & 4

Schematic Connections Legend









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



20	Interior Lighting
21	Exterior Lighting
22	Slides
23	HVAC
24	Floor Heat
25	Vent Fans
26	Tanks
27	Bed Lift

28	MoRyde TV Lift
29	Whisper Ride TV Lift
30	TV Lift Location
31	Dash Shade Module
32	HCR-11 Drop Tap
33	Front Shade Module
34	Merge System
35	Merge Logic

Schematic Connections Legend

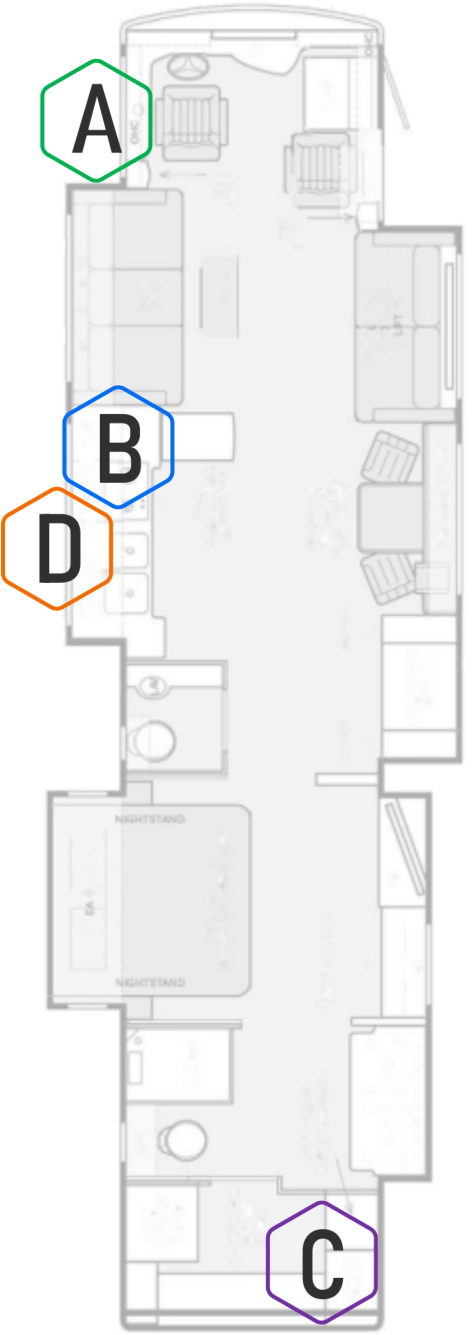
-  Constant Ground
-  Constant 12V+
-  Switched Ground
-  Switched 12V+
-  Reverse Polarity
-  Signal
-  120V AC Line
-  Network



36	EMS	44	Orange Network (Port 3)
37	Inverter Assist	45	Orange Network (Port 4)
38	Wireless Switches	46	Ports 5 & 6
39	Generator	47	Always On
40	Mechanical	48	DCD Panel
41	Blue Network (Port 1)	49	Power Diagram
42	Blue Network Continued	50	Power Diagram Continued
43	Yellow Network (Port 2)	51	Connectors

Schematic Connections Legend

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



A

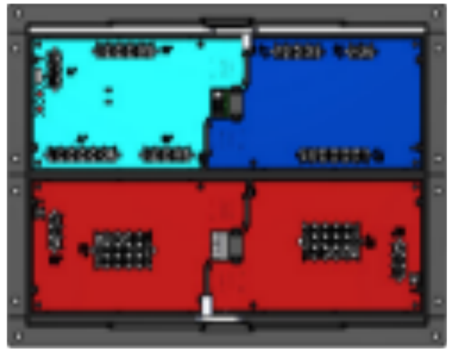
Front M1 Panel

i

Spyder Part #
BENCZM2DS

Tiffin Part #
5126983

Dimensions
10" X 7.8"



D/S Ext Compartment

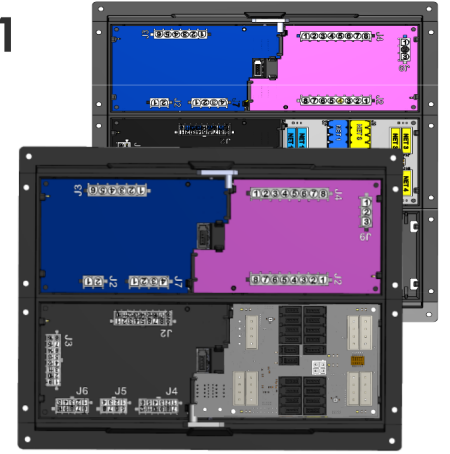
B

Mid M1 Panel

i

Spyder Part #
BENCZM4C2 (4 Card)
OR
BENCZM4C3 (6 Card)

Tiffin Part #
5145849 (4 Card)
OR
5145815 (6 Card)



Inverter Bay

C

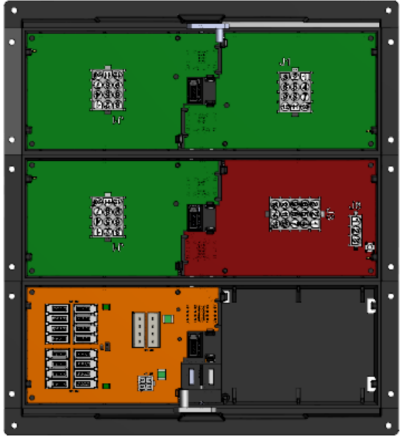
Rear M1 Panel

i

Spyder Part #
BENCZM6DP

Tiffin Part #
5127300

Dimensions
9.1" X 10"



Rear Closet

D

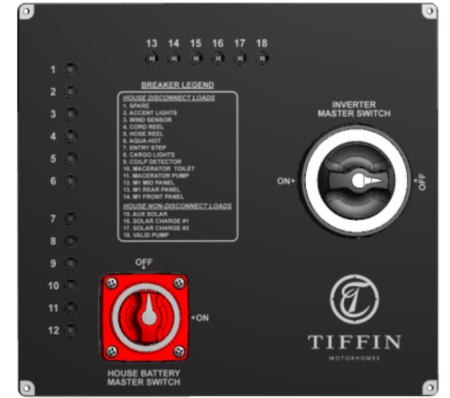
DCD Panel

i

Spyder Part #
BENCZ38DP

Tiffin Part #
5127298

Dimensions
13.5" X 12.5"



Inverter Bay



E 10" Pro LCD



Spyder Part #
BSSPZZXF

Dimensions
10.5" X 7.3"



Hall Wall

F Mira Module



Spyder Part #
BMODZ56VF

Tiffin Part #
5114034

Dimensions
4" X 2.5"



Front Overhead Cabinet

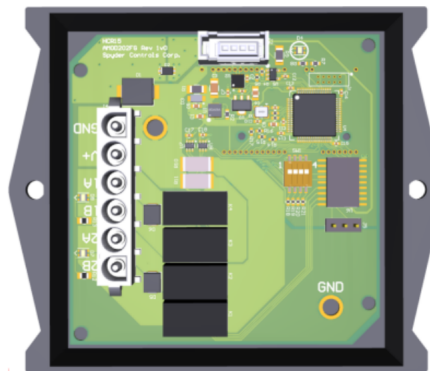
G HCR15 TV Lift



Spyder Part #
BMODZQFCN-A

Tiffin Part #
5134953

Dimensions
3" X 3"



Rear Closet

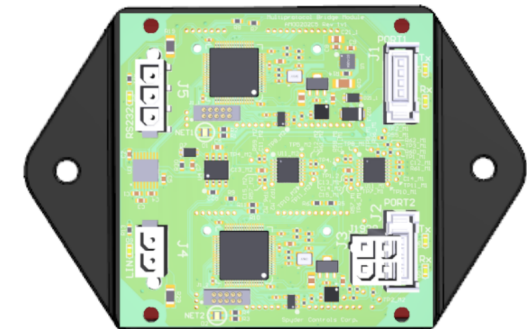
H Bridge Module



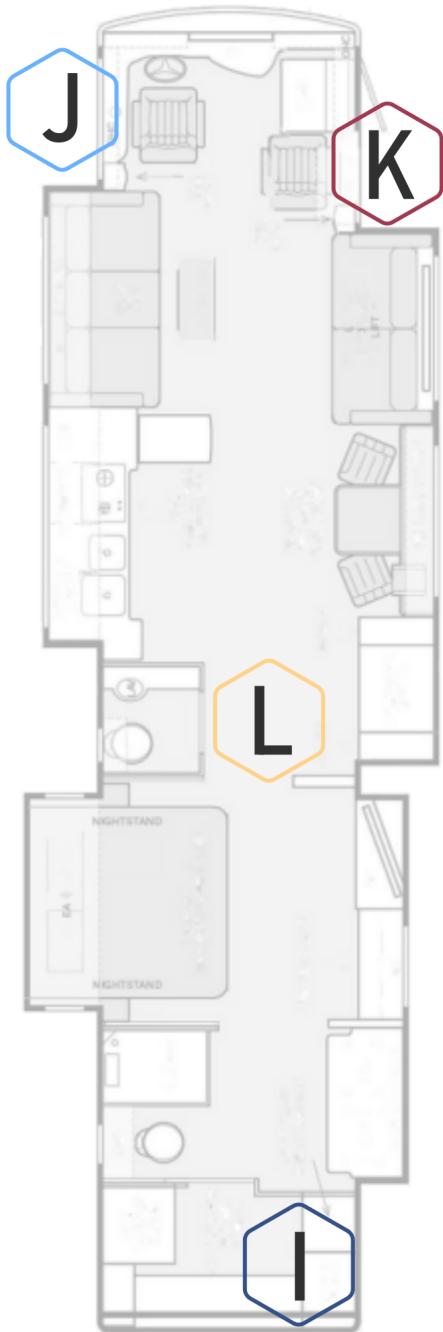
Spyder Part #
BMODZTCT0

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

The image shows a circular component with a grey metal housing and a black ring. A green line highlights the ring. It has two black connectors on the left side.

J RSI-11

i

Spyder Part #
BMODZQCZA-E

Tiffin Part #
5127304

Dimensions
2.7" X 2.7"

Front D/S Compartment

The image shows a green PCB with various electronic components, including a large chip, capacitors, and connectors. It is mounted on a black frame. Text on the board includes 'RSI-11', 'AH0D20LR9 Rev 1v2', and 'SPYDER CONTROLS CORP.'.

K Dash Shade Module

i

Spyder Part #
BMODZMKM1-T

Tiffin Part #
5127302

Dimensions
5.4" X 3.5"

P/S Front Overhead Cabinet

The image shows a pink PCB with various electronic components, including connectors labeled J4 and J2. It is mounted on a black frame.

L RF Hub

i

Spyder Part #
BMODZRFT0-W

Tiffin Part #
5141264

Dimensions
5.1" DIA

Ceiling

The image shows a circular silver component with a central hole and a small green dot in the center.



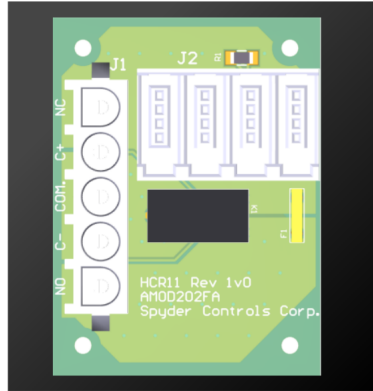
Terminator HCR-11



Spyder Part #
BMODZGAN6-1

Tiffin Part #
5131310

Dimensions
2.5" X 2"



Front D/S Compartment



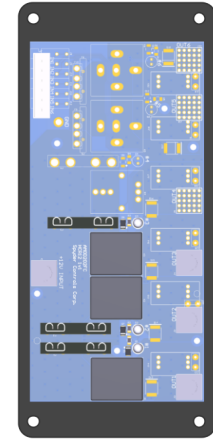
HCR-12



Spyder Part #
BMODZJ2T0

Tiffin Part #
5076028

Dimensions
8" X 3"



Rear Closet



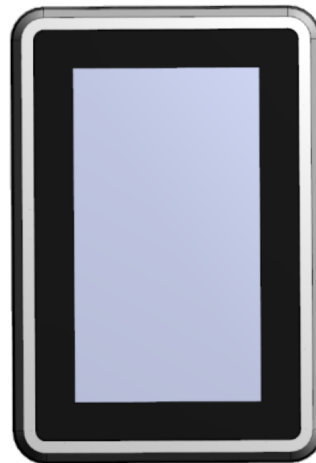
5" Exterior LCD



Spyder Part #
BSSPZZEN

Tiffin Part #
5145817

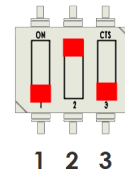
Dimensions
5.9" X 4"



Outside Entry Door

M1 Slide Card

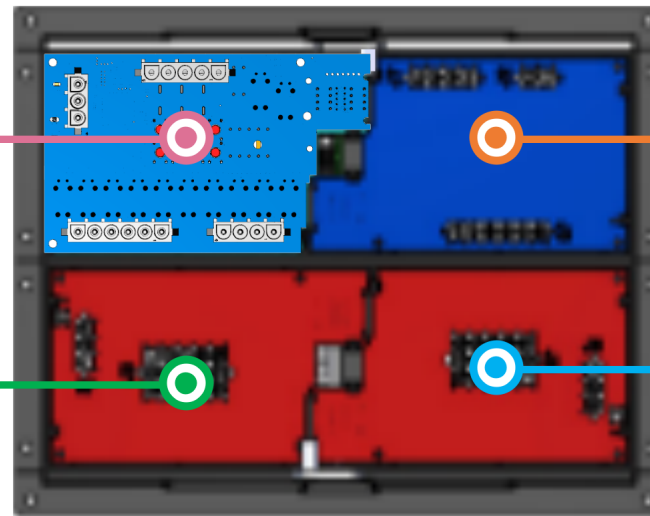
- Awning Constant
- Undercoach Constant
- Slide Breaker #1
- Slide Breaker #2
- Slide Breaker #3
- Ignition (12V)
- Park Brake (GND)
- P/S FR Slide EXT
- P/S FR Slide RET
- D/S FR Slide EXT
- D/S FR Slide RET
- P/S RR Slide EXT
- P/S RR Slide RET
- D/S RR Slide EXT
- D/S RR Slide RET
- Hydraulic Pump



Dip Switch Settings

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

Front M1 Panel



M1 HC Relay

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

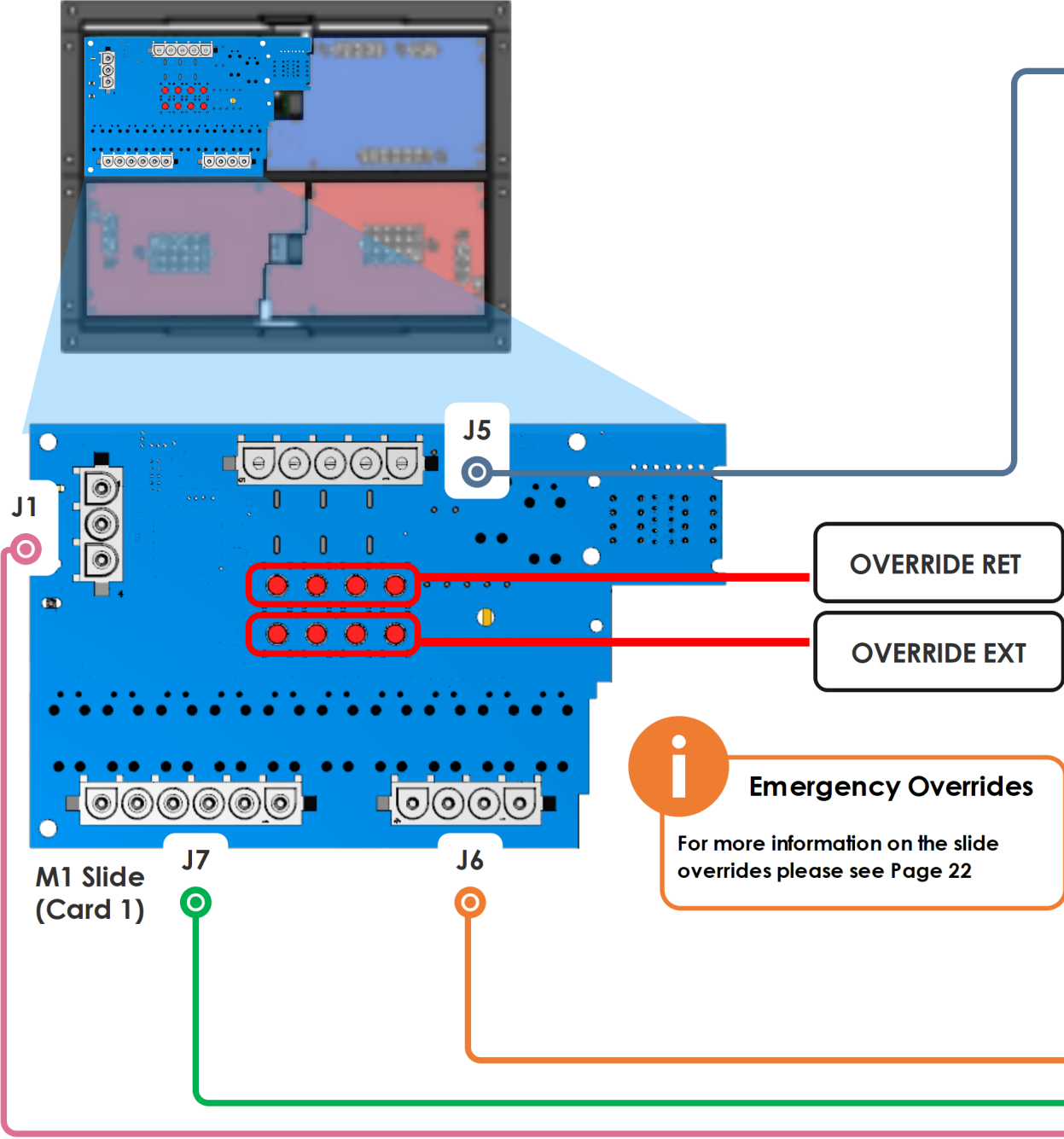
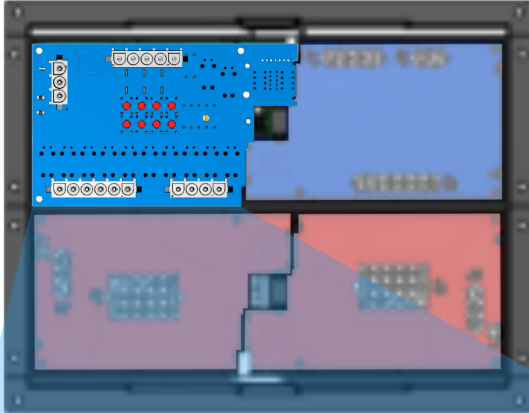
M1 Breaker (Card 3)

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

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



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

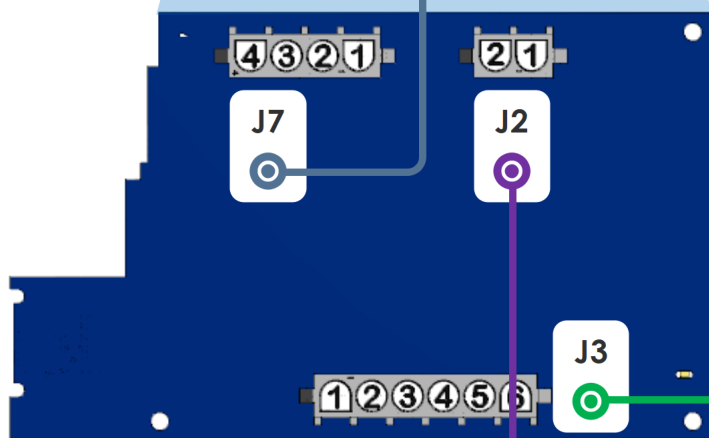
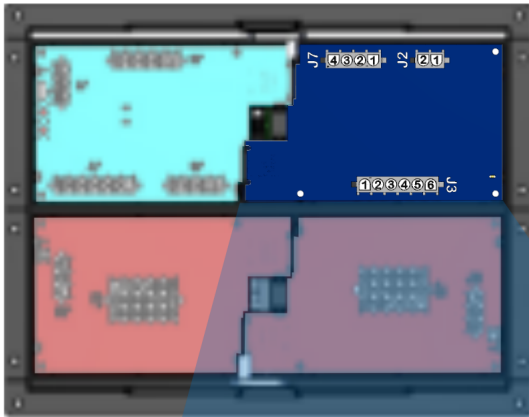
J7

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

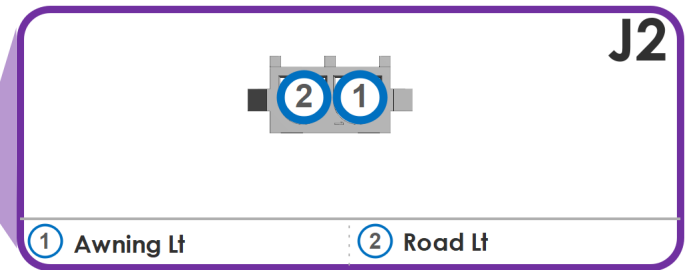
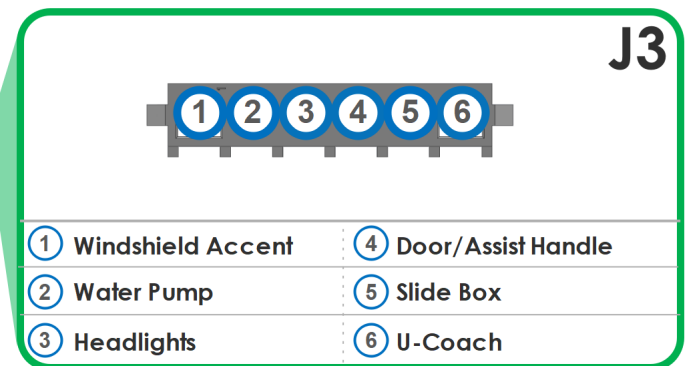
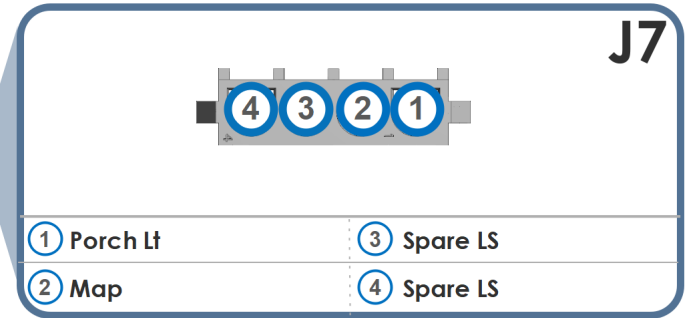
J1

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

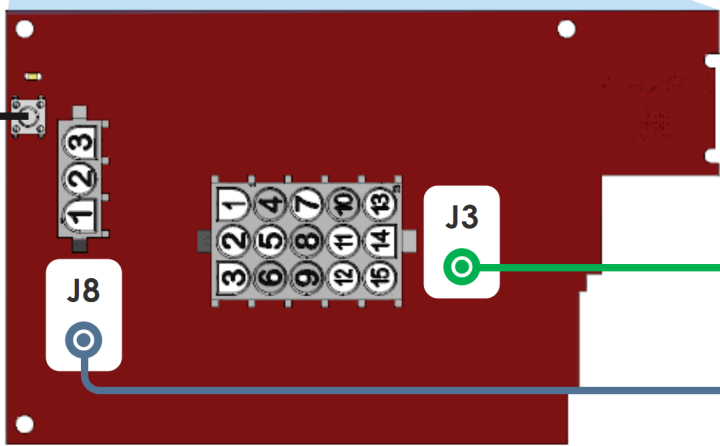
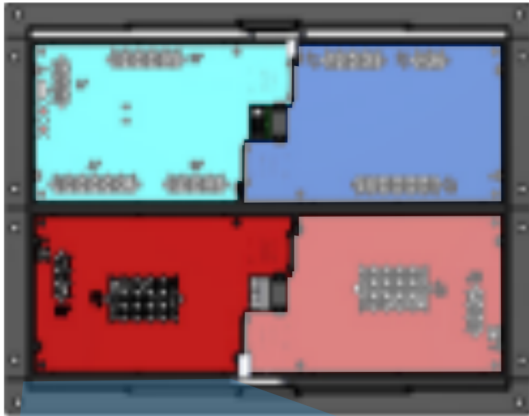
Front M1 Panel



M1 HC Relay (Card 2)



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

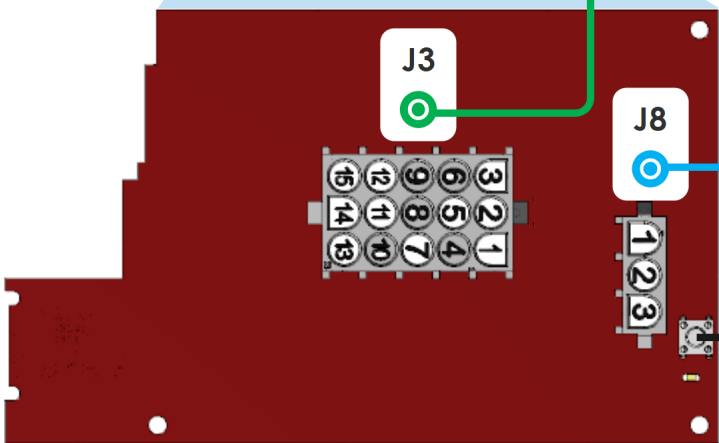
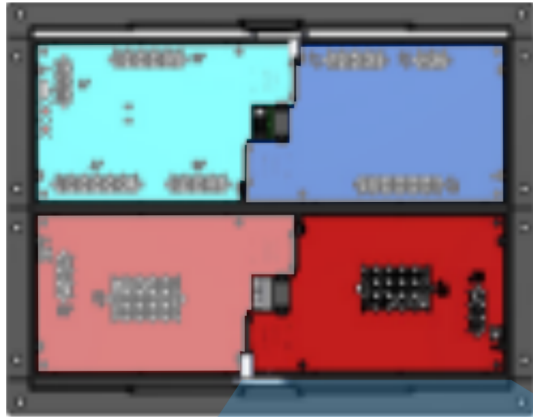
① Dash USB/ PS USB PWR	⑨ Panel Lamp/Head LT IGN
② Camera/Radio (IGN)	⑩ HVAC Denso (IGN)
③ Jack Buzzer (IGN)	⑪ N/A
④ Entry Step SW	⑫ 12V Outlet 1/USB PWR
⑤ N/A	⑬ TV Relay/Fridge/Dash SHD MOD (IGN)
⑥ CB/Satellite	⑭ Euro Loff (IGN)
⑦ Dock Light	⑮ HCR11 PWR
⑧ N/A	

J8

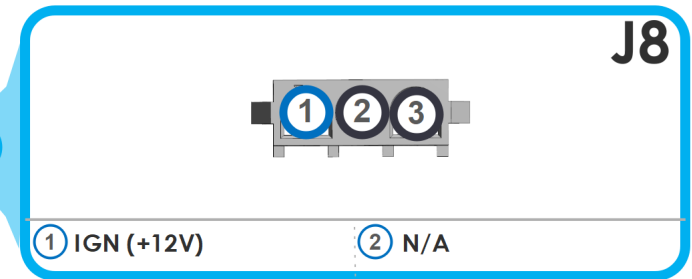
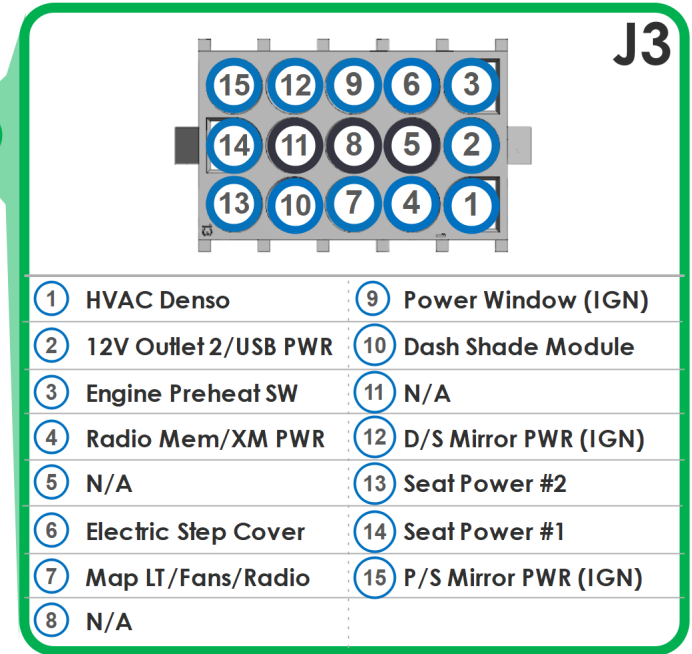
1	2	3
---	---	---

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

Front M1 Panel



M1 Breaker (Card 4)



Breaker Reset

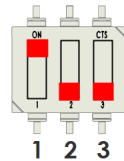
M1 HC Relay

- 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

M1 Low Current

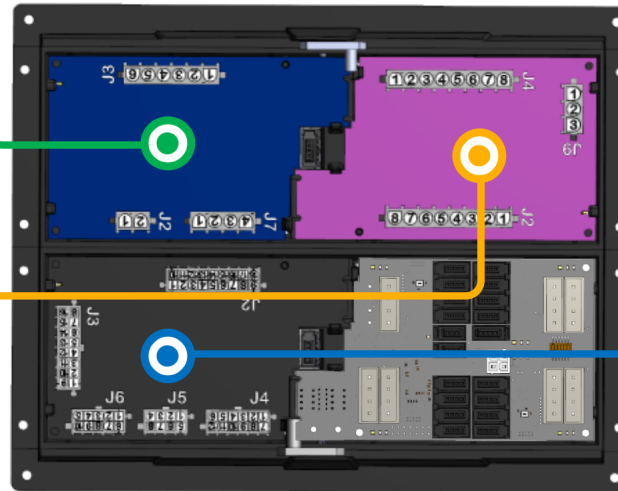
- Horn (GND)
- Furnace FR
- Furnace RR
- Gen Start (GND)
- Gen Stop (GND)
- Galley SHD DN
- Galley SHD UP
- Galley NT SHD DN
- Galley NT SHD UP
- Sofa Day SHD UP
- Sofa Day SHD DN
- Sofa NT SHD DN
- Sofa NT SHD UP

Dip Switch Settings



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

Mid M1 Panel



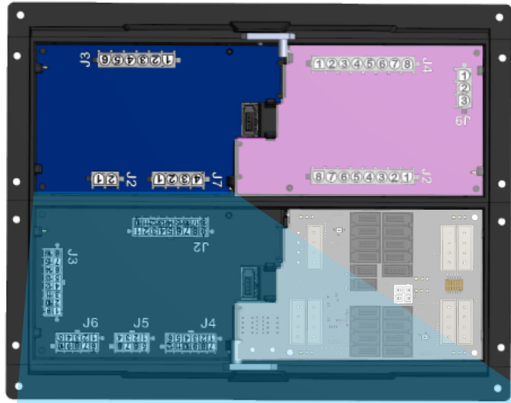
RSI-12

- 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)
- 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

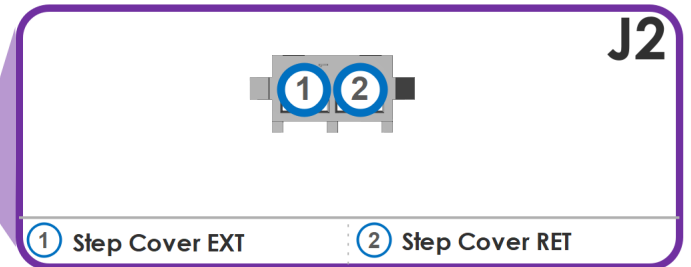
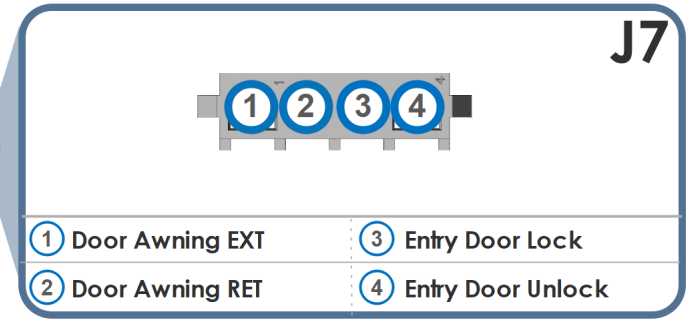
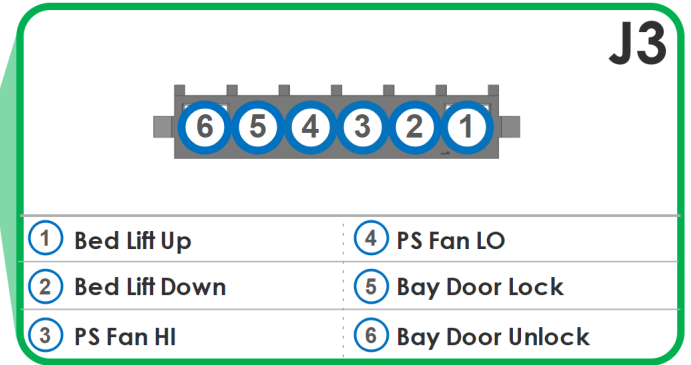
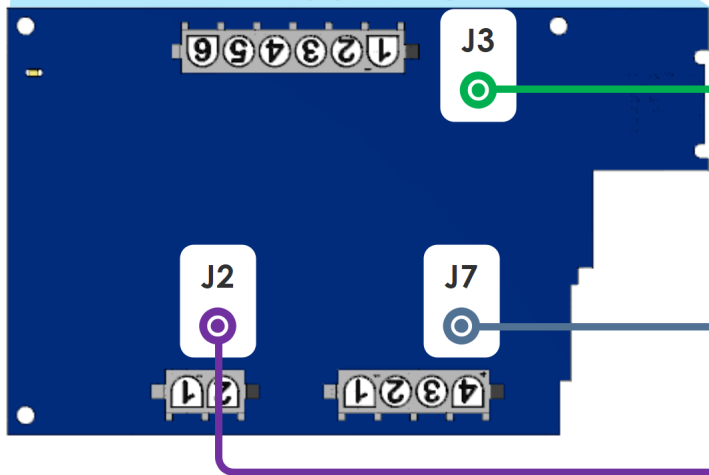
i 4 Card M1 Option

This page and the following three pages only apply if the coach is NOT equipped with window awnings

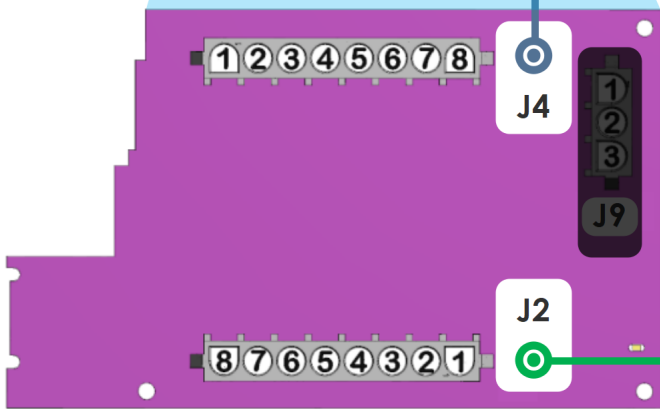
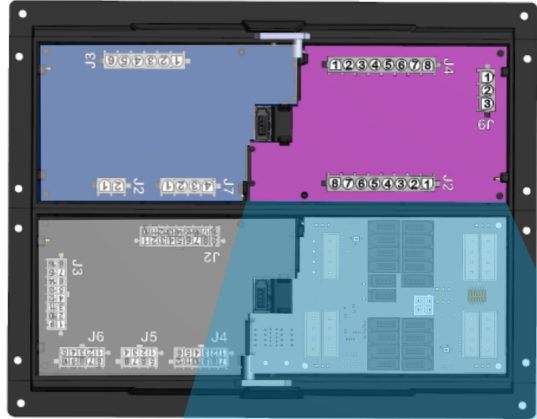
Mid M1 Panel



Mid M1 HC Relay (Card 1)



Mid M1 Panel



M1 LC Half Bridge

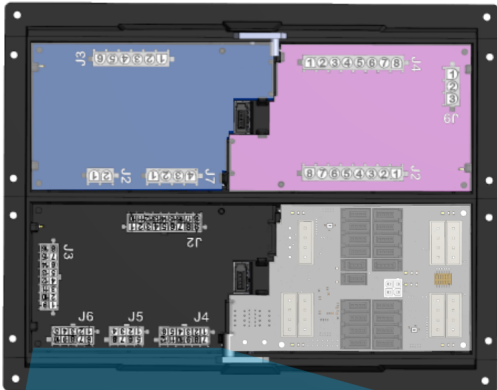
J4

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

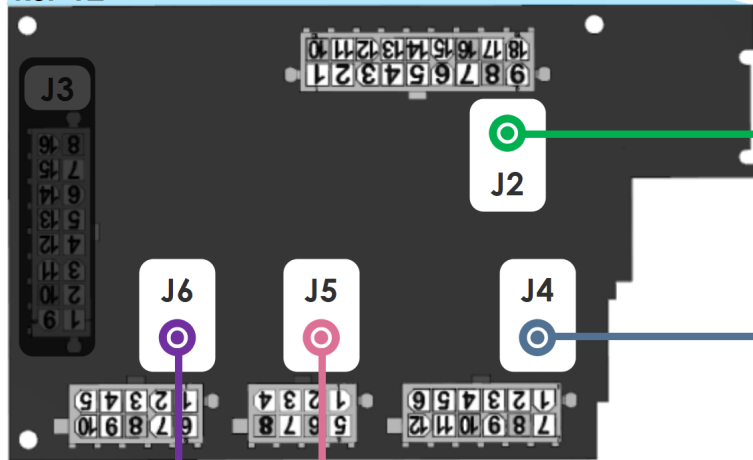
J2

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

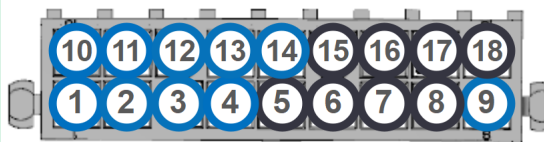
Mid M1 Panel



RSI-12

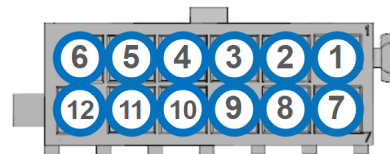


J2



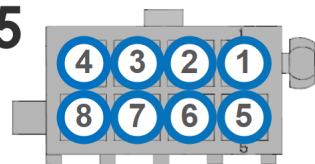
① IGN (+12V)	⑩ Water Pump (GND)
② GEN Fault (+12V)	⑪ Entry Door Pin SW (GND)
③ HSE Disconnect Sense (+12V)	⑫ Merge Input (GND)
④ Bed Lift Plunger (+12V)	⑬ Dash Accent ON (GND)
⑤ Spare (+12V)	⑭ Dash Accent OFF (GND)
⑥ Spare (+12V)	⑮ Spare (GND)
⑦ Spare (+12V)	⑯ Spare (GND)
⑧ Spare (+12V)	⑰ Spare
⑨ Park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

J4



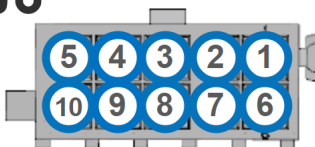
① FR Floor Ht Therm Sig.	⑦ FR Floor Ht Therm GND
② RR Floor Ht Therm Sig.	⑧ RR Floor Ht Therm GND
③ Front A/C Therm Sig.	⑨ Front A/C Therm GND
④ Mid A/C Therm Sig.	⑩ Mid A/C Therm GND
⑤ Rear A/C Therm Sig.	⑪ Rear A/C Therm GND
⑥ Bay Therm Sig.	⑫ Bay Therm GND

J5



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

J6



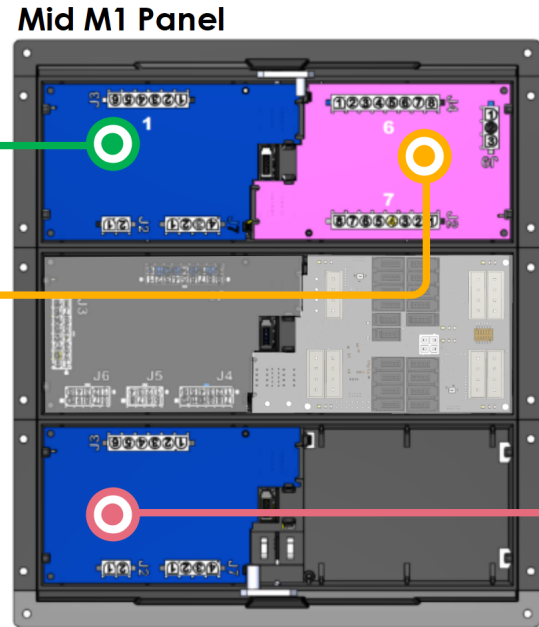
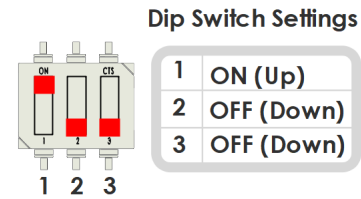
① Spare	⑥ Spare
② Spare	⑦ Spare
③ Spare	⑧ Spare
④ Spare	⑨ GEN Run Signal (+12v)
⑤ Spare	⑩ RTC 12V Constant PWR

M1 HC Relay

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

M1 Low Current

Horn (GND)
Furnace FR
Furnace RR
Gen Start (GND)
Gen Stop (GND)
Galley SHD UP
Galley SHD DN
Galley NT SHD DN
Galley NT SHD UP
Sofa Day SHD UP
Sofa Day SHD DN
Sofa NT SHD DN
Sofa NT SHD UP



M1 HC Relay

DS FR Window Awning EXT
DS FR Window Awning RET
DS RR Window Awning EXT
DS RR Window Awning RET
PS FR Window Awning EXT
PS FR Window Awning RET
PS RR Window Awning EXT
PS RR Window Awning RET

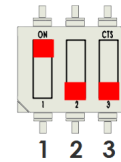
i 6 Card M1 Option

This page and the following two pages only apply if the coach is equipped with window awnings.

RSI-12

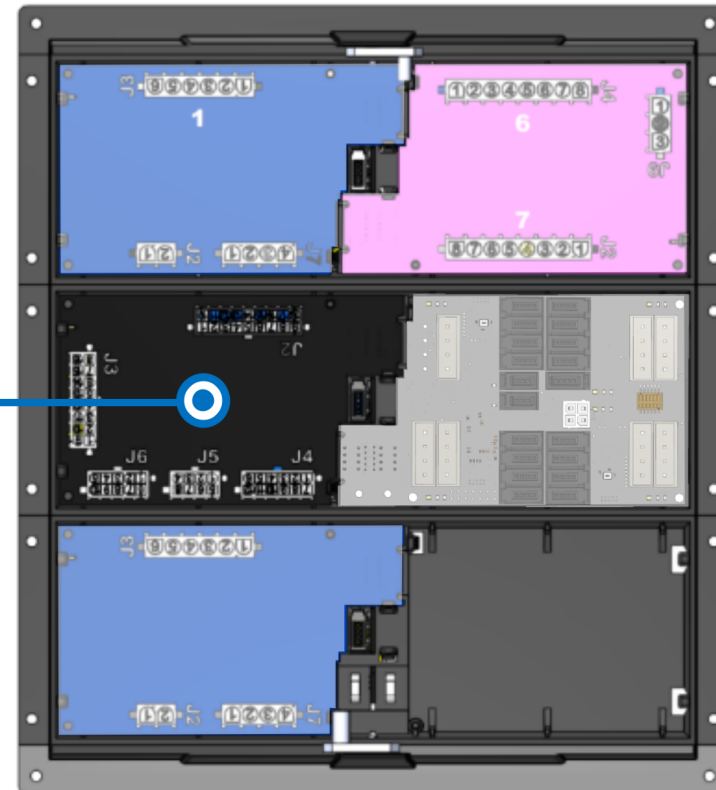
- IGN (+12V)
- GEN Fault (+12V)
- HSE Disconnect Sense (+12V)
- Bed Lift Plunger (+12V)
- Park Brake (GND)
- Water Pump (GND)
- Entry Door Pin SW (GND)
- Merge Input (GND)
- Dash Accent ON (GND)
- Dash Accent OFF (GND)
- GEN Run Signal (+12v)
- RTC 12V Constant PWR
- FR Floor Heat Thermistor
- RR Floor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

Dip Switch Settings

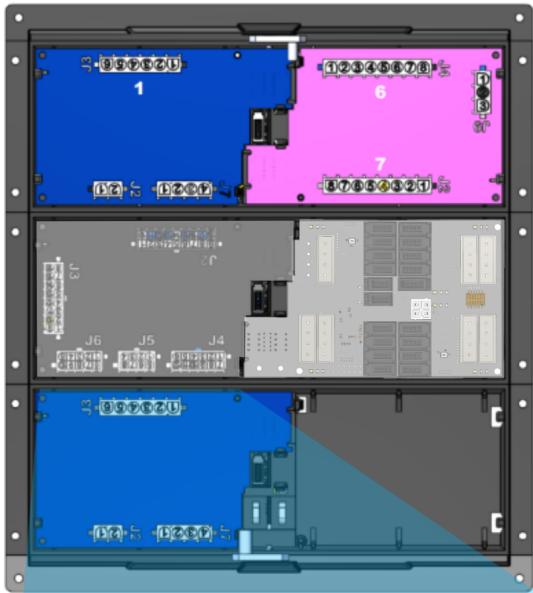


1	ON (Up)
2	OFF (Down)
3	OFF (Down)

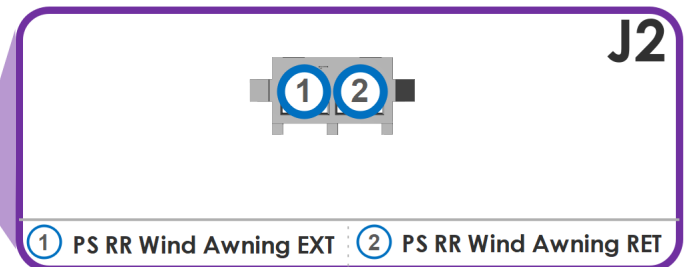
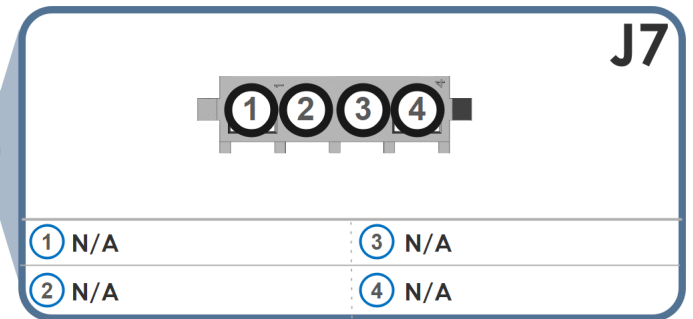
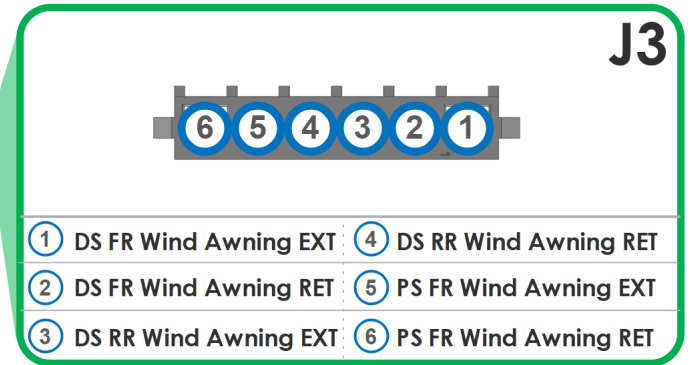
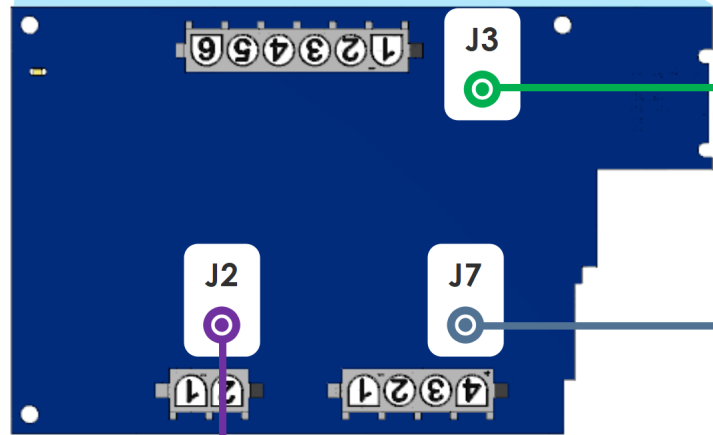
Mid M1 Panel



Mid M1 Panel



Mid M1 HC Relay (Card 5)



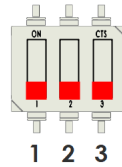
M1 Dimmer Card 1

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

M1 Dimmer Card 3

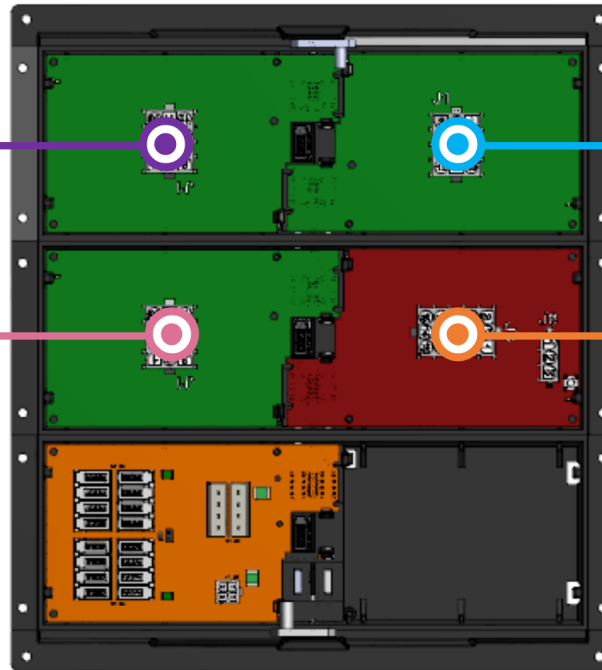
- TV Accent Lt
- CloseLt
- Floor HT FR Zone
- Floor HT RR Zone
- Fireplace Override
- Rear TV Lift Up
- Rear TV Lift Down
- Ceiling Fan HI
- Ceiling Fan LO

Dip Switch Settings



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

Rear M1 Panel



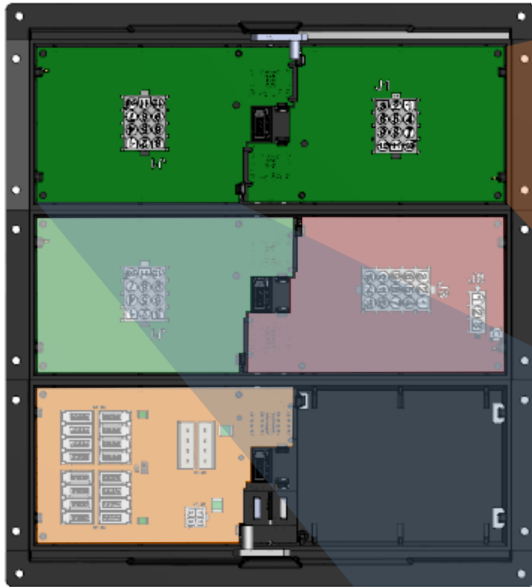
M1 Dimmer Card 2

- 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

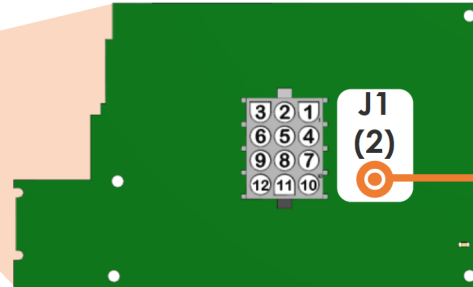
M1 Breaker Card 4

- Basement 12v PWR/Ext TV 12v
- SEELVEL
- Front Furnace
- Prox. AC RLY SW/Gasley Motion Lt
- Switcher/LP/IR
- Vent Fan PWR
- Rear Furnace
- Mid Toilet
- Front Pass Slide/Dinette SHD
- Bed Slide/Wall USB
- Truma Water Heater
- FR/RR TV Lift

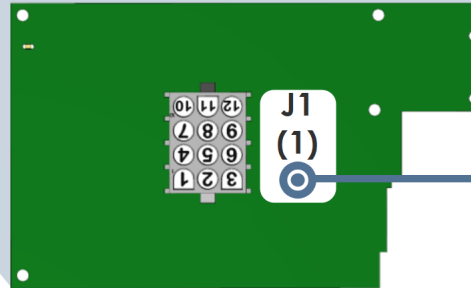
Rear M1 Panel



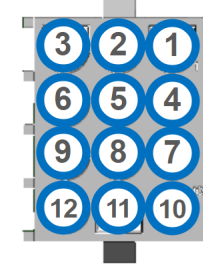
M1 Dimmer (Card 2)



M1 Dimmer (Card 1)

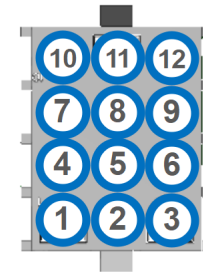


J1 (2)



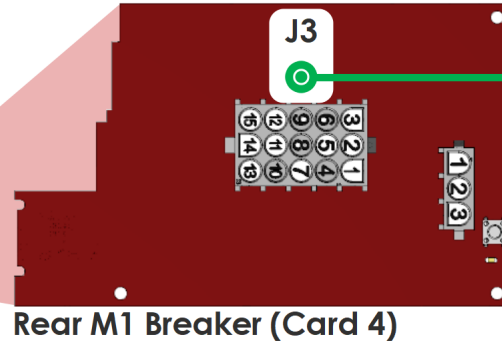
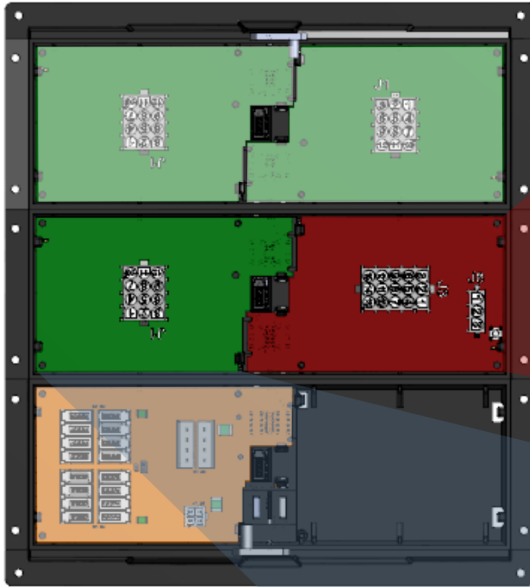
- | | |
|----------------------|-----------------------|
| ① Bedroom Ceiling Lt | ⑦ Mid Bath Vanity Lt |
| ② Bed Accent | ⑧ Rear Bath Lt |
| ③ FR Accent 1 | ⑨ Rear Bath Vanity Lt |
| ④ FR Accent 2 | ⑩ FR Bed Reading Lt |
| ⑤ Task Lt | ⑪ RR Bed Reading Lt |
| ⑥ Mid Bath Lt | ⑫ RR Accent |

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 Dash Accent | ⑫ RR Courtesy |

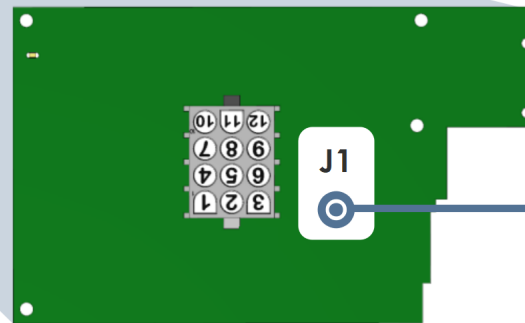
Rear M1 Panel



Rear M1 Breaker (Card 4)

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

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



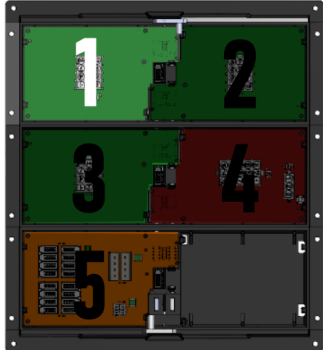
Rear M1 Dimmer (Card 3)

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

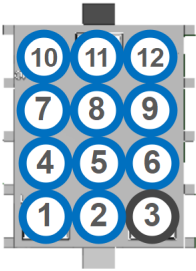
① TV Accent Lt	⑦ Spare
② Closet Lt	⑧ Fireplace Override
③ Spare	⑨ Rear TV Lift Up
④ Spare	⑩ Rear TV Lift Down
⑤ Floor HT FR Zone	⑪ Ceiling Fan HI
⑥ Floor HT RR Zone	⑫ Ceiling Fan LO

1

Dimmer Card 1



Rear M1 Panel

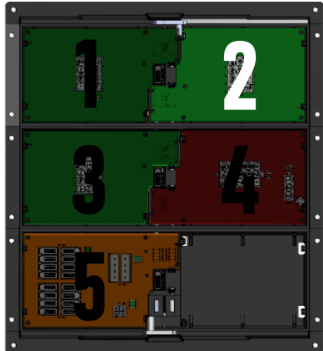


Outputs

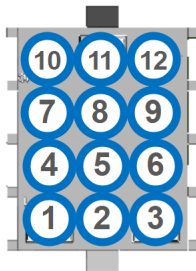
① Entry Lt	⑦ FR Sconce
② Main OH/Liv Rm	⑧ RR Sconce
③ Spare	⑨ DS Slide
④ PS Ceiling Lt	⑩ PS Slide
⑤ DS Ceiling Lt	⑪ FR Courtesy
⑥ Dash Accent	⑫ RR Courtesy

2

Dimmer Card 2



Rear M1 Panel

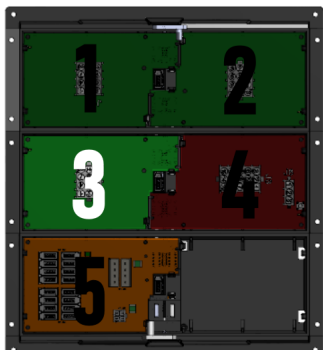


Outputs

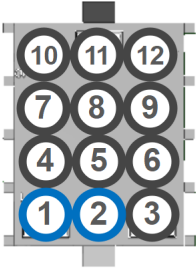
① Bed Ceiling Lt	⑦ Mid Bath Vanity Lt
② Bed Accent	⑧ Rear Bath Lt
③ FR Accent 1	⑨ Rear Bath Vanity Lt
④ FR Accent 2	⑩ FR Bed Reading Lt
⑤ Task Lt	⑪ RR Bed Reading Lt
⑥ Mid Bath Lt	⑫ RR Accent

3

Dimmer Card 3



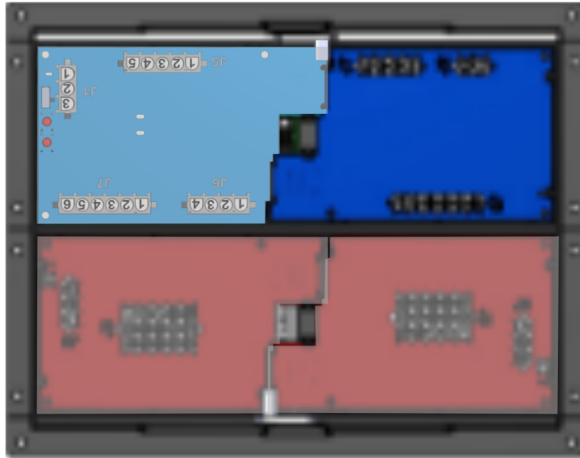
Rear M1 Panel



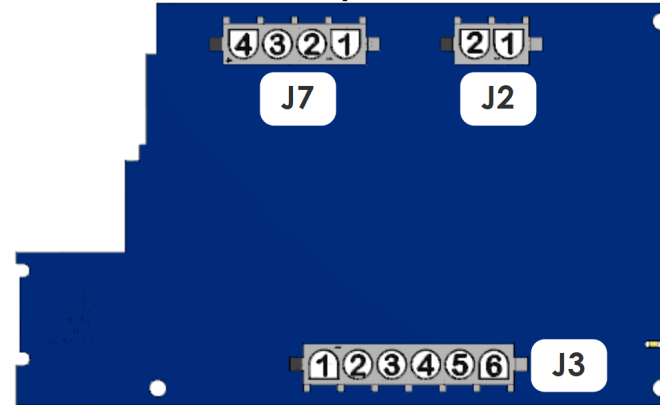
Outputs

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 Relay Card



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

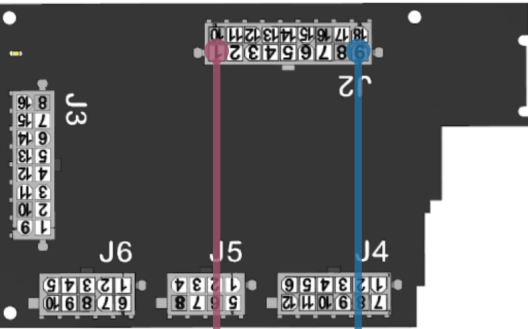
1 Awning Lt	2 Road Lt
-------------	-----------

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.

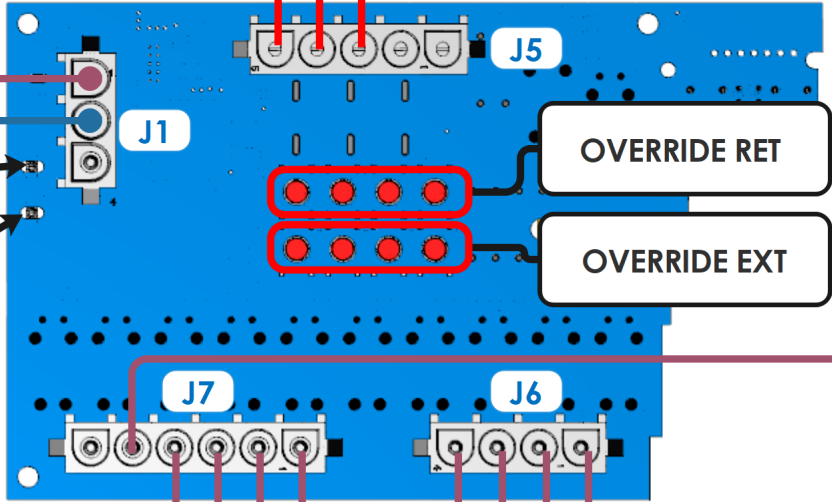
Ignition Switch

Park Brake Switch

RSI-12



M1 Slide Card



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

Awnings Ready LED

Slides Ready LED

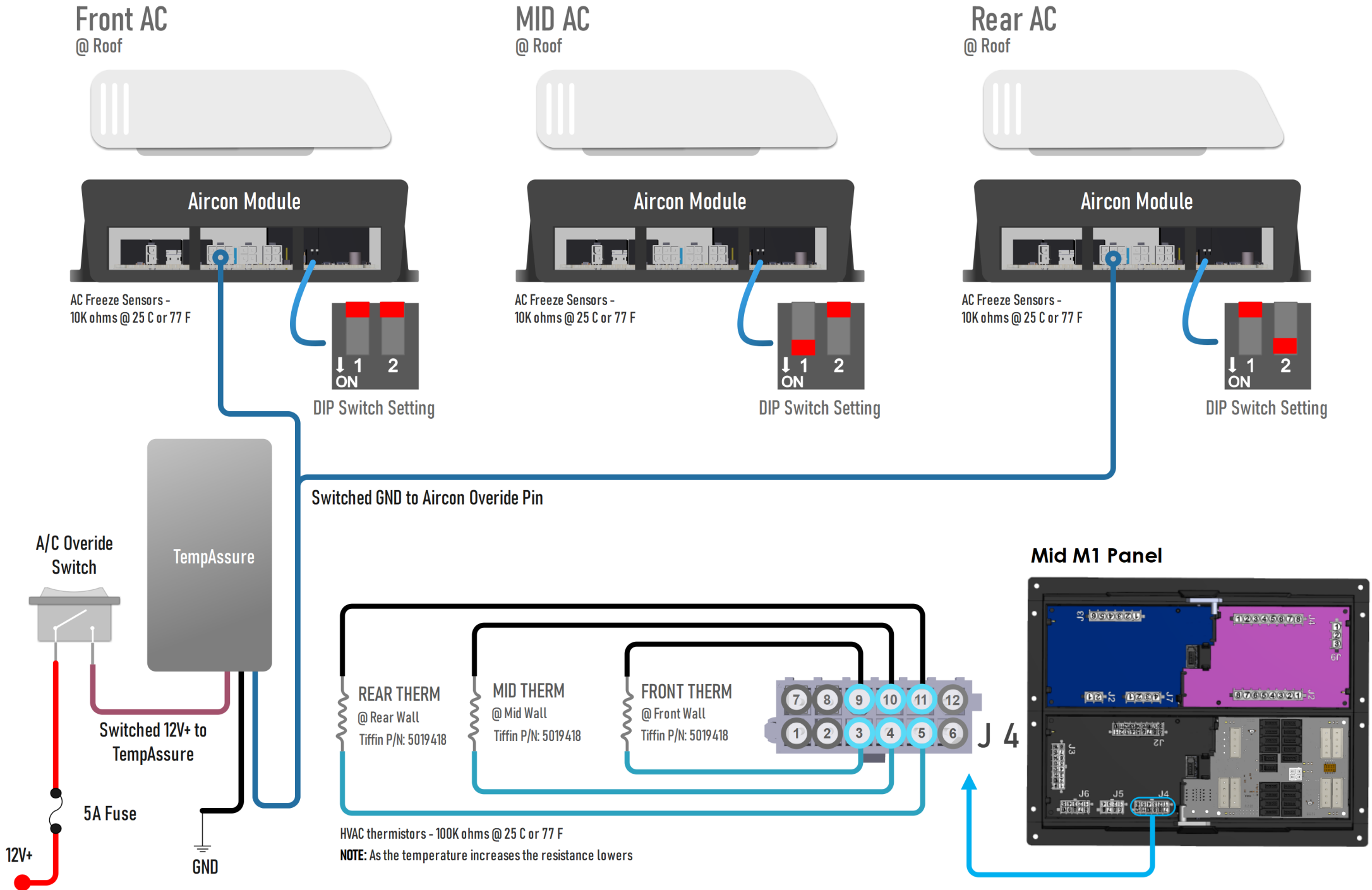
OVERVERRIDE RET

OVERVERRIDE EXT

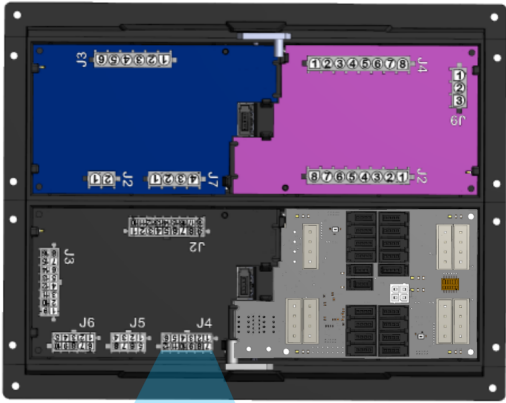
- Hydraulic Pump**
- Power Output
- ⑤ Hydraulic Pump

- 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

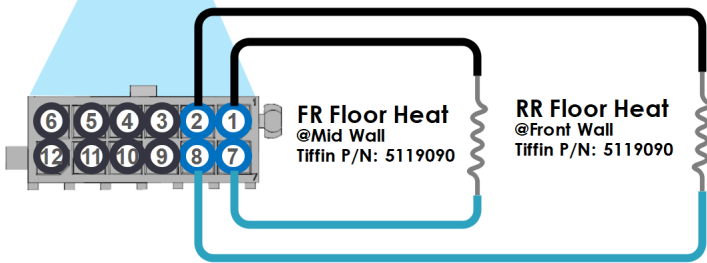
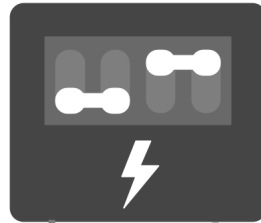
- Front Slide Outputs**
- ① P/S FR Slide EXT
 - ② P/S FR Slide RET
 - ③ D/S FR Slide EXT
 - ④ D/S FR Slide RET



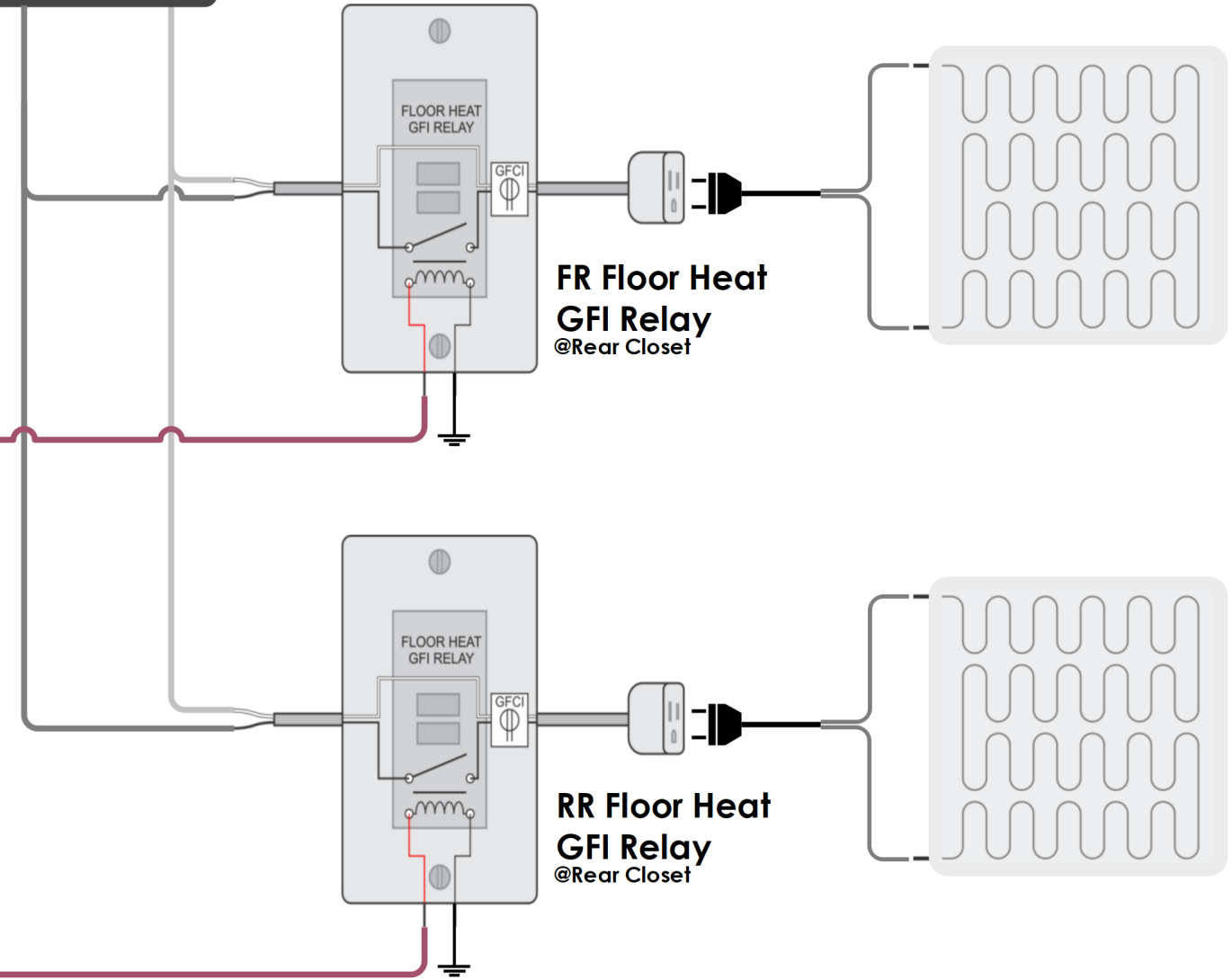
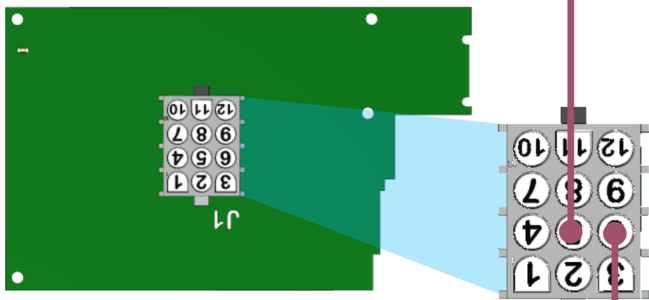
Mid M1 Panel

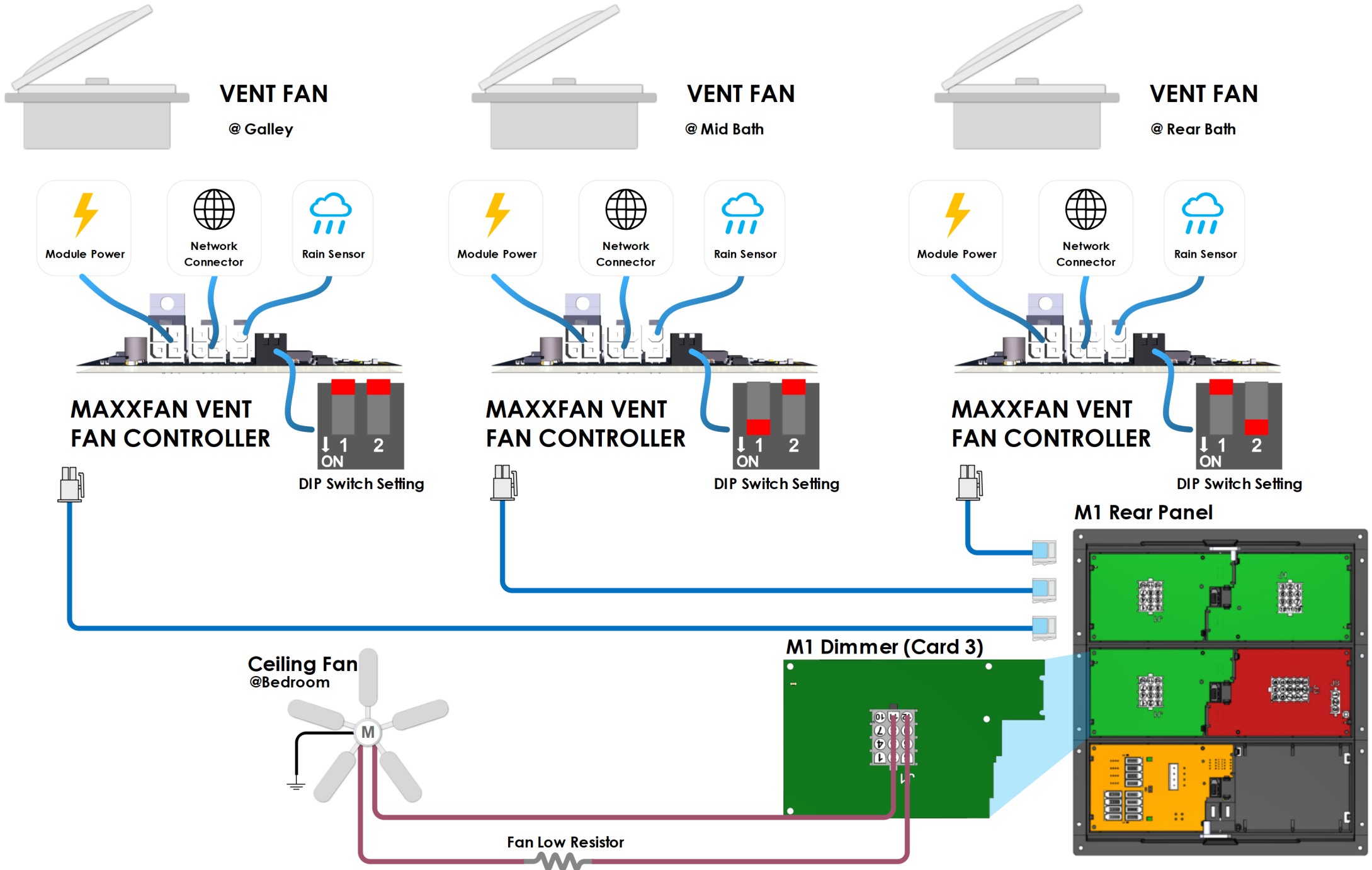


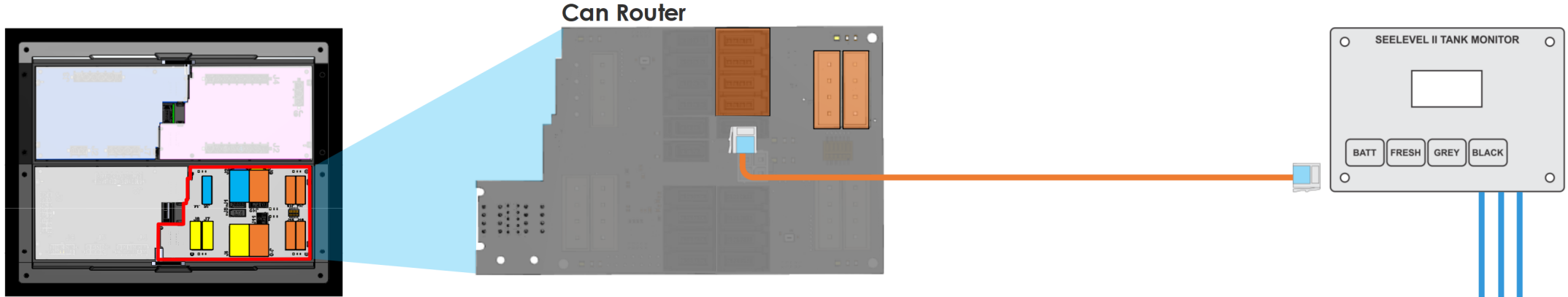
120V BREAKER PANEL @Rear Closet



Rear M1 Panel Card 3







Mid M1 Panel



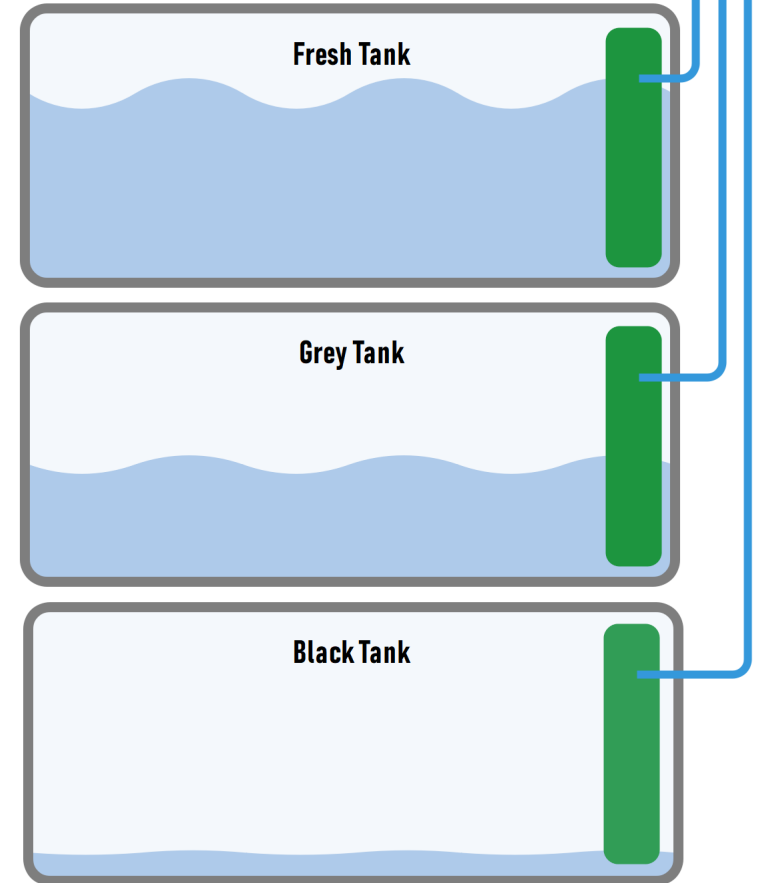
Seelevel Tank System

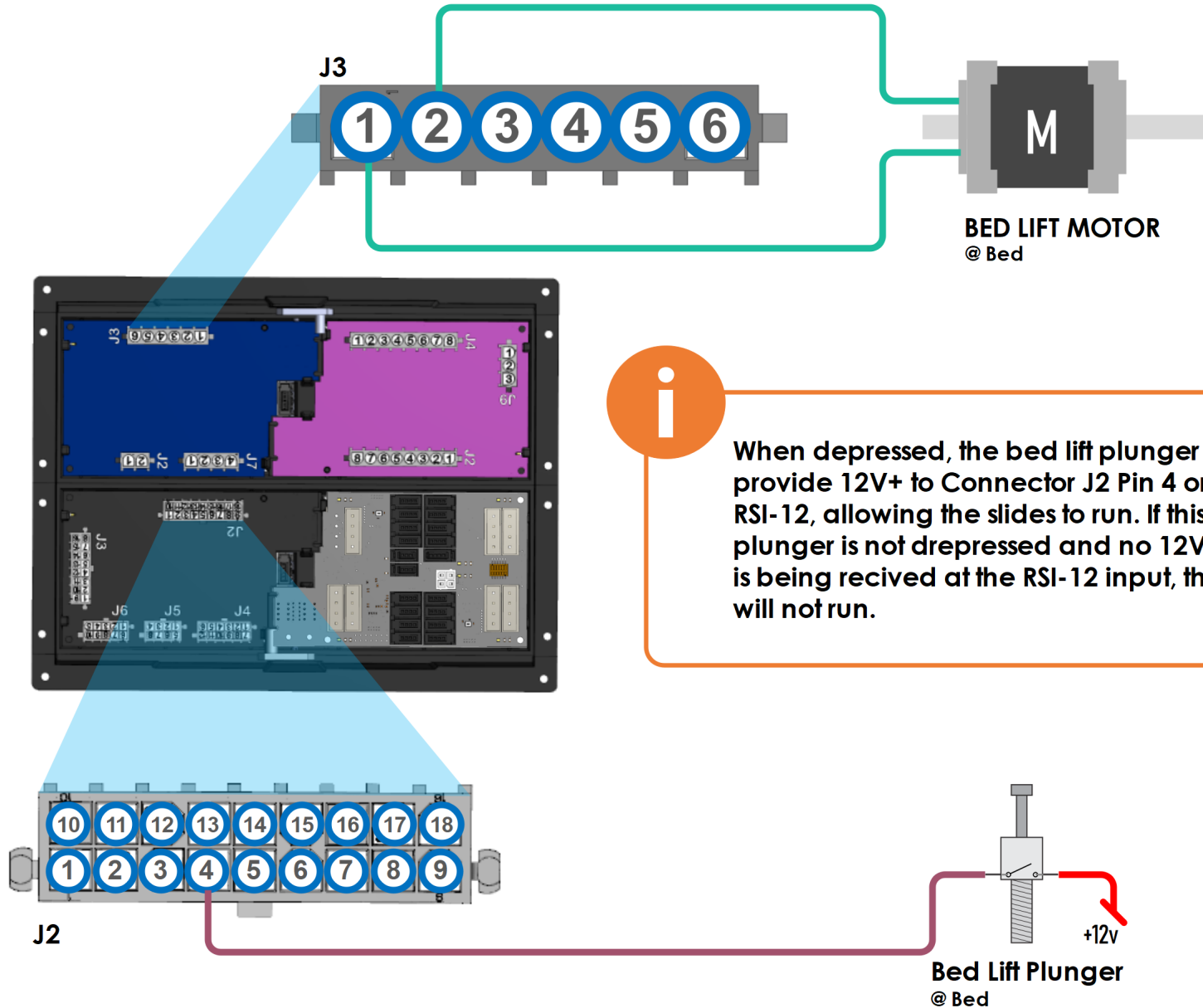
This coach is equipped with a Seelevel Tank sensing system 1 made by Garnet Industries. This tank system receives data from the strip sensors on the tank. The Seelevel monitor then transmits this data across the RV-C network.

The Spyder System detects the tank information broadcast by Seelevel. This information is displayed on all Spyder displays where tank information can be found.

If the tank information displayed on a Spyder System is incorrect the issue is not related to the Spyder System itself. The Spyder System only displays information broadcast by Seelevel.

If no tank information is present the Seelevel monitor may be offline.



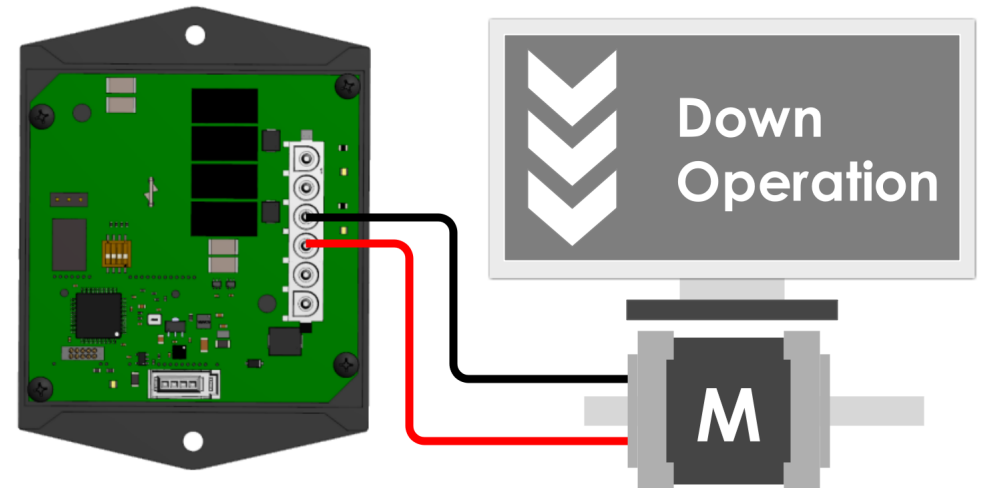
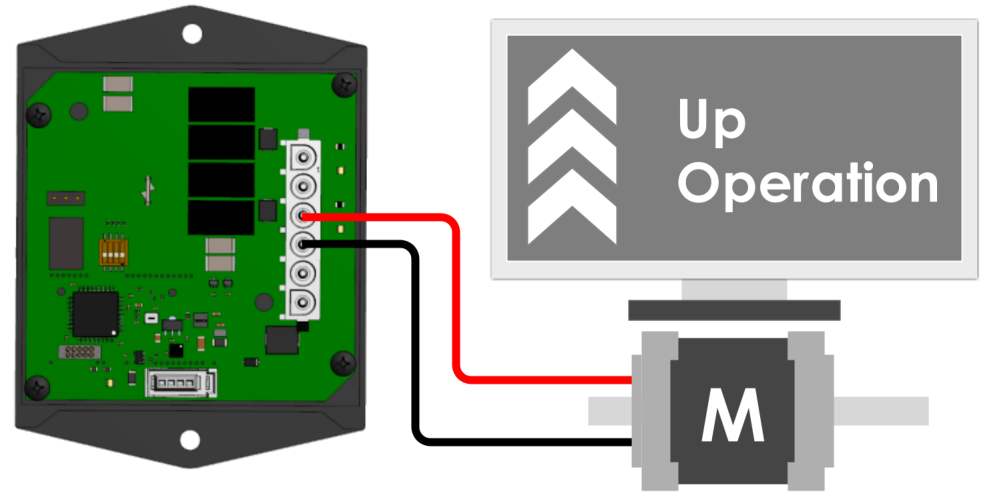
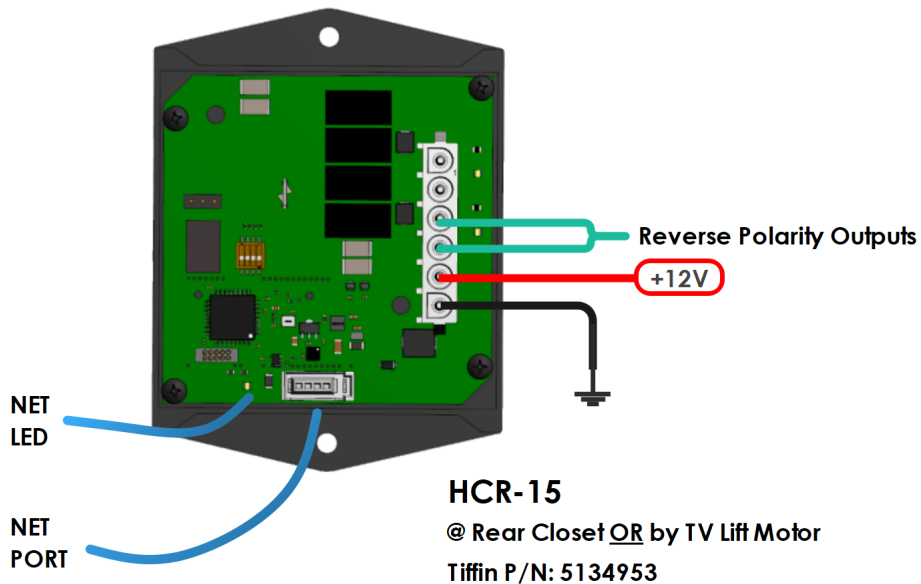


Trouble Shooting

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.

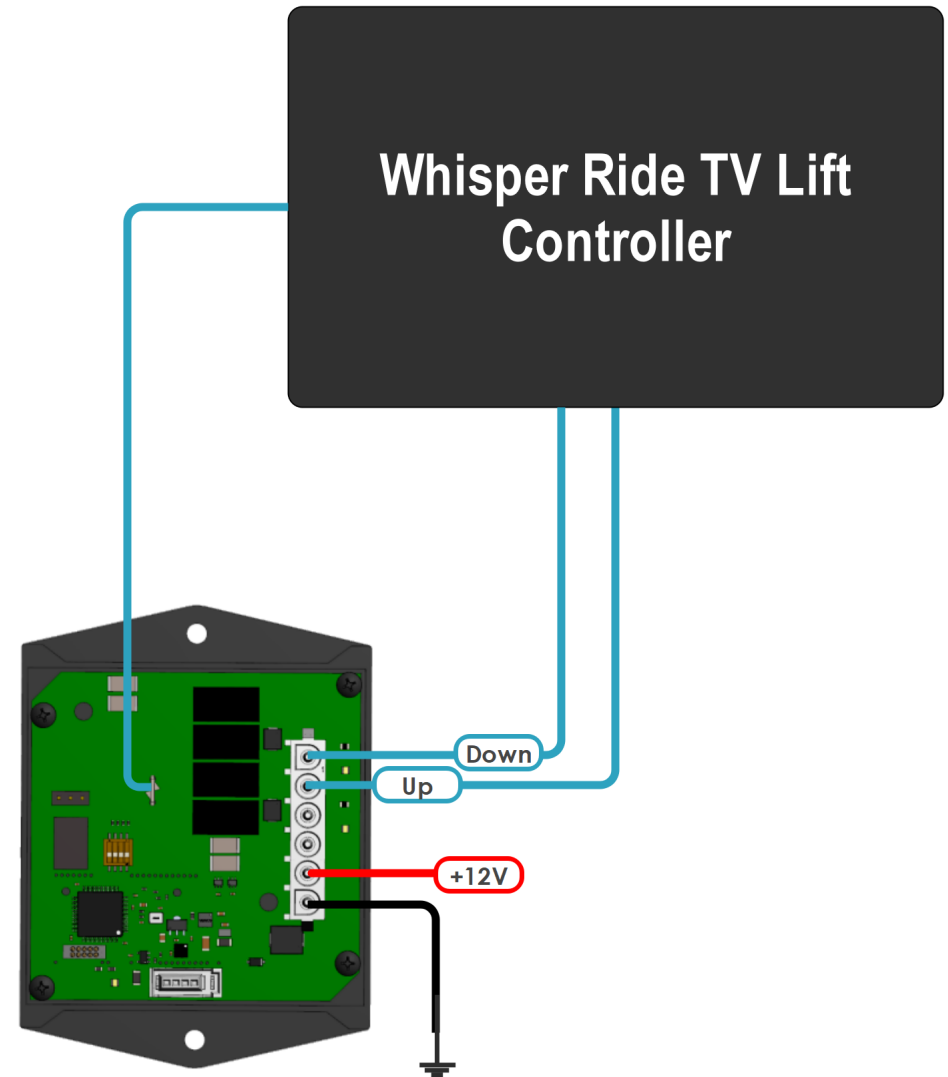
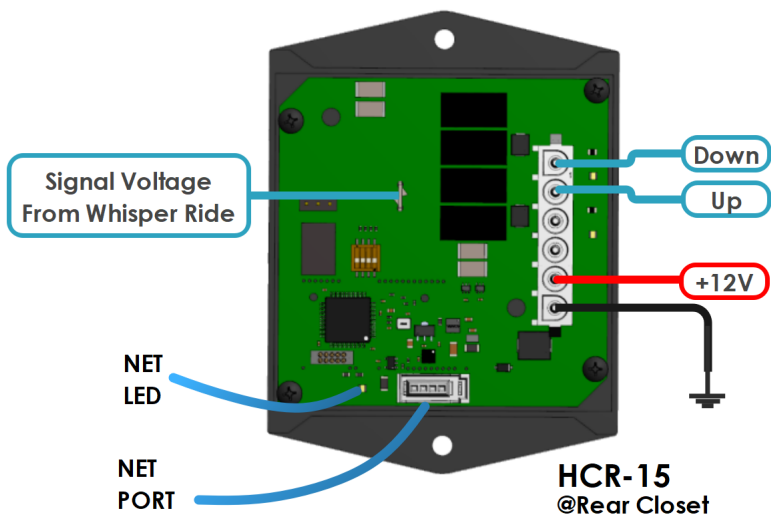


Trouble Shooting

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.

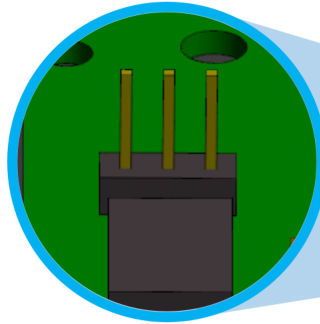
To troubleshoot this further, please contact Spyder Controls.



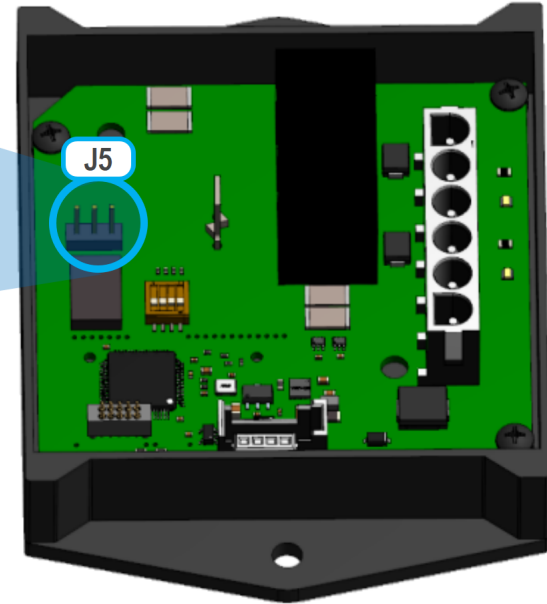
Location Setting

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

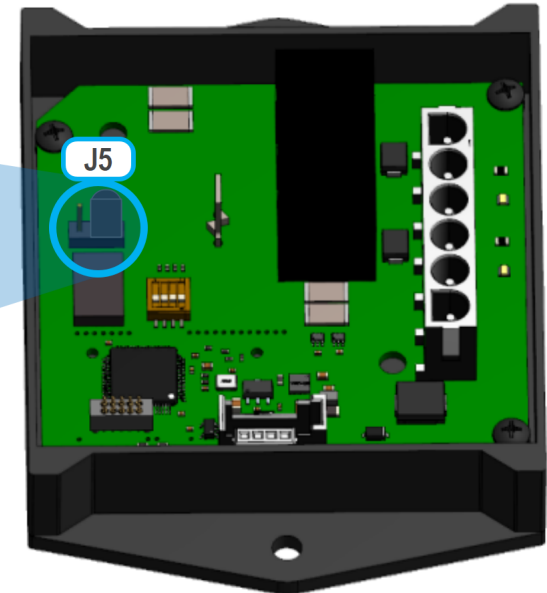
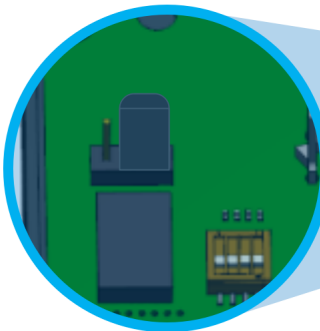
Front TV Lift



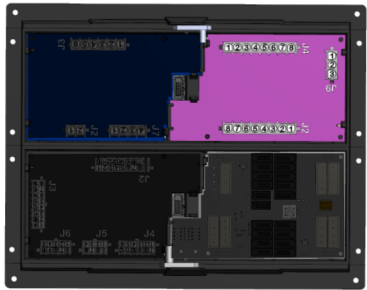
HCR 15



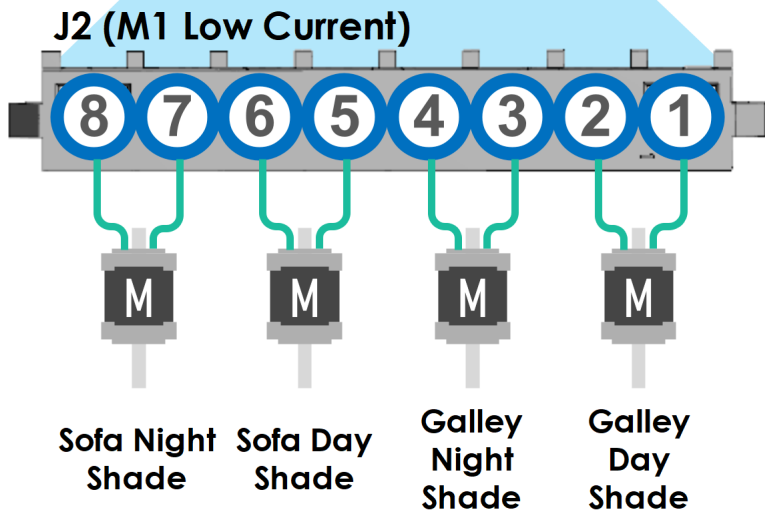
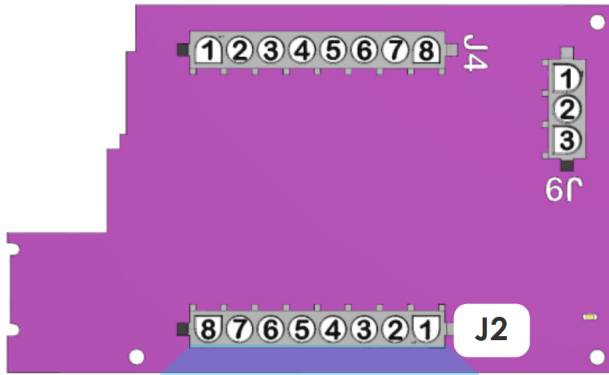
Rear TV Lift



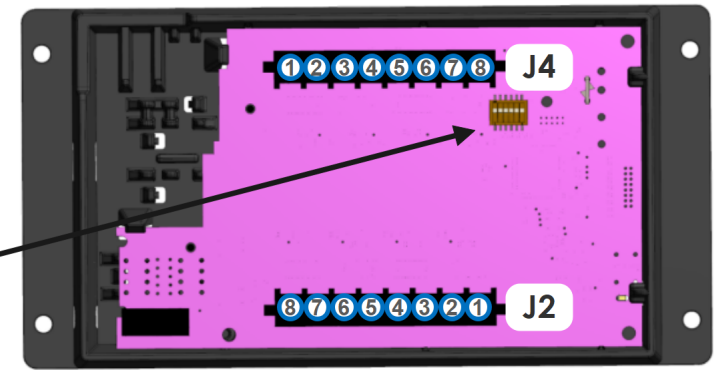
Mid M1 Panel



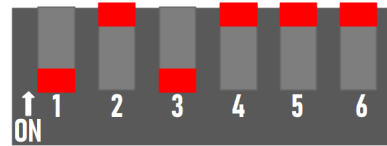
M1 Low Current
@M1 Mid Panel



Dash Shade Module

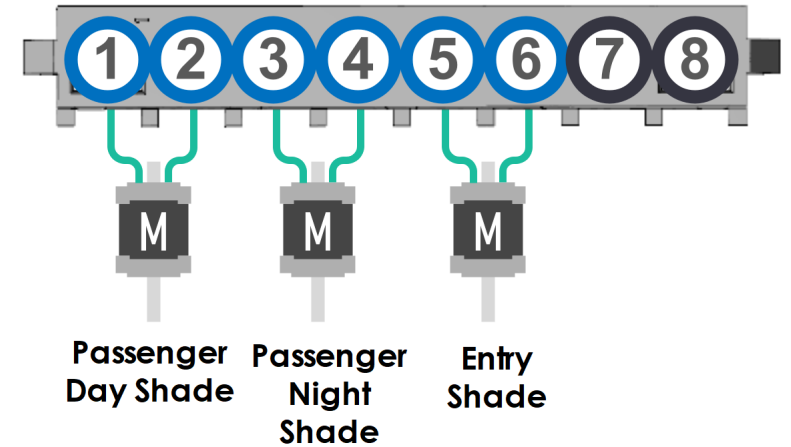


Dip Switch Setting



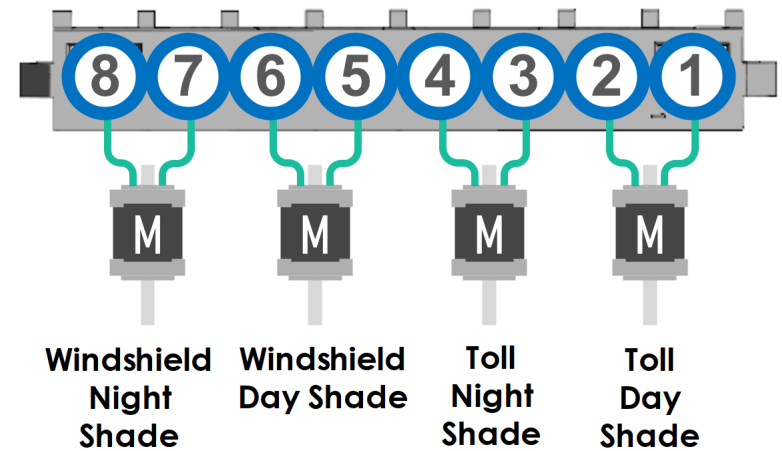
J4

(Shade Module)



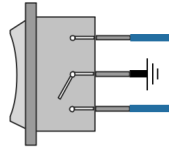
J2

(Shade Module)

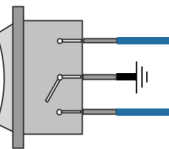


i **NOTE**
Only momentary operation allowed for lowering shades while ignition is on.

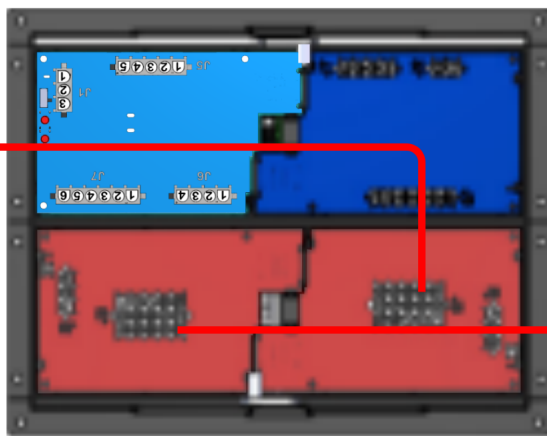
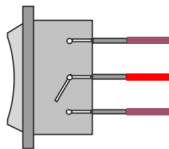
Windshield Day Shade Switch



Windshield Night Shade Switch

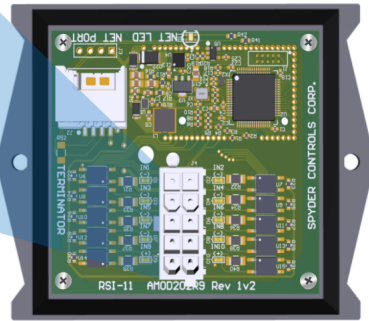


Step Cover Switch

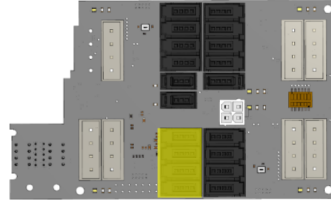


Front M1 Panel

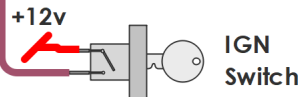
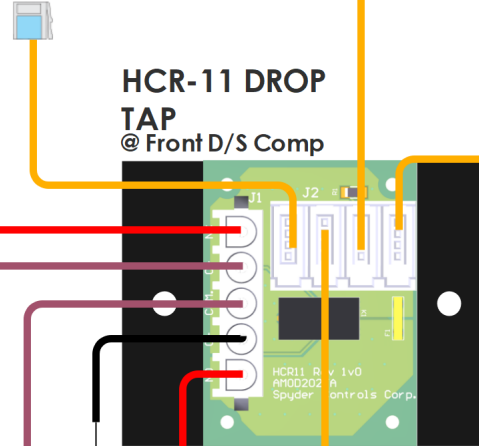
RSI-11
@ FR D/S Comp



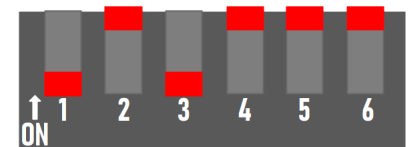
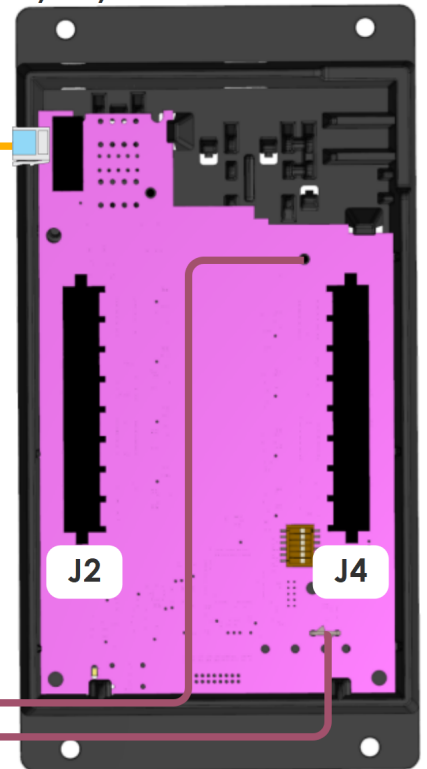
CAN-ROUTER 3
@ D/S Storage Bay Ceiling



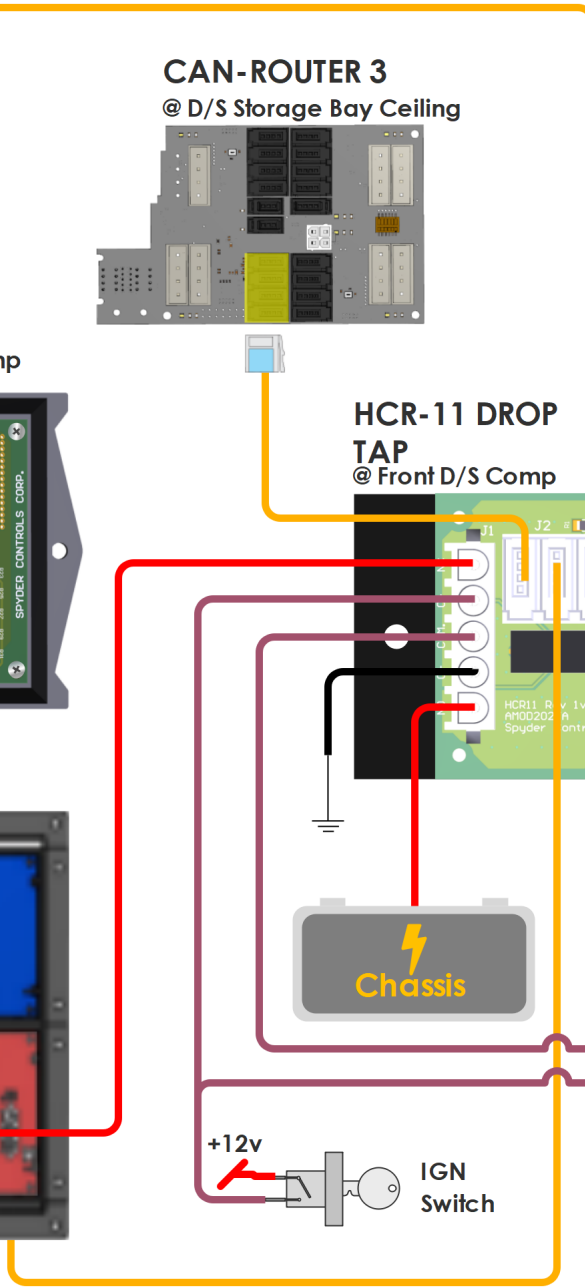
HCR-11 DROP TAP
@ Front D/S Comp



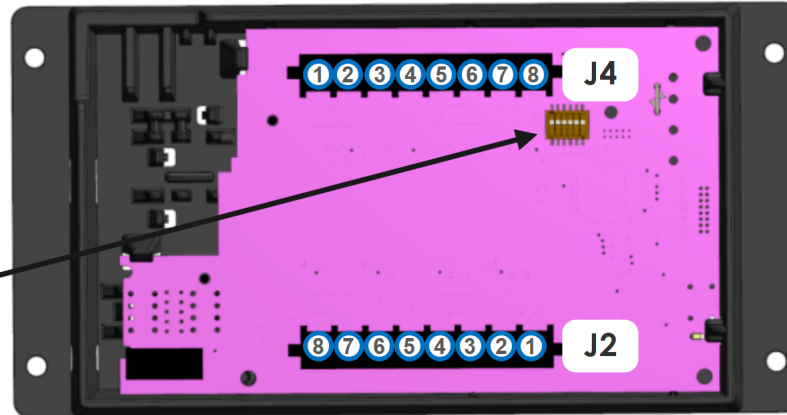
Dash M1 Shade Module
@ Dash - Overhead Cabinet
by Entry Door



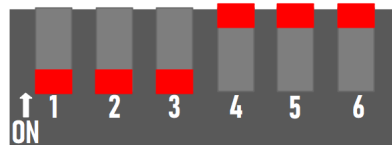
DIP Switch Setting



Front Shade Module

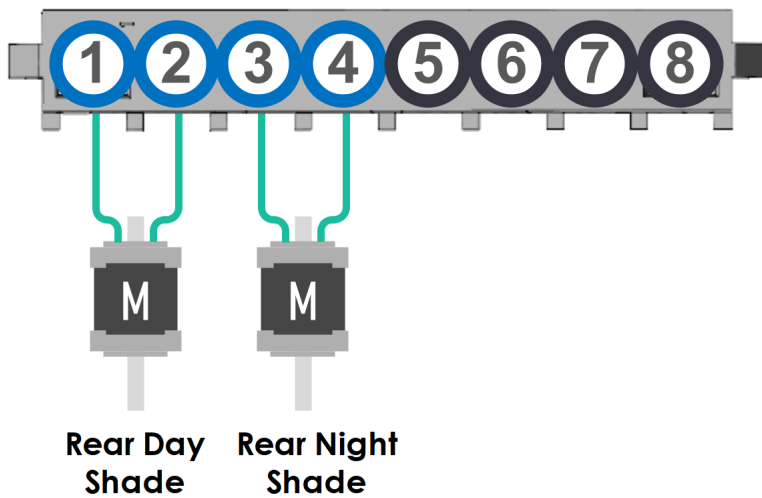


Dip Switch Setting



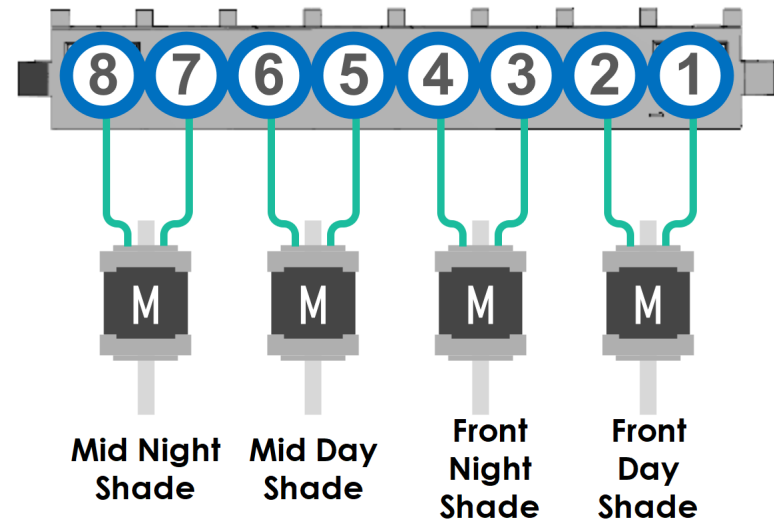
J4

(Front Shade Module)

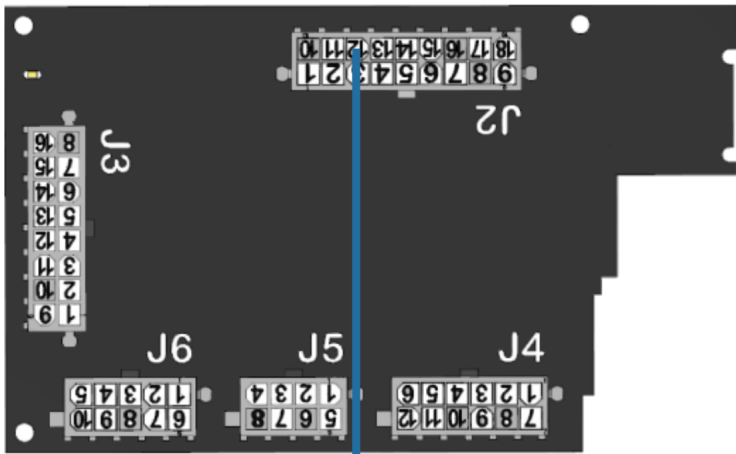


J2

(Front Shade Module)



RSI-12
@Mid M1 Panel



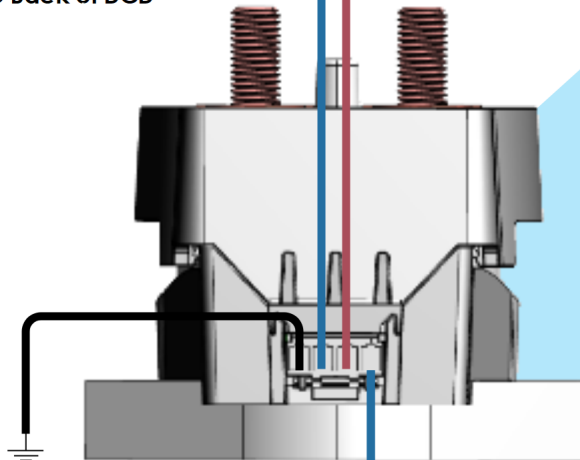
Auto / Manual Merge Input (GND)

COACH RUNNING INPUT

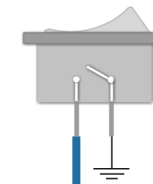
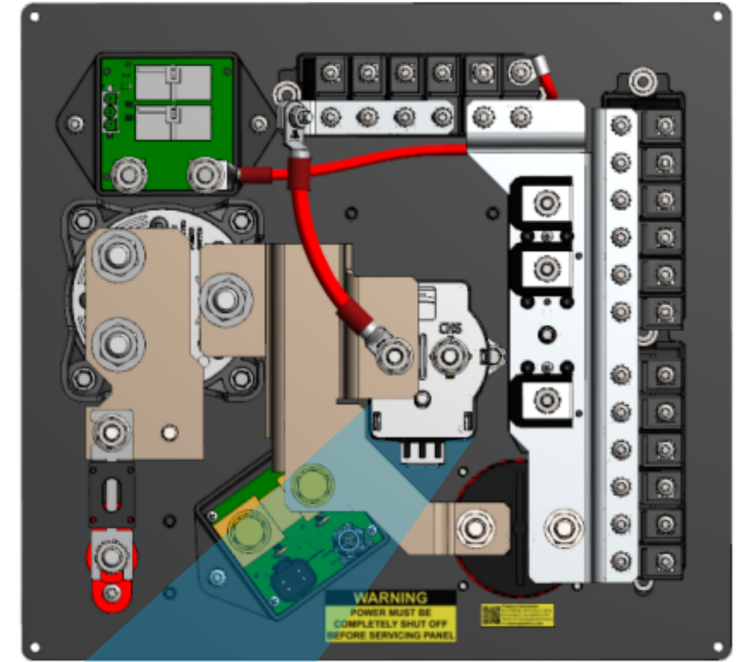
Depending on the chassis used in the coach the coach running input will either come from the engine (switched GND) or from the ignition (switched 12V+)



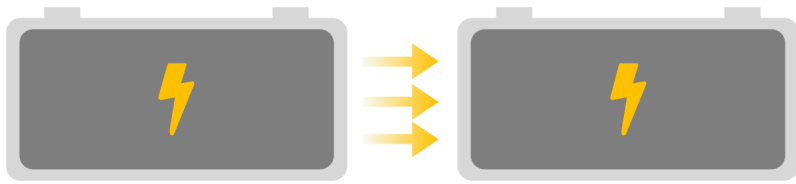
MERGE SOLENOID
@ Back of DCD



DCD Panel



Manual Merge Override Switch
@ Dash

**CHASSIS BATTERY**

⚡ 13.3V+ Or Higher

🕒 30 Seconds

🔑 🚗 V+

HOUSE BATTERY**MERGE LOGIC - CHASSIS CHARGING HOUSE**

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

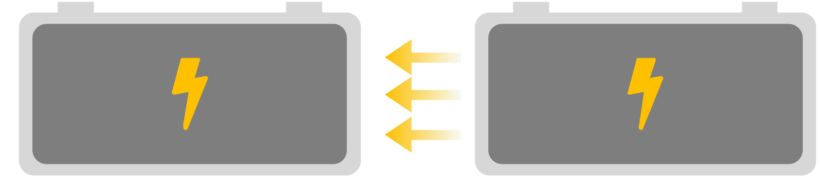
- Engine run or ignition signal is present and chassis voltage is above 13.3V (charging) for 30 seconds.

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 - 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

**CHASSIS BATTERY**

⚡ 12.4V+ Or Lower

🕒 30 Seconds

V+

HOUSE BATTERY

⚡ 12.5V+ Or Higher

🕒 30 Seconds

V+

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

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



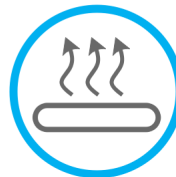
Washer / Dryer



Engine Preheat



All AC Units



All Floorheat

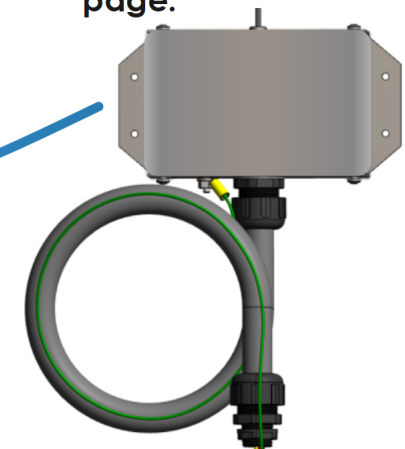


Fireplace



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

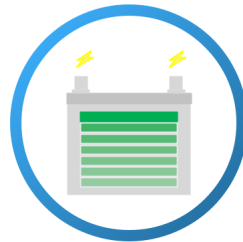
THE CHARGER IS IN FLOAT MODE
(BATTERIES ARE CLOSE TO FULL CHARGE)

3

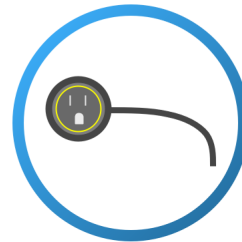
THE CHARGE RATE HAS BEEN REDUCED

4

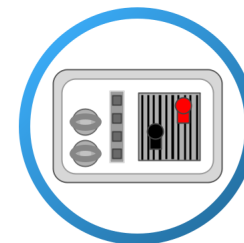
A NON-EMS INVERTED LOAD IS ACTIVATED,
SUCH AS THE MICROWAVE



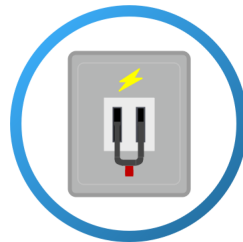
Batteries close to full



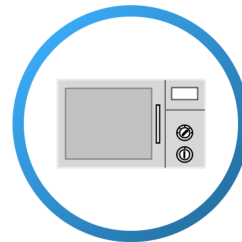
Connected to Shore Power or Gen Charging



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.

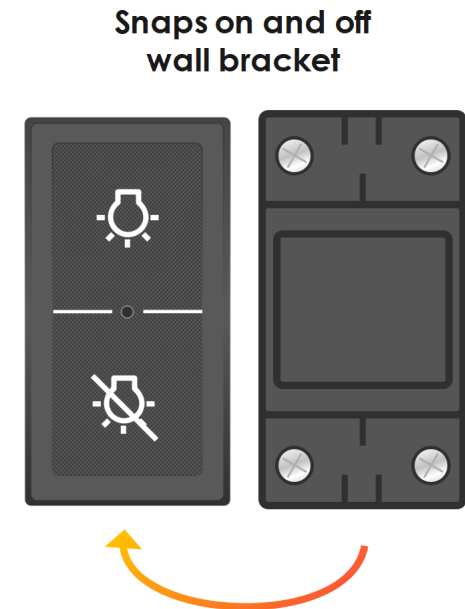
Use the up arrows on the back of the switch panel to orientate placement back onto the mounting bracket. Snap the wireless rocker switch back into place.

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

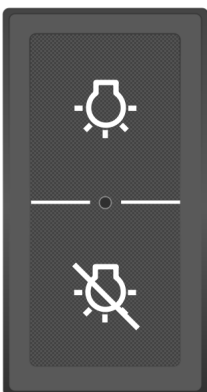


Insert Battery with + sign facing up.

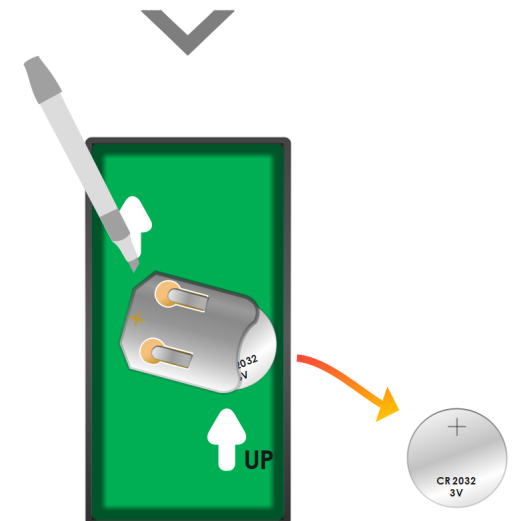
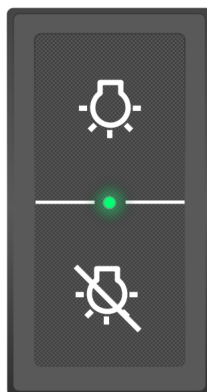


A green LED will turn on when a button is pressed. This is the transmit LED and confirms that the switch panel is transmitting information. This LED will flash occasionally indicating the switch panel is transmitting its battery status.

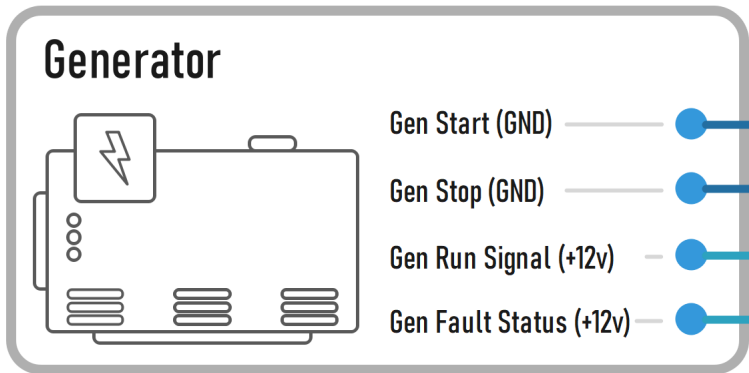
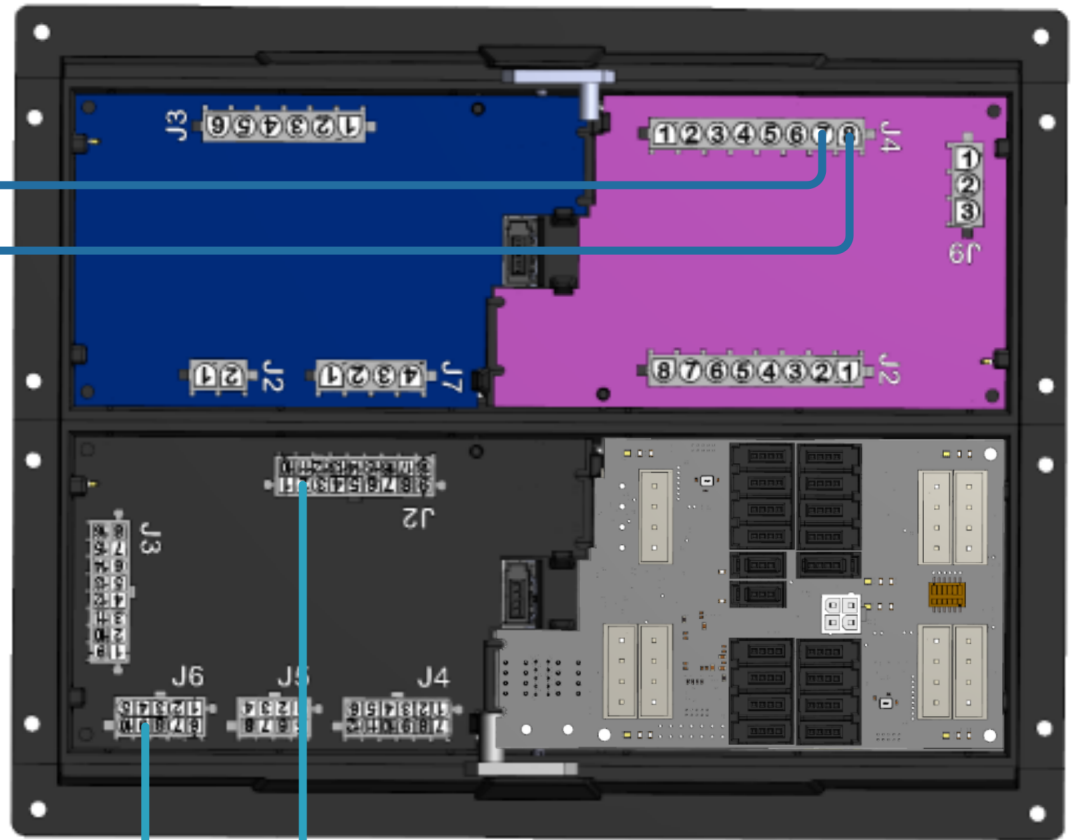
Not Transmitting



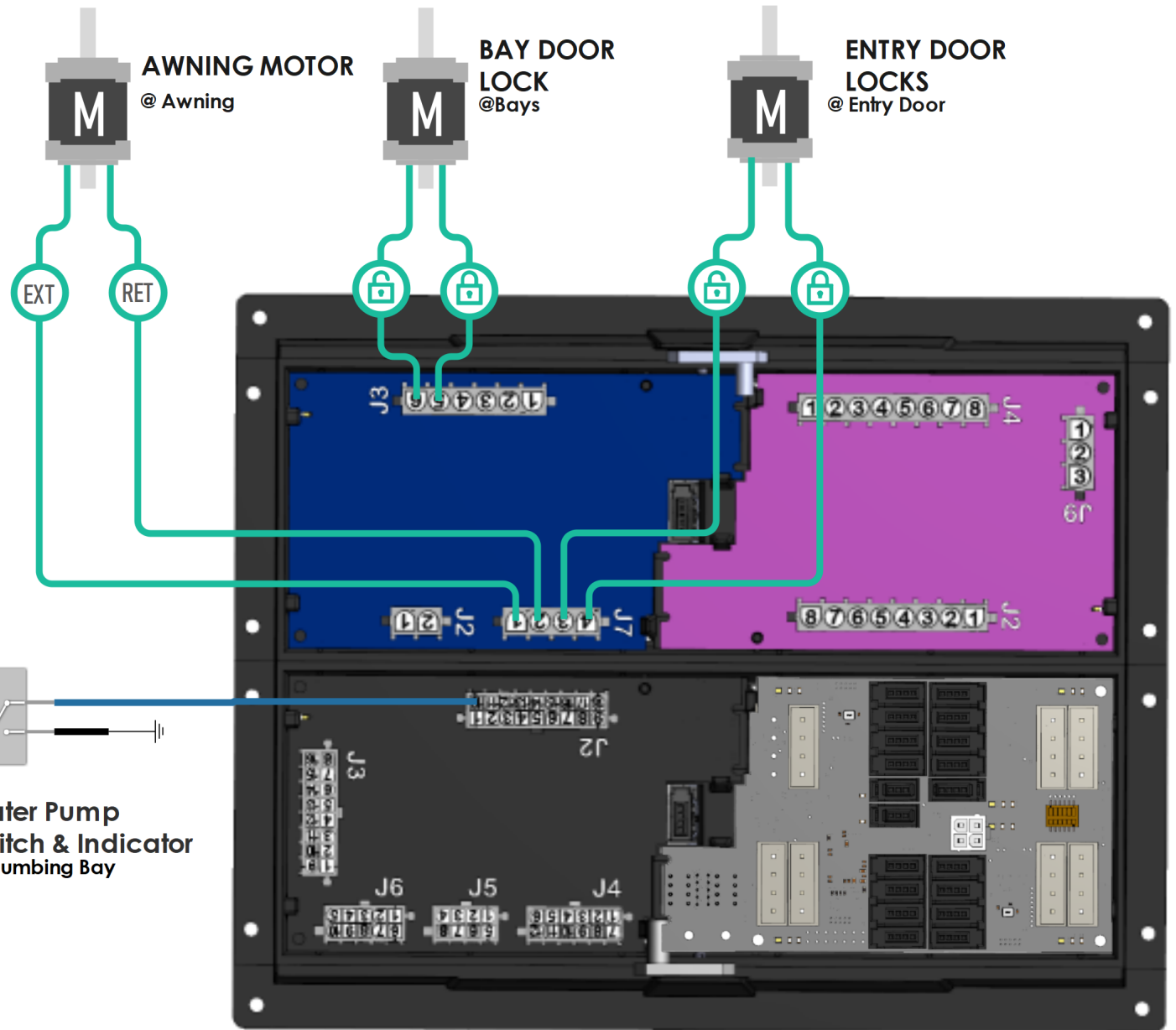
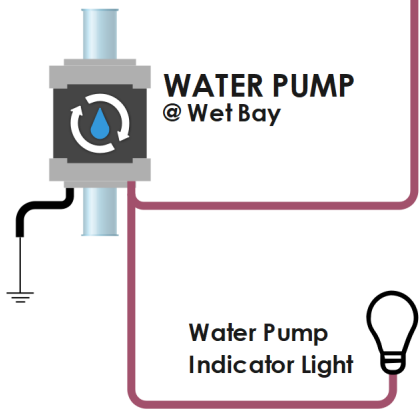
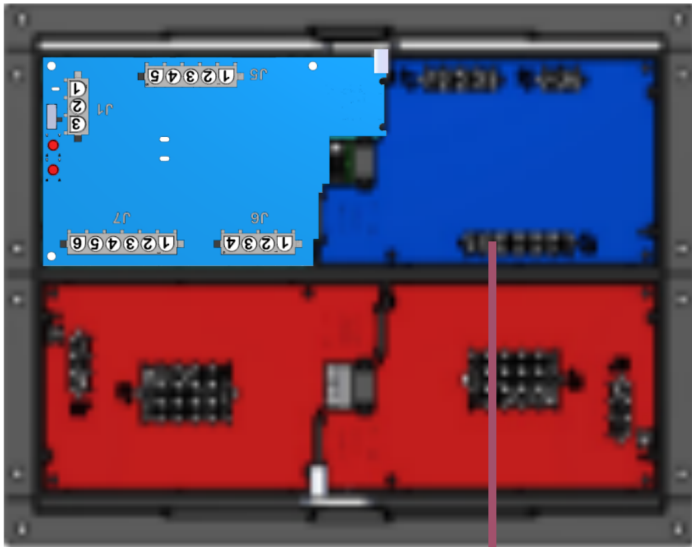
Transmitting



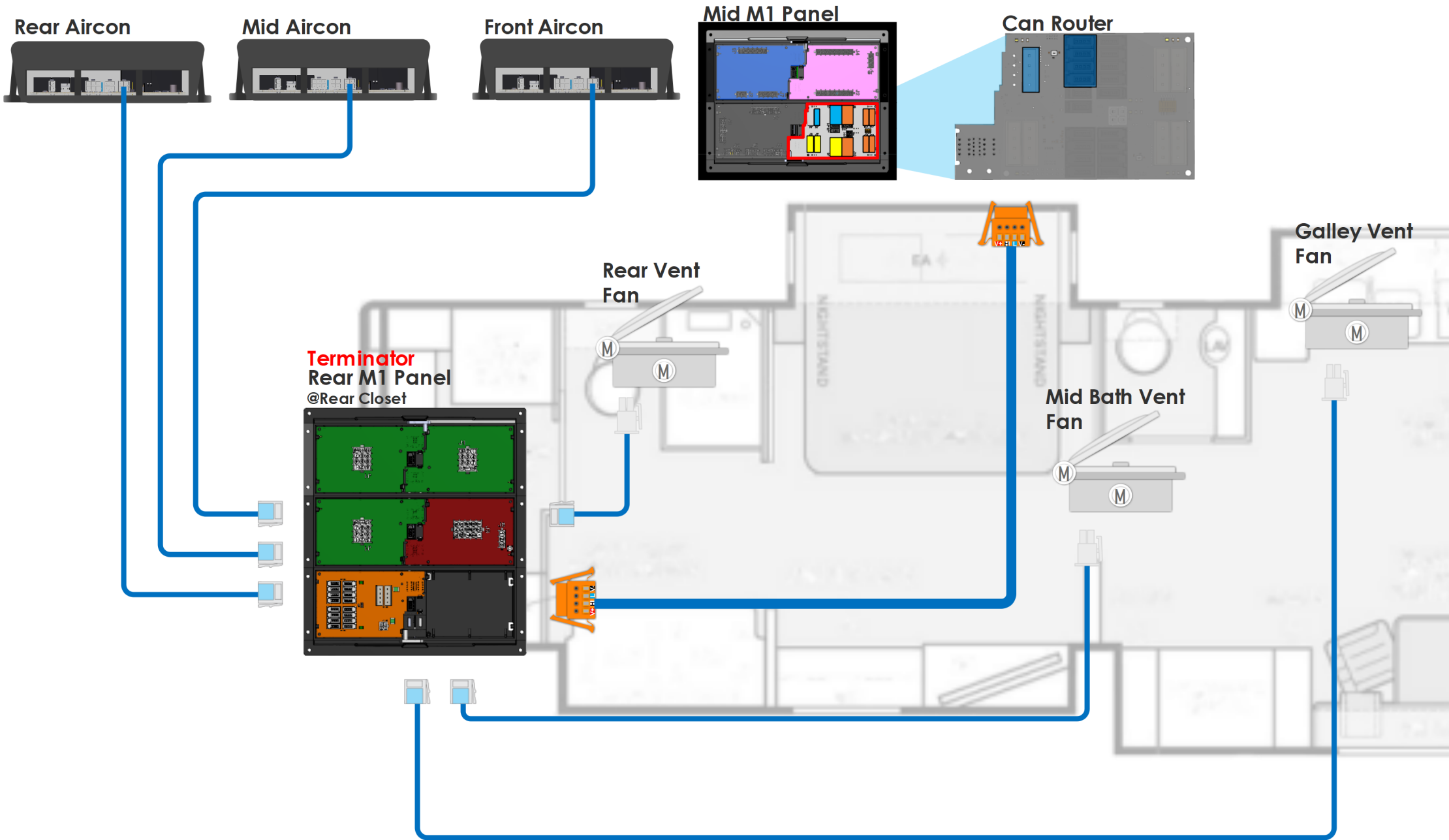
Mid M1 Panel



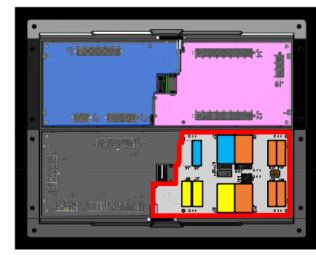
Front M1 Panel



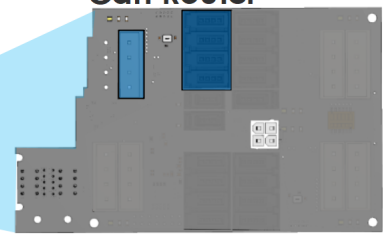
Mid M1 Panel



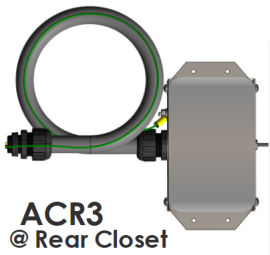
Mid M1 Panel



Can Router

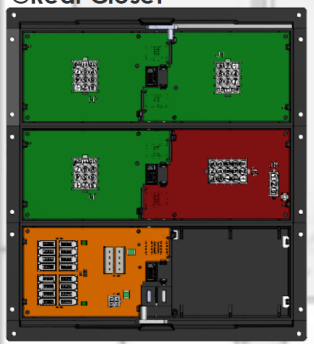


Valid Dash

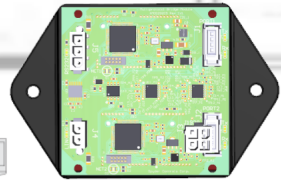


ACR3 @ Rear Closet

Terminator Rear M1 Panel @Rear Closet



HCR15 TV LIFT @Rear Closet



Bridge Module @Rear Closet



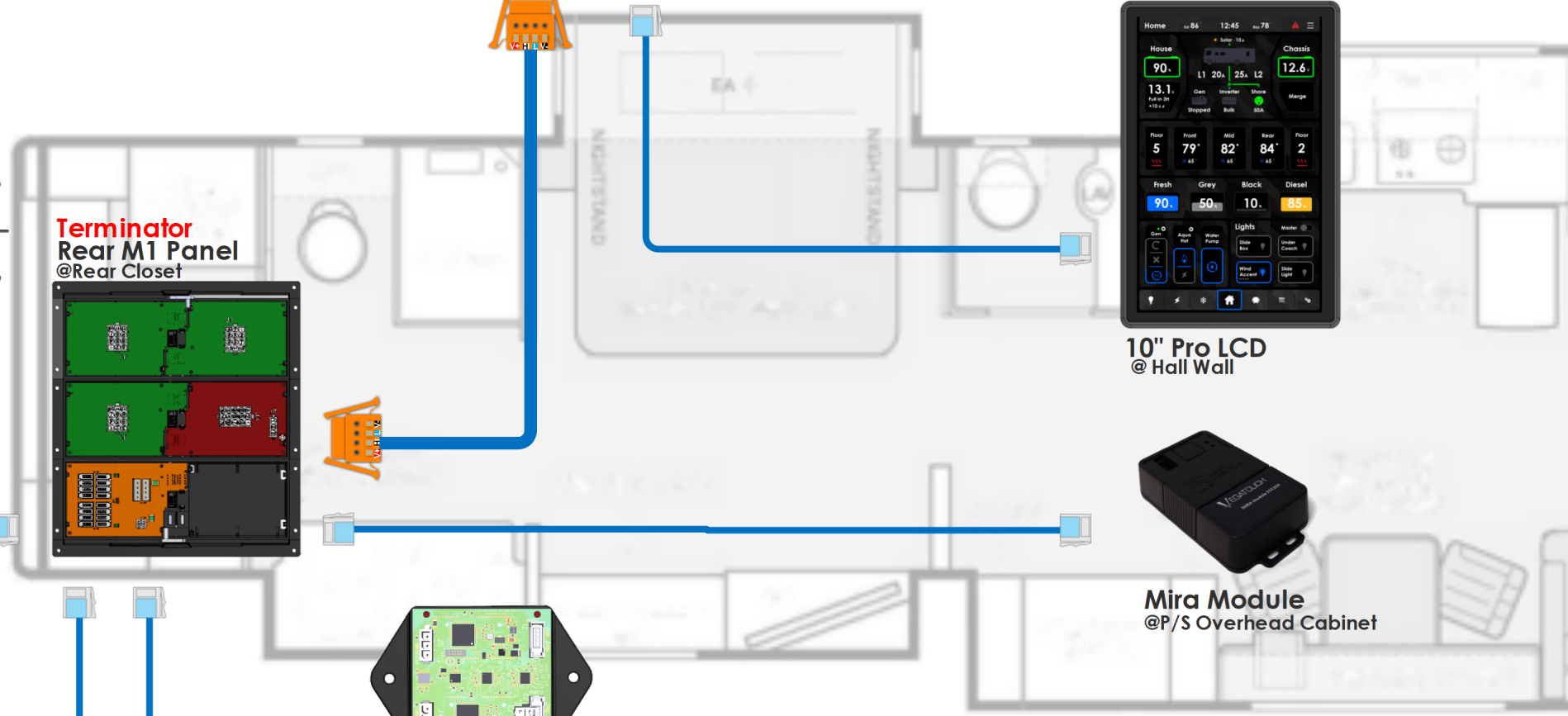
Veh-LV



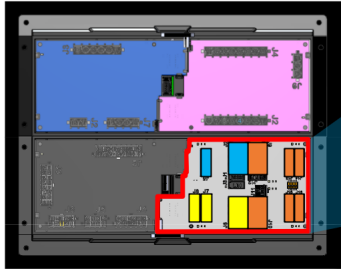
10" Pro LCD @ Hall Wall



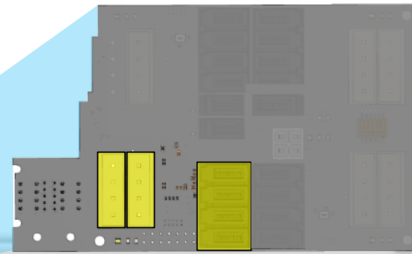
Mira Module @P/S Overhead Cabinet



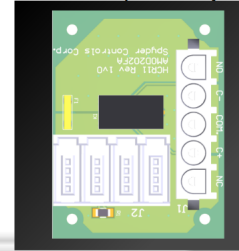
Mid M1 Panel



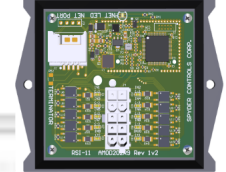
CAN-ROUTER



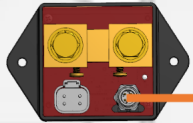
Terminator
HCR-11 Drop Tap
@ Front D/S Comp



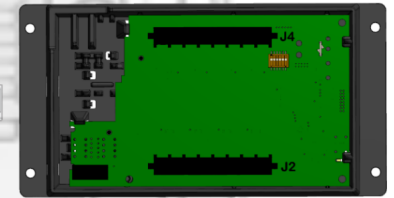
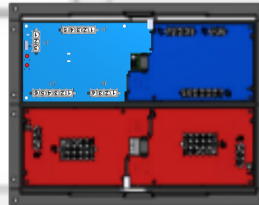
RSI-11
@ Front D/S Comp



TruState
@DCD Panel



Front M1 Panel
@Front D/S Comp

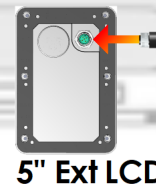


Dash Shade Module



RF Hub
@Ceiling

Common G4 Tap
@Passenger Console



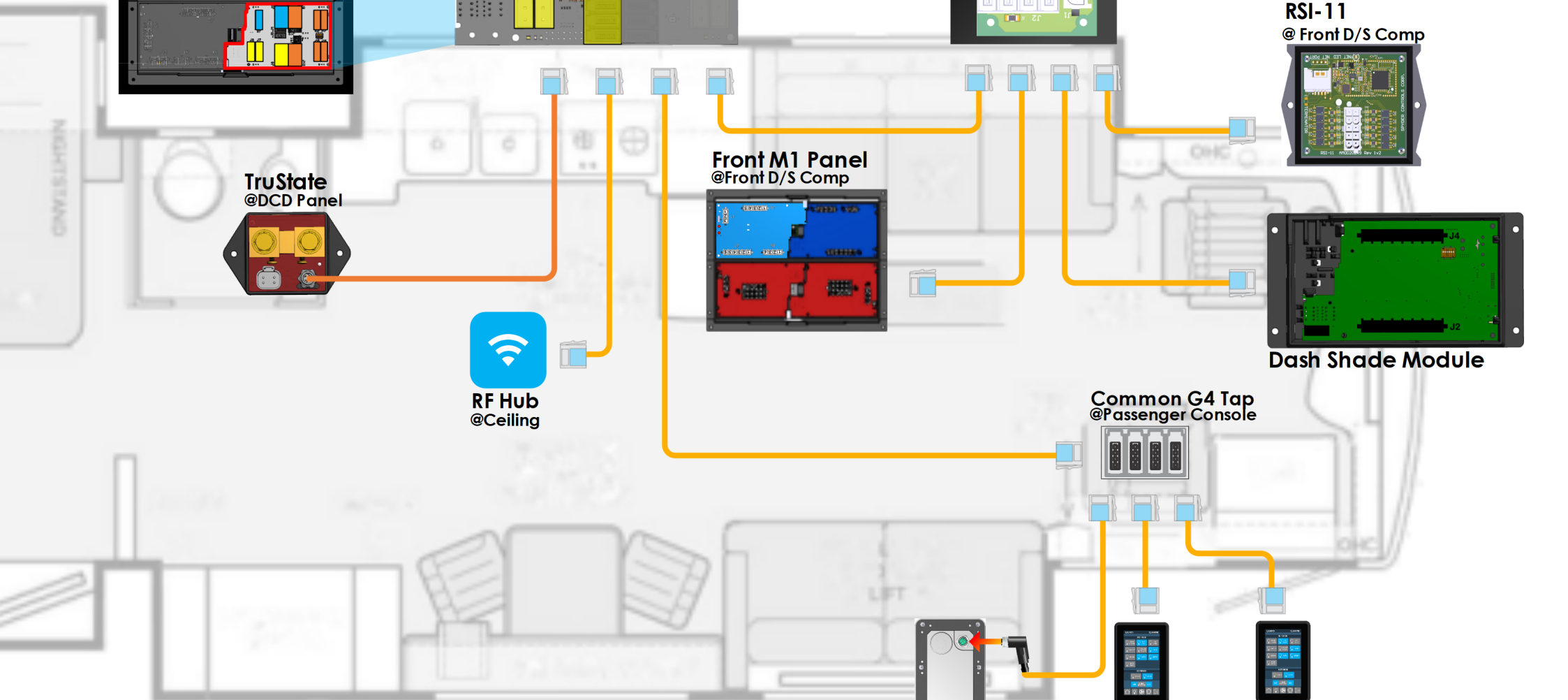
5" Ext LCD



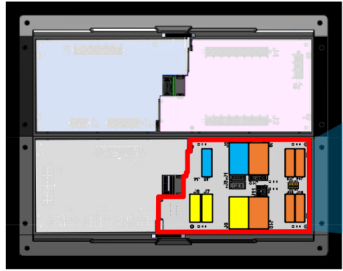
Passenger
5" LCD



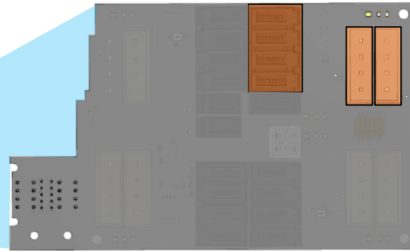
Entry 5" LCD



Mid M1 Panel



Can Router



TRC Transfer Switch
@ Mid Ext Comp



Go Power!
Solar Control



Go Power!
Solar Control



Bedroom
5" LCD



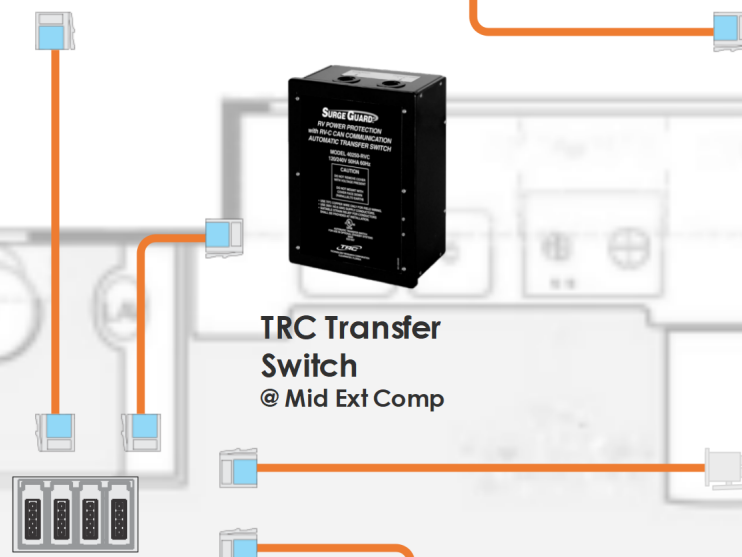
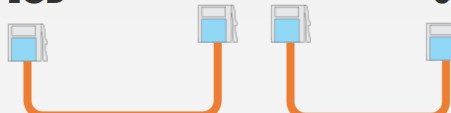
G4 Terminator
@ Under Bed



Bedroom
5" LCD



Common G4 Tap



Mid M1 Panel

Can Router

Rear Bath 3.5" LCD

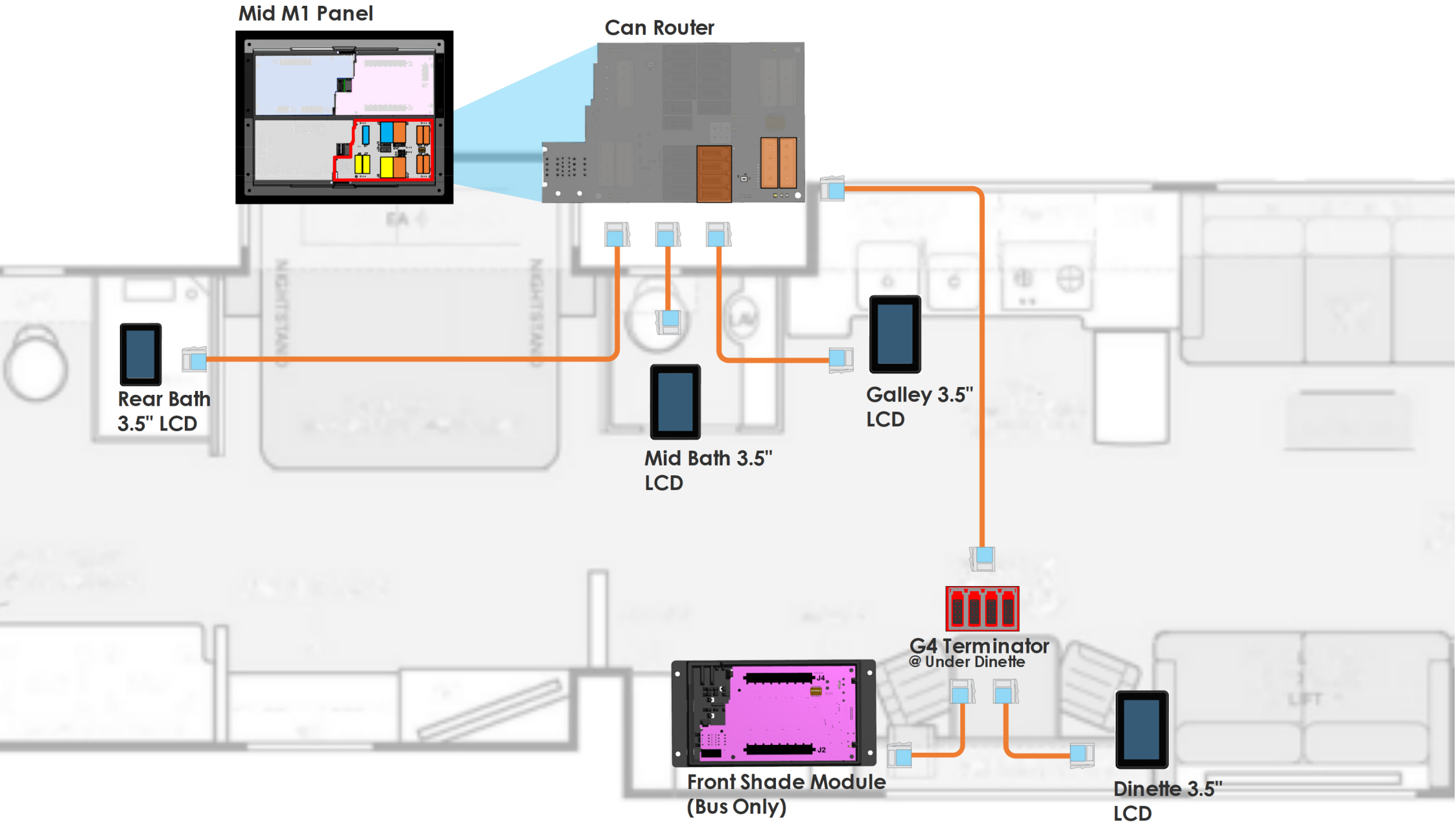
Mid Bath 3.5" LCD

Galley 3.5" LCD

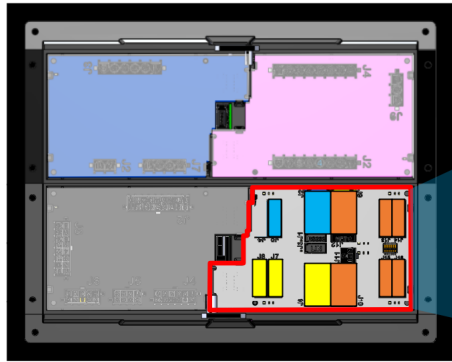
G4 Terminator
@ Under Dinette

Front Shade Module
(Bus Only)

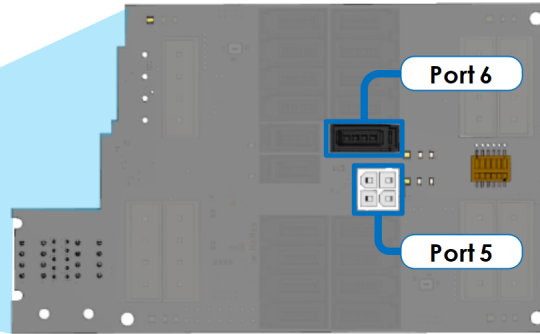
Dinette 3.5" LCD



Mid M1 Panel



Can Router

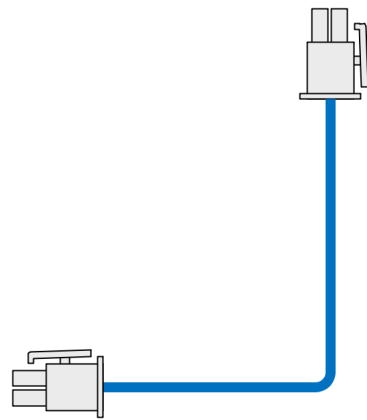


Port 6
Magnum RVC
Bridge Module



Port 5

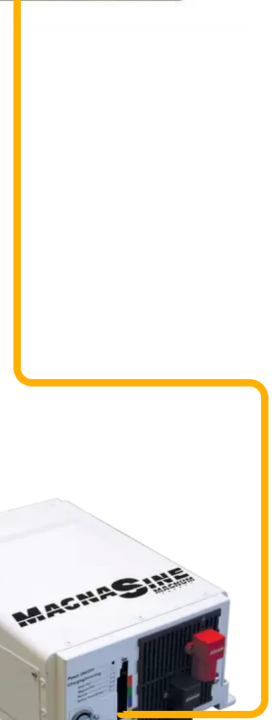
Valid Dash



Xantrax
Inverter/Charger
(Optional)



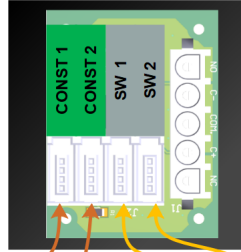
Magnum
Inverter/Charger
(Optional)



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.

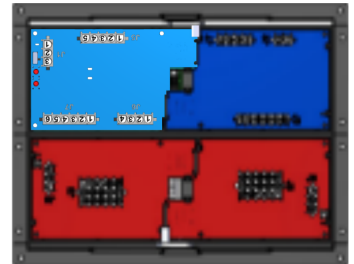
Tiffin P/N: 5105426
Terminator
HCR-11 Drop Tap
@ Front D/S Comp



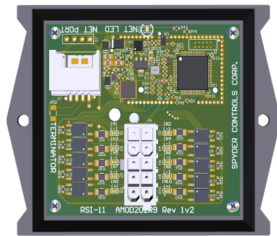
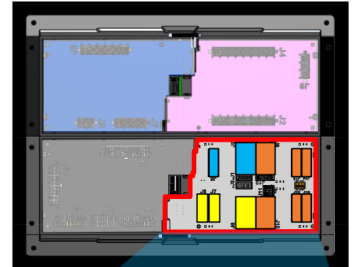
Always On Network
This network to remain powered while house disconnect is off.

Always On Switched

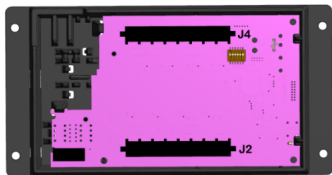
Front M1 Panel
@Front D/S Comp



Mid M1 Panel
Tiffin P/N: 5127299



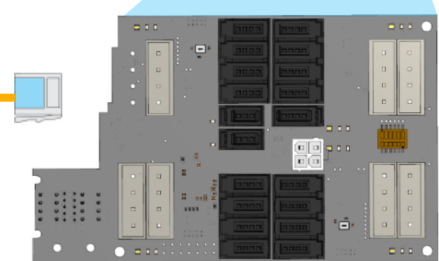
RSI-11
@ Front D/S Comp
Tiffin P/N: 5127304



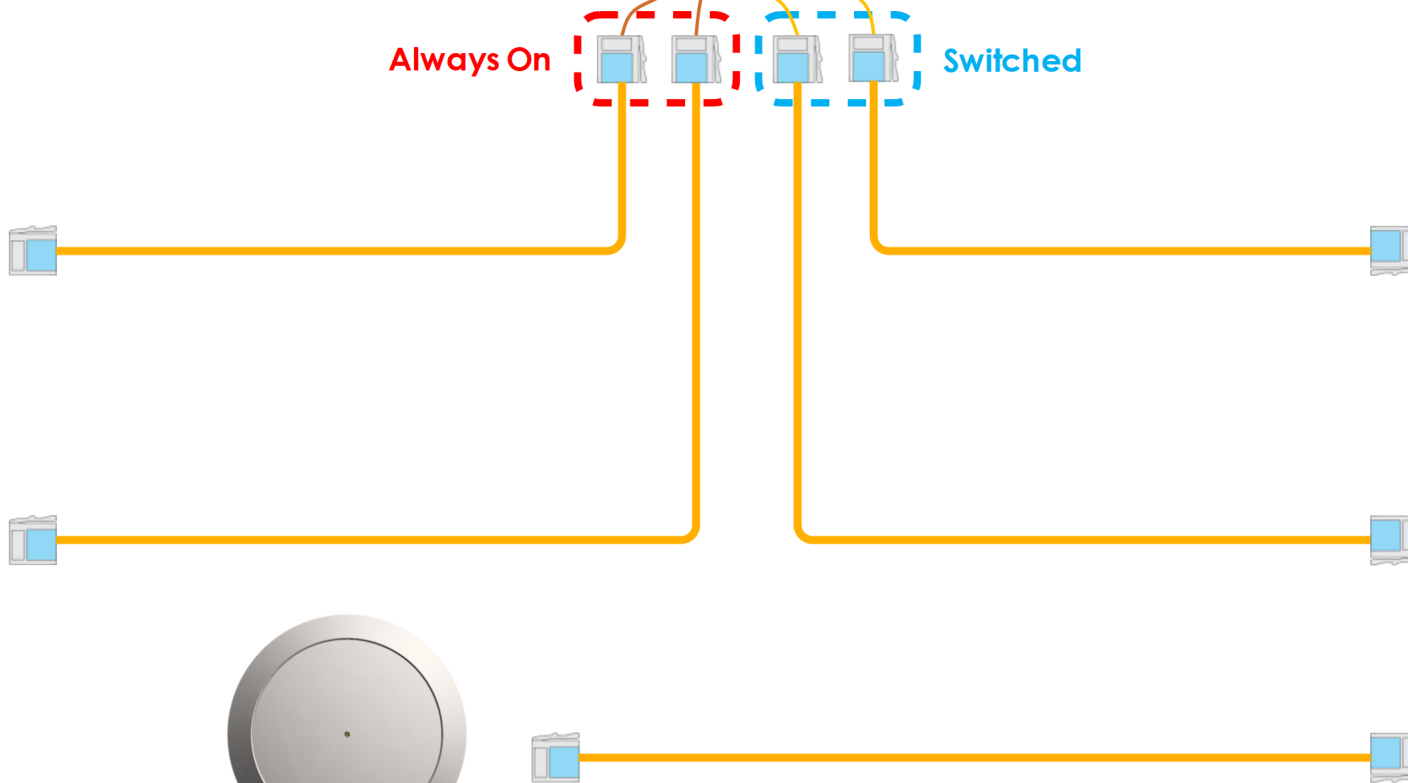
Dash Shade Module
Tiffin P/N: 5127302



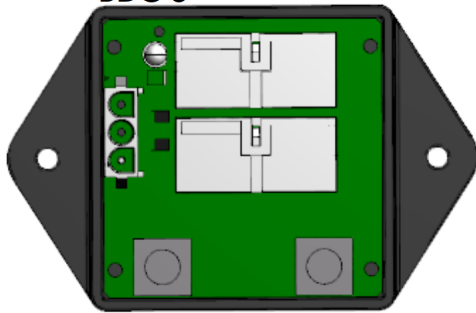
RF Hub
Tiffin P/N: 5127293



Can Router



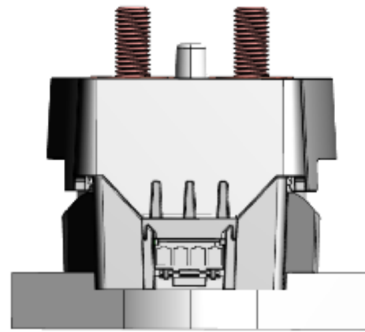
BDC 3



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

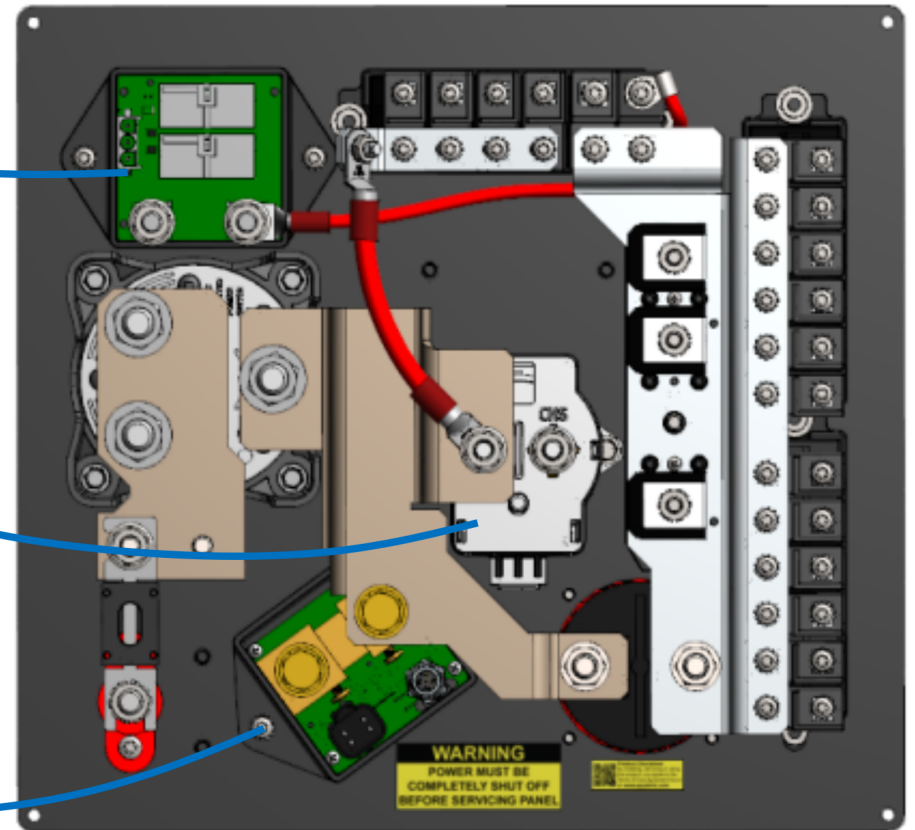
Momentary Switch

*Coil should not be powered for more than 10 sec

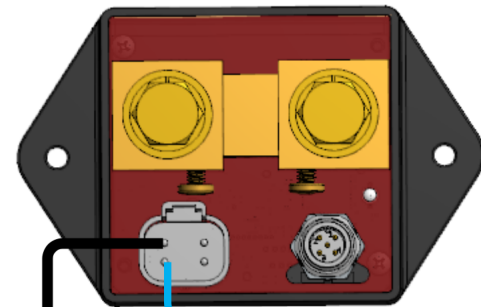


MergeMan

DCD Panel

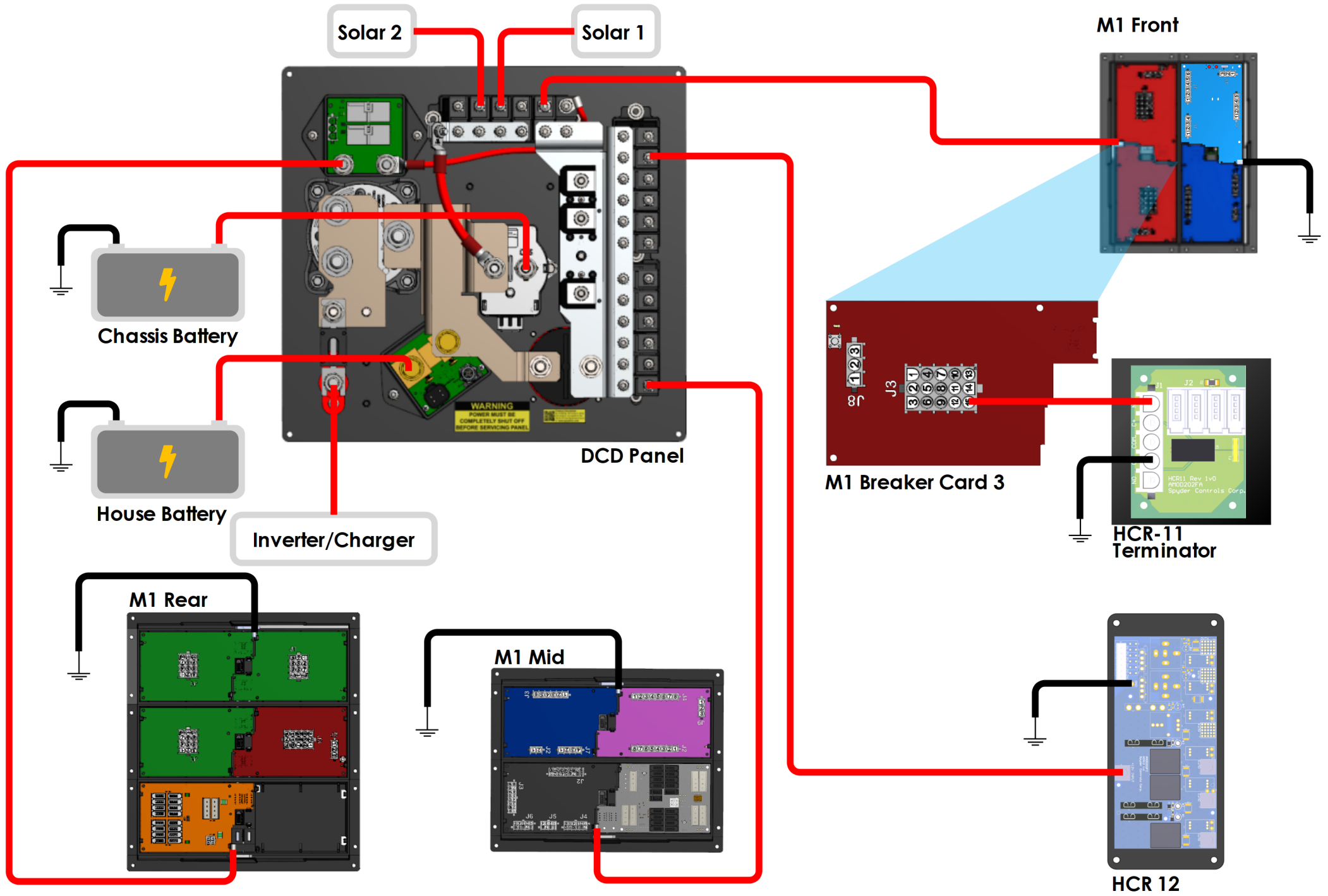


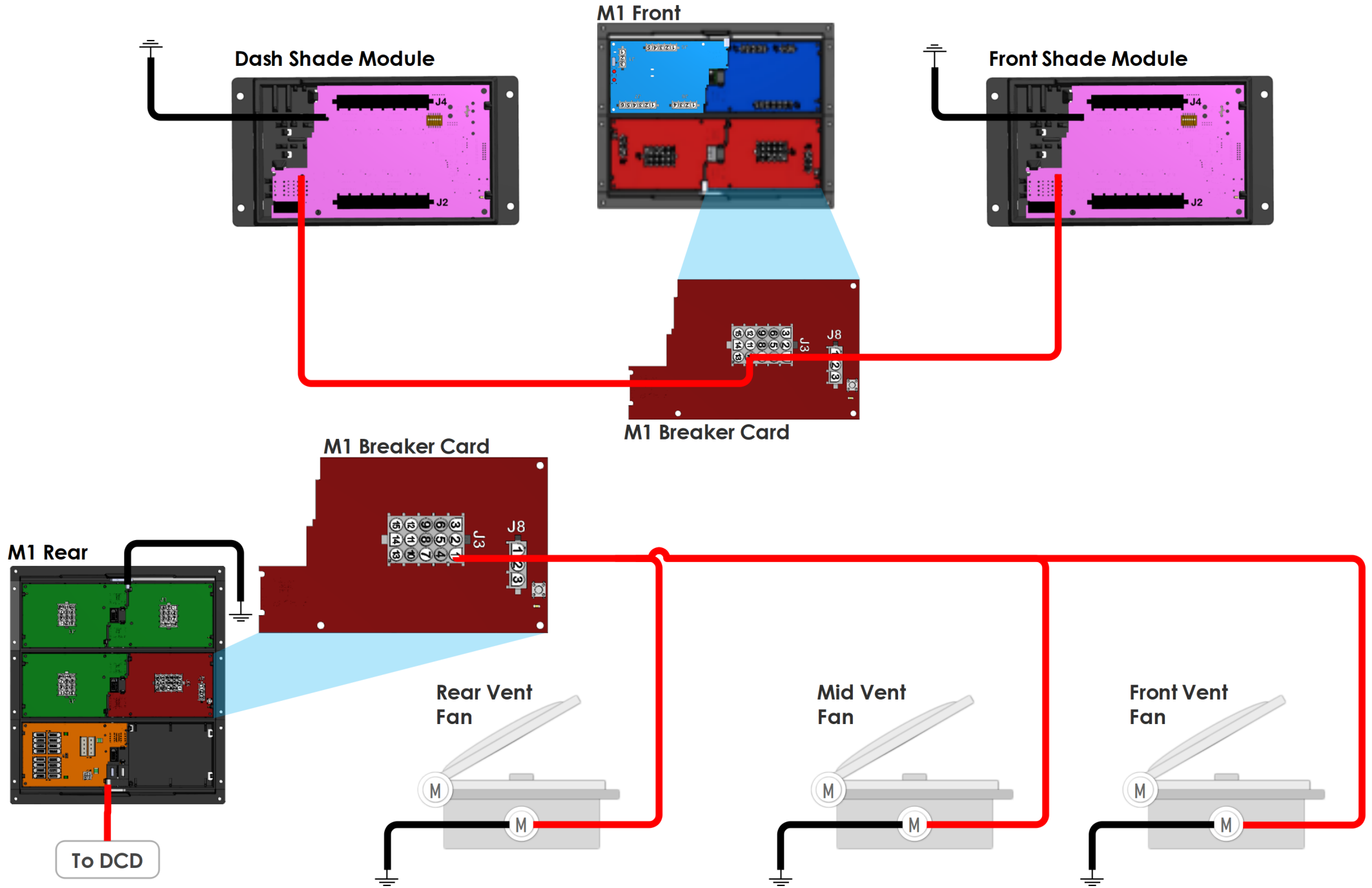
WARNING
POWER MUST BE
COMPLETELY SHUT OFF
BEFORE SERVICING PANEL



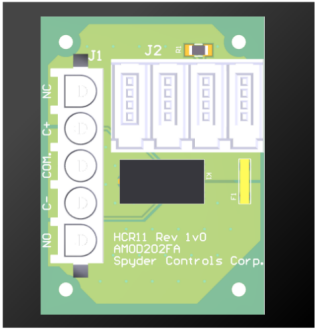
(GND)

Chassis voltage
input (+12v)

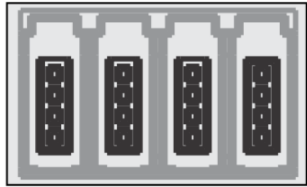




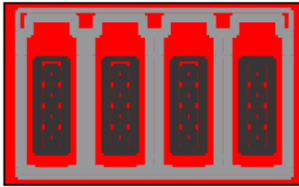
TERMINATOR
HCR-11
 Tiffin P/N: 5105426



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

