













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

Schematic Connections Legend

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

<b>20</b>	Rear M1 Cards 3&4	<b>28</b>	Floor Heat
<b>21</b>	Rear M1 Cards 5&6	<b>29</b>	Vent Fans
<b>22</b>	Interior Lighting	<b>30</b>	Tank System
<b>23</b>	Interior Lighting Continued	<b>31</b>	Bed Lift
<b>24</b>	Exterior Lighting	<b>32</b>	MoRyde TV Lifts
<b>25</b>	Slides	<b>33</b>	Whisper Ride TV Lifts
<b>26</b>	Slides Alternate Overrides	<b>34</b>	TV Lift Locations
<b>27</b>	HVAC		

## Schematic Connections Legend

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

<b>35</b>	Dash Shade Module	<b>43</b>	Wireless Switches
<b>36</b>	Front Shade Module	<b>44</b>	Generator
<b>37</b>	Bedroom Shade Module	<b>45</b>	Mechanical
<b>38</b>	HCR-11 Module	<b>46</b>	Blue Network (Port 1)
<b>39</b>	Merge System	<b>47</b>	Blue Network Continued
<b>40</b>	Merge Logic	<b>48</b>	Yellow Network (Port 2)
<b>41</b>	EMS System	<b>49</b>	Orange Network (Port 3)
<b>42</b>	Inverter Assist		

## Schematic Connections Legend

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

**50** Orange Network (Port 4)

**51** Network (Ports 5&6)

**52** Always On









**53** DCD Panel

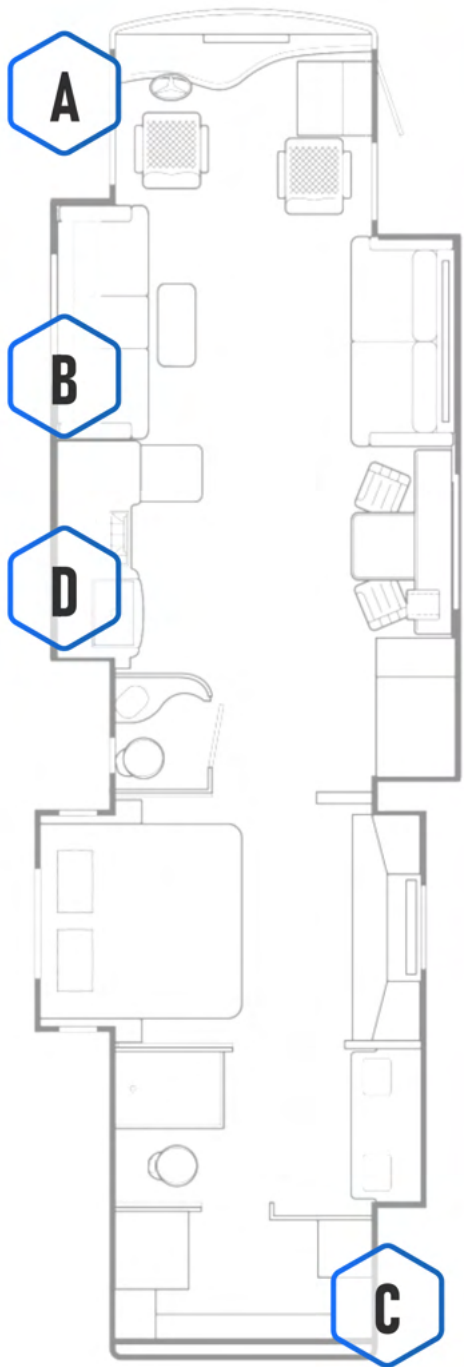
**54** Power Diagram

**55** Power Diagram Continued

**56** Connectors

## Schematic Connections Legend

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



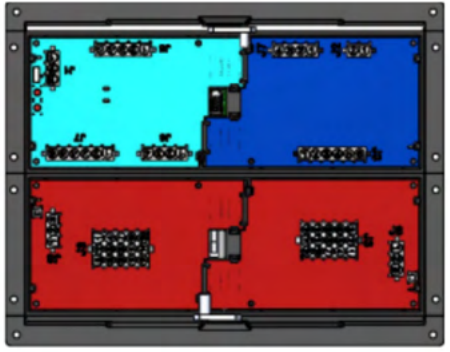
## **A** Front M1 Panel



**Spyder Part #**  
BENCZM2DS

**Tiffin Part #**  
5126983

**Dimensions**  
10" X 7.8"



**D/S Ext Compartment**

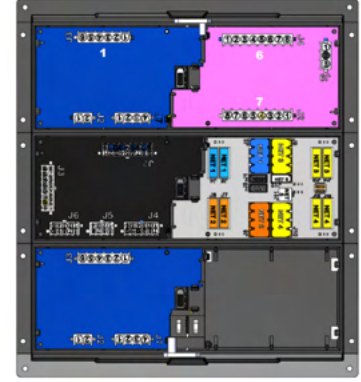
## **B** Mid M1 Panel



**Spyder Part #**  
BENCZM4C3

**Tiffin Part #**  
5145815

**Dimensions**  
10" X 11.4"



**Inverter Bay**

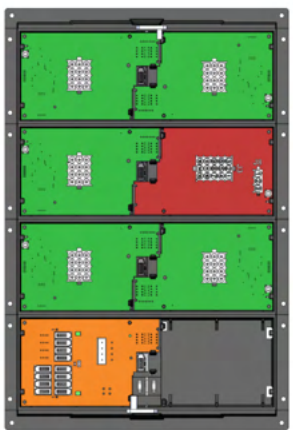
## **C** Rear M1 Panel



**Spyder Part #**  
BENCZM6C3

**Tiffin Part #**  
5145814

**Dimensions**  
10" X 14.5"



**Rear Closet**

## **D** DCD Panel



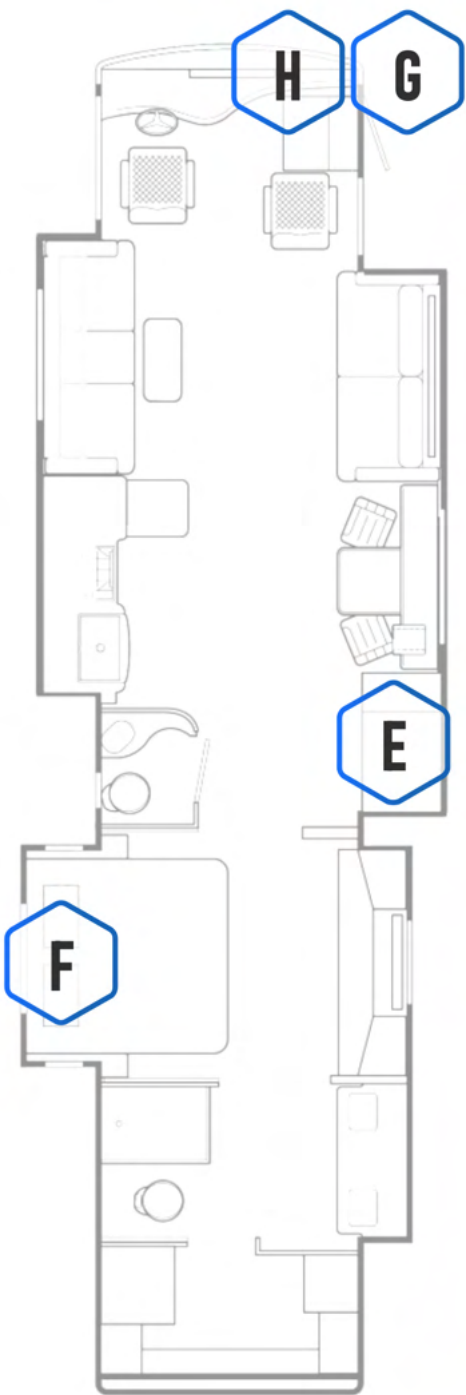
**Spyder Part #**  
BENCZ38D1

**Tiffin Part #**  
5152252

**Dimensions**  
13.5" X 12.5"



**Inverter Bay**



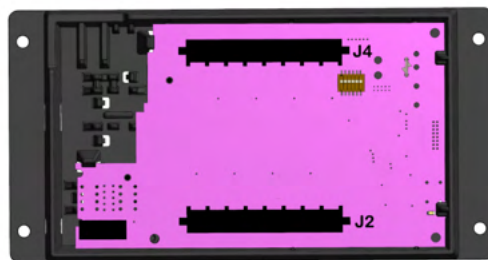
## Front Shade Module



**Spyder Part #**  
BMODZMKM1-T

**Tiffin Part #**  
5127302

**Dimensions**  
5.4" X 3.5"



**Dinette Cabinet Base**



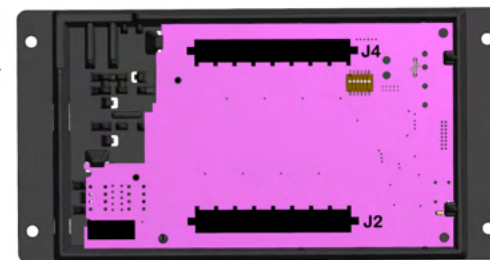
## Bedroom Shade Module



**Spyder Part #**  
BMODZMKM1-T

**Tiffin Part #**  
5127302

**Dimensions**  
5.4" X 3.5"



**Bedroom Cabinets**



## Mira Module



**Spyder Part #**  
BMODZ56VF

**Tiffin Part #**  
5114034

**Dimensions**  
4" X 2.5"



**Front Overhead Cabinet**



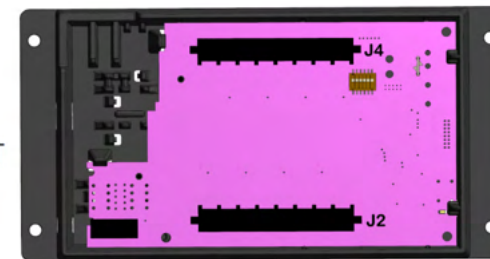
## Dash Shade Module



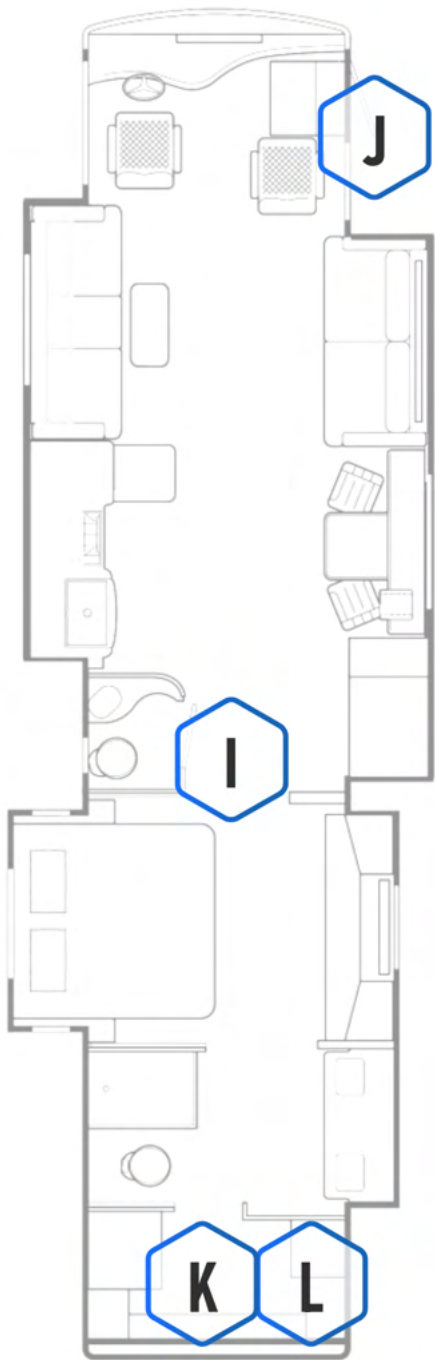
**Spyder Part #**  
BMODZMKM1-T

**Tiffin Part #**  
5127302

**Dimensions**  
5.4" X 3.5"



**P/S Front Overhead Cabinet**



**I** 10" Pro LCD

**i** Spyder Part #  
BSSPZZXEF  
OR  
BSSPZZXEO

Dimensions  
10.5" X 7.3"

**Hall Wall**

**J** 5" Exterior LCD

**i** Spyder Part #  
BSSPZZZEN

Tiffin Part #  
5145817

Dimensions  
5.9" X 4"

**Outside Entry Door**

**K** HCR15 TV Lift

**i** Spyder Part #  
BMODZQFCN-A

Tiffin Part #  
5134953

Dimensions  
3" X 3"

**Rear Closet**

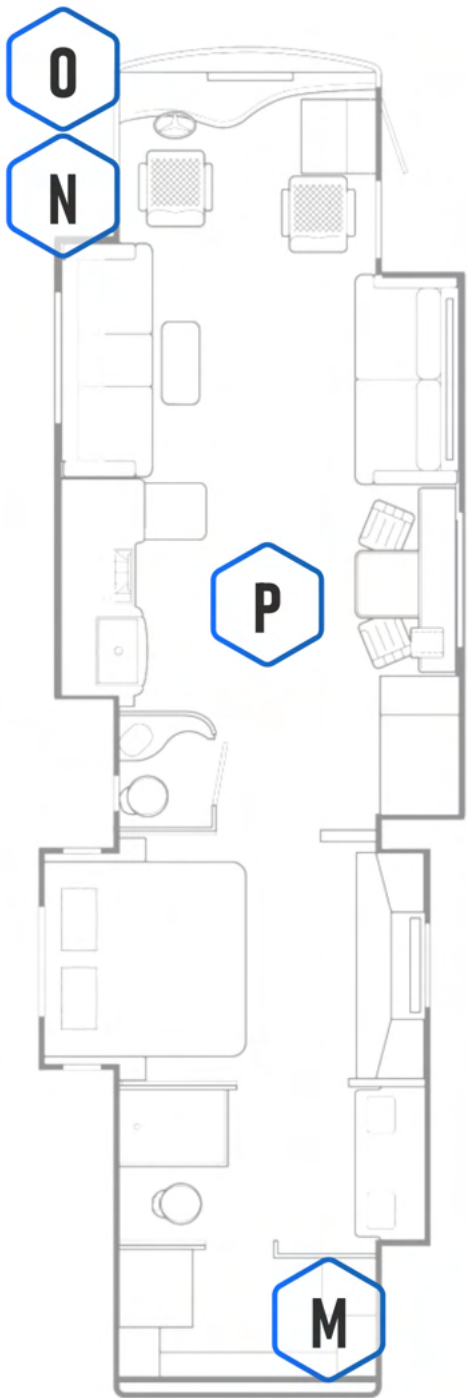
**L** Bridge Module

**i** Spyder Part #  
BMODZTCTO

Tiffin Part #  
5127271

Dimensions  
2.7" X 2.7"

**Rear Closet**



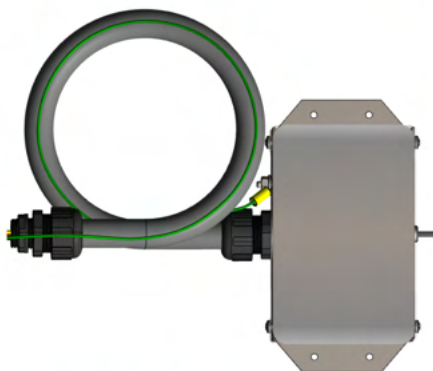
## M ACR3



**Spyder Part #**  
BMODZYACG-B

**Tiffin Part #**  
5091114

**Dimensions**  
6" X 4.8"



**Rear Closet**

## N RSI-11



**Spyder Part #**  
BMODZQCA-E

**Tiffin Part #**  
5127304

**Dimensions**  
2.7" X 2.7"



**Front D/S Compartment**

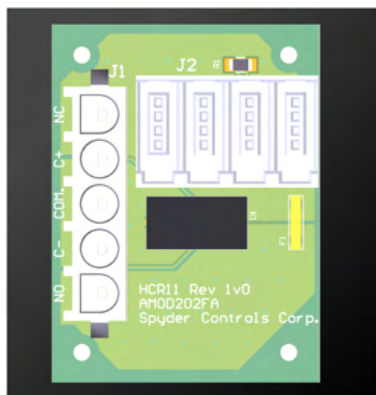
## O Terminator HCR-11



**Spyder Part #**  
BMODZGAN6-1

**Tiffin Part #**  
5131310

**Dimensions**  
2.5" X 2"



**Front D/S Compartment**

## P RF Hub



**Spyder Part #**  
BMODZRFT0

**Tiffin Part #**  
5127293

**Dimensions**  
5.1" DIA



**Ceiling**

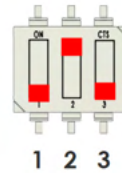
## M1 Slide Card

- 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 HC Relay Card

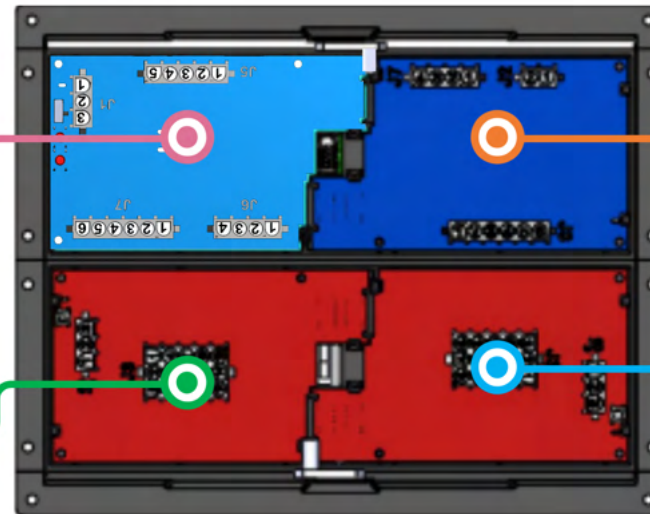
- Windshield Accent
- Water Pump
- Headlights
- Door/Assist Handle
- U-Coach
- Awning Lt
- Road Lt
- Porch Lt
- Map

Dip Switch Settings



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

Front M1 Panel



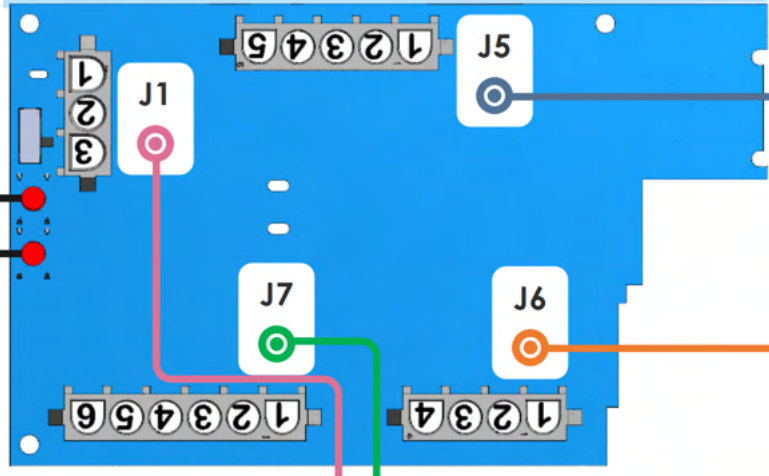
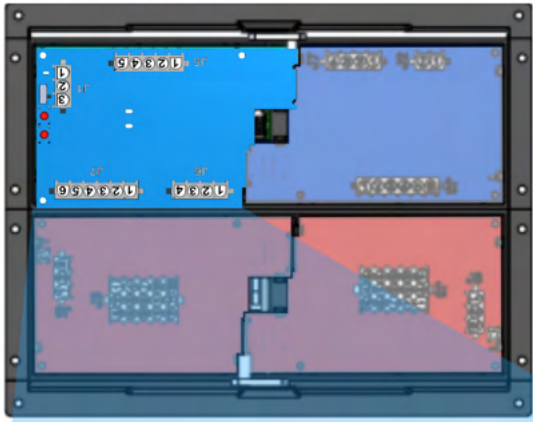
## M1 Breaker (Card 3)

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

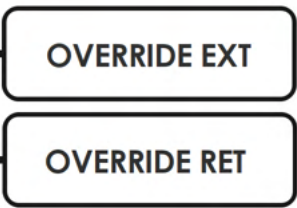
## M1 Breaker (Card 4)

- 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)

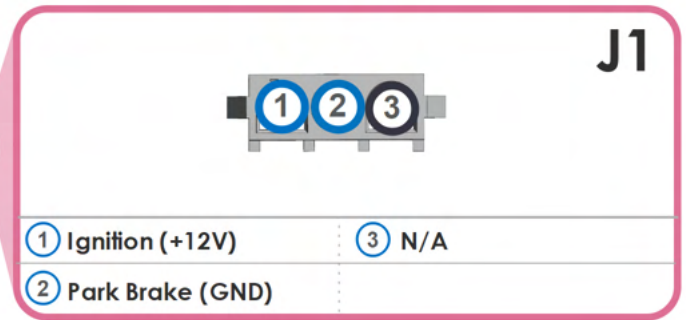
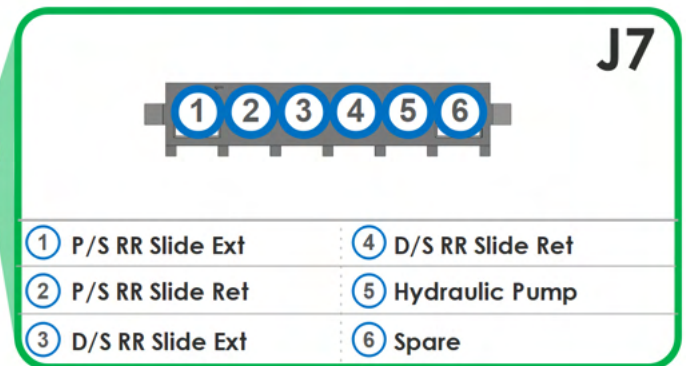
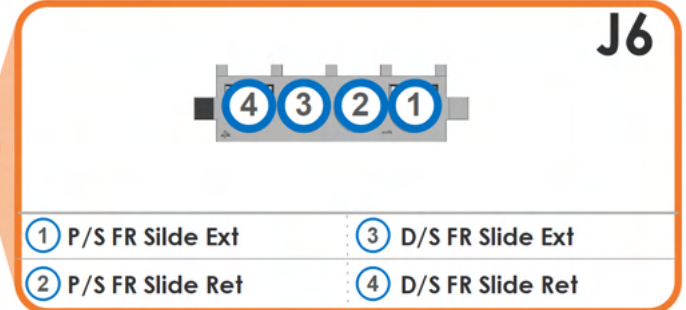
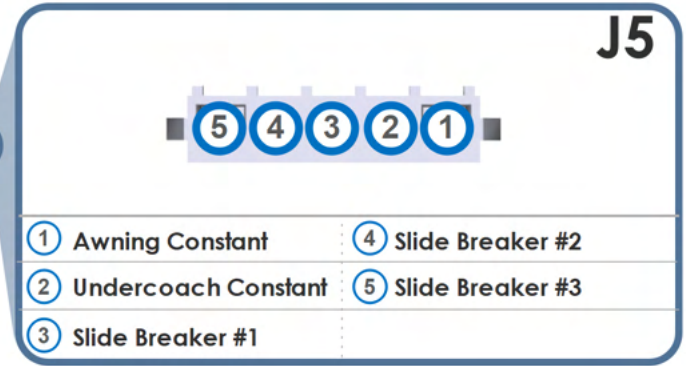
Front M1 Panel



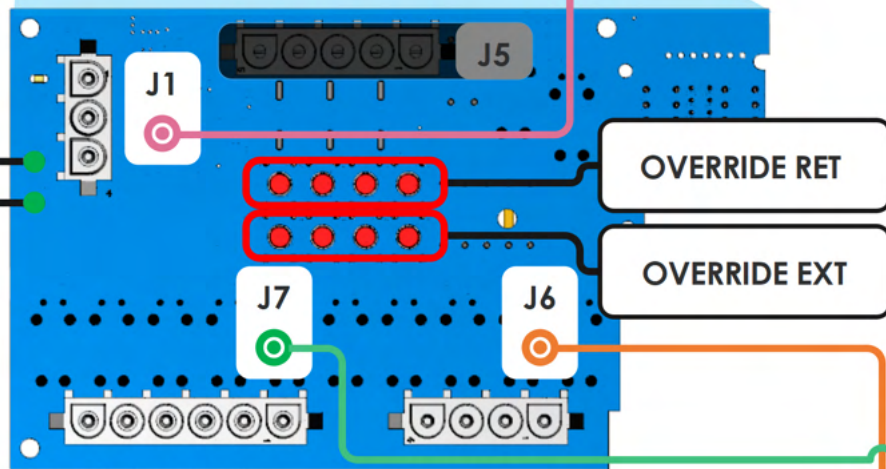
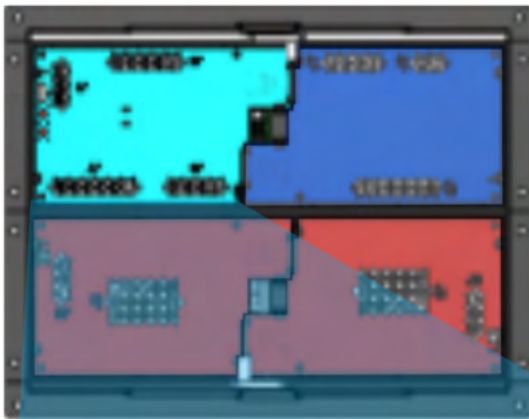
M1 Slide (Card 1)



**i** **Emergency Overrides**  
 For more information on the slide overrides please see Page 30 or 31



Front M1 Panel



M1 Slide Card

- Slides Ready LED
- Awnings Ready LED

**i** **Emergency Override**  
 For more information on the slides please see Page 15

J1



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

J7



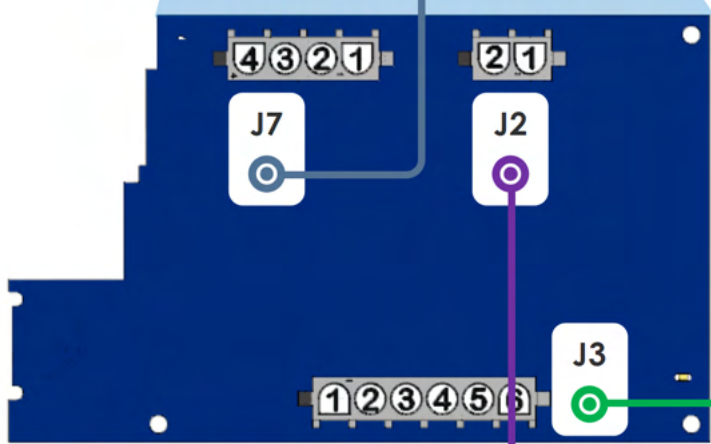
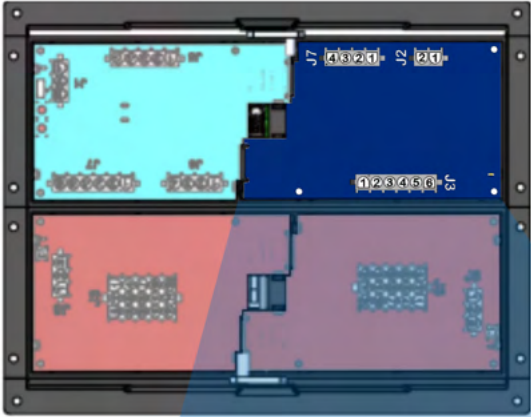
- |                    |                    |
|--------------------|--------------------|
| ① P/S RR Slide Ext | ④ D/S RR Slide Ret |
| ② P/S RR Slide Ret | ⑤ Hydraulic Pump   |
| ③ D/S RR Slide Ext | ⑥ Spare            |

J6

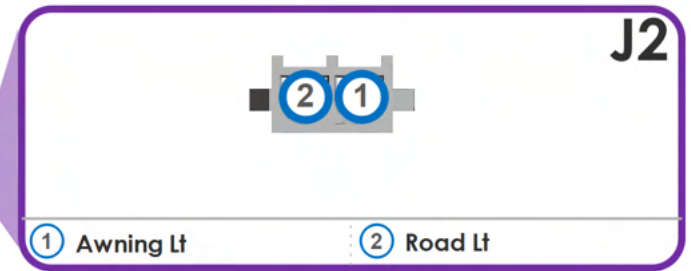
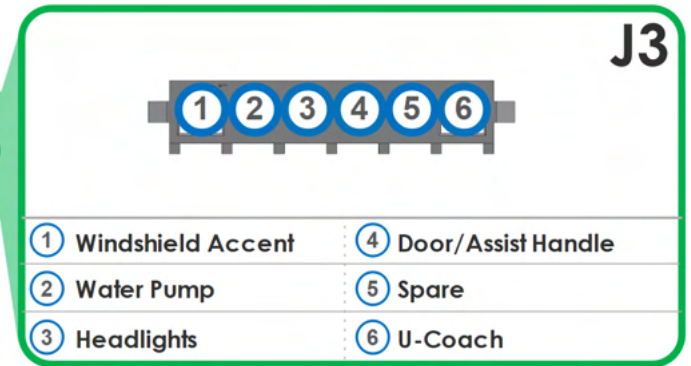
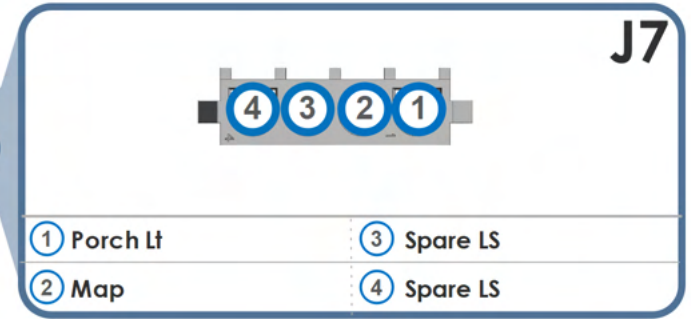


- |                    |                    |
|--------------------|--------------------|
| ① P/S FR Slide Ext | ③ D/S FR Slide Ext |
| ② P/S FR Slide Ret | ④ D/S FR Slide Ret |

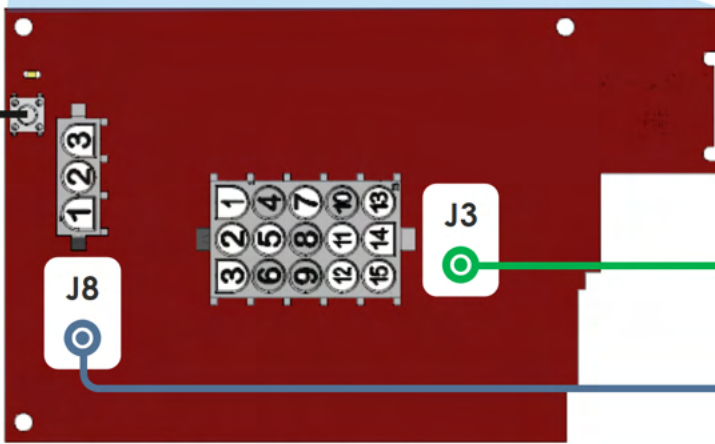
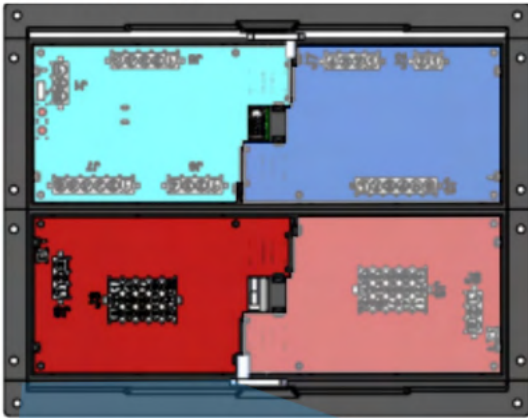
Front M1 Panel



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

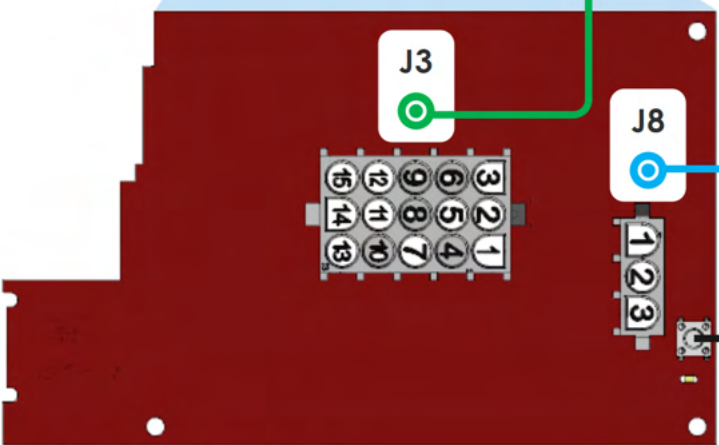
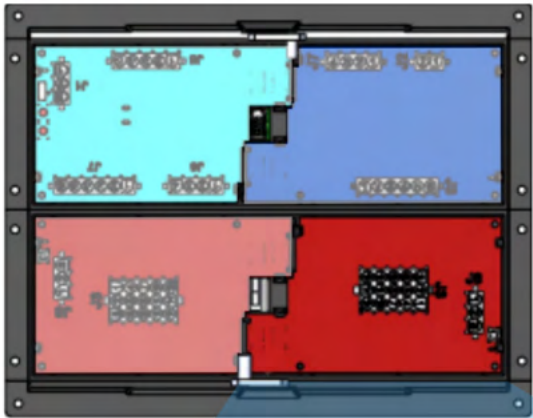
① Dash USB/ PS USB PWR	⑨ Panel Lamp/Head LT IGN
② Camera/Radio (IGN)	⑩ HVAC Denso (IGN)
③ Jack Buzzer (IGN)	⑪ N/A
④ Entry Step SW	⑫ 12V Outlet 1/USB PWR
⑤ N/A	⑬ TV Relay/Fridge/Dash SHD MOD IGN
⑥ CB/Satellite	⑭ Pantry (IGN)
⑦ Dock Light	⑮ HCR11 PWR
⑧ N/A	

**J8**

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

① IGN (+12V)	② Spare
③ Spare	

Front M1 Panel



M1 Breaker (Card 4)

**J3**

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

① HVAC Denso	⑨ Power Window (IGN)
② 12V Outlet 2/USB PWR	⑩ Dash Shade Module
③ Engine Preheat SW	⑪ N/A
④ Radio Mem/XM PWR	⑫ D/S Mirror PWR (IGN)
⑤ N/A	⑬ Seat Power #2
⑥ Elect Step Cover	⑭ Seat Power #1
⑦ Map LT/Fans/Radio	⑮ P/S Mirror PWR (IGN)
⑧ N/A	

**J8**

①	②	③
---	---	---

① IGN (+12V)	② Spare
③ Spare	

Breaker Reset

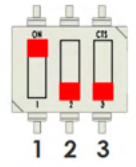
## M1 HC Relay

- 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

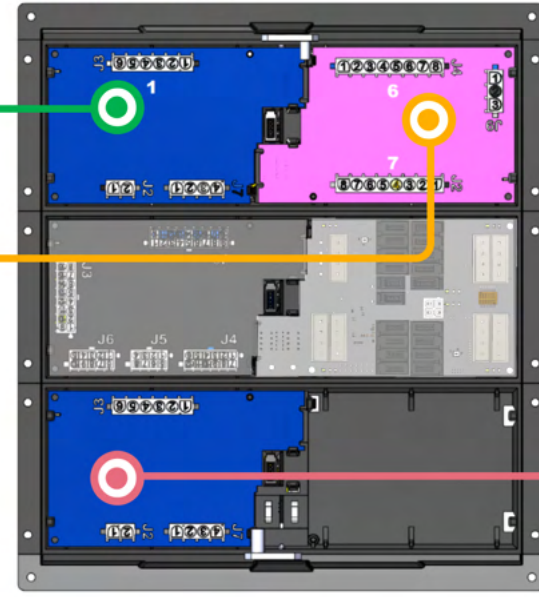
- Horn
- Furnace FR
- Furnace RR
- Gen Start (GND)
- Gen Stop (GND)
- Galley SHD UP
- Galley SHD DN
- Galley NT SHD DN
- Galley NT SHD UP
- Sofa Day SHD UP
- Sofa Day SHD DN
- Sofa NT SHD DN
- Sofa NT SHD UP

Dip Switch Settings



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

Mid M1 Panel



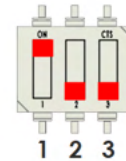
## M1 HC Relay

- 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
- DS Slide Box Lt
- PS Slide Box Lt

## RSI-12

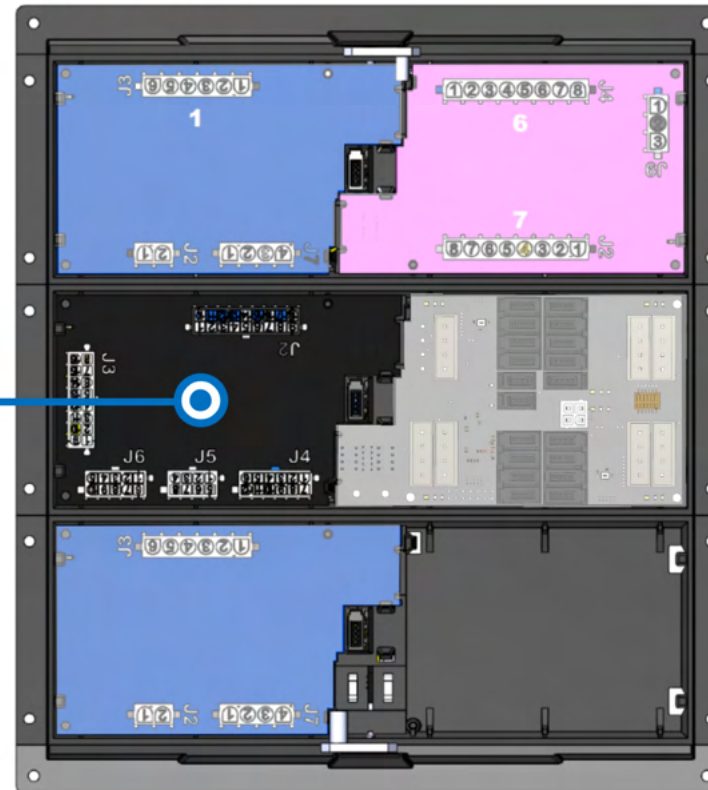
- IGN (+12V)
- GEN Run (+12V)
- HSE Disconnect Sense (+12V)
- Bed Lift Plunger (+12V)
- Park Brake (GND)
- Water Pump (GND)
- Entry Door Pin SW (GND)
- Merge Input (GND)
- Dash Accent ON (GND)
- Dash Accent OFF (GND)
- GEN Status
- RTC 12V Constant PWR
- FR Floor Heat Thermistor
- RR Floor Heat Thermistor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

Dip Switch Settings

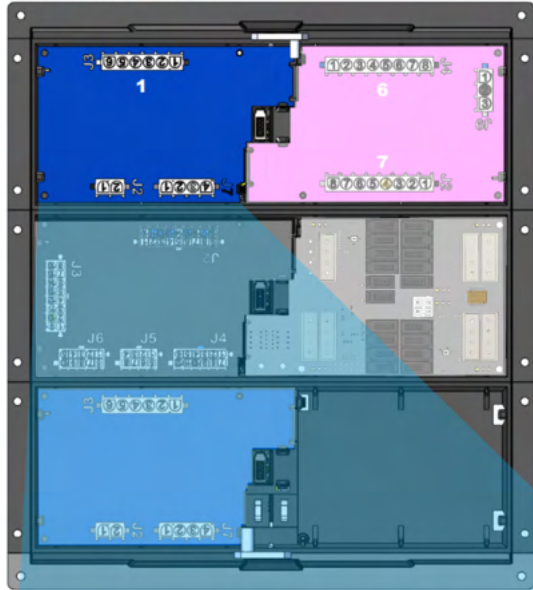


- |   |            |
|---|------------|
| 1 | ON (Up)    |
| 2 | OFF (Down) |
| 3 | OFF (Down) |

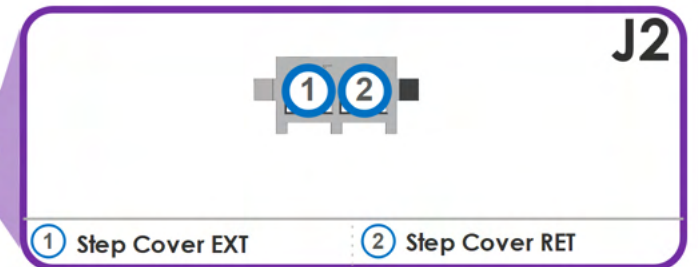
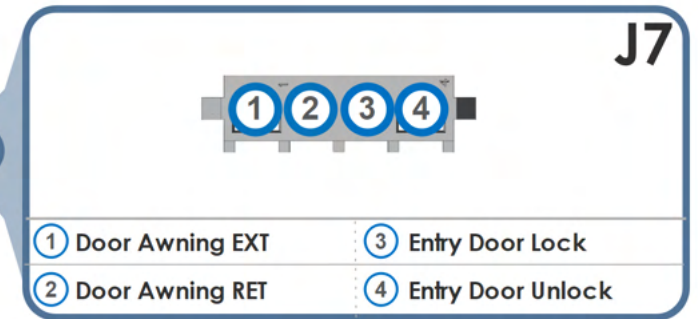
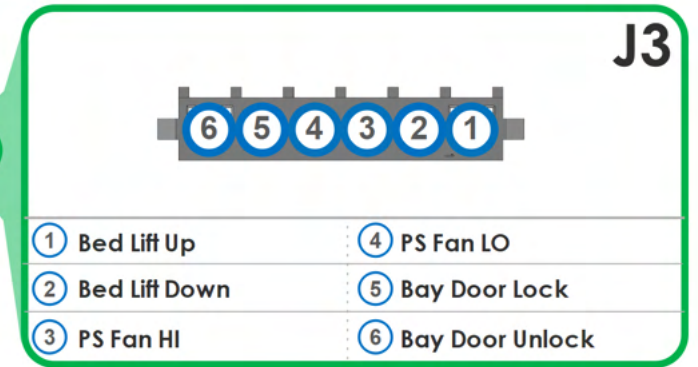
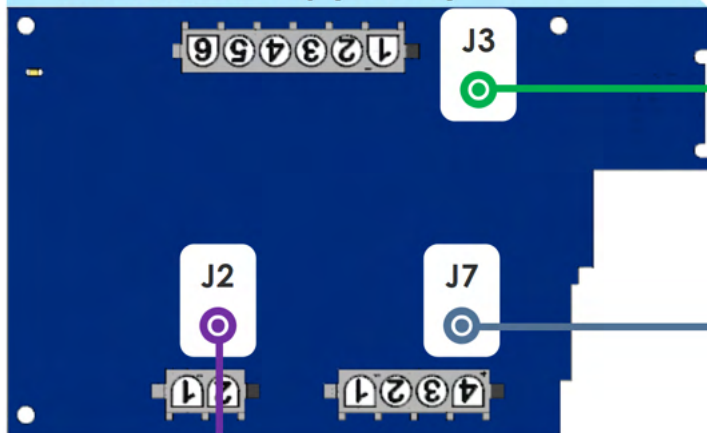
Mid M1 Panel



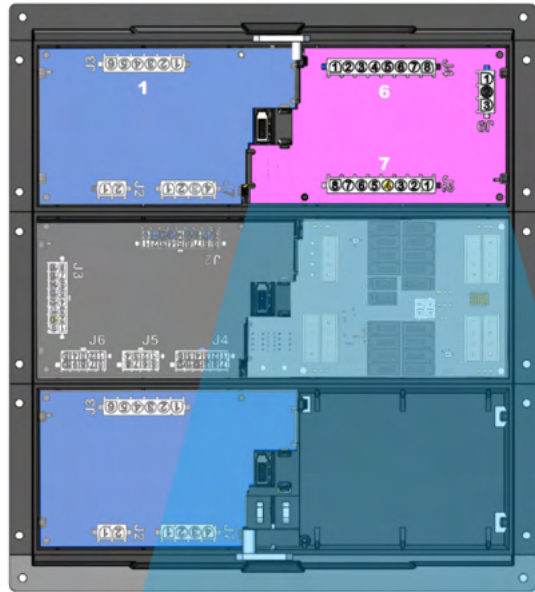
## Mid M1 Panel



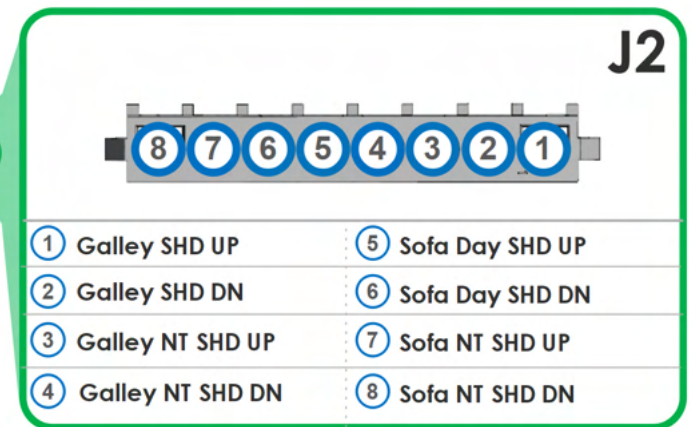
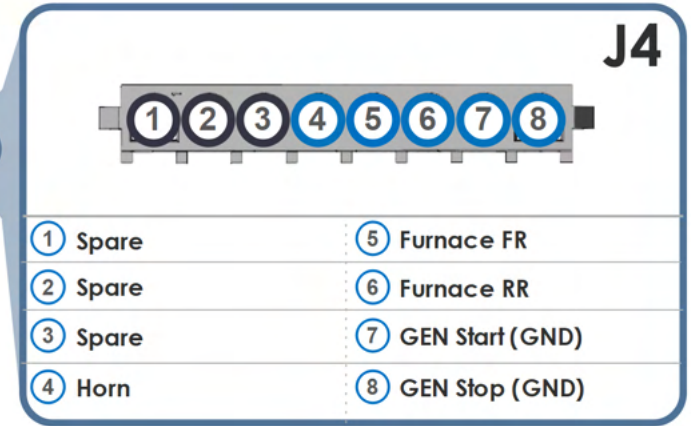
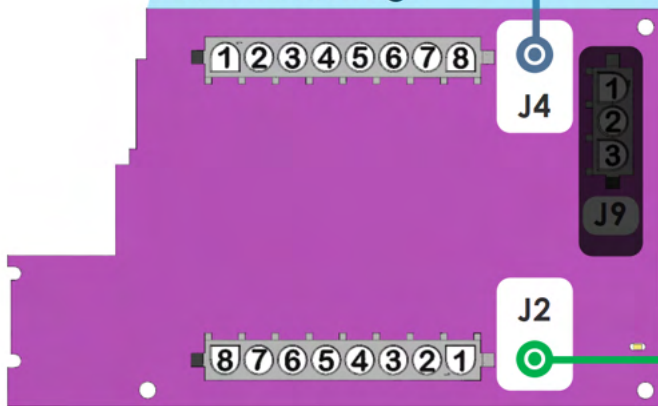
## Mid M1 HC Relay (Card 1)



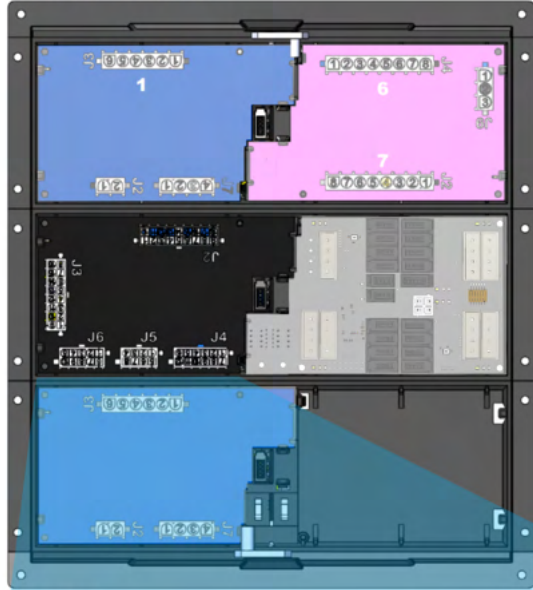
## Mid M1 Panel



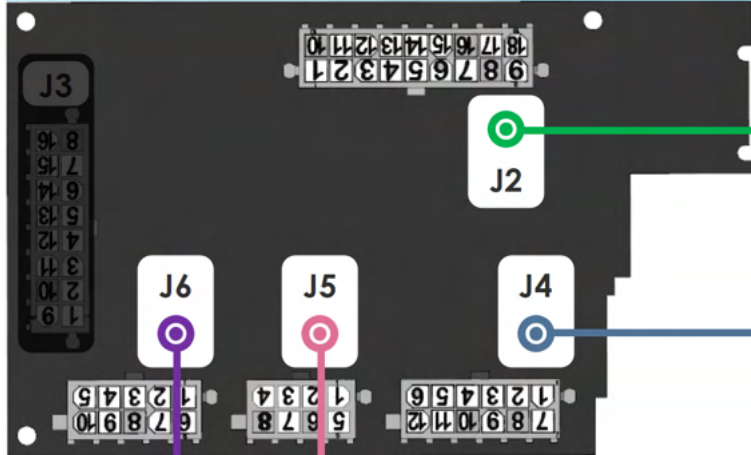
## M1 LC Half Bridge



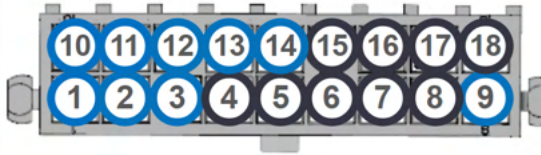
## Mid M1 Panel



### RSI-12

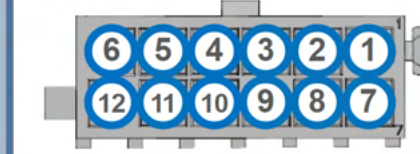


### J2



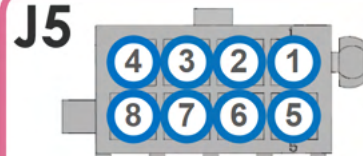
① IGN (+12V)	⑩ Water Pump (GND)
② GEN Fault (+12V)	⑪ Entry Door Pin SW (GND)
③ HSE Disconnect Sense (+12V)	⑫ Merge Input (GND)
④ Bed Lift Plunger (+12V)	⑬ Dash Accent ON (GND)
⑤ Spare (+12V)	⑭ Dash Accent OFF (GND)
⑥ Spare (+12V)	⑮ Spare (GND)
⑦ Spare (+12V)	⑯ Spare (GND)
⑧ Spare (+12V)	⑰ Spare
⑨ Park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

### J4



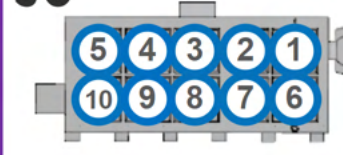
① FR Floor Ht Therm Sig.	⑦ FR Floor Ht Therm GND
② RR Floor Ht Therm Sig.	⑧ RR Floor Ht Therm GND
③ Front A/C Therm Sig.	⑨ Front A/C Therm GND
④ Mid A/C Therm Sig.	⑩ Mid A/C Therm GND
⑤ Rear A/C Therm Sig.	⑪ Rear A/C Therm GND
⑥ Bay Therm Sig.	⑫ Bay Therm GND

### J5



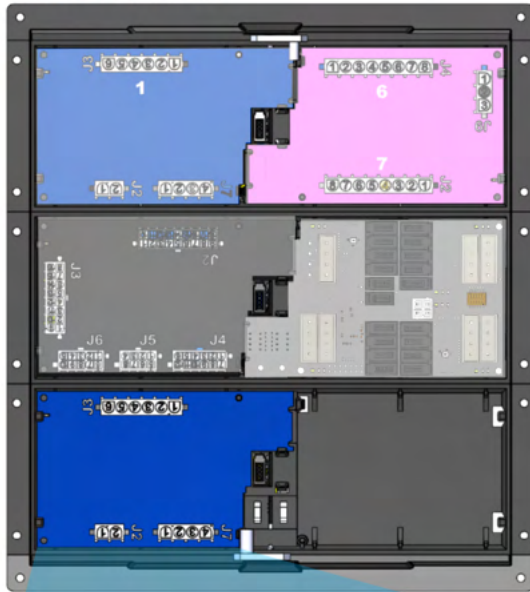
① Spare	⑤ Spare
② Spare	⑥ Spare
③ Spare	⑦ Spare
④ Ext Temp Sig.	⑧ Ext Temp GND

### J6

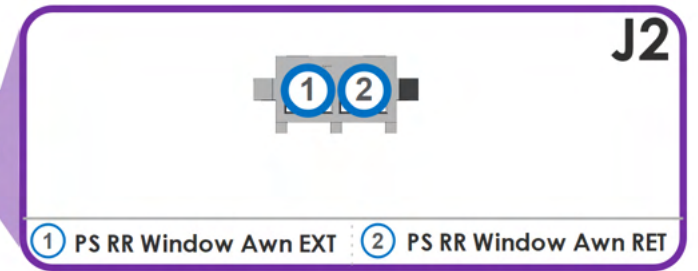
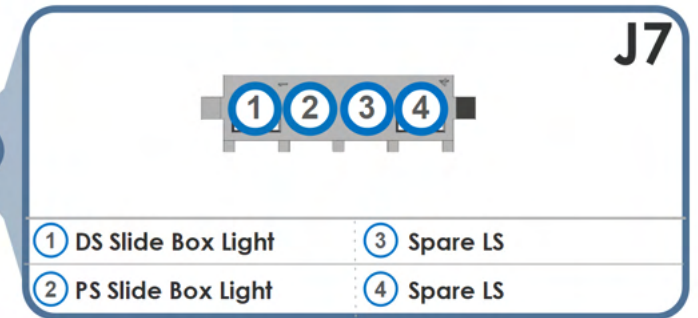
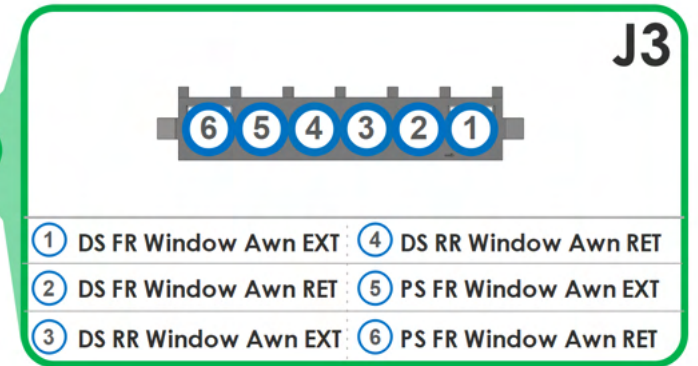
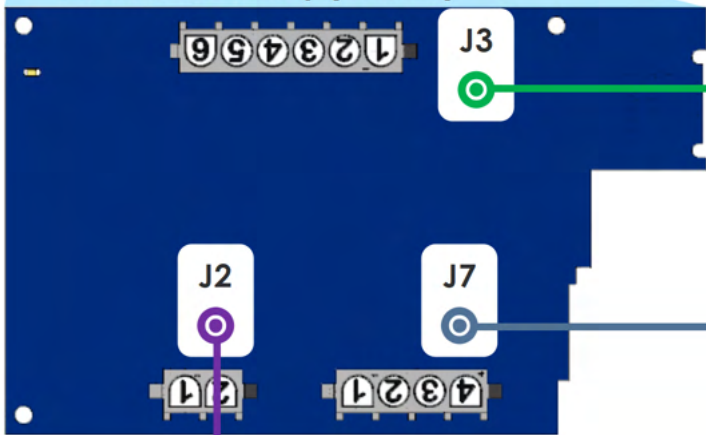


① LP Gas	⑥ LP GND
② Spare	⑦ Spare
③ Spare	⑧ Chassis Voltage
④ Spare	⑨ GEN Run Signal (+12V)
⑤ Spare	⑩ RTC 12V Constant PWR

## Mid M1 Panel



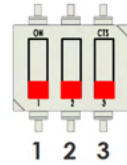
## Mid M1 HC Relay (Card 1)



## M1 Dimmer Card 1

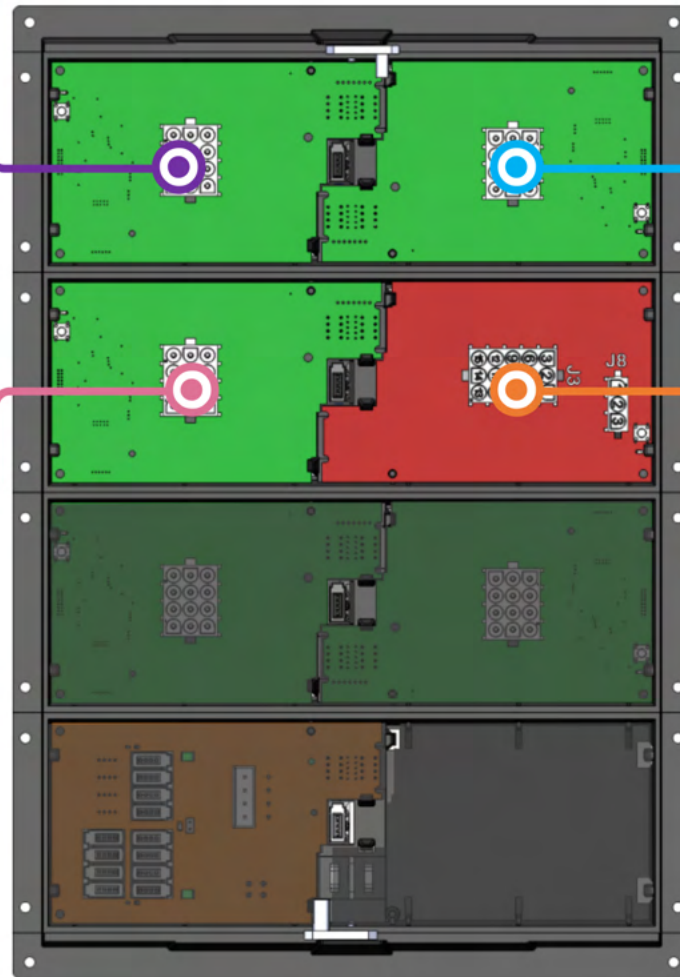
- Entry Lt
- Dash Accent
- DS Slide
- PS Slide
- FR Courtesy
- RR Courtesy

### Dip Switch Settings



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

### Rear M1 Panel 1



## 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

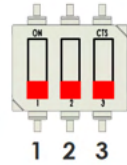
## M1 Dimmer Card 3

- TV Accent Lt
- Closet Lt
- Floor HT FR Zone
- Floor HT RR Zone
- Fireplace Override

## M1 Breaker Card 4

- Basement 12V PWR/EXT TV Lift
- SEELEVEL
- Front Furnace
- Prox A/C RLY SW/Galley Motion Lt
- Switcher/IR Blaster
- Vent Fan PWR
- Rear Furnace
- Mid Toilet
- FR Pass Slide/Dinette SHD
- USB Bed Slide/Partition Wall USB
- Truma Water Heater
- FR/RR TV Lift

### Dip Switch Settings

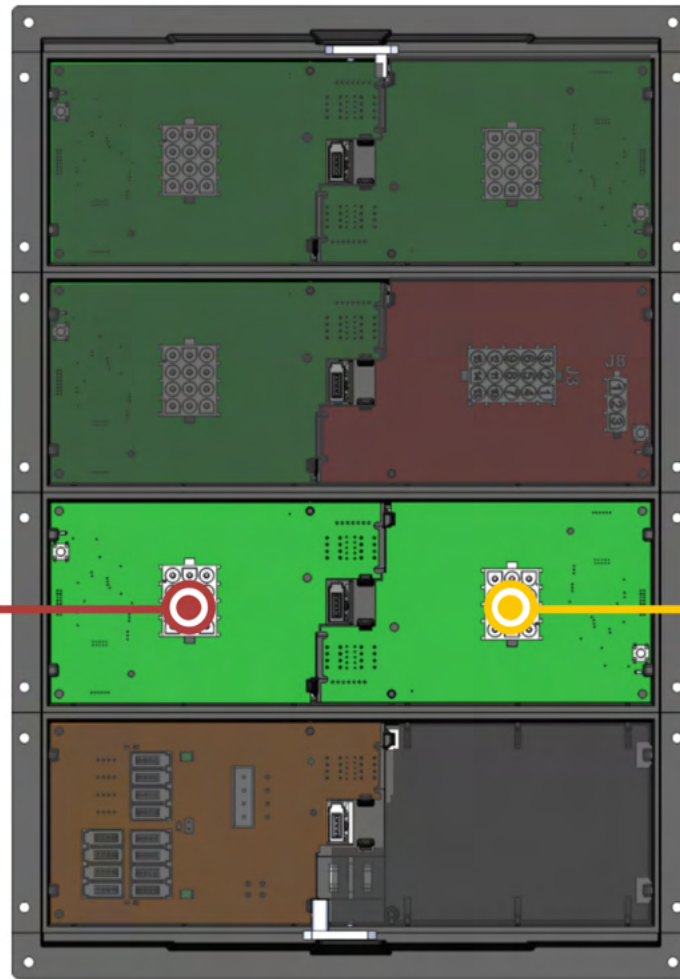


- 1 OFF (Down)
- 2 OFF (Down)
- 3 OFF (Down)

## M1 Dimmer Card 5

- Galley Lt
- Galley Accent Lt
- DS Crown Accent Lt
- PS Crown Accent Lt
- Bed Vanity Lt
- Foyer Lt
- Foyer Accent Lt
- FR Bed Valance Accent Lt
- RR Bed Valance Accent Lt
- Bed Headboard Accent Lt
- Hutch/Hall Accent Lt
- Hall Lt

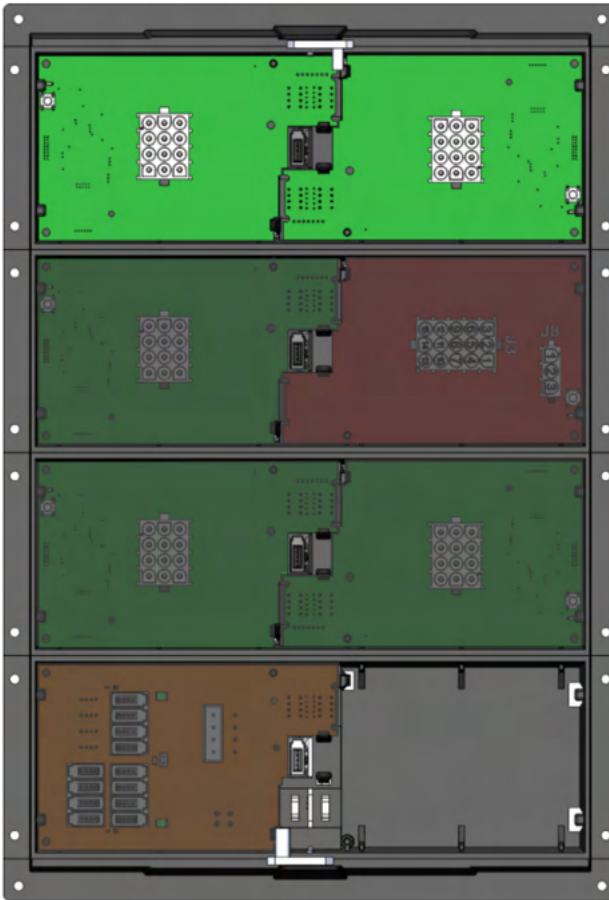
### Rear M1 Panel 1



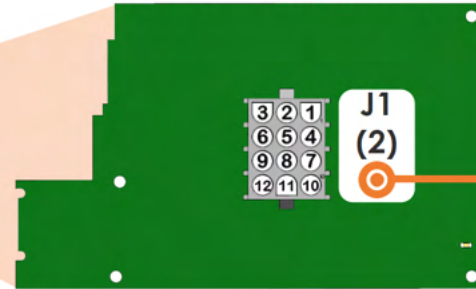
## M1 Dimmer Card 6

- Mid Bath Courtesy Lt
- Living Area Accent Lt
- Living Area Lt
- Wall Accent Lt
- Rear Bath Courtesy Lt
- Rear Bath Shower Miser Lt
- Rear Bath Accent Lt
- DS Main Slide Valance Accent Lt
- PS Main Slide Valance Accent Lt
- Outdoor Kitchen Lt

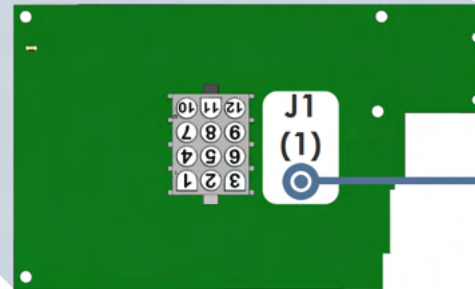
Rear M1 Panel



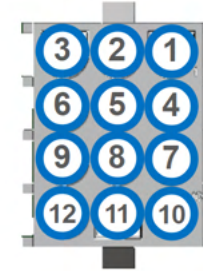
M1 Dimmer (Card 2)



M1 Dimmer (Card 1)

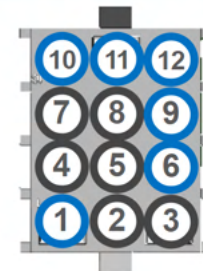


J1 (2)



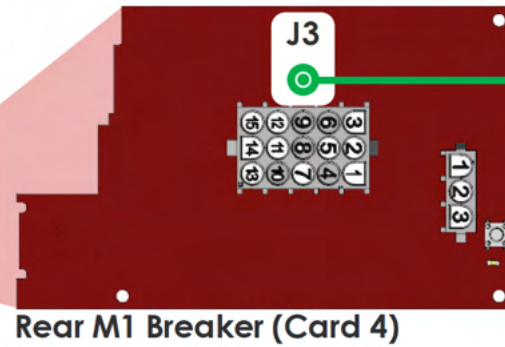
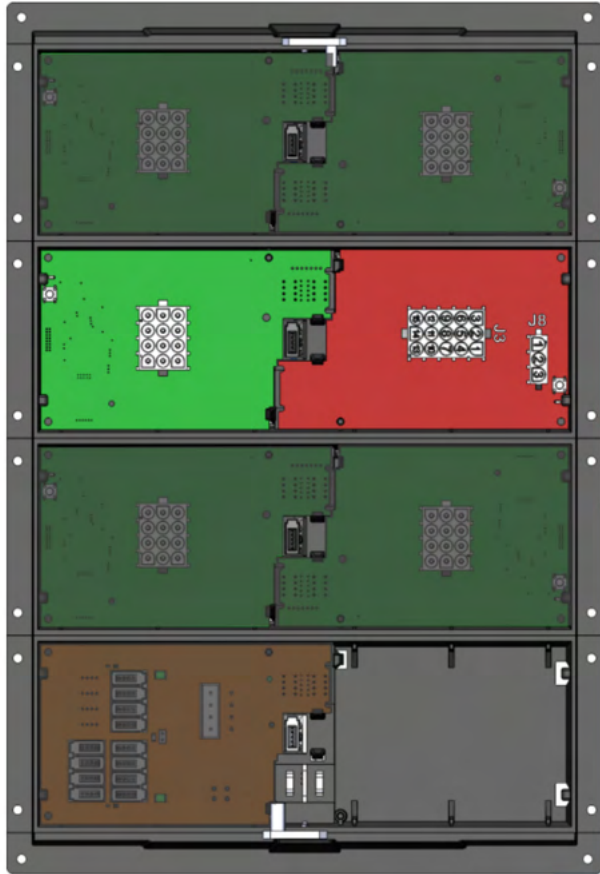
- |                      |                       |
|----------------------|-----------------------|
| 1 Bedroom Ceiling Lt | 7 Mid Bath Vanity Lt  |
| 2 Bed Accent         | 8 Rear Bath Lt        |
| 3 FR Accent 1        | 9 Rear Bath Vanity Lt |
| 4 FR Accent 2        | 10 FR Bed Reading     |
| 5 Task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

J1 (1)

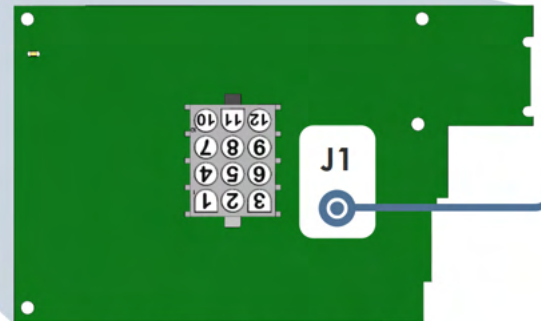


- |               |                |
|---------------|----------------|
| 1 Entry Lt    | 7 Spare        |
| 2 Spare       | 8 Spare        |
| 3 Spare       | 9 DS Slide     |
| 4 Spare       | 10 PS Slide    |
| 5 Spare       | 11 FR Courtesy |
| 6 Dash Accent | 12 RR Courtesy |

## Rear M1 Panel



Rear M1 Breaker (Card 4)



Rear M1 Dimmer (Card 3)

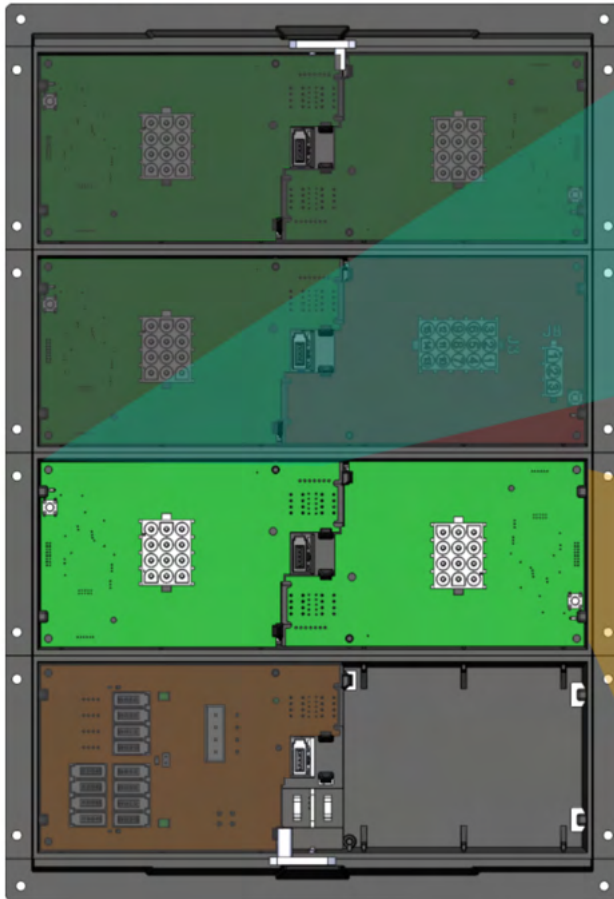
J3

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

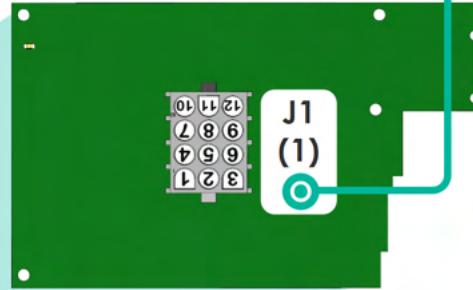
J1

① TV Accent Lt	⑦ Spare
② Closet Lt	⑧ Fireplace Override
③ Spare	⑨ Spare
④ Spare	⑩ Spare
⑤ Floor HT FR Zone	⑪ Spare
⑥ Floor HT RR Zone	⑫ Spare

## Rear M1 Panel



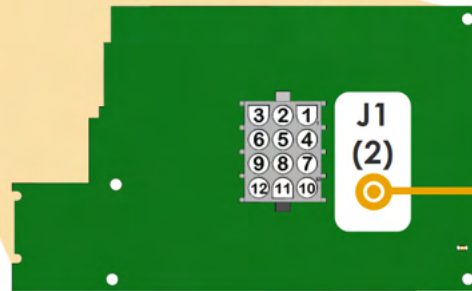
### M1 Dimmer (Card 5)



### J1 (1)

① Galley Lt	⑦ Foyer Accent Lt
② Galley Accent Lt	⑧ FR Bed Valance Accent Lt
③ DS Crown Accent Lt	⑨ RR Bed Valance Accent Lt
④ PS Crown Accent Lt	⑩ Bed Headboard Accent
⑤ Bed Vanity Lt	⑪ Hutch/Hall Accent Lt
⑥ Foyer Lt	⑫ Hall Lt

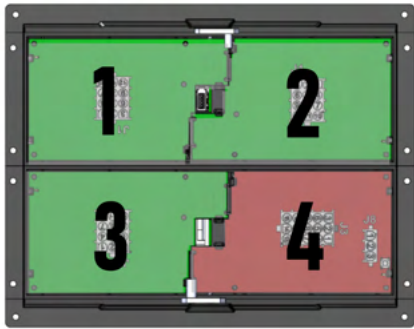
### M1 Dimmer (Card 6)



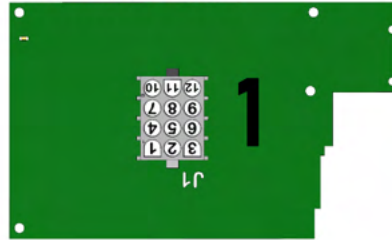
### J1 (2)

① Mid Bath Courtesy Lt	⑦ Rear Bath Accent Lt
② Living Area Accent Lt	⑧ DS Main Slide Valance Accent Lt
③ Living Area Lt	⑨ PS Main Slide Valance Accent Lt
④ Wall Accent Lt	⑩ Outdoor Kitchen Lt
⑤ Rear Bath Courtesy Lt	⑪ Spare
⑥ Rear Bath Shower Miser Lt	⑫ Spare

Front M1 Panel



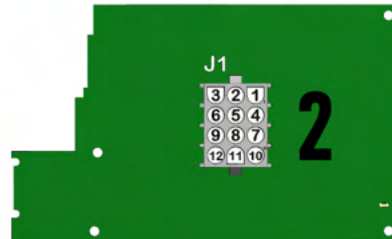
Dimmer Card 1



**1**

① Entry Lt	⑦ Spare
② Spare	⑧ Spare
③ Spare	⑨ DS Slide
④ Spare	⑩ PS Slide
⑤ Spare	⑪ FR Courtesy
⑥ Dash Accent	⑫ RR Courtesy

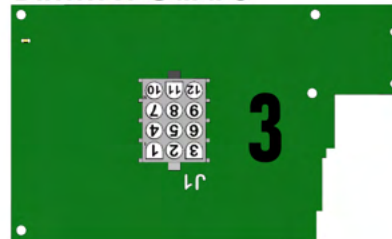
Dimmer Card 2



**2**

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

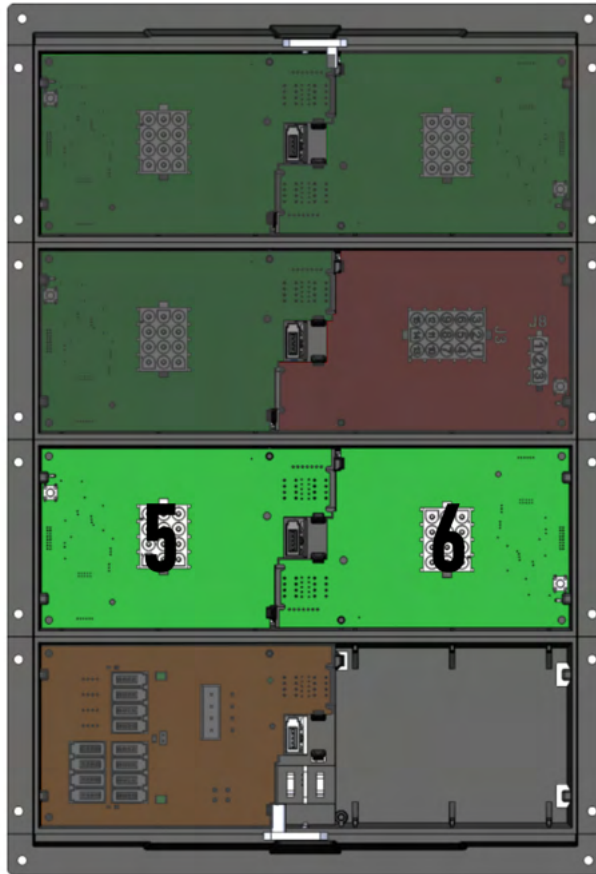
Dimmer Card 3



**3**

① TV Accent Lt	⑦ Spare
② Closet Lt	⑧ Fireplace Override
③ Spare	⑨ Spare
④ Spare	⑩ Spare
⑤ Floor HT FR Zone	⑪ Spare
⑥ Floor HT RR Zone	⑫ Spare

## Rear M1 Panel



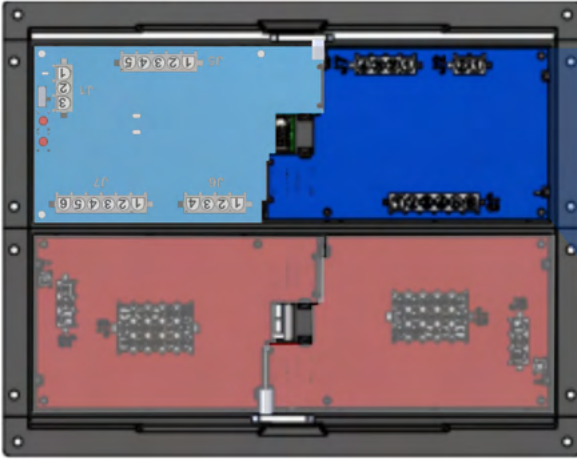
**5**

10	11	12	① Galley Lt	⑦ Foyer Accent LT
7	8	9	② Galley Accent LT	⑧ FR Bed Valance Accent LT
4	5	6	③ D/S Crown Accent	⑨ RR Bed Valance Accent LT
1	2	3	④ P/S Crown Accent	⑩ Bed Headboard Accent
			⑤ Bed Vanity Lt	⑪ Hutch/Hall Accent Lt
			⑥ Foyer LT	⑫ Hall LT

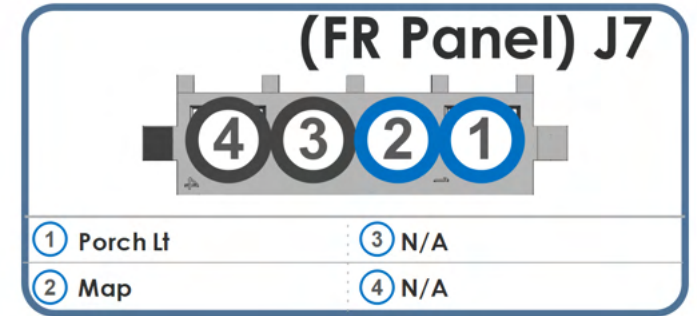
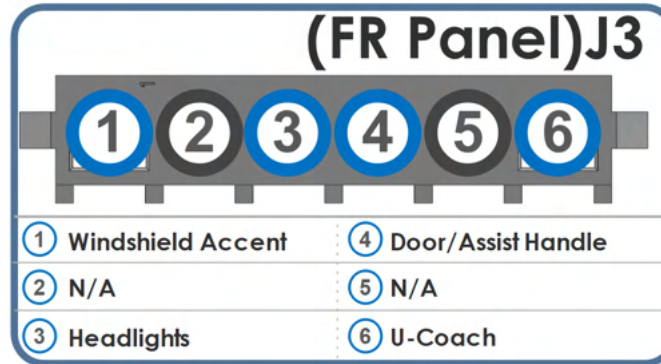
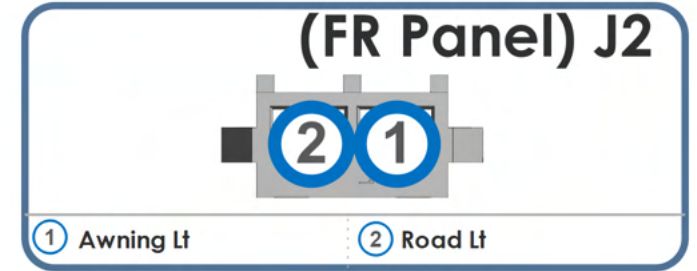
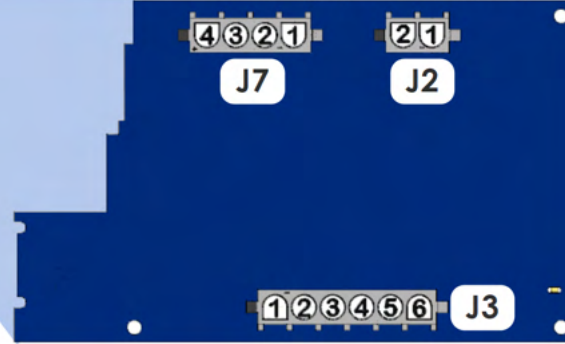
**6**

3	2	1	① Mid Bath Courtesy	⑦ Rear Bath Accent Lt
6	5	4	② Living Area Accent	⑧ D/S Main Sid Valance Accent
9	8	7	③ Living Area LT	⑨ P/S Main Sid Valance Accent
12	11	10	④ Wall Accent Lt	⑩ Outdoor Kitchen Lt
			⑤ RR Bath Courtesy	⑪ RR Bed Reading Lt
			⑥ RR Bath Shower Miser	⑫ RR Accent

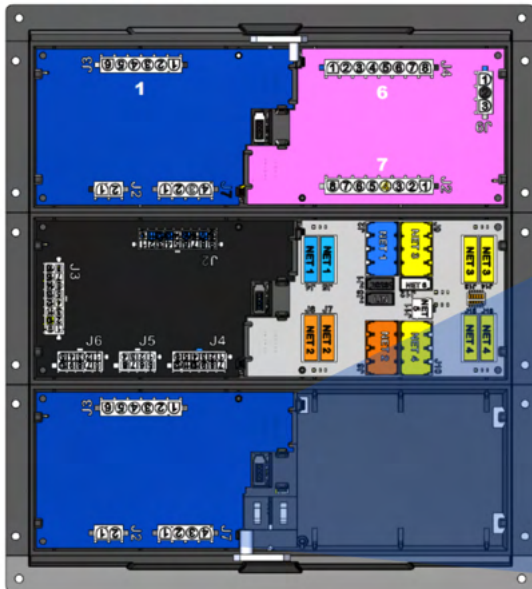
## Front M1 Panel



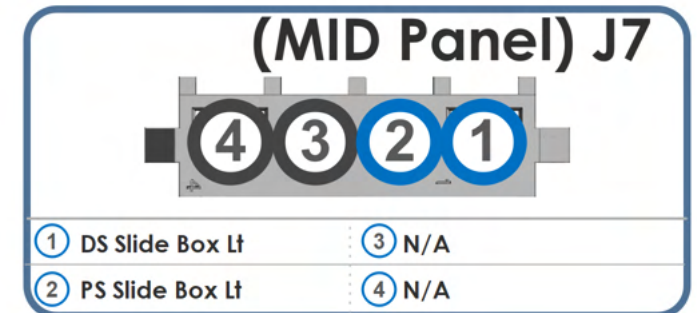
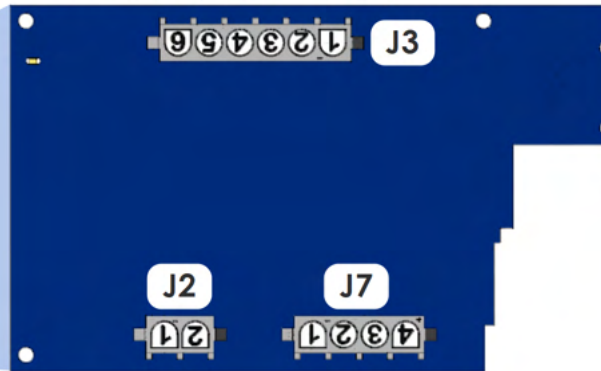
M1 HC Relay (Front Panel)



## Mid M1 Panel



M1 HC Relay (Mid Panel)



**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

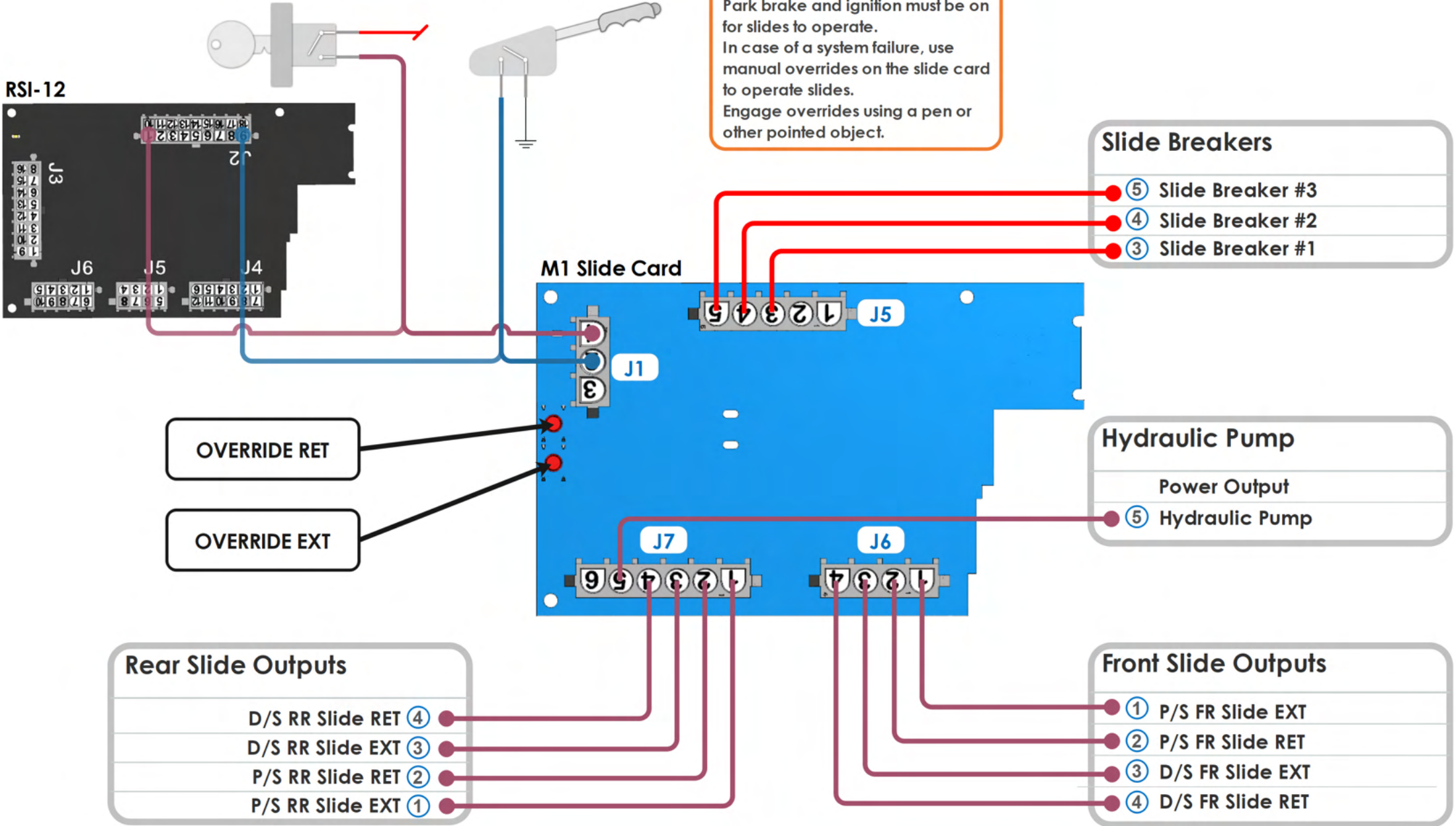
RSI-12

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

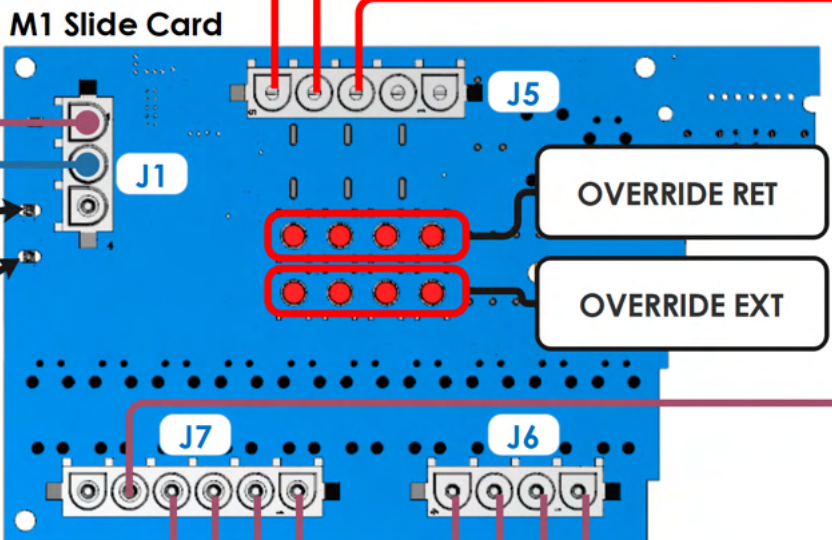
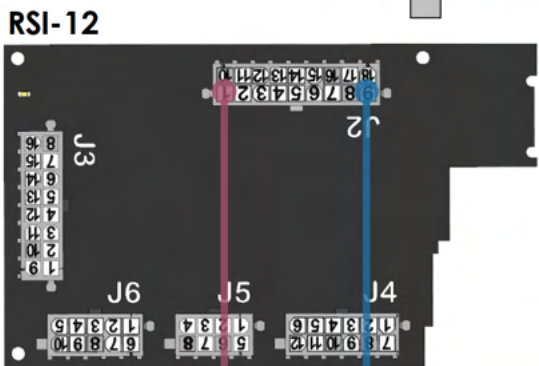
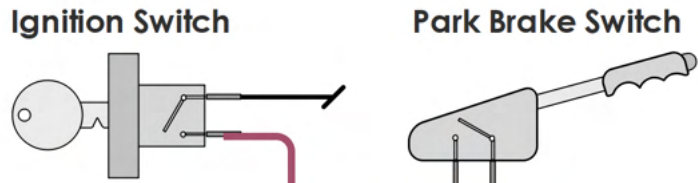
- Hydraulic Pump**
- Power Output
- ⑤ Hydraulic Pump

- 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

- 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



**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.

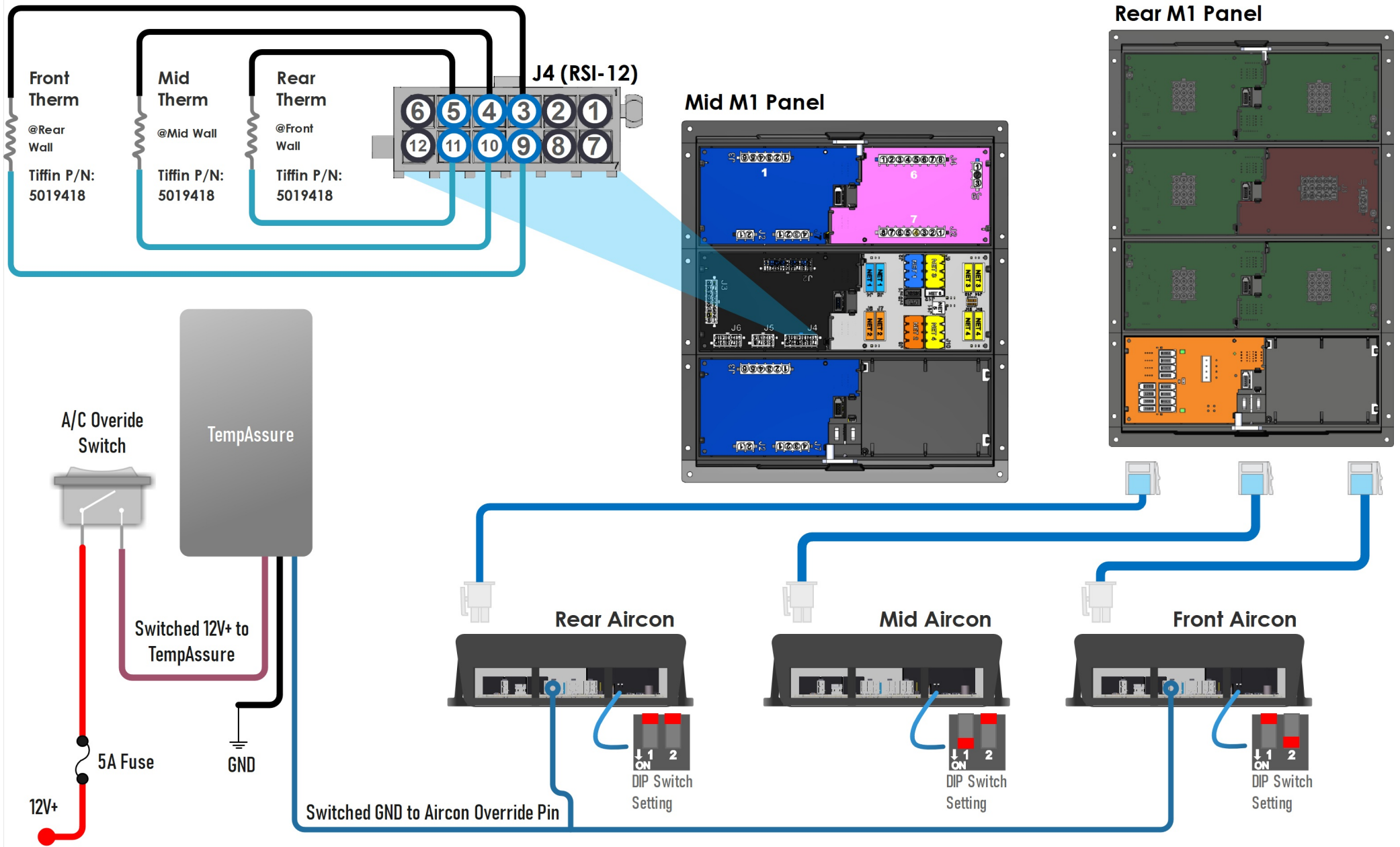


- Slide Breakers**
- ⑤ Slide Breaker #3
  - ④ Slide Breaker #2
  - ③ Slide Breaker #1

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

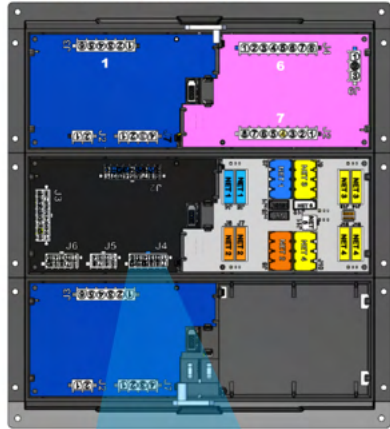
- Rear Slide Outputs**
- D/S RR Slide RET ④
  - D/S RR Slide EXT ③
  - P/S RR Slide RET ②
  - P/S RR Slide EXT ①

- 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

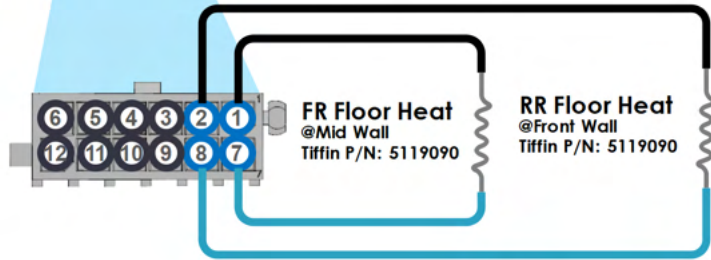
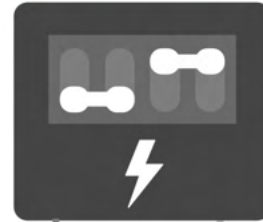


HVAC thermistors - 100K ohms @ 25 C or 77 F  
**NOTE:** As the temperature increases the resistance lowers

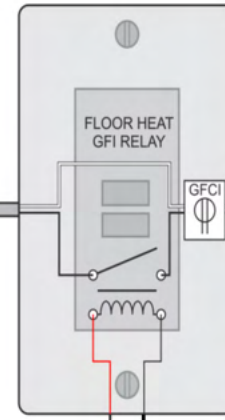
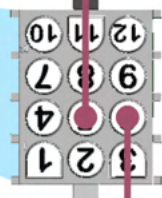
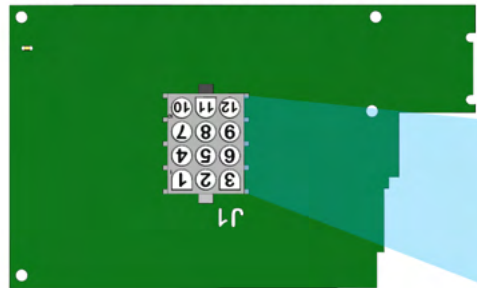
## Mid M1 Panel



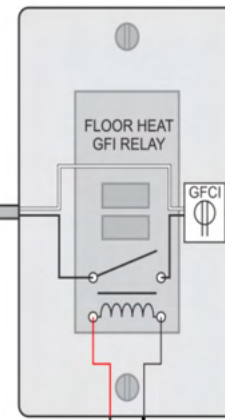
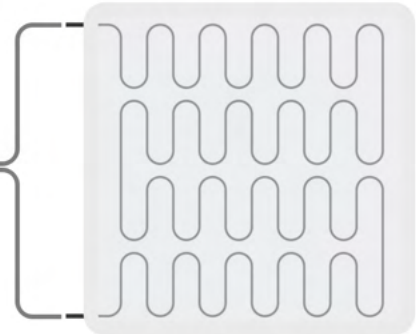
## 120V BREAKER PANEL @Rear Closet



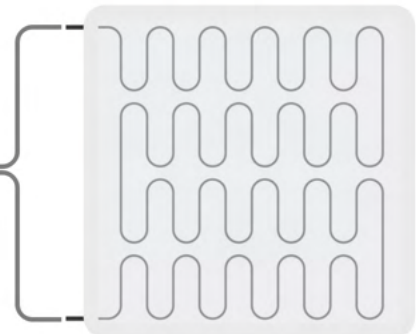
## Rear M1 Panel Card 3

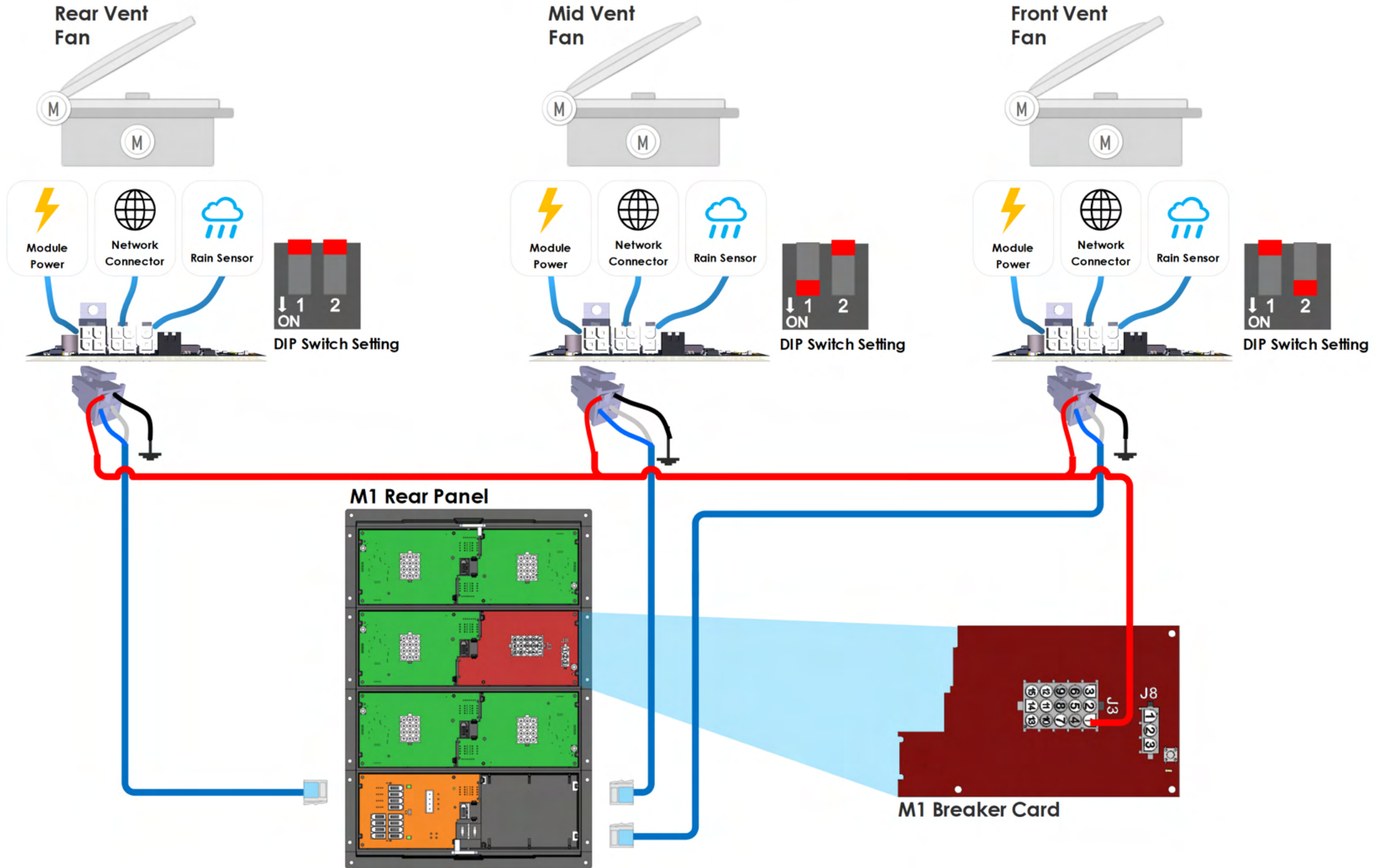


FR Floor Heat  
GFI Relay  
@Rear Closet

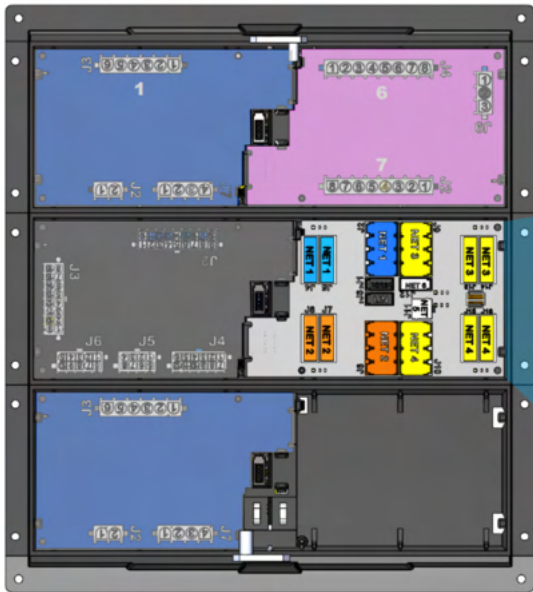


RR Floor Heat  
GFI Relay  
@Rear Closet

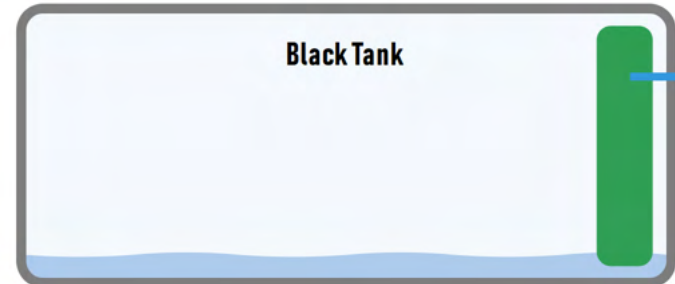
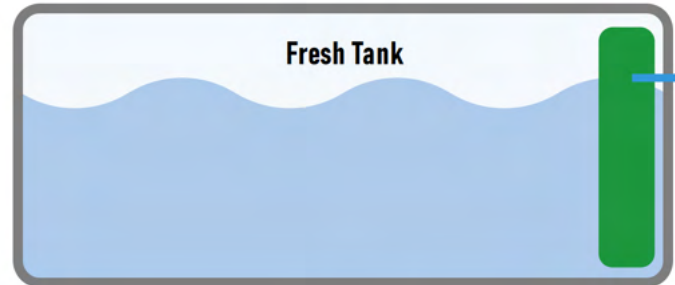
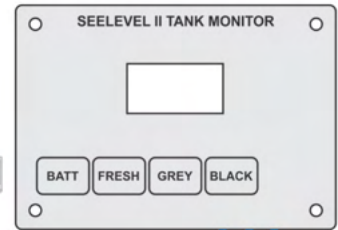


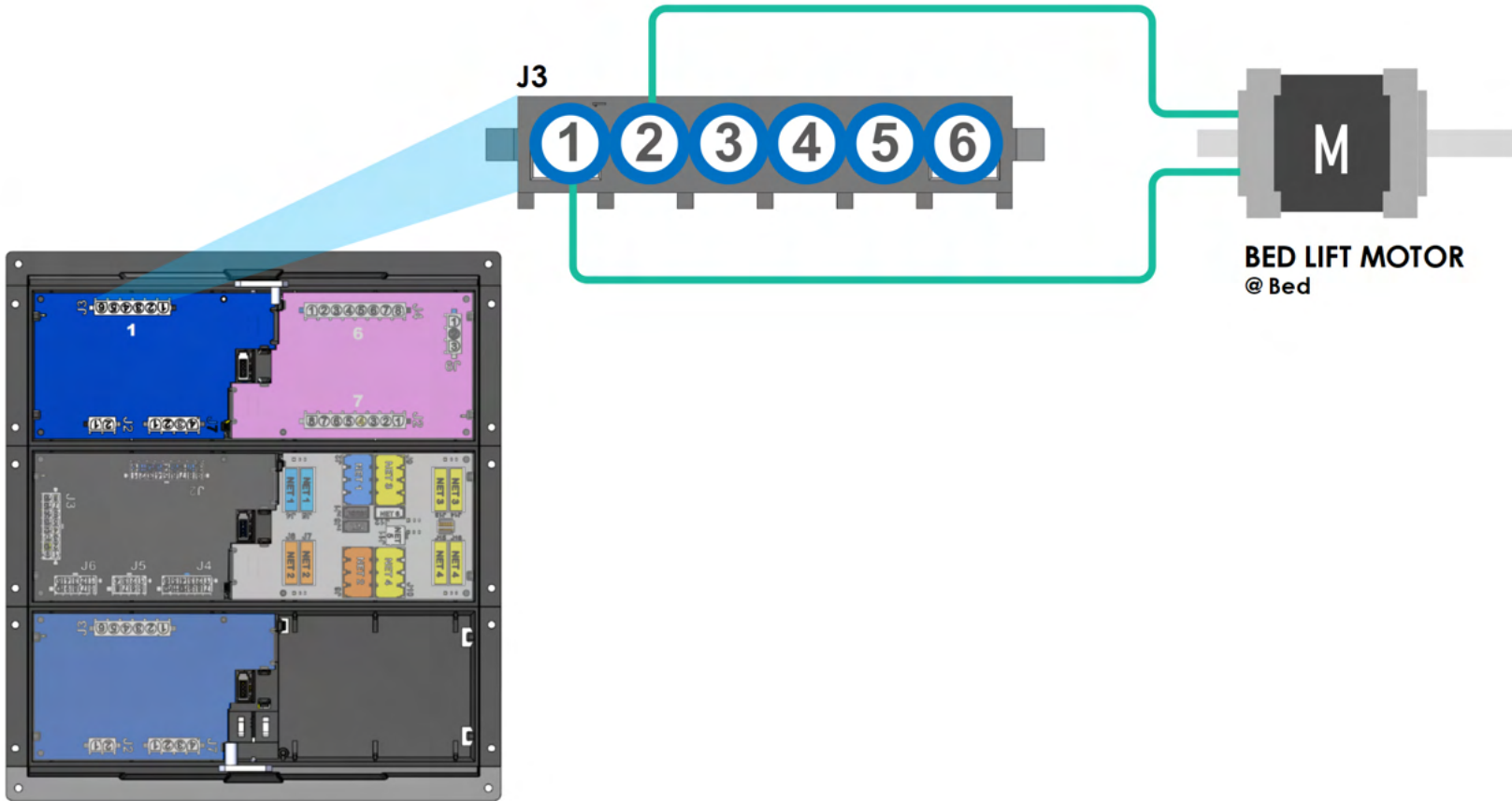


M1 Mid Panel



Can Router



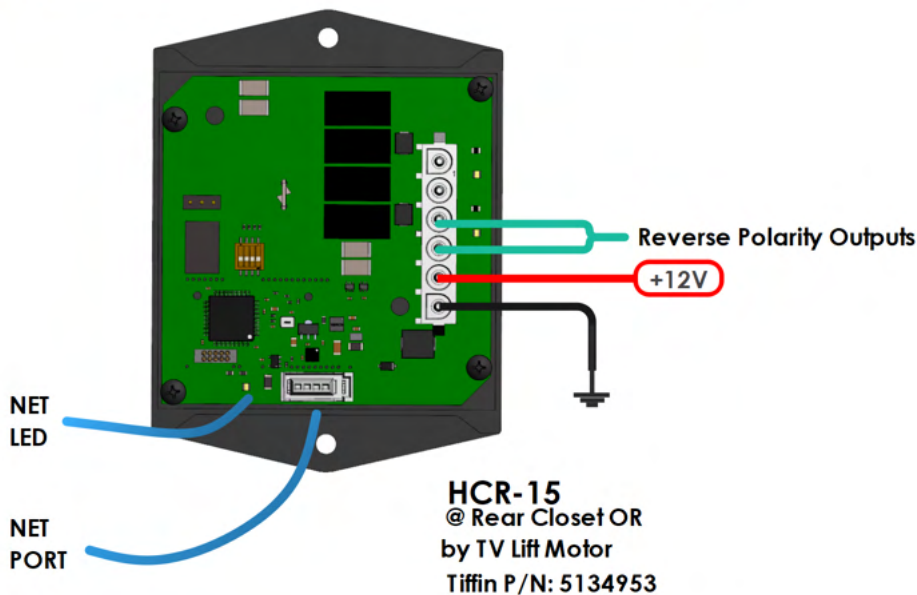
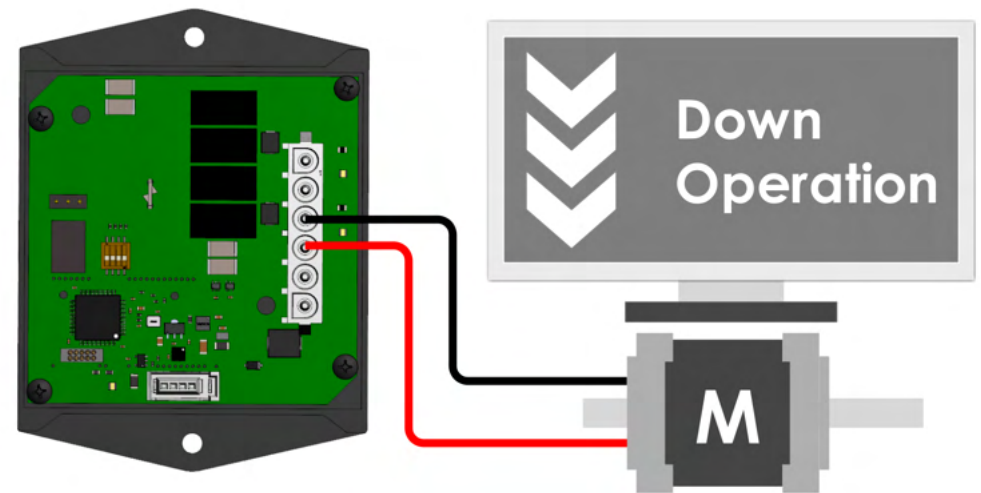
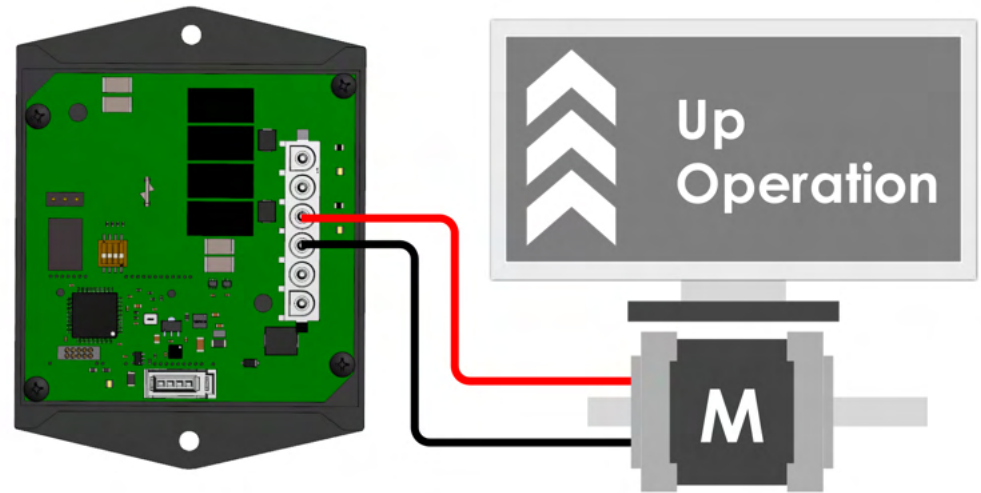


## Trouble Shooting

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.

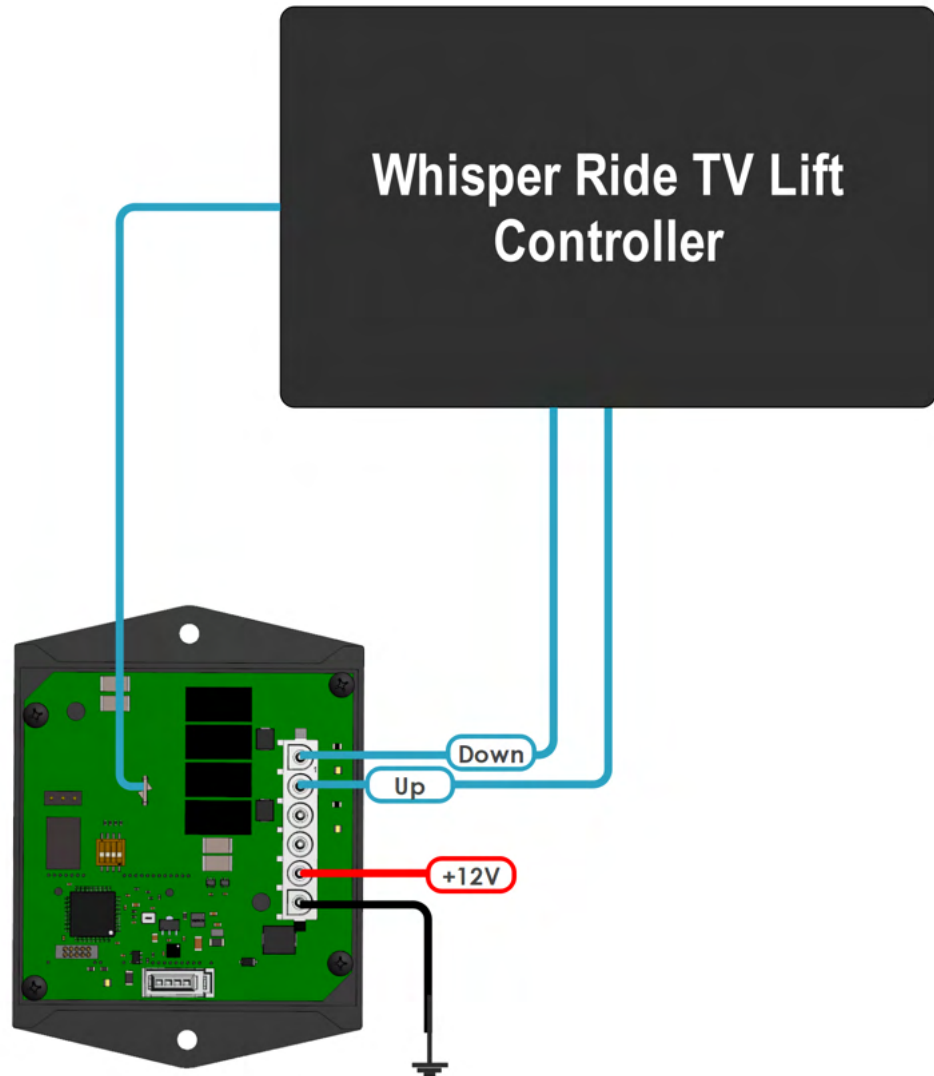
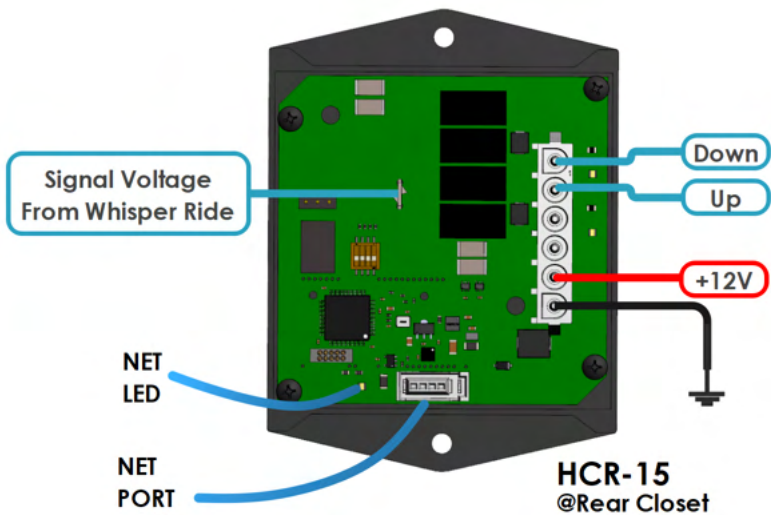


## Trouble Shooting

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.

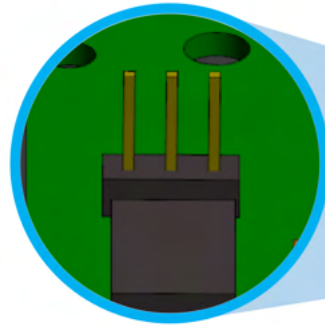
To troubleshoot this further, please contact Spyder Controls.



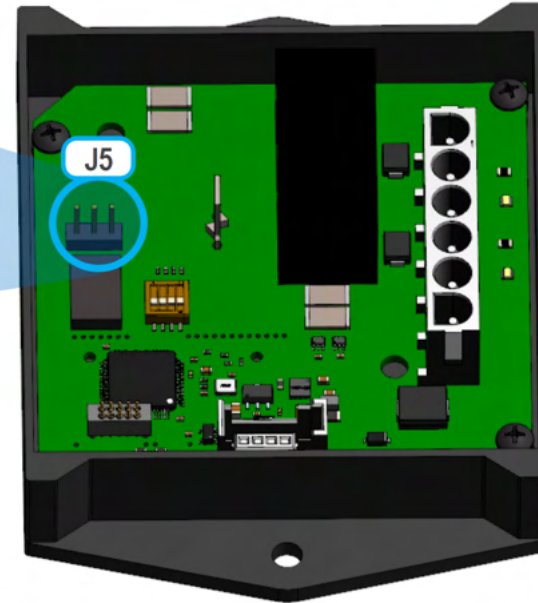
## Location Setting

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

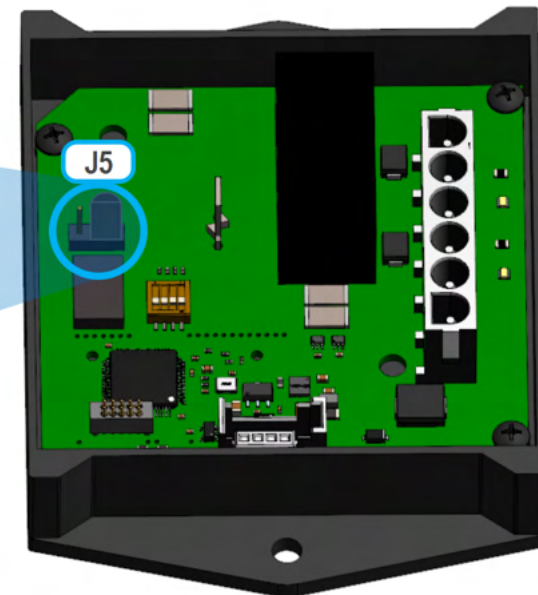
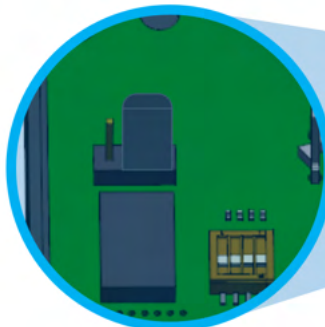
Front TV Lift

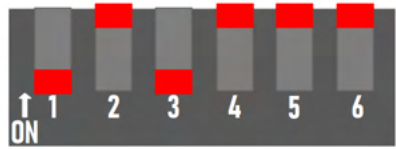


HCR 15

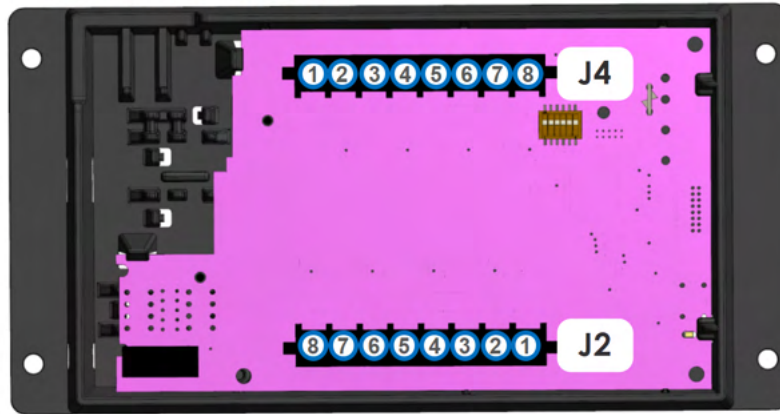


Rear TV Lift

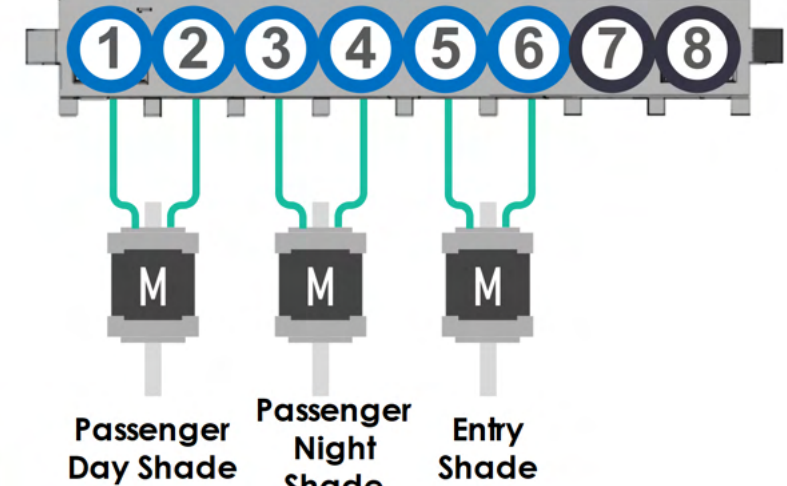




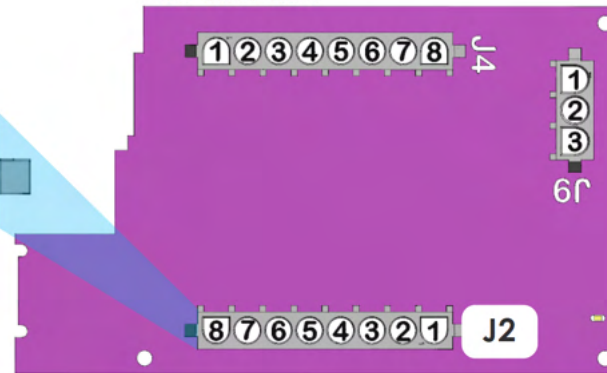
Dash Shade Module



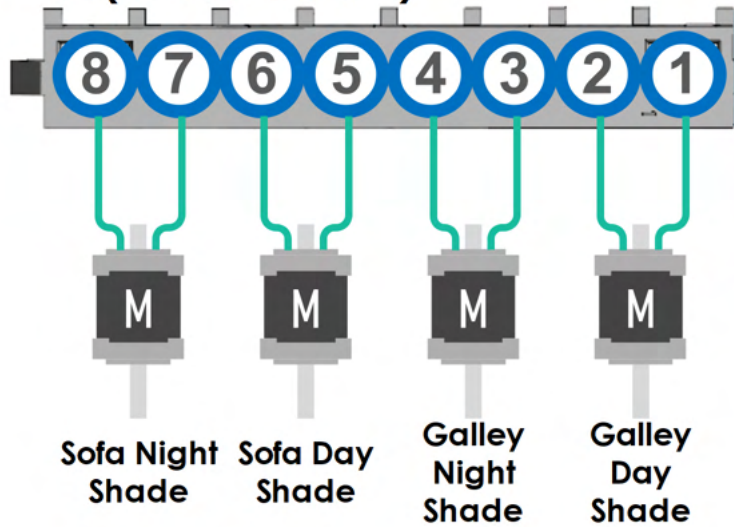
J4 (Shade Module)



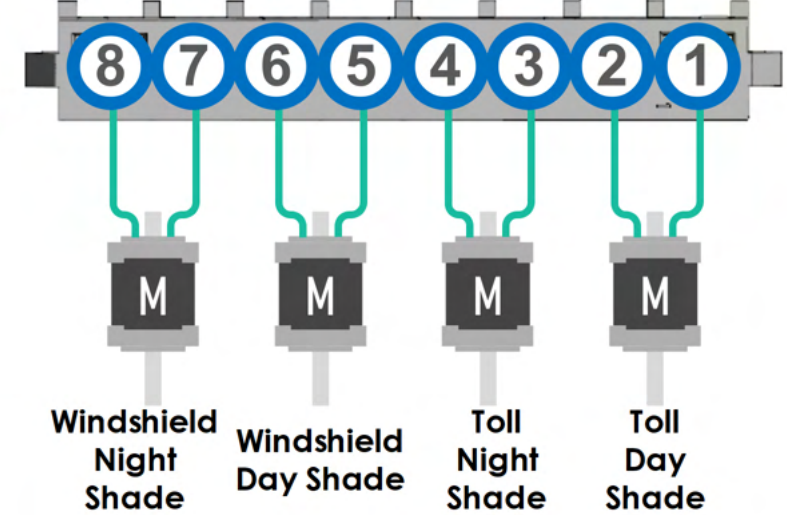
M1 Low Current @M1 Mid Panel



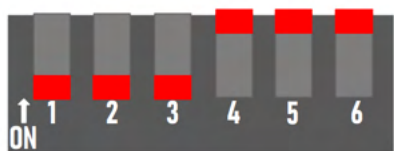
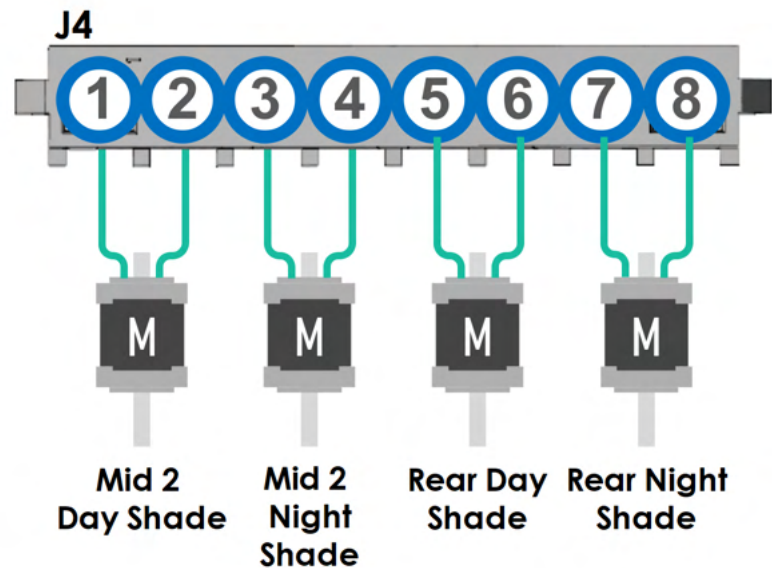
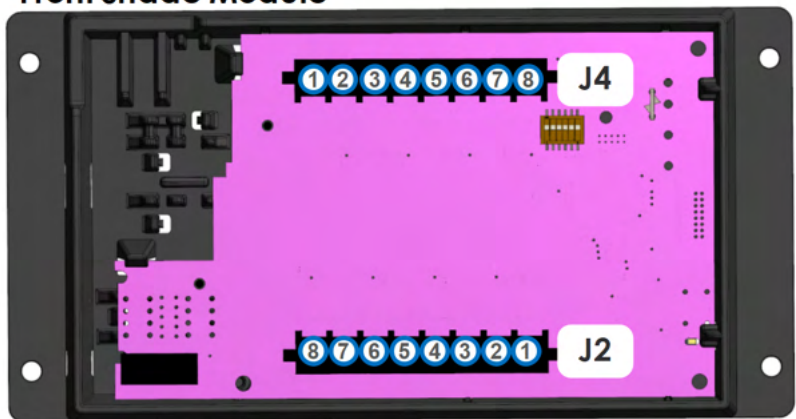
J2 (M1 Low Current)



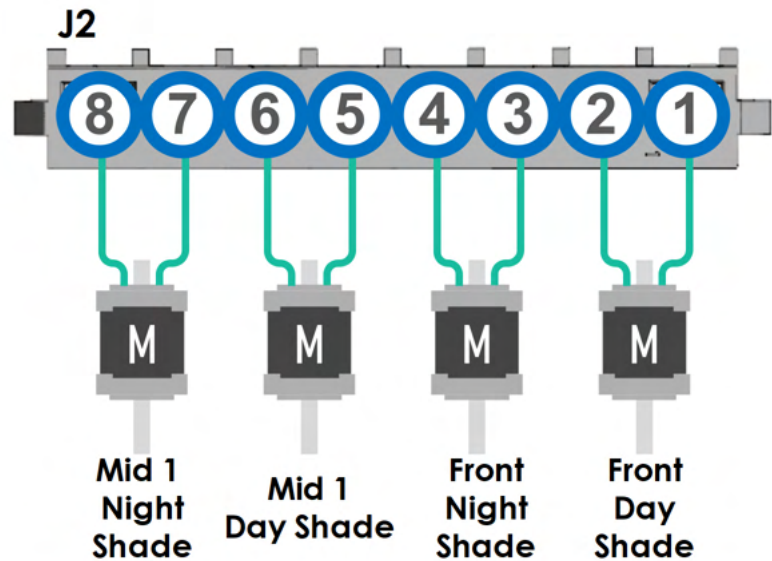
J2 (Shade Module)



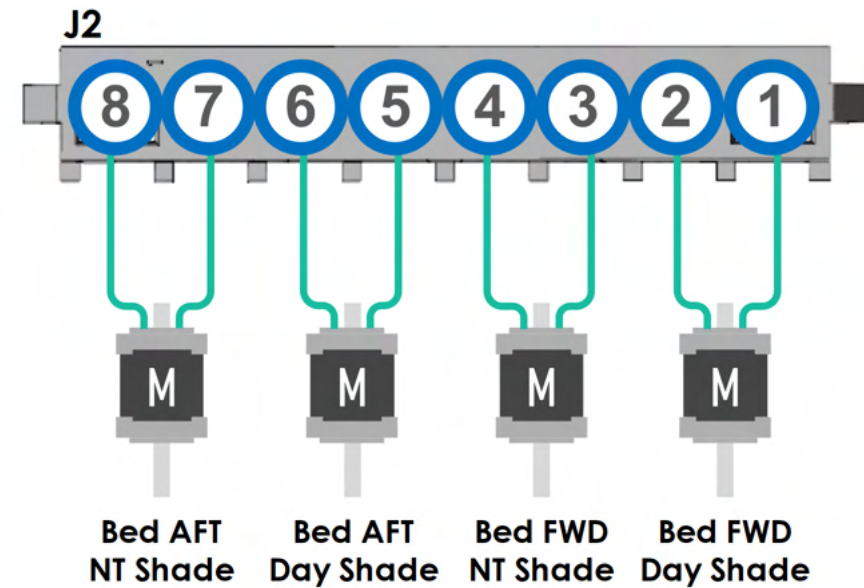
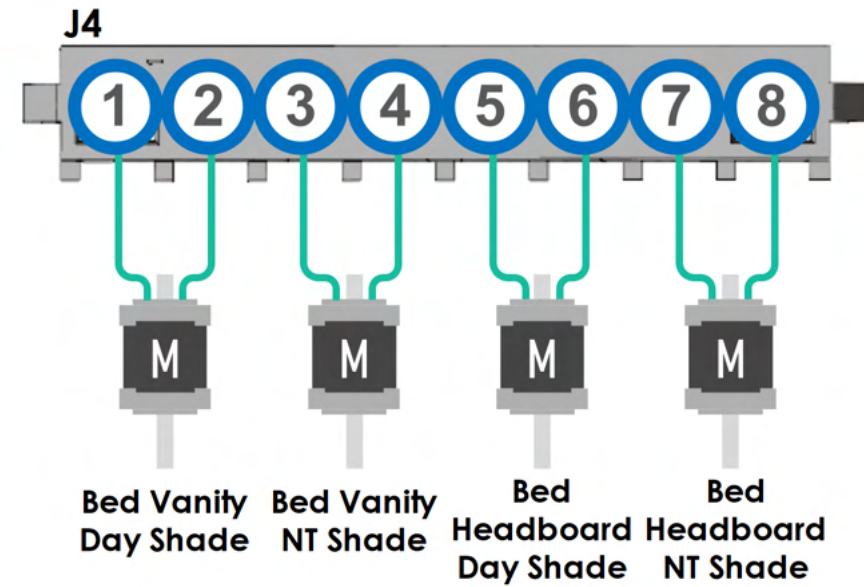
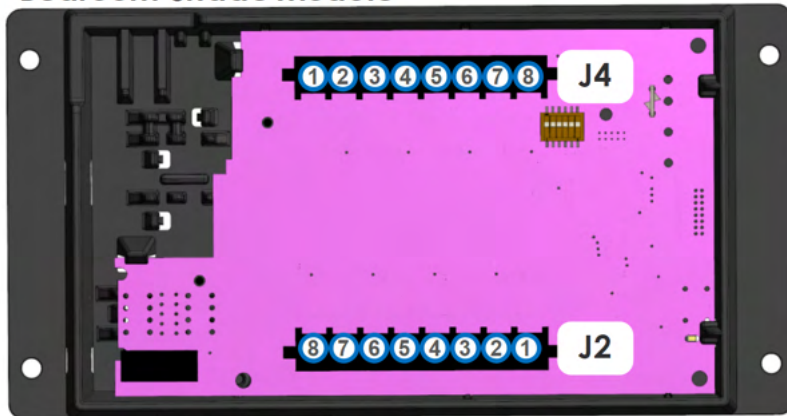
Front Shade Module



Dip Switch Setting

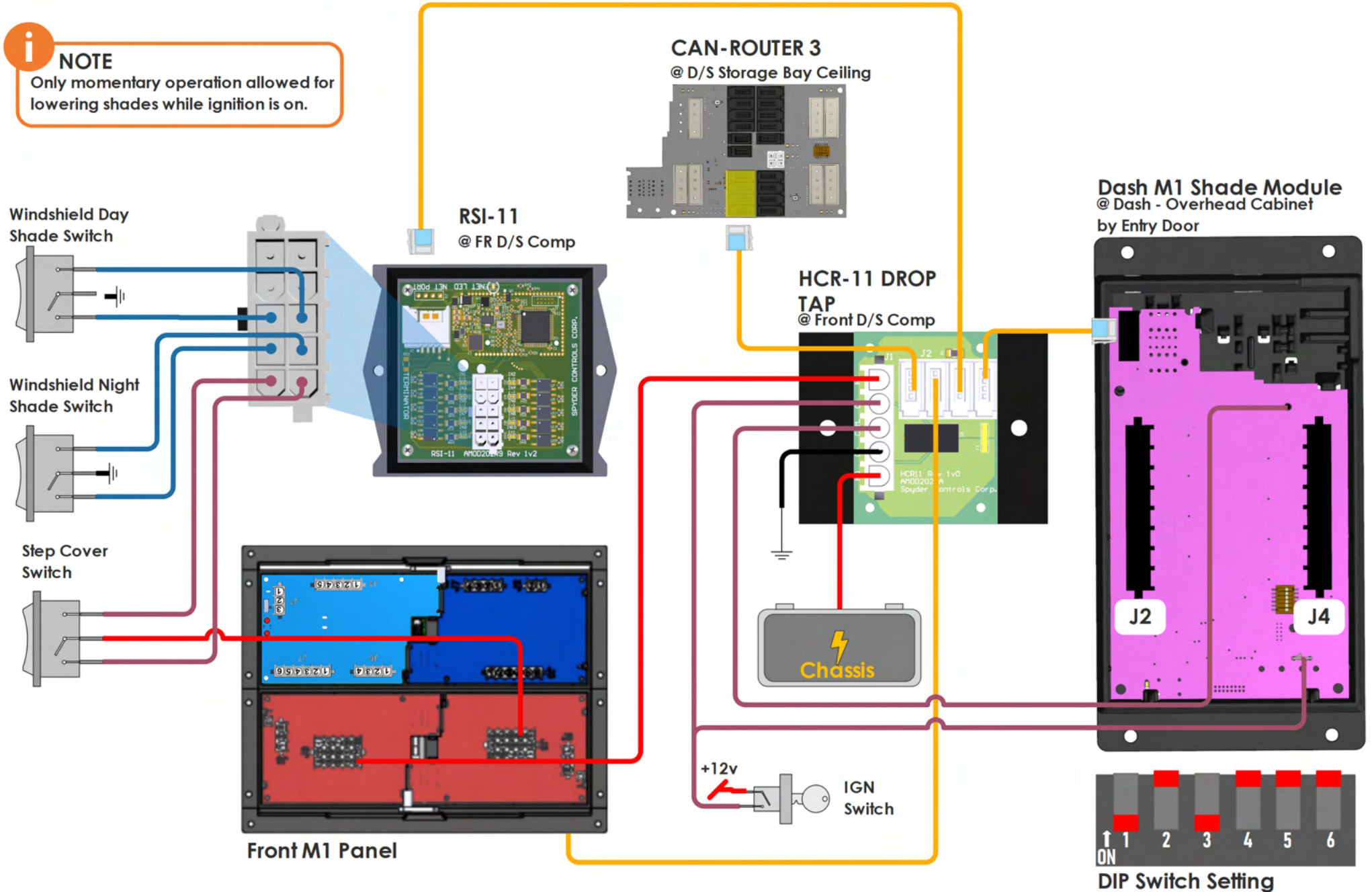


Bedroom Shade Module

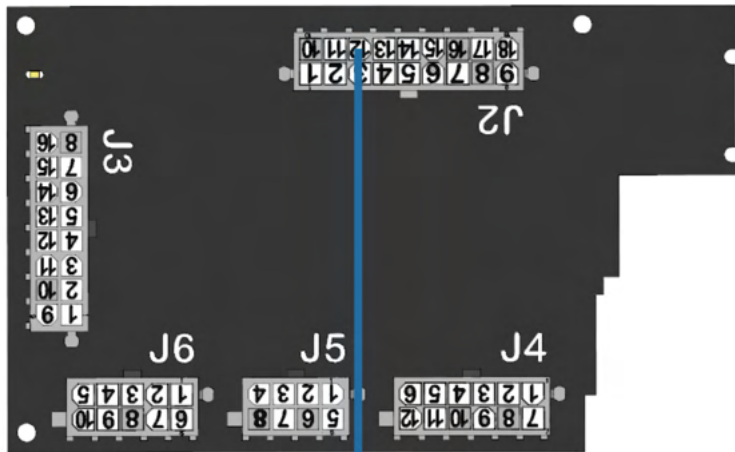


Dip Switch Setting

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



RSI-12  
@Mid M1 Panel

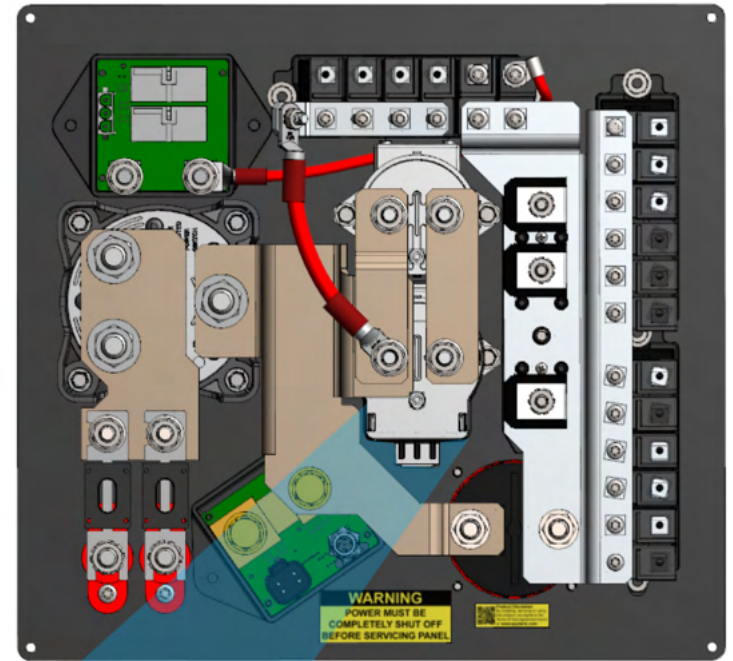


## COACH RUNNING INPUT

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+)

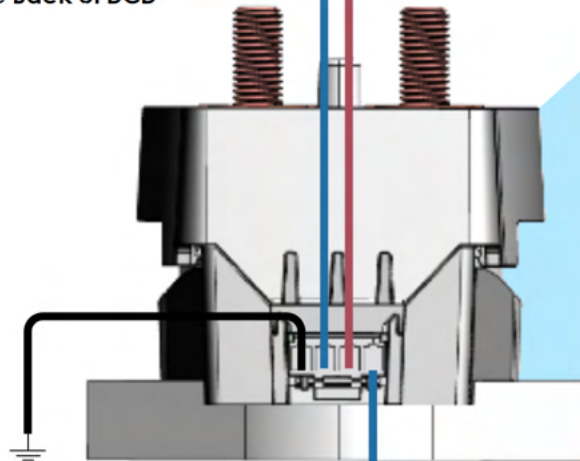


DCD Panel

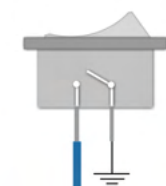


## MERGE SOLENOID

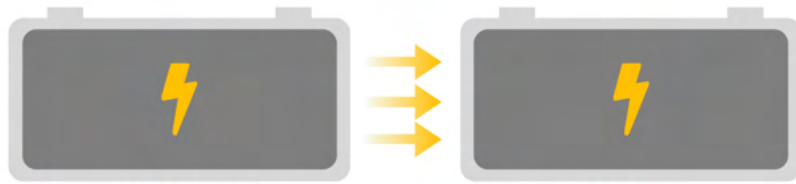
@ Back of DCD



Auto / Manual Merge Input (GND)



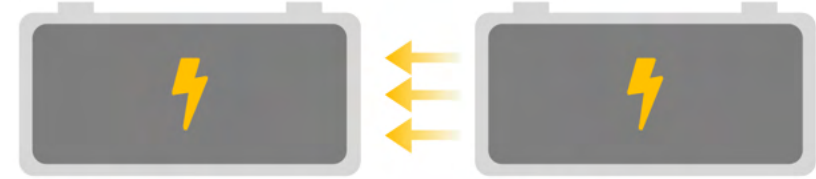
Manual Merge  
Override Switch  
@ Dash

**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 - 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

**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.

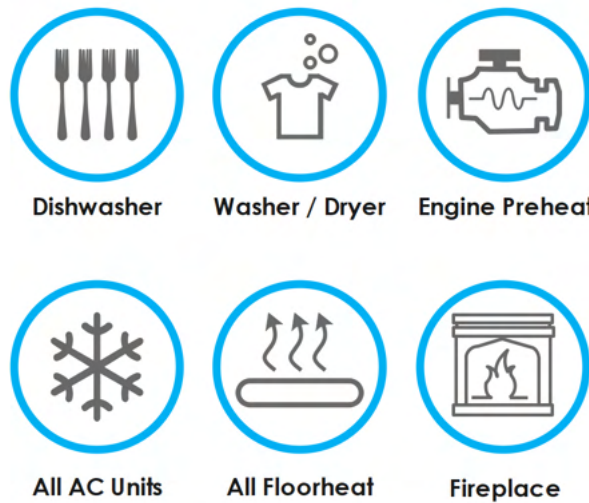
### What does "SHED" mean?

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

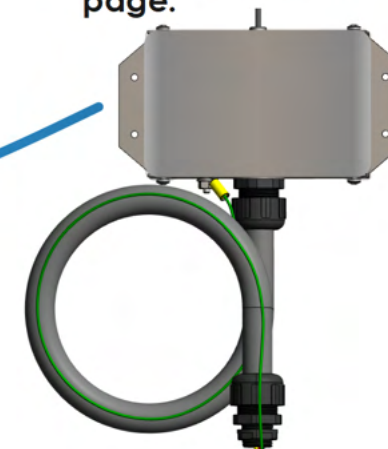


### Loads that can "SHED"



### 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.

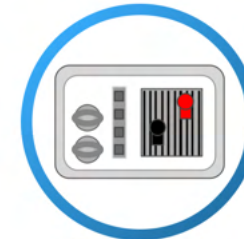
- 1 SHORE OR GENERATOR POWER IS AVAILIABLE
- 2 THE CHARGER IS IN FLOAT MODE  
(BATTERIES ARE CLOSE TO FULL CHARGE)
- 3 THE CHARGE RATE HAS BEEN REDUCED
- 4 A NON-EMS INVERTED LOAD IS ACTIVATED,  
SUCH AS THE MICROWAVE



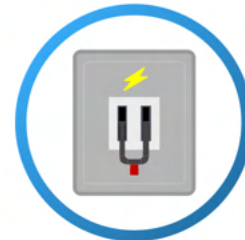
Batteries close to full



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.

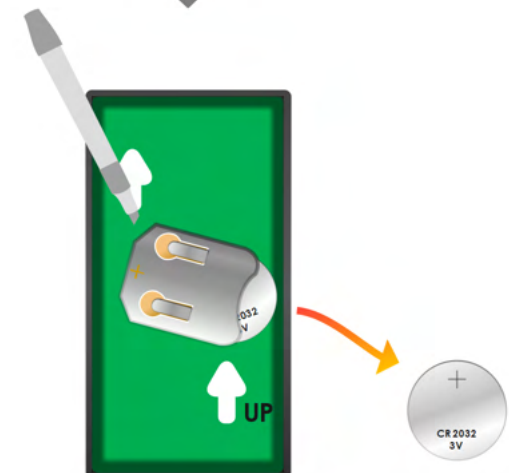
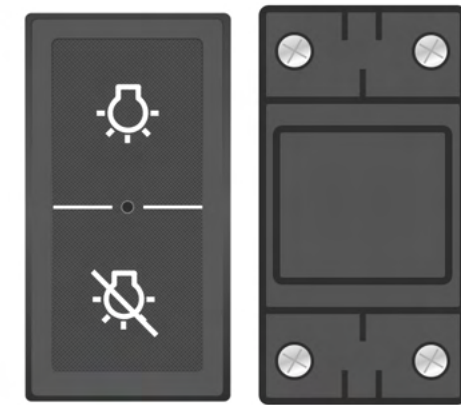
### WARNING

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



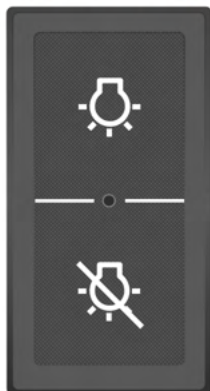
Insert Battery with + sign facing up.

Snaps on and off wall bracket

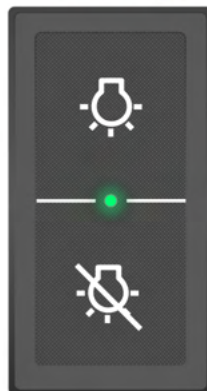


A green LED will turn on when a button is pressed. This is the transmit LED and confirms that the switch panel is transmitting information. This LED will flash occasionally indicating the switch panel is transmitting it's battery status.

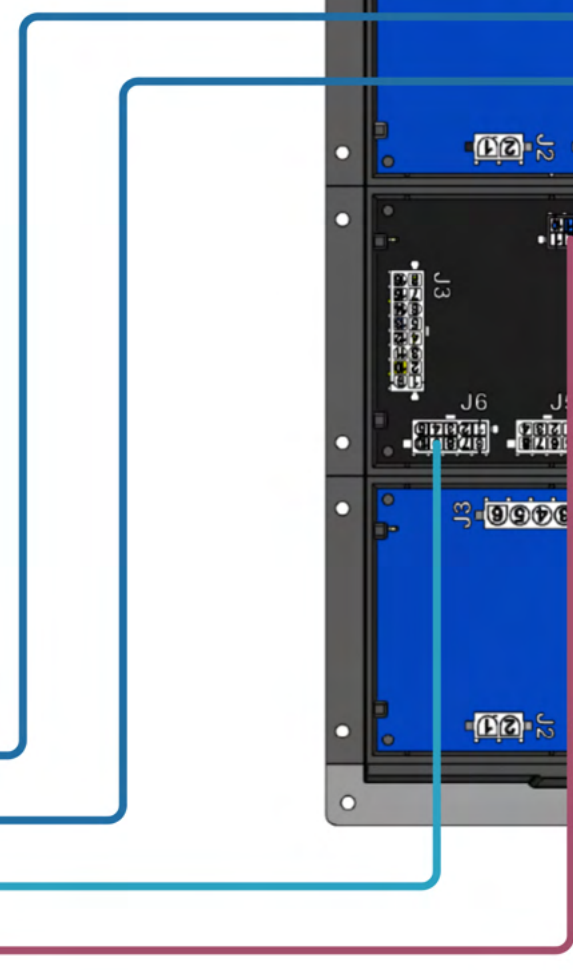
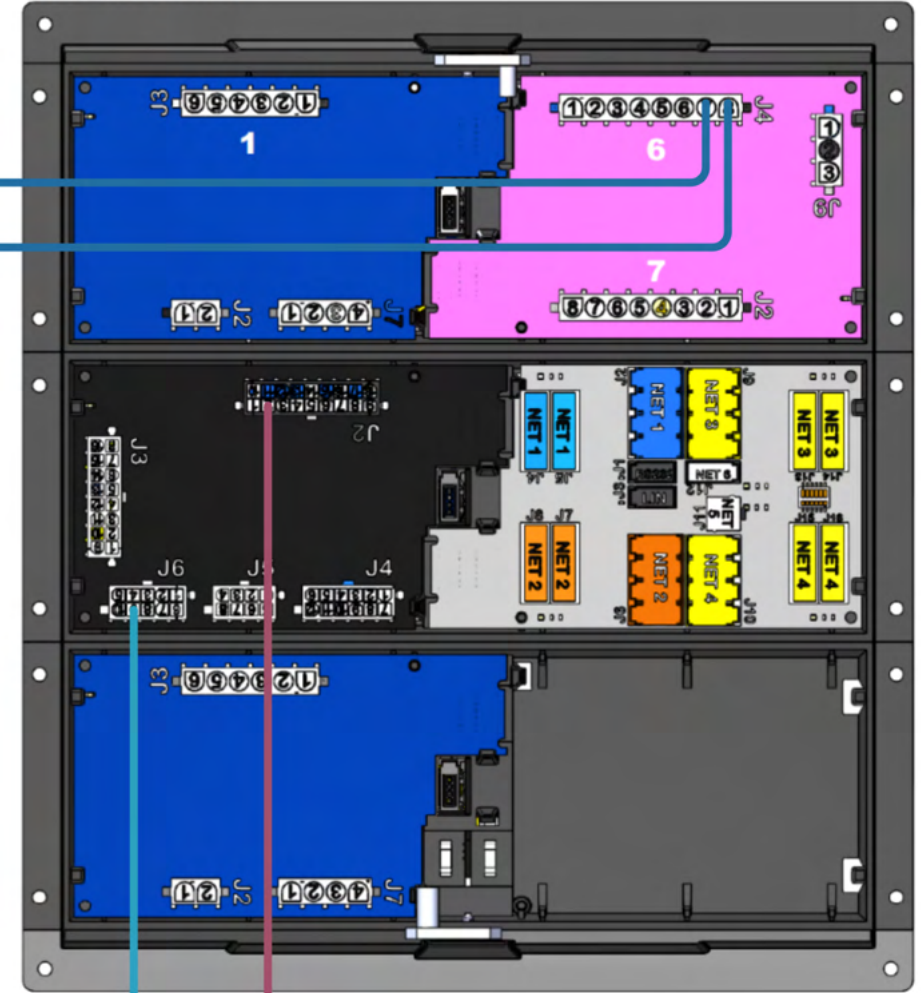
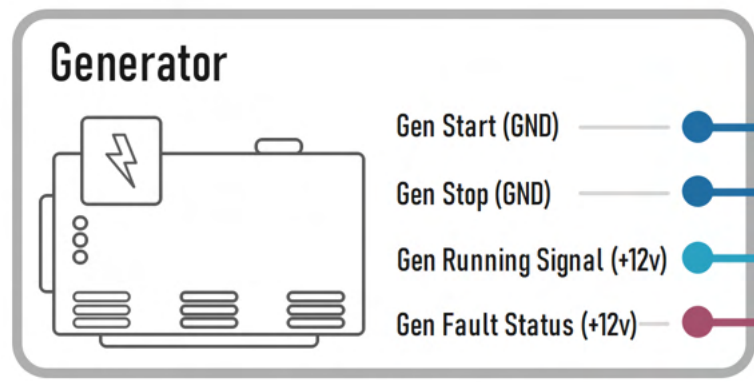
Not Transmitting



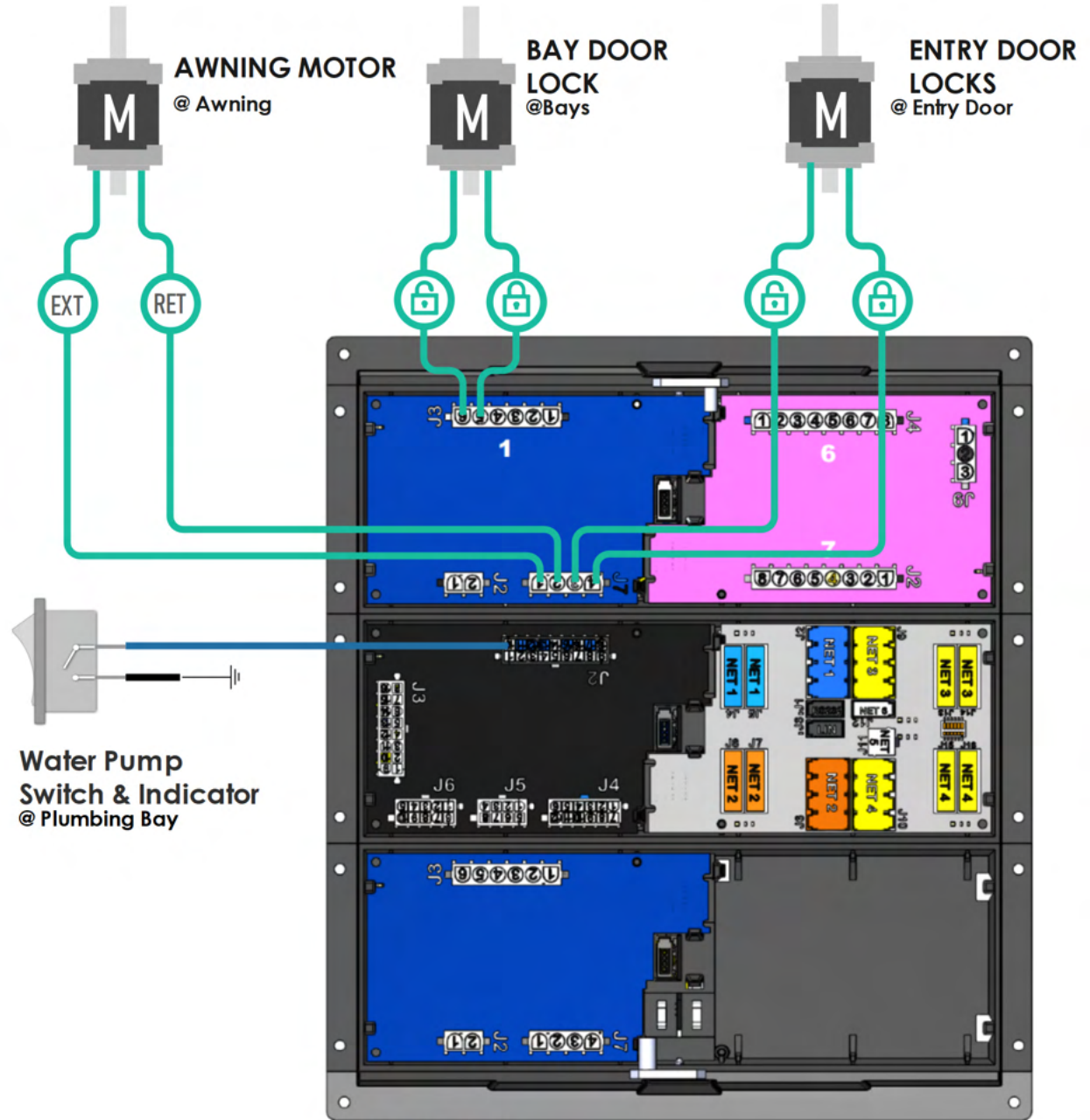
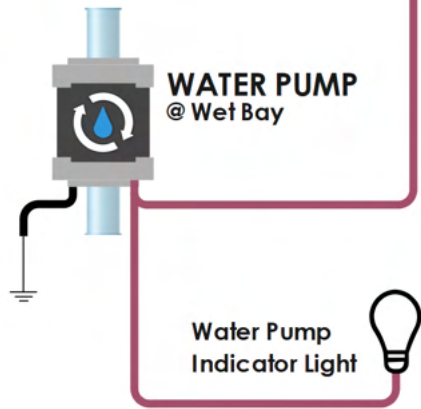
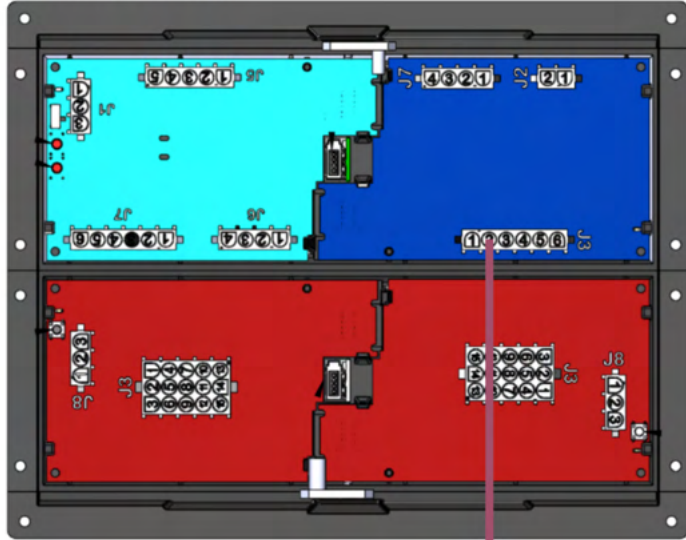
Transmitting



## Mid M1 Panel

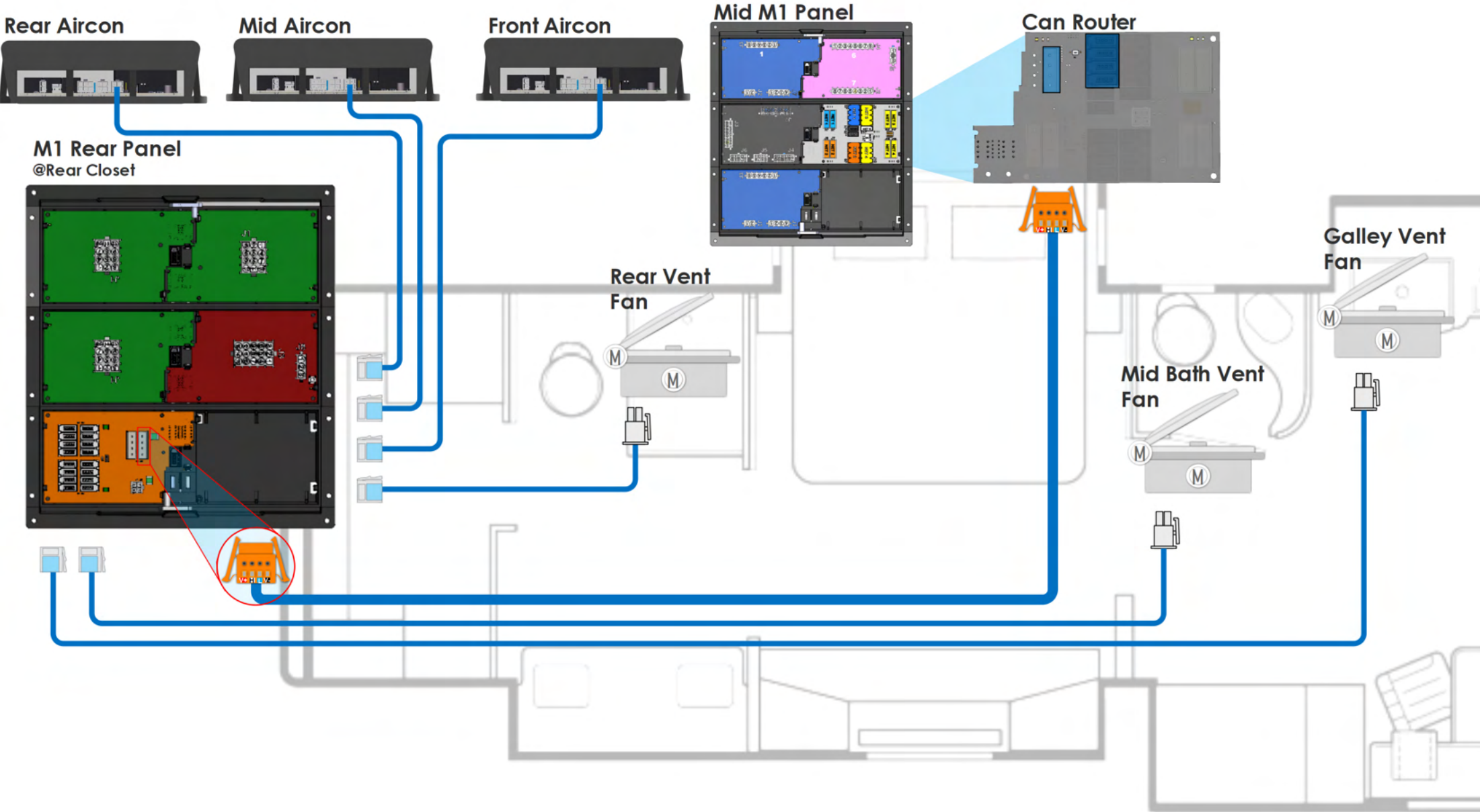


Front M1 Panel

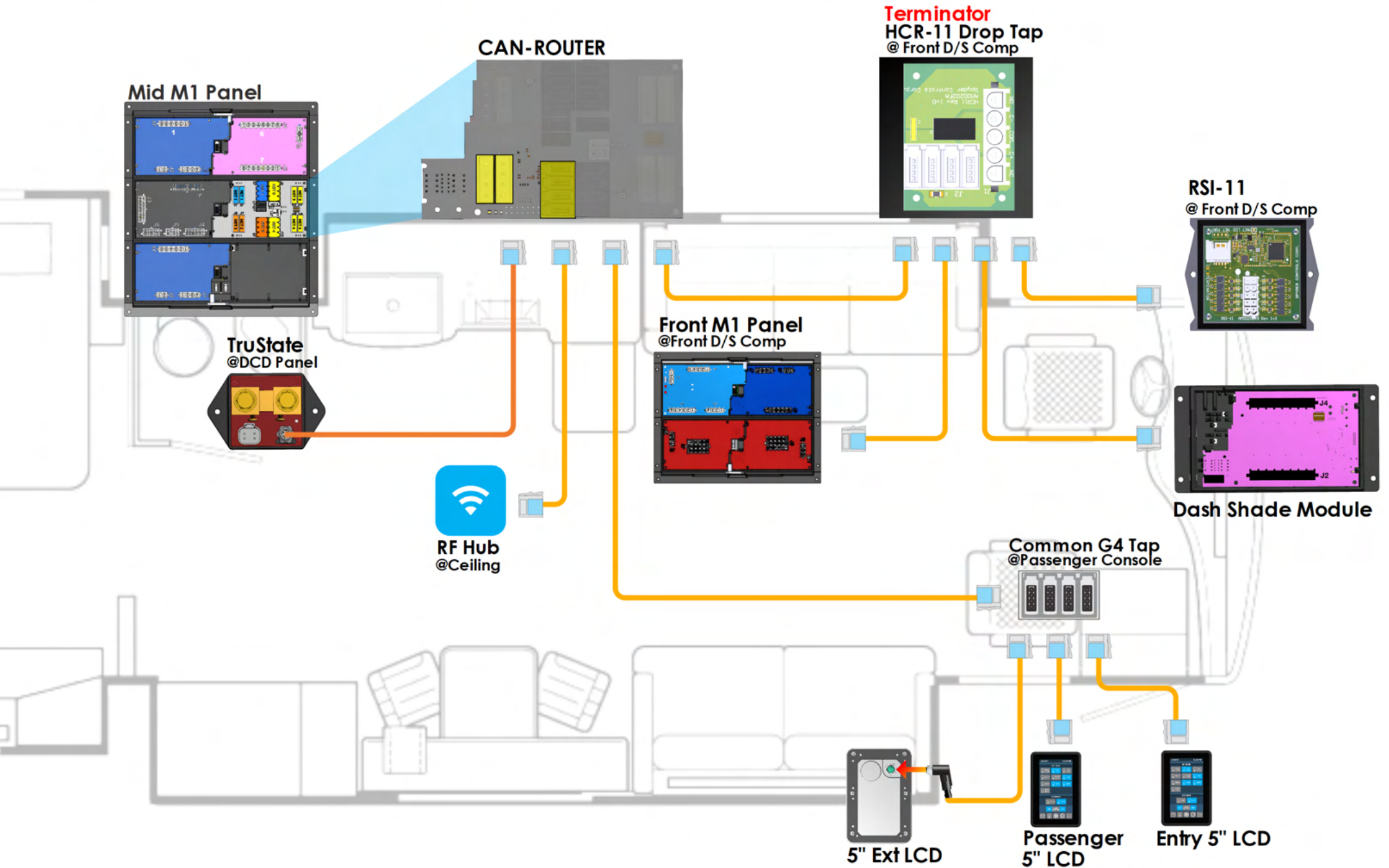


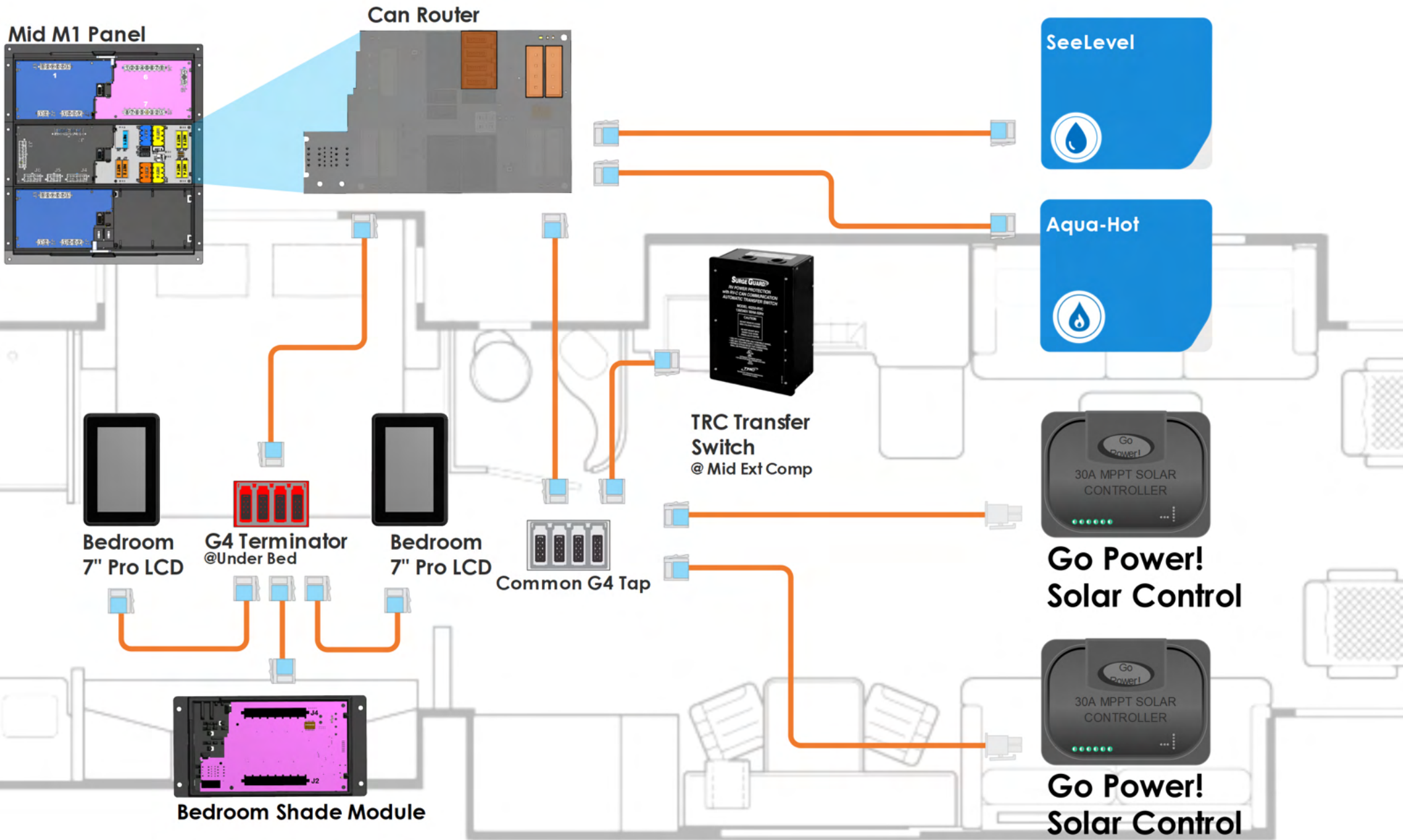
Water Pump Switch & Indicator @ Plumbing Bay

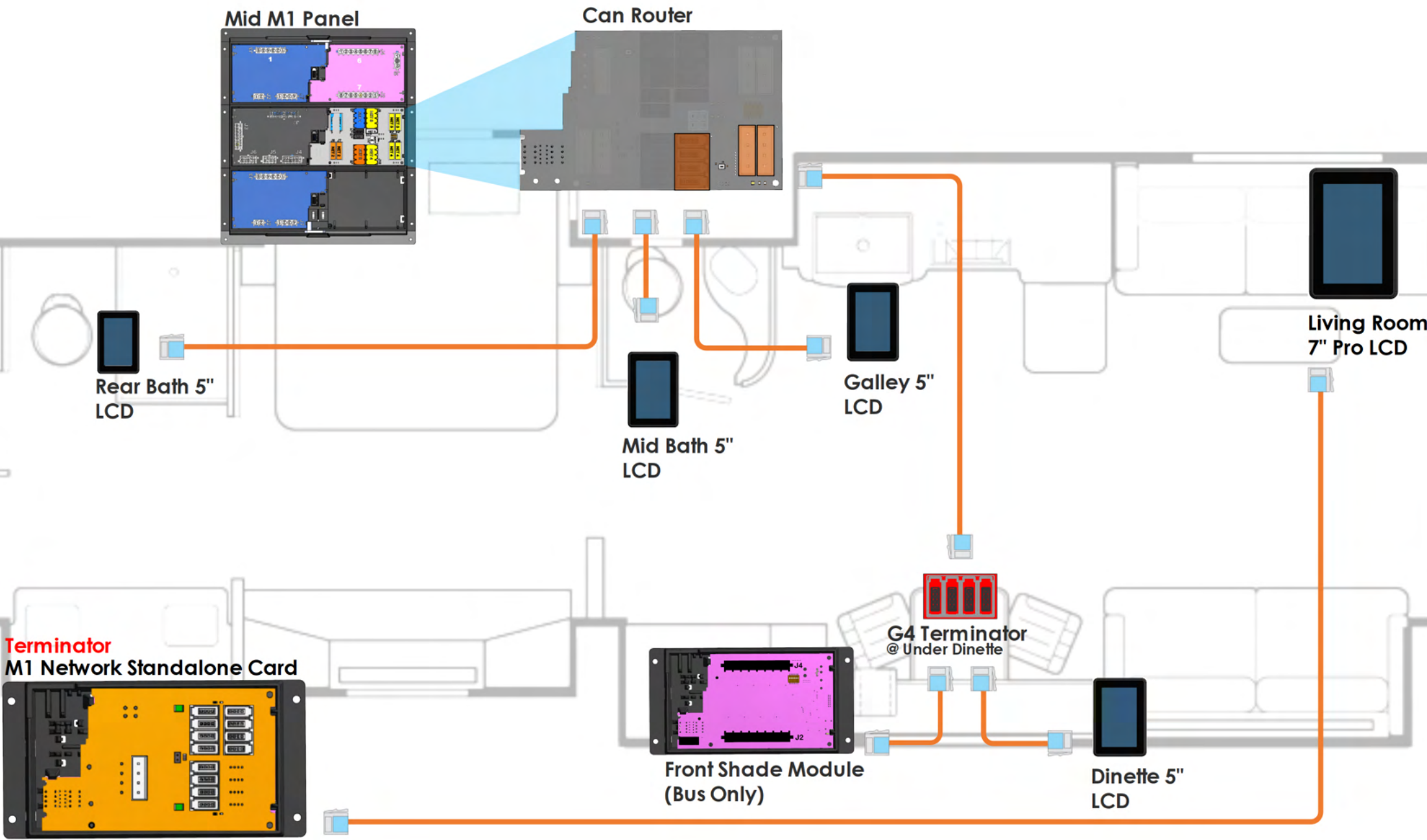
Mid M1 Panel



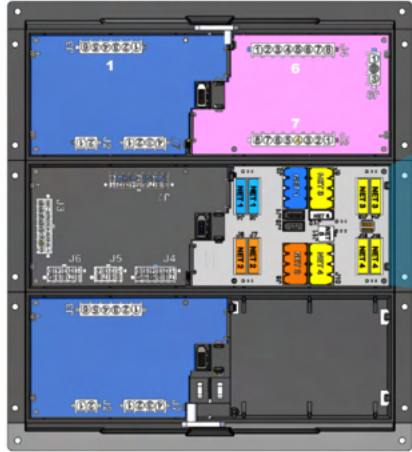




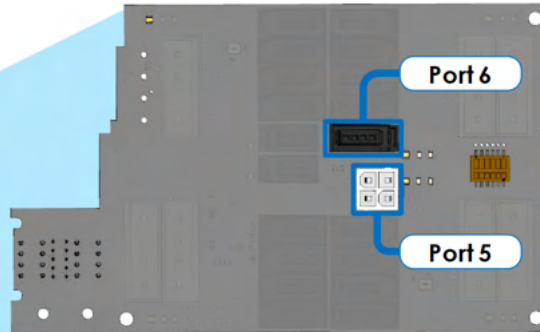




Mid M1 Panel



Can Router

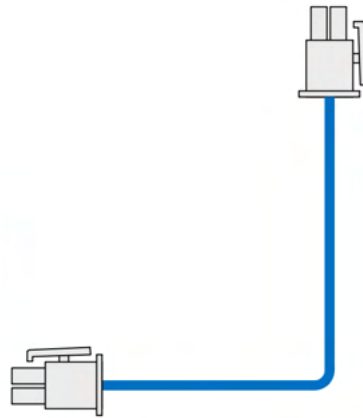


Port 6  
Magnum RVC  
Bridge Module



Port 5

Valid Dash



Xantrax  
Inverter/Charger  
(Optional)



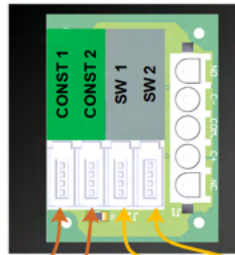
Magnum  
Inverter/Charger  
(Optional)



**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

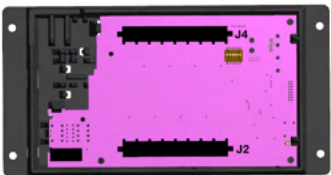


**Always On Network**  
This network to remain powered while house disconnect is off.

Always On Switched



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

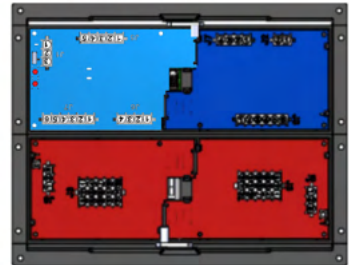


**Dash Shade Module**  
Tiffin P/N: 5127302

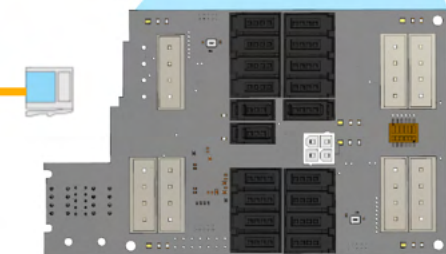
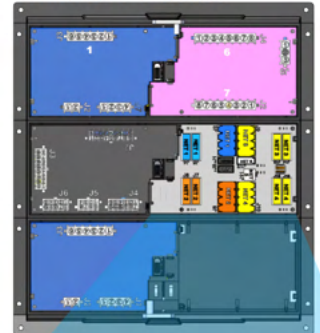


**RF Hub**  
Tiffin P/N: 5127293

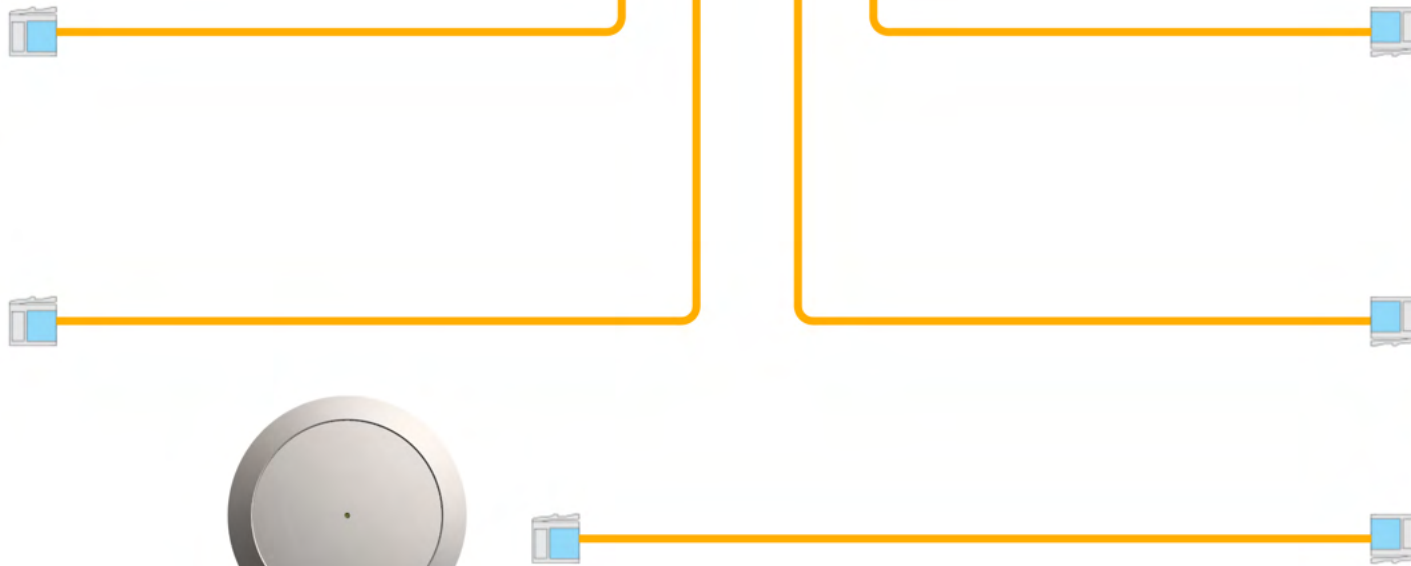
**Front M1 Panel**  
@Front D/S Comp



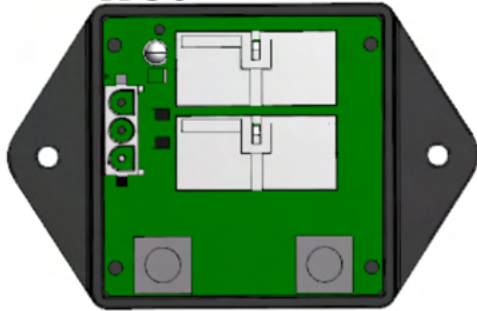
**Mid M1 Panel**



**Can Router**

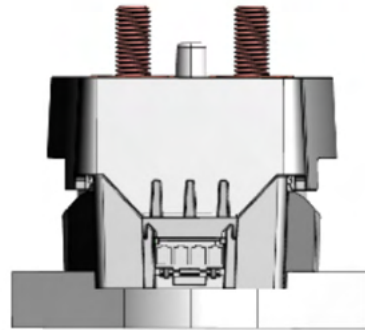


BDC 3



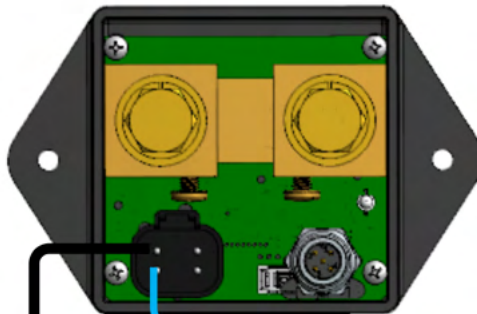
J1		Momentary Switch
Pin	Description	
3	COIL SET Input	
2	COIL RESET Input	
1	SWITCH SUPPLY (+12V) Output	

\*Coil should not be powered for more than 10 sec



MergeMan

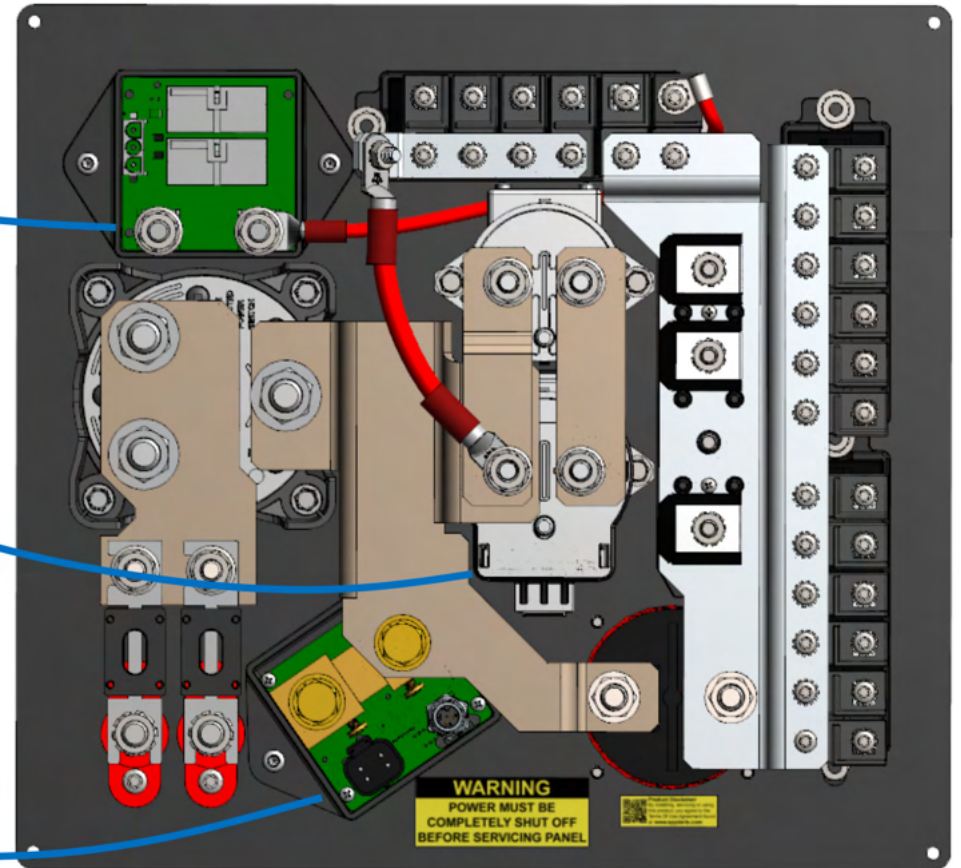
TruState



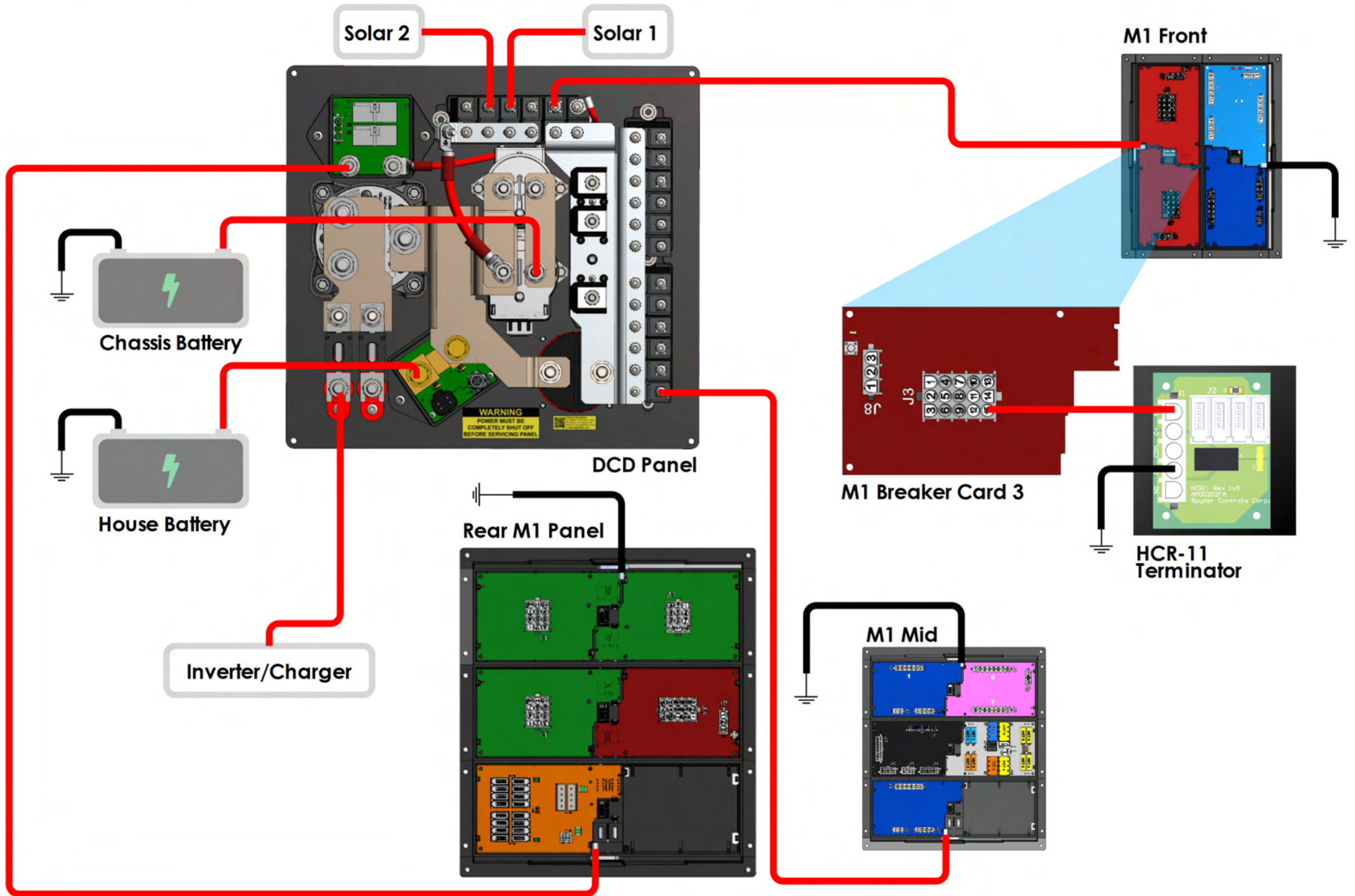
(GND)

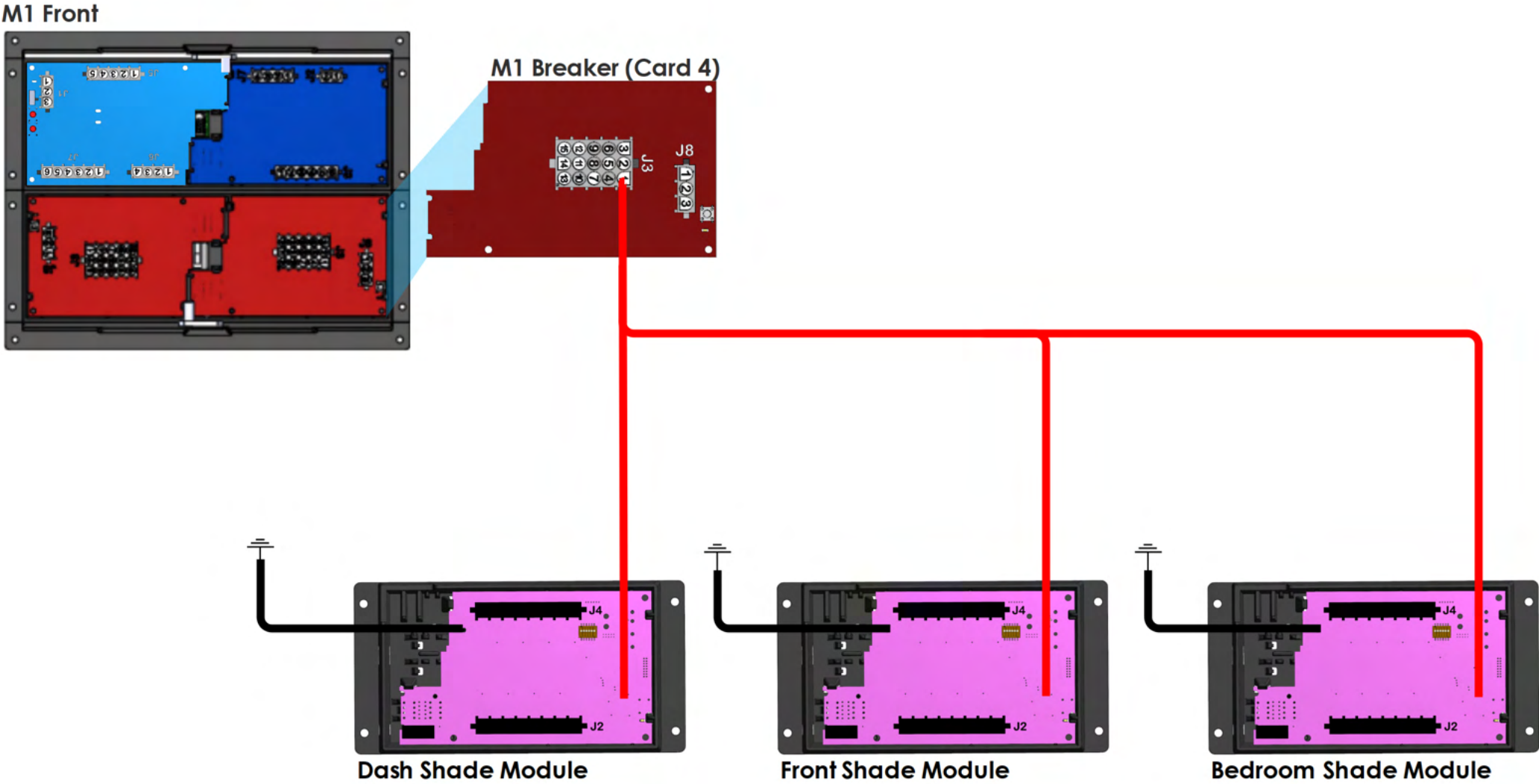
Chassis voltage input (+12v)

DCD Panel

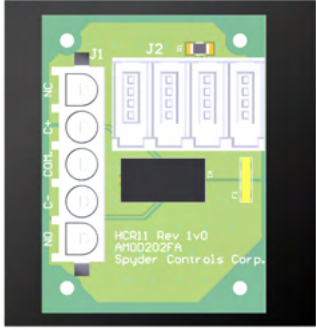


**WARNING**  
POWER MUST BE  
COMPLETELY SHUT OFF  
BEFORE SERVICING PANEL

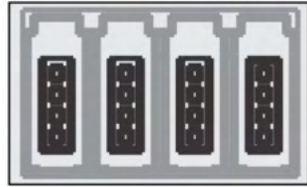




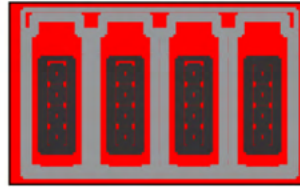
**TERMINATOR**  
**HCR-11**  
 Tiffin P/N: 5105426



**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



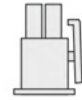
**Wago Hook Tool**  
 Wago P/N: 231-131



**4 Pos Wago Connector**  
 Tiffin P/N: 5015508



**MiniFit Jr Connector**  
 Digi-Key P/N: 0039012040



**Minifit Jr Pins**  
 Digi-Key P/N: 0039000181

