

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

2024

Tiffin Allegro RED / Bay

Integration Schematic



SPYDER

Tiffin Allegro RED / Bay



1

Module Locations

2

Module Locations Cont.

3

G12 Pinout

4

G12 Pinout (Continued)

5

M1 Overview

6

M1 Slide Card

7

Tiffin Slide Adapter

8

M1 Slide Card Alternate

9

M1 HC Relay Card

10

M1 Breaker Card 1

11

M1 Breaker Card 2

12

Lighting

13

Slides

14

MaxxFans

15

Vent Fans (Non Maxxfan)

16

Tank Sensing

Schematic Connections Legend



Constant Ground



Constant 12V+



Switched Ground



Switched 12V+



Reverse Polarity



Signal



120V AC Line



Network

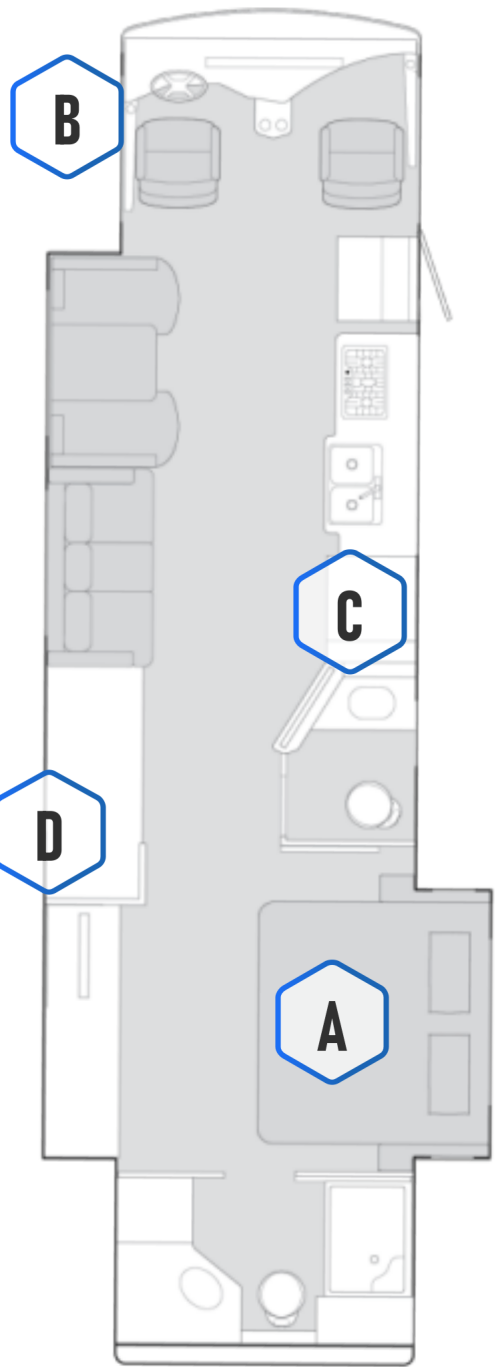


17	LPG + Chassis Voltage
18	HVAC
19	Water Heat (Non-Truma)
20	Truma Water Heat
21	Merge System
22	AGS
23	HCR-11 Pinout
24	Merge Logic

25	Network
26	Network (Continued)
27	Power Diagram
28	Connectors

Schematic Connections Legend

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



A **G12 Module**

i

Spyder Part #
BMODZU2VU

Tiffin Part #
5126984

Dimensions
9" X 6"

NET LED

NET PORTS

B **M1 Front Panel**

i

Spyder Part #
BENCZM2DS

Tiffin Part #
5126983

Dimensions
10" X 7.8"

C **7" Pro LCD**

i

Spyder Part #
BSSPZZXXX

Dimensions
7.6" X 5"

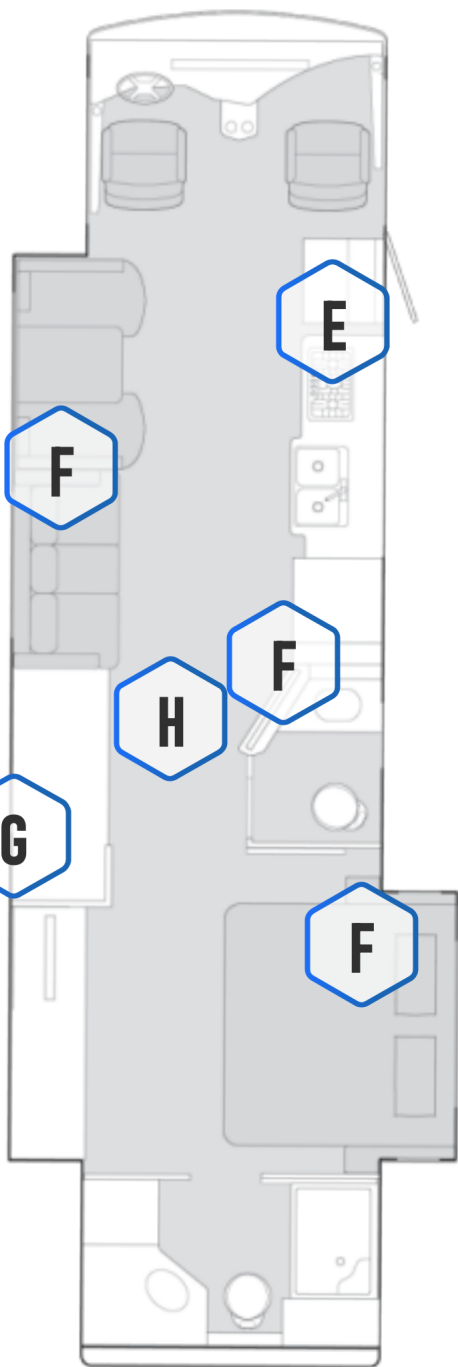
D **DCD Panel**

i

Spyder Part #
BENCZ38DR

Tiffin Part #
5127283

Dimensions
10" X 4"

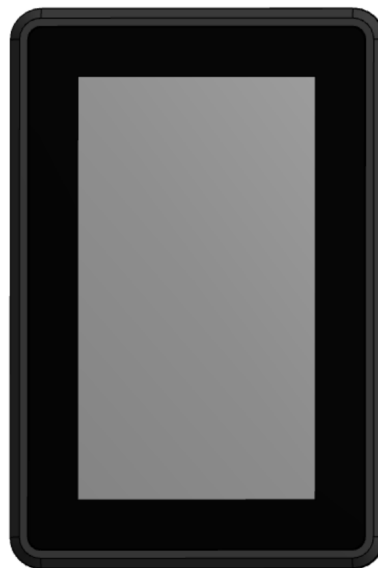


5" Color LCD



Spyder Part #
BSSPZZREK

Dimensions
5.7" X 3.6"

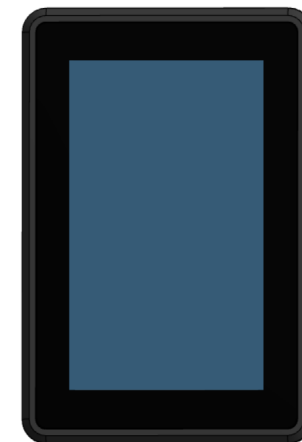


3.5" Color LCD



Spyder Part #
BSSPZZTED

Dimensions
4.5" X 2.9"



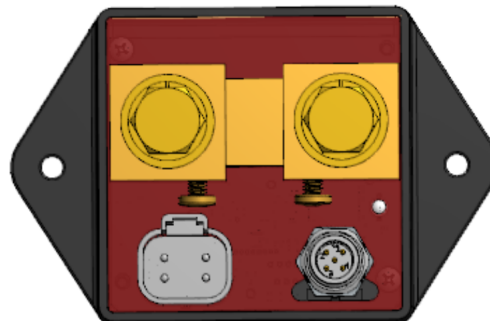
TruState Module



Spyder Part #
BMODWC600

Tiffin Part #
5114016

Dimensions
2.7" X 2.7"



RF Hub



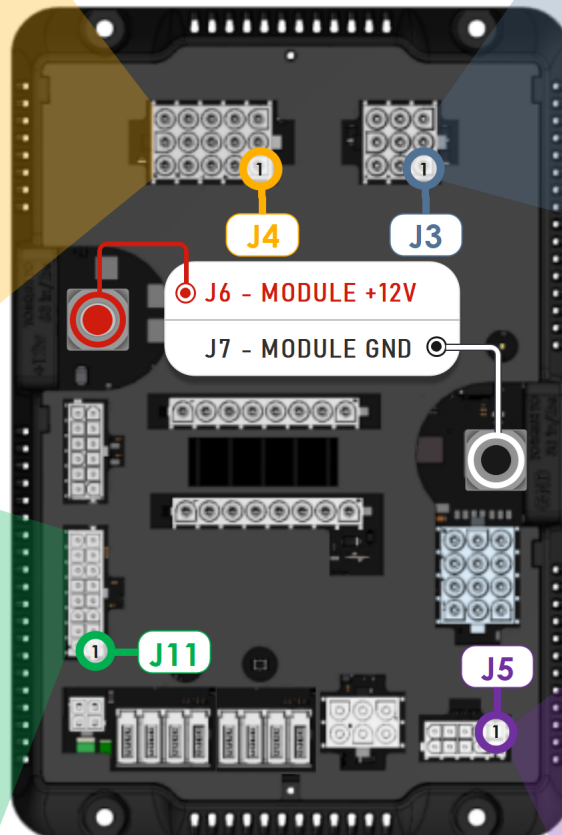
Spyder Part #
BMODZRFT0

Tiffin Part #
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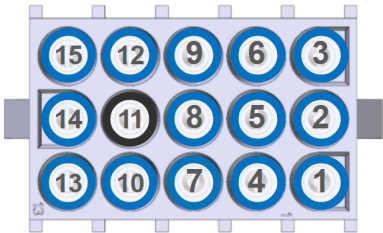
Dimensions
5.1" DIA



G12 Module @ Under Bed

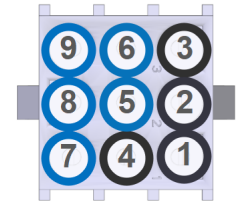


J4



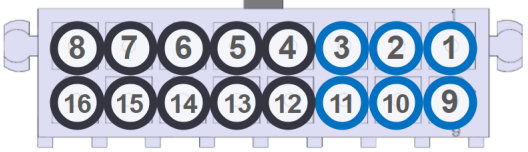
① PS Slide Lt (CH30)	⑨ RR Bath Ceiling Lt (CH38)
② DS Slide LT (CH31)	⑩ Mid Bath Ceiling Lt (CH39)
③ Living Room Lt (CH32)	⑪ Spare
④ TV Accent (CH33)	⑫ Spare
⑤ Entry Lt (CH34)	⑬ Sconce Lt (CH42)
⑥ Task Lt (CH35)	⑭ Front Accent Lt (CH43)
⑦ Hall LT (CH36)	⑮ Galley (CH44)
⑧ Bed Ceiling Lt (CH37)	

J3



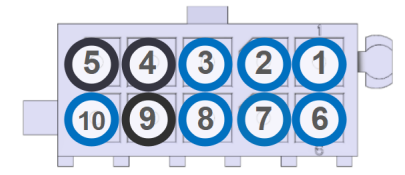
① Spare	⑥ Ceiling Fan Lo (CH26)
② Spare	⑦ Galley Fan (CH27)
③ Spare	⑧ Mid Bath Fan (CH28)
④ Sofa Reading Lt	⑨ Rear Bath Fan (CH29)
⑤ Ceiling Fan Hi (CH25)	

J11



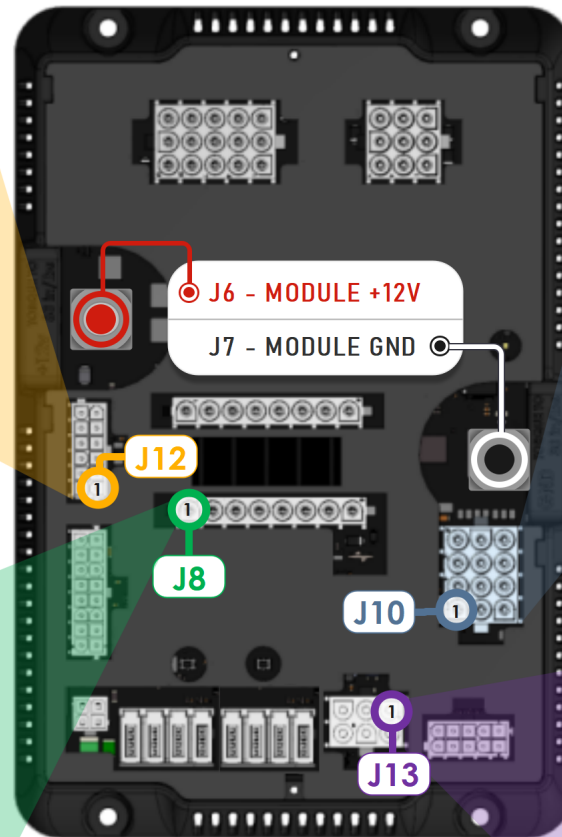
① Fresh Tank Sensor Input	⑨ Tank Sensor GND
② Grey Tank Sensor Input	⑩ Tank Sensor GND
③ Black Tank Sensor Input	⑪ Tank Sensor GND
④ Spare	⑫ Spare
⑤ Spare	⑬ Spare
⑥ Spare	⑭ Spare
⑦ Spare	⑮ Spare
⑧ Spare	⑯ Spare

J5

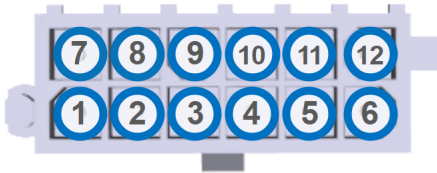


① Park Brake (GND)	⑥ IGN Input (+12V)
② WTR Pump SW (GND)	⑦ Spare (+12V)
③ Entry Door Pin Sw (GND)	⑧ Shore PWR Detect. (+12V)
④ Merge Status (GND)	⑨ Water Heater Status (+12V)
⑤ Spare (GND)	⑩ Spare (+12V)

G12 Module @ Under Bed

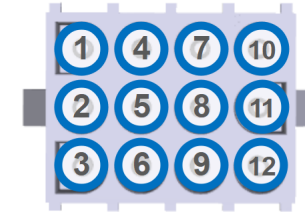


J12



① FR Floor Therm	⑦ FR Floor Therm GND
② RR Floor Therm	⑧ RR Floor Therm GND
③ Front AC Therm	⑨ Front AC Therm GND
④ Mid AC Therm	⑩ Mid AC Therm GND
⑤ Rear AC Therm	⑪ Rear AC Therm GND
⑥ Bay Therm	⑫ Bay Therm GND

J10



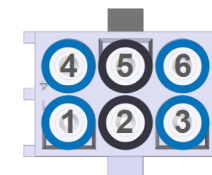
① FR A/C Comp	⑦ MID A/C Fan LO
② FR A/C Fan HI	⑧ MID A/C Ht Pump
③ FR A/C Fan LO	⑨ RR A/C Comp
④ FR A/C Ht Pump	⑩ RR A/C Fan HI
⑤ MID A/C Comp	⑪ RR A/C Fan LO
⑥ MID A/C Fan HI	⑫ RR A/C Ht Pump

J8



① Galley Fan Lid Up	⑤ Rear Bath Fan Lid Up
② Galley Fan Lid Dn	⑥ Rear Bath Fan Lid Dn
③ Mid Bath Fan Lid Up	⑦ Front Furnace
④ Mid Bath Fan Lid Dn	⑧ Rear Furnace

J13



① LPG Sig	④ LPG GND
② Spare	⑤ Spare
③ Spare	⑥ Gen Run Status

M1 Slide Card

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

M1 Breaker (Card 3)

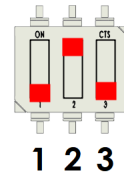
- Camera/Radio (IGN)
- Jack Buzzer (IGN)
- CB/Satellite
- Panel Lamp/Head LT (IGN)
- 12V Outlet 1/USB PWR
- Euro Loff (IGN)
- TV Relay/Fridge/Dash SHD MOD (IGN)
- HVAC Denso (IGN)
- Dock Light
- Entry Step SW
- IGN (+12V)

M1 HC Relay

- Door/Assist Handle
- Water Pump
- Porch
- Entry Door Lock
- Entry Door Unlock
- Door Awning EXT
- Door Awning RET
- Gen Start (GND)
- Gen Stop (GND)

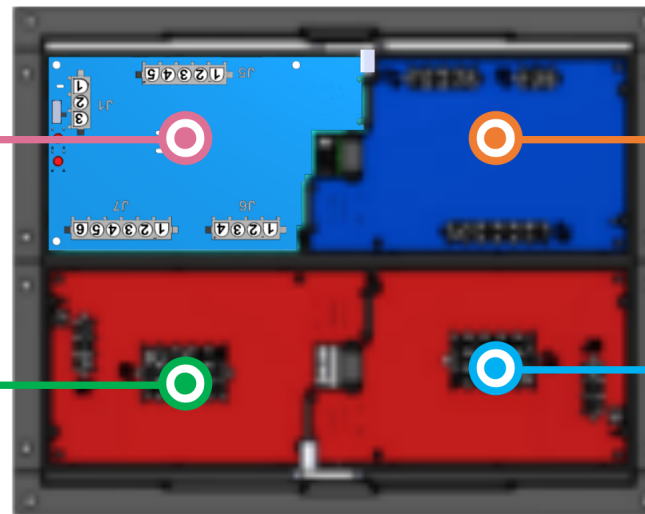
M1 Breaker (Card 4)

- HVAC Denso
- 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
- Cargo Lights
- Map Lt/Fans/Radio
- Truma
- IGN (12V)



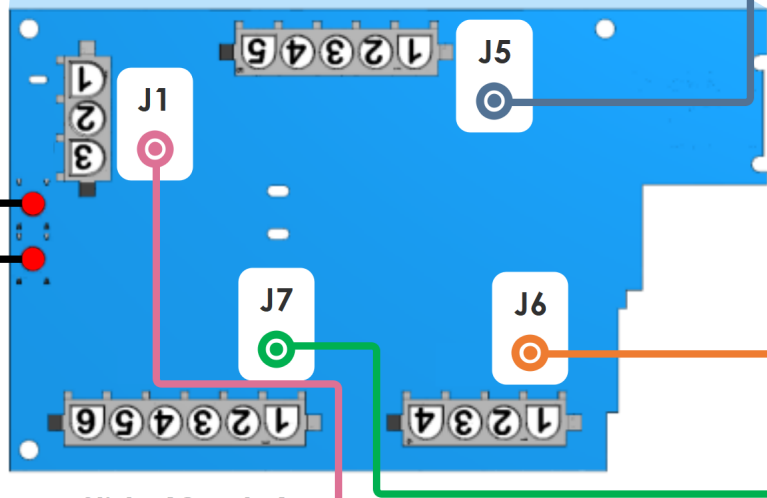
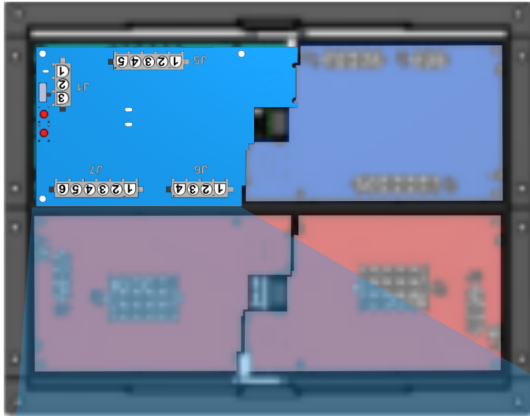
Dip Switch Settings

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



M1 Front Panel

M1 Front Panel



M1 Slide (Card 1)

OVERRIDE EXT

OVERRIDE RET

i **Emergency Override**
For more information on the slide overrides please see Page 13

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

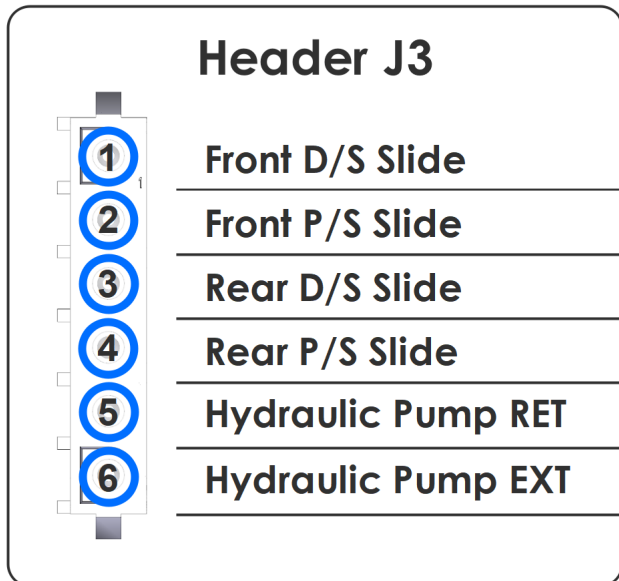
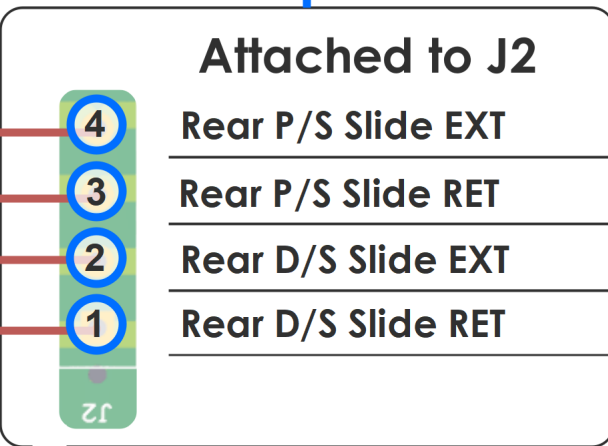
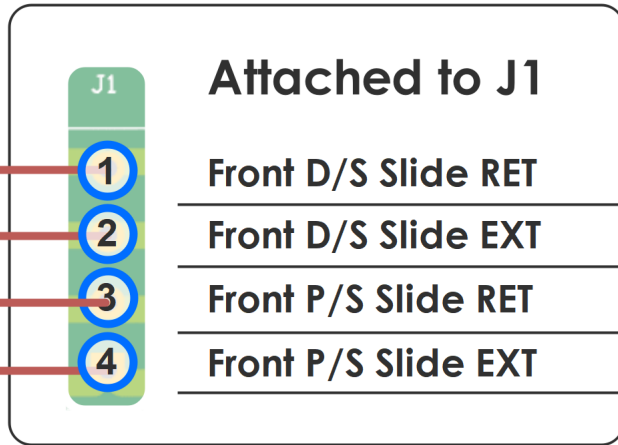
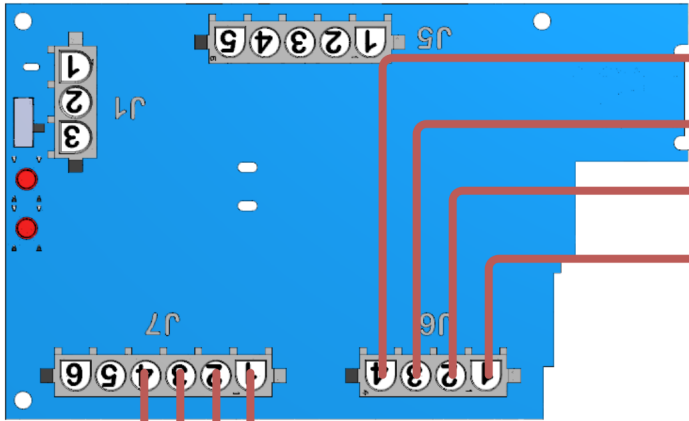
J7

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

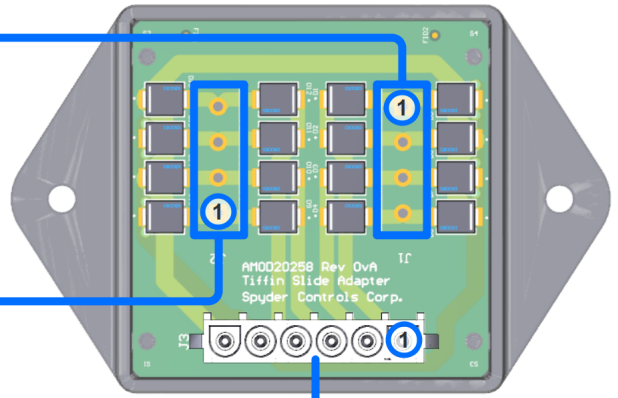
① Ignition (+12V)	③ Spare
② Park Brake (GND)	

M1 Slide Card

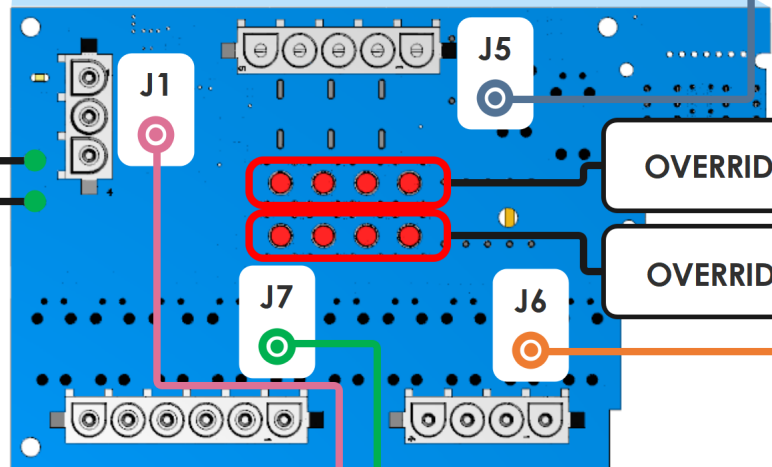
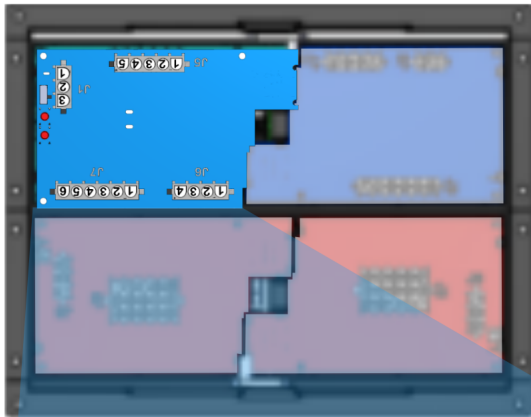


i Important Information
Tiffin Slide Adapter, is only used when Lippert slides are implemented into the coach.

Tiffin Slide Adapter



Front M1 Panel



OVERRIDE RET

OVERRIDE EXT

M1 Slide (Card 1)

Slides Ready LED

Awnings Ready LED

Emergency Override
For more information on the slides please see Page 14

J5

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

J6

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

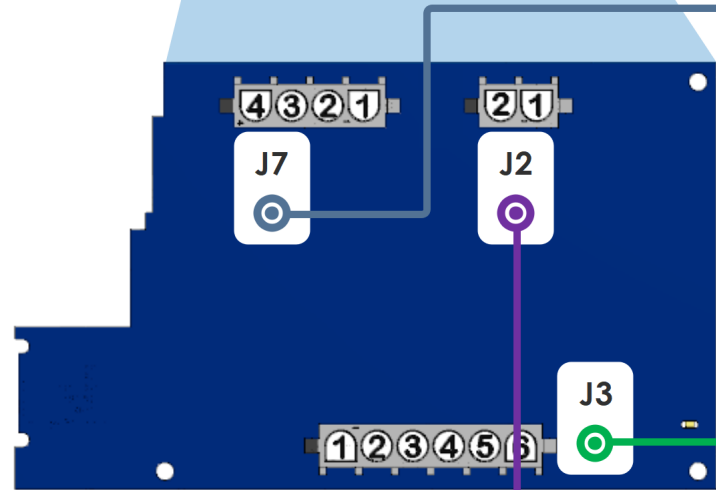
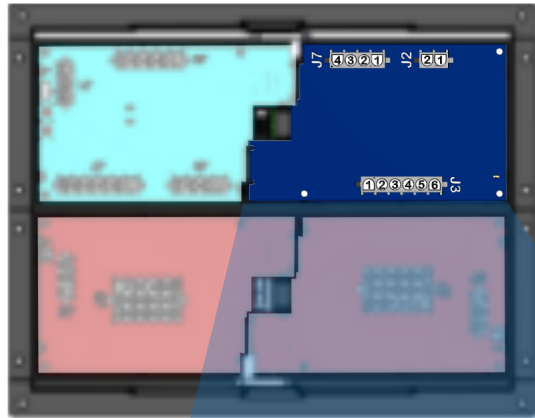
J7

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

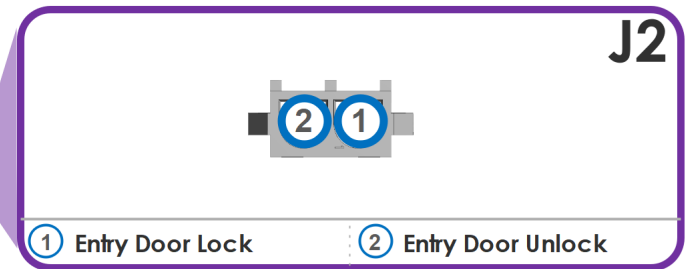
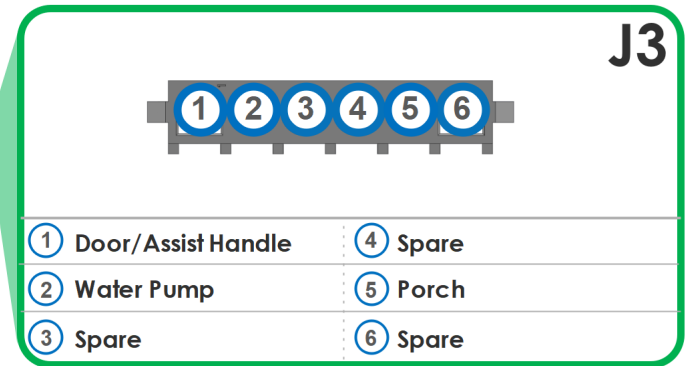
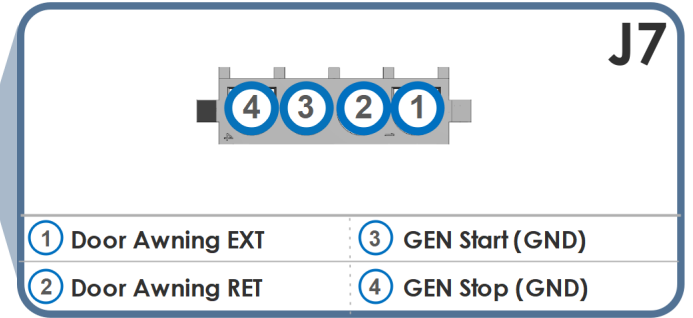
J1

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

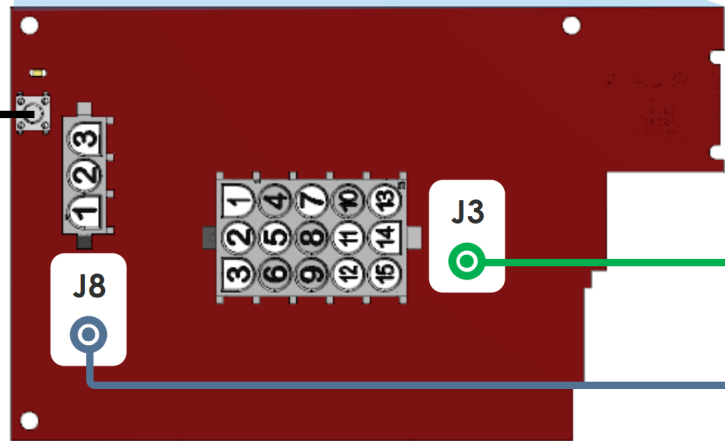
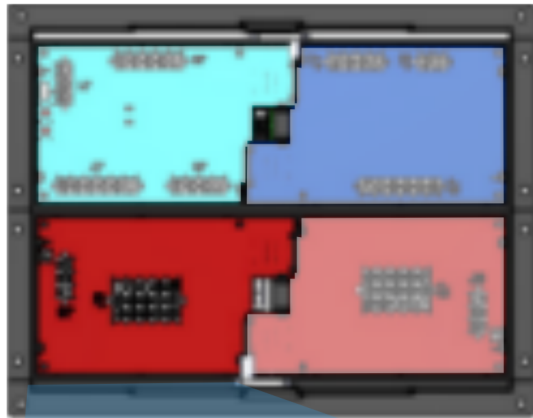
M1 Front Panel



M1 HC Relay (Card 2)



M1 Front Panel



M1 Breaker (Card 3)

Breaker Reset

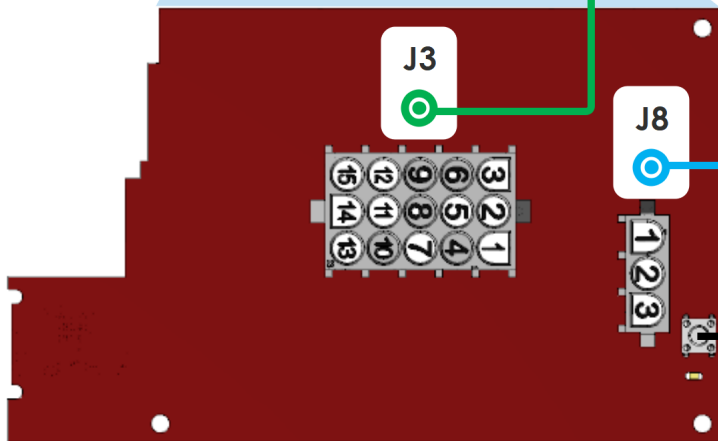
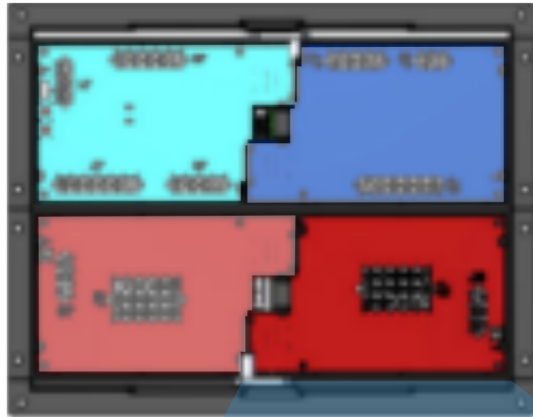
J3

① Spare	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 Spare
⑧ N/A	

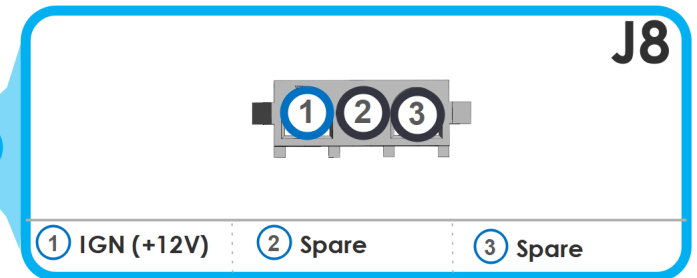
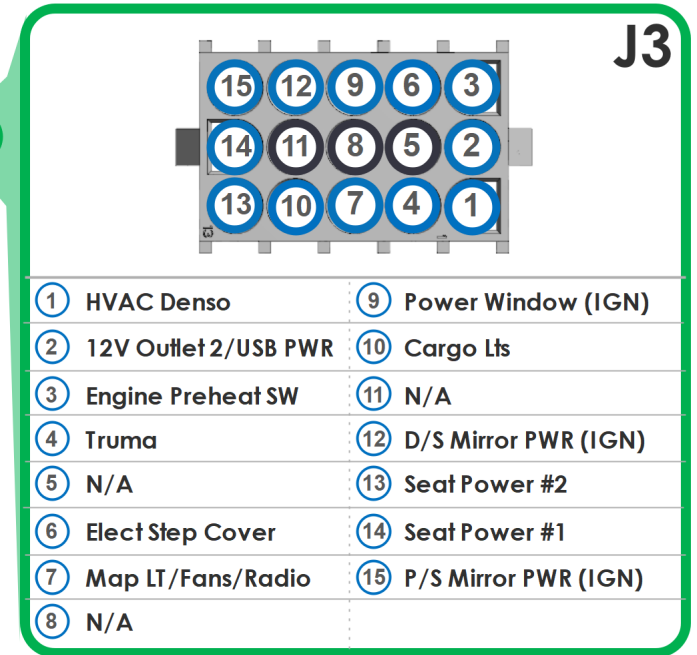
J8

① IGN (+12V)	② Spare	③ Spare
--------------	---------	---------

M1 Front Panel



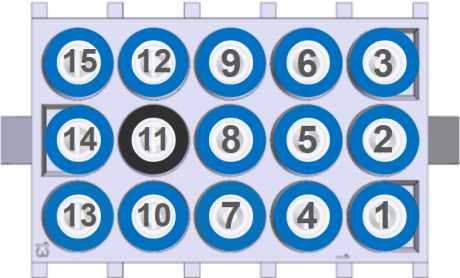
M1 Breaker (Card 4)



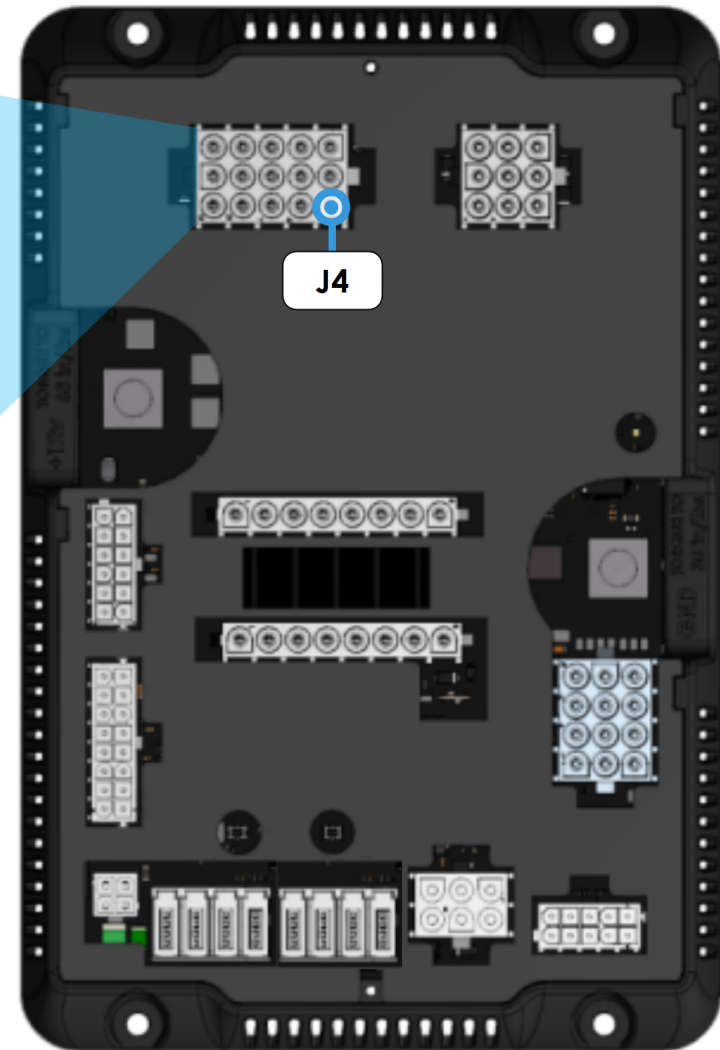
Breaker Reset

G12 Module @ Under Bed

J4

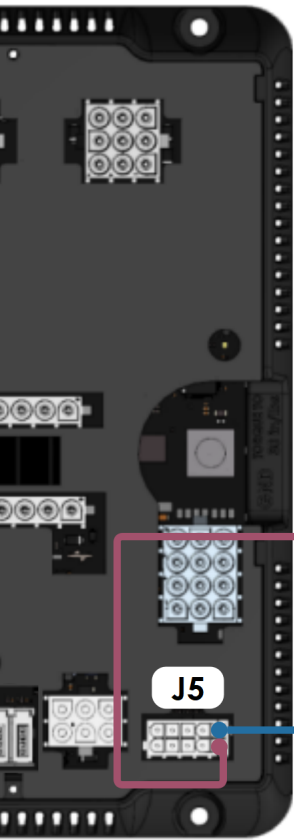


① PS Slide Lights (CH30)	⑨ Rear Bath Lt (CH38)
② DS Slide Lights (CH31)	⑩ Mid Bath Ceiling Lts (CH39)
③ Living Room Lt (CH32)	⑪ Spare
④ TV Accent Lt (CH33)	⑫ Spare
⑤ Entry Lt (CH34)	⑬ Sconce Lt (CH42)
⑥ Task Lt (CH35)	⑭ Front Accent Lt (CH43)
⑦ Hall LT (CH36)	⑮ Galley (CH44)
⑧ Bedroom Ceiling Lt (CH37)	



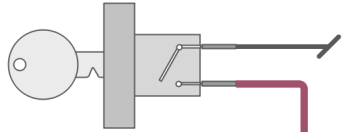
* All Lights Listed Can Dim

* All lights are grounded outside of the Spyder System. The G12 only provides 12V+

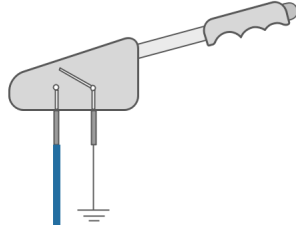


G12 Module
@ Under Bed

Ignition Switch



Park Brake Switch



Slide Breakers

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

Hydraulic Pumps

- ⑥ Spare
- ⑤ Hydraulic Pump

Rear Slide Outputs

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

Front Slide Outputs

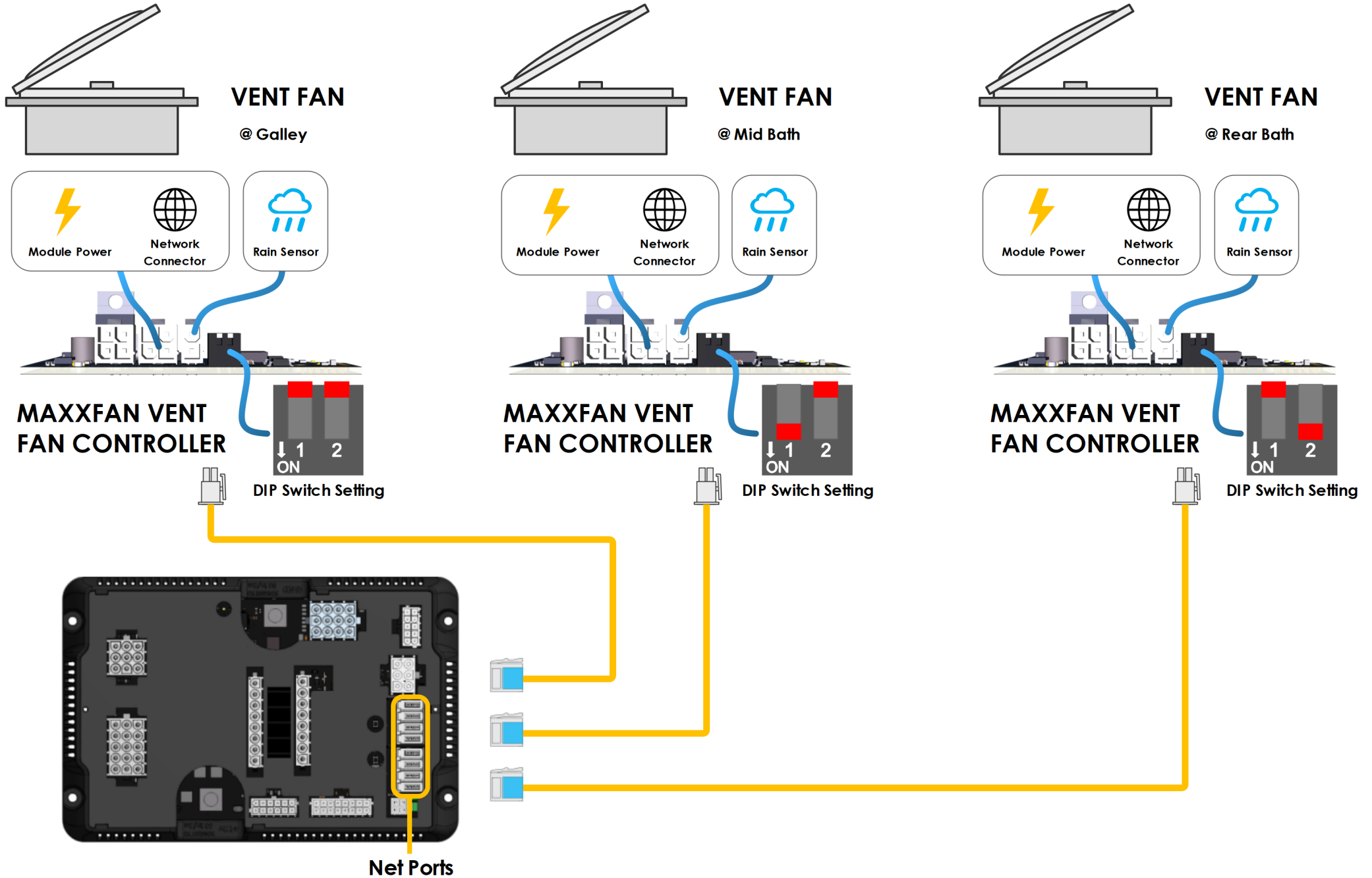
- ① P/S FR Slide EXT
- ② P/S FR Slide RET
- ③ D/S FR Slide EXT
- ④ D/S FR Slide RET

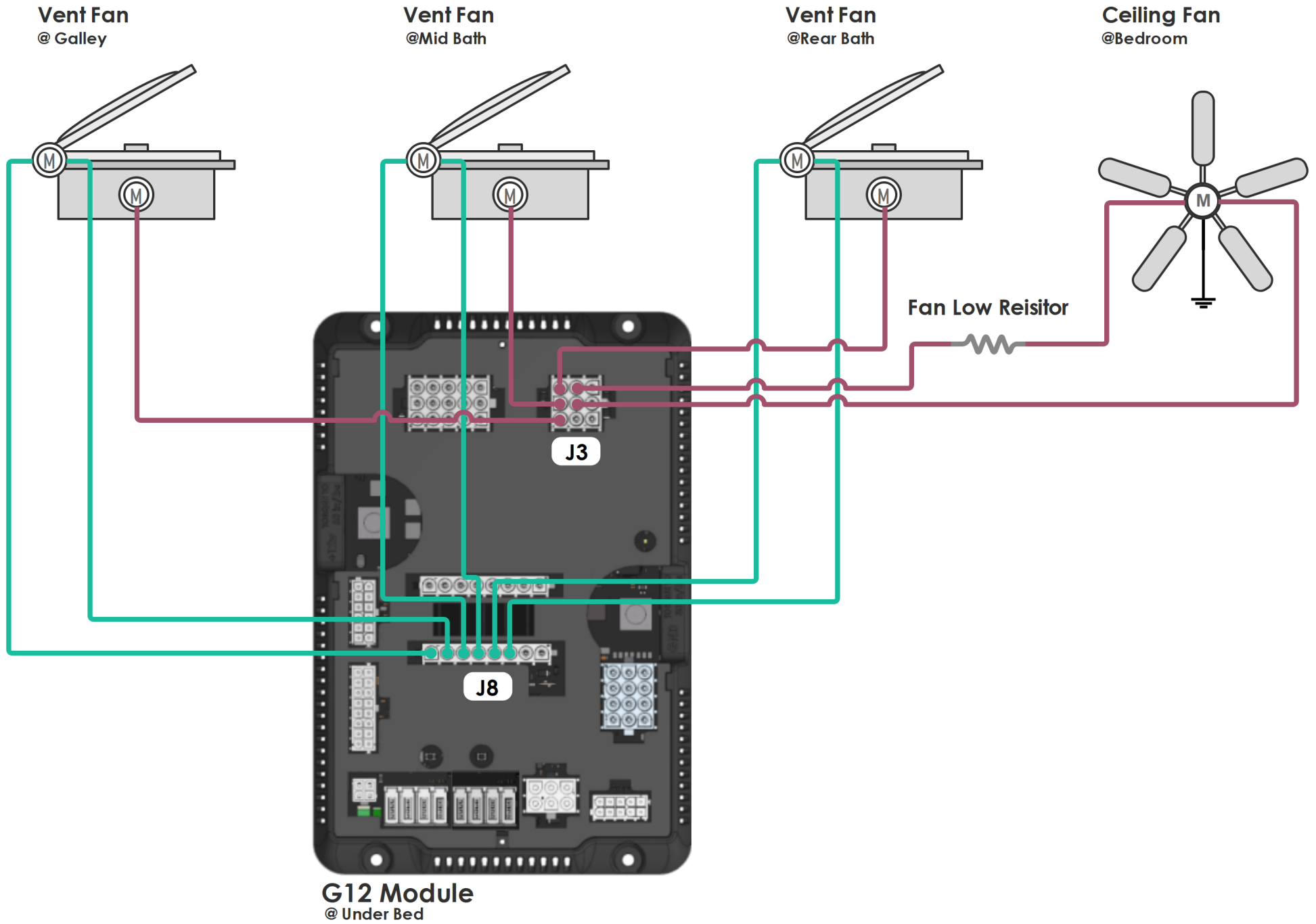


Emergency Override

Park brake and ignition must be on for slides to operate.

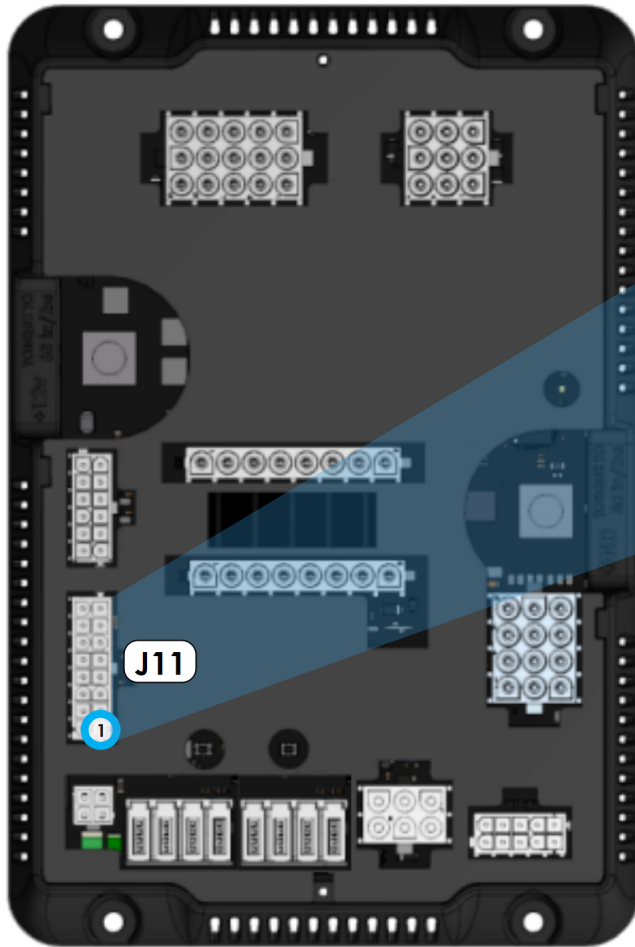
In case of a system failure, use manual overrides on the slide card to operate slides. Engage overrides using a pen or other pointed object.





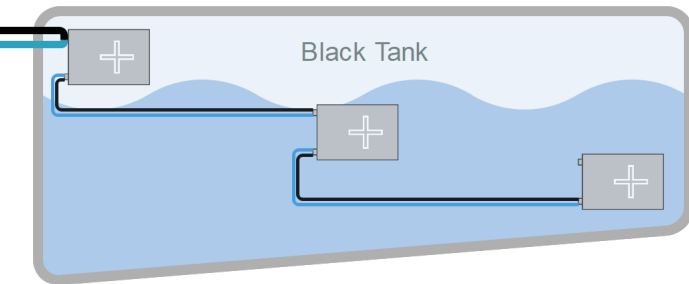
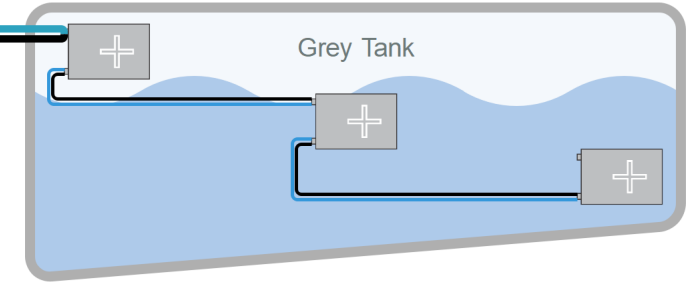
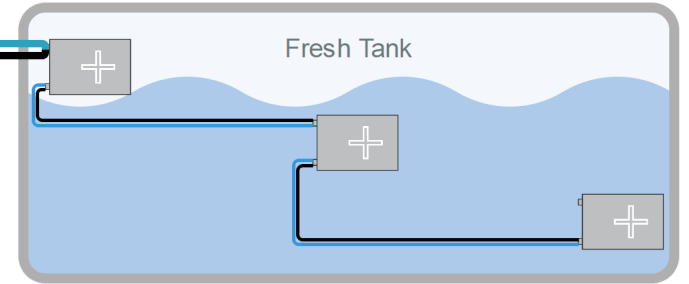
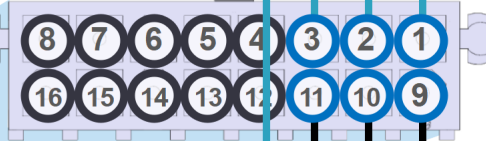
G12 Module
@ Under Bed

G12 Module



3 Level Tank Sensor System

J11



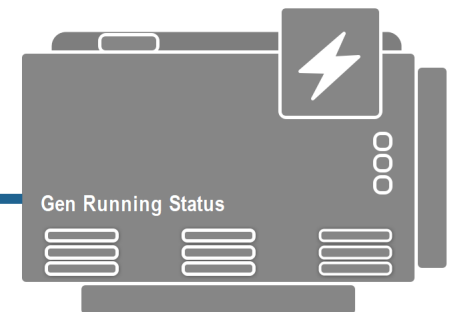
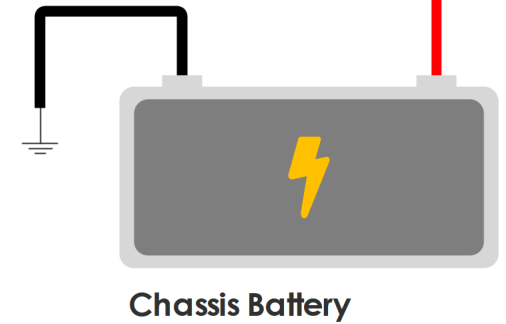
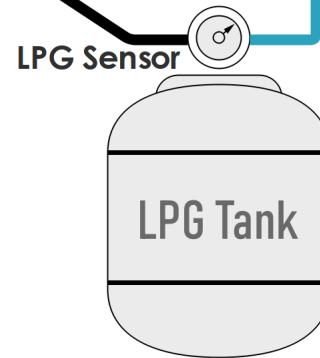
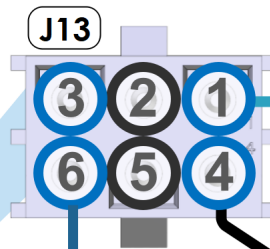
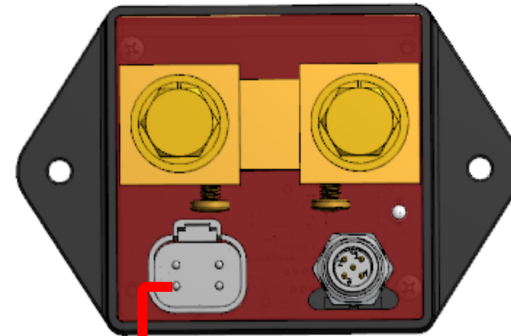
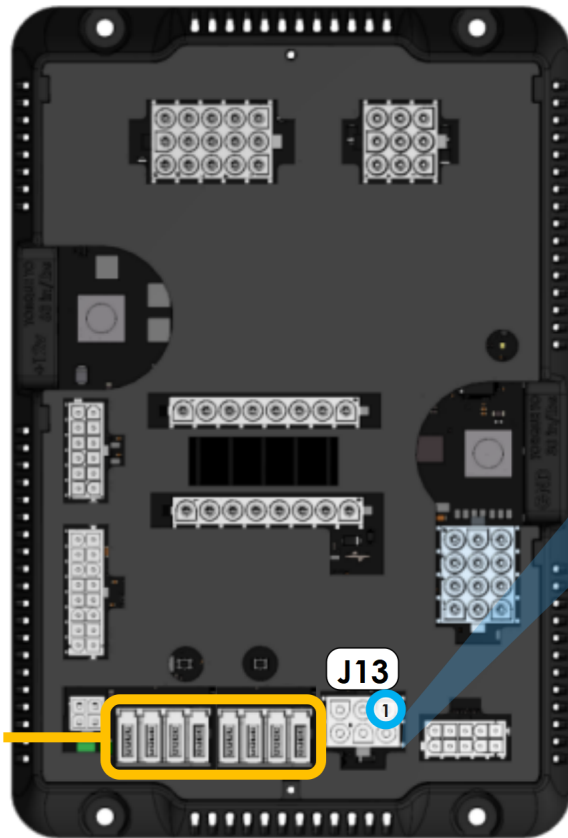
J11



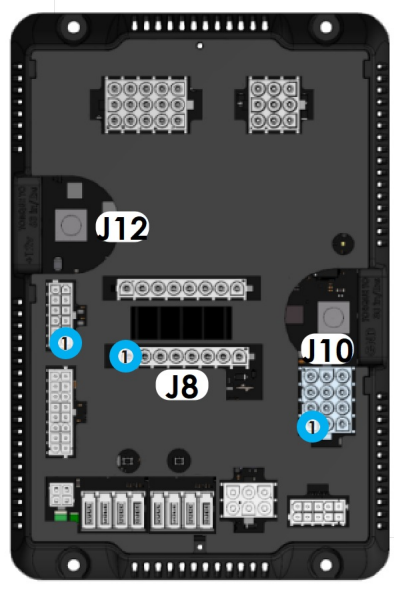
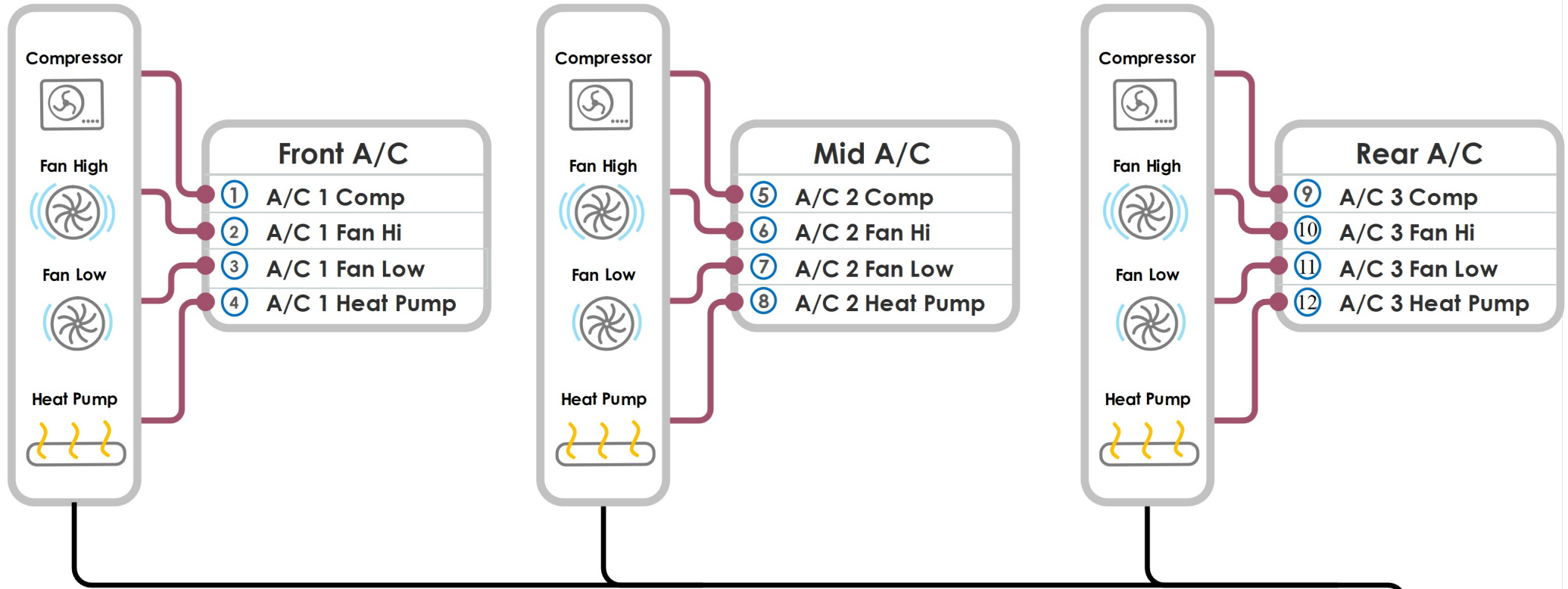
- | | |
|---------------------------|-------------------|
| ① Fresh Tank Sensor Input | ⑨ Tank Sensor GND |
| ② Grey Tank Sensor Input | ⑩ Tank Sensor GND |
| ③ Black Tank Sensor Input | ⑪ Tank Sensor GND |

G12 Module
@ Under Bed

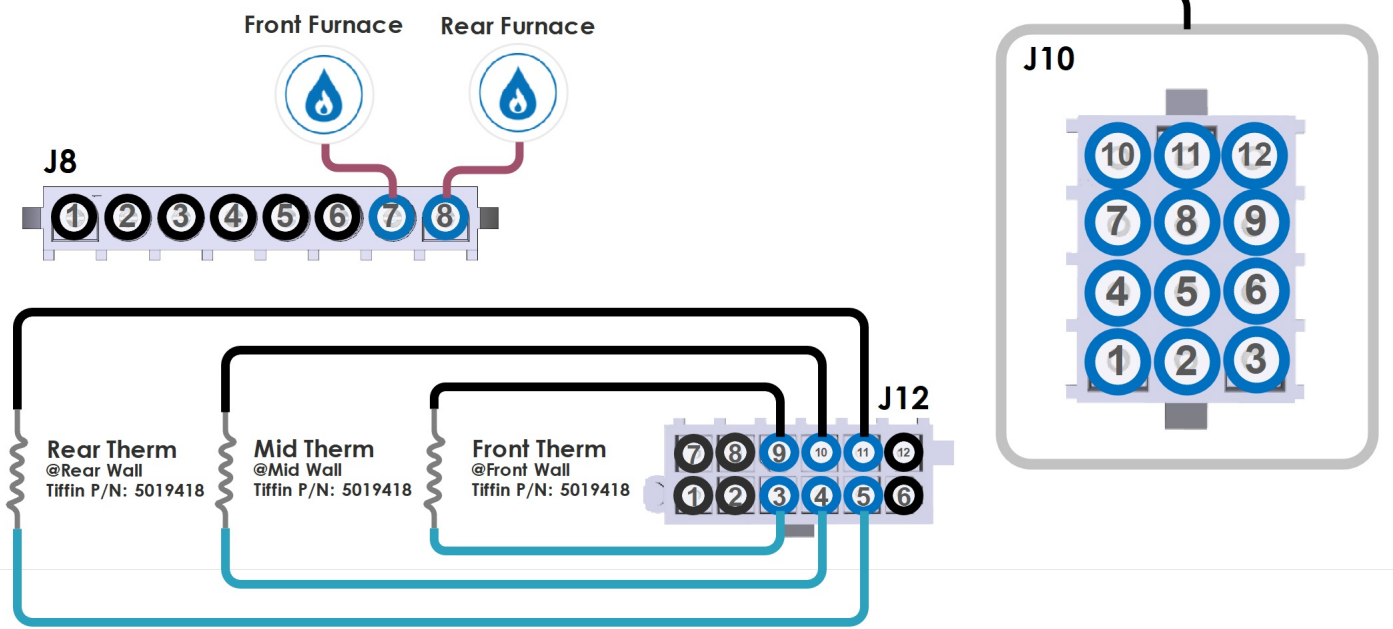
TruState
@ DCD Panel



Network Ports

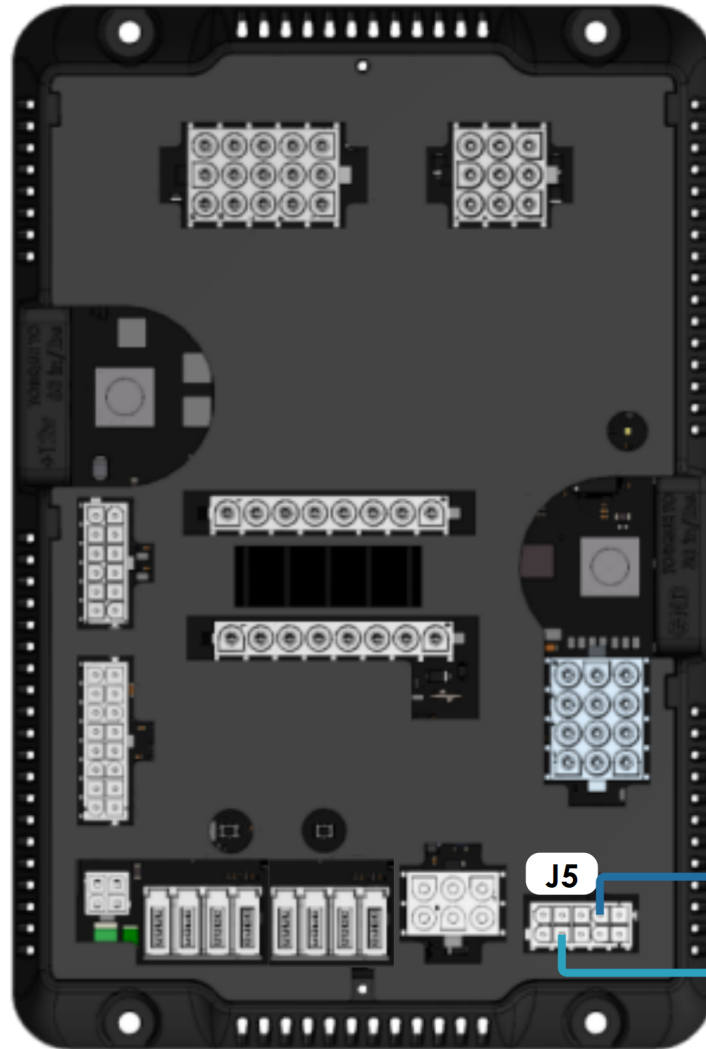


G12 Module
@ Under Bed



G12 Module

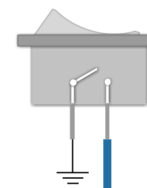
@ Under Bed



Gas Water Heater



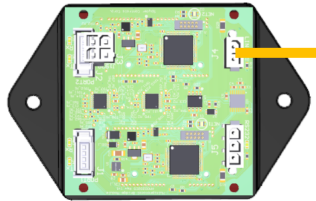
Water Heat Status



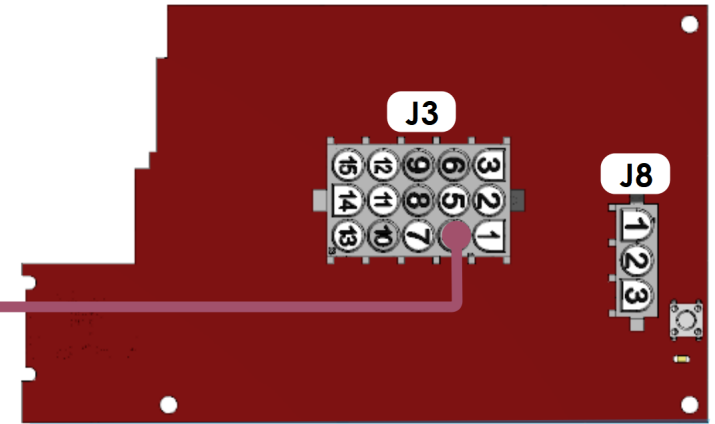
Water Pump Switch
@ Wet Bay

J5

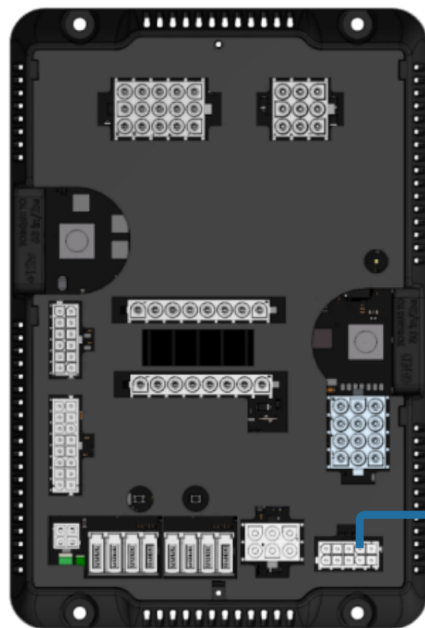
Bridge Module
@Under Bed by G12



M1 Breaker Card

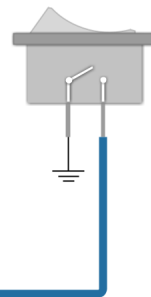


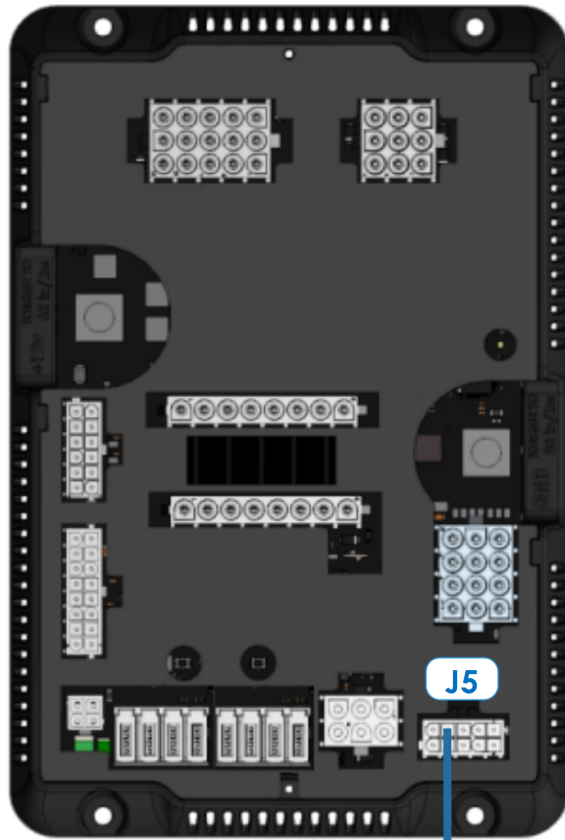
M1 Front Panel



G12 Module
@ Under Bed

Water Pump Switch
@ Wet Bay






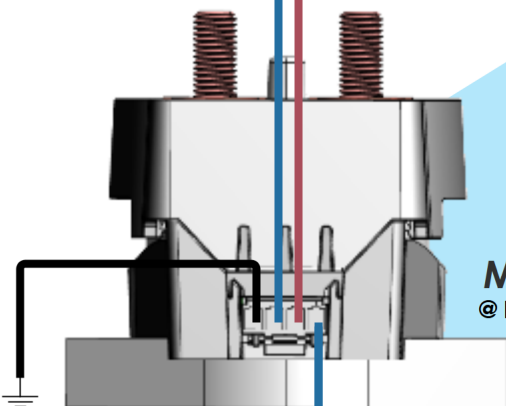
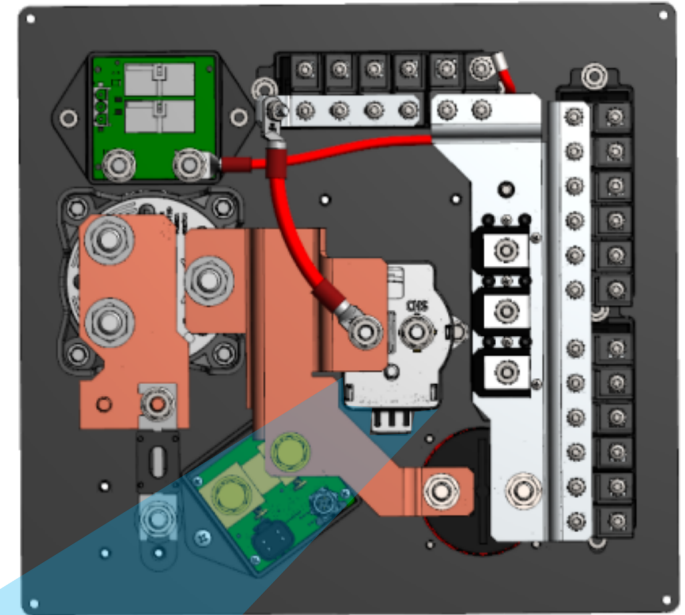
G12 Module
@ Under Bed

COACH RUNNING INPUT

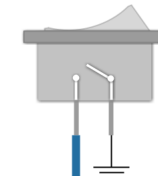
Depending on the chassis used in the coach the coach running input will either come from the engine (switched GND) or from the ignition (switched 12V+)

Two green circular icons: one showing an engine and the other showing a key.

DCD PANEL
@ Inverter Bay



MERGE SOLENOID
@ Back of DCD



Manual Merge Override Switch
@ Dash

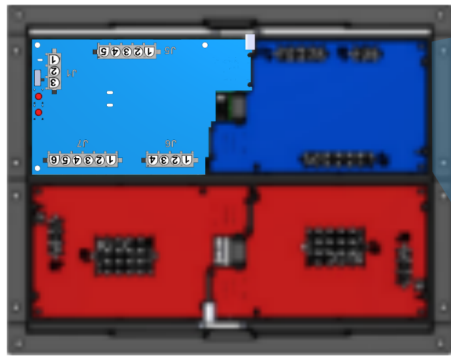
Auto / Manual Merge Input (GND)



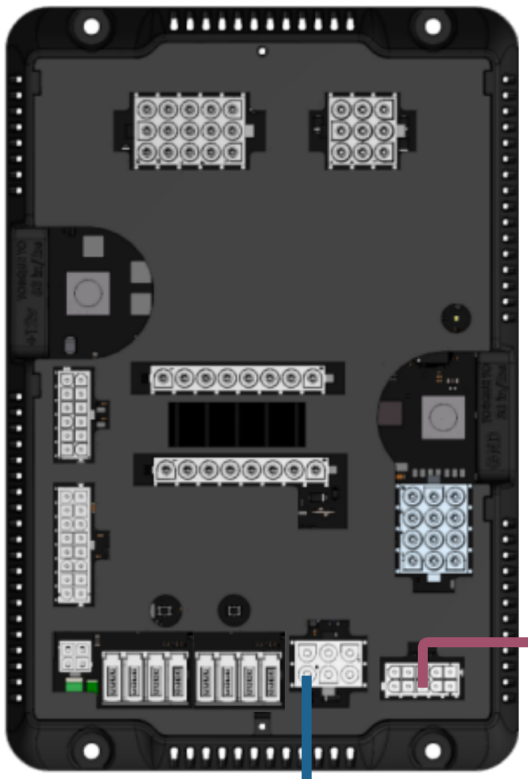
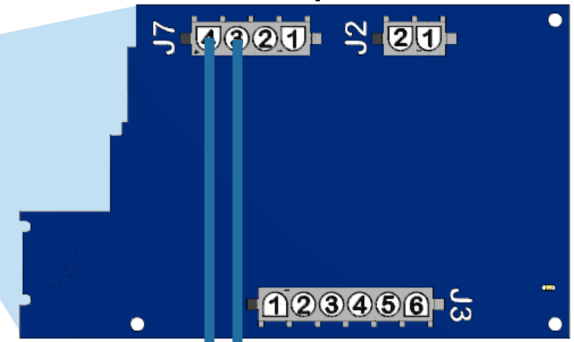
J5

i **AGS**
 When AGS is on, the Generator will start when your batteries reach the percentage specified in the AGS settings page. The Generator will also start if there is an HVAC load present.

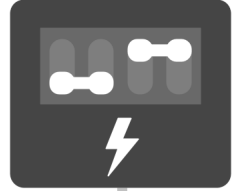
Front M1 Panel



M1 HC Relay Card



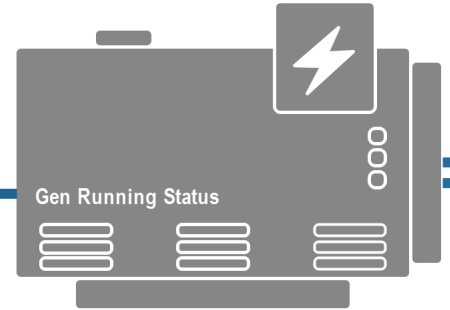
120V BREAKER PANEL



120V AC - 12V DC

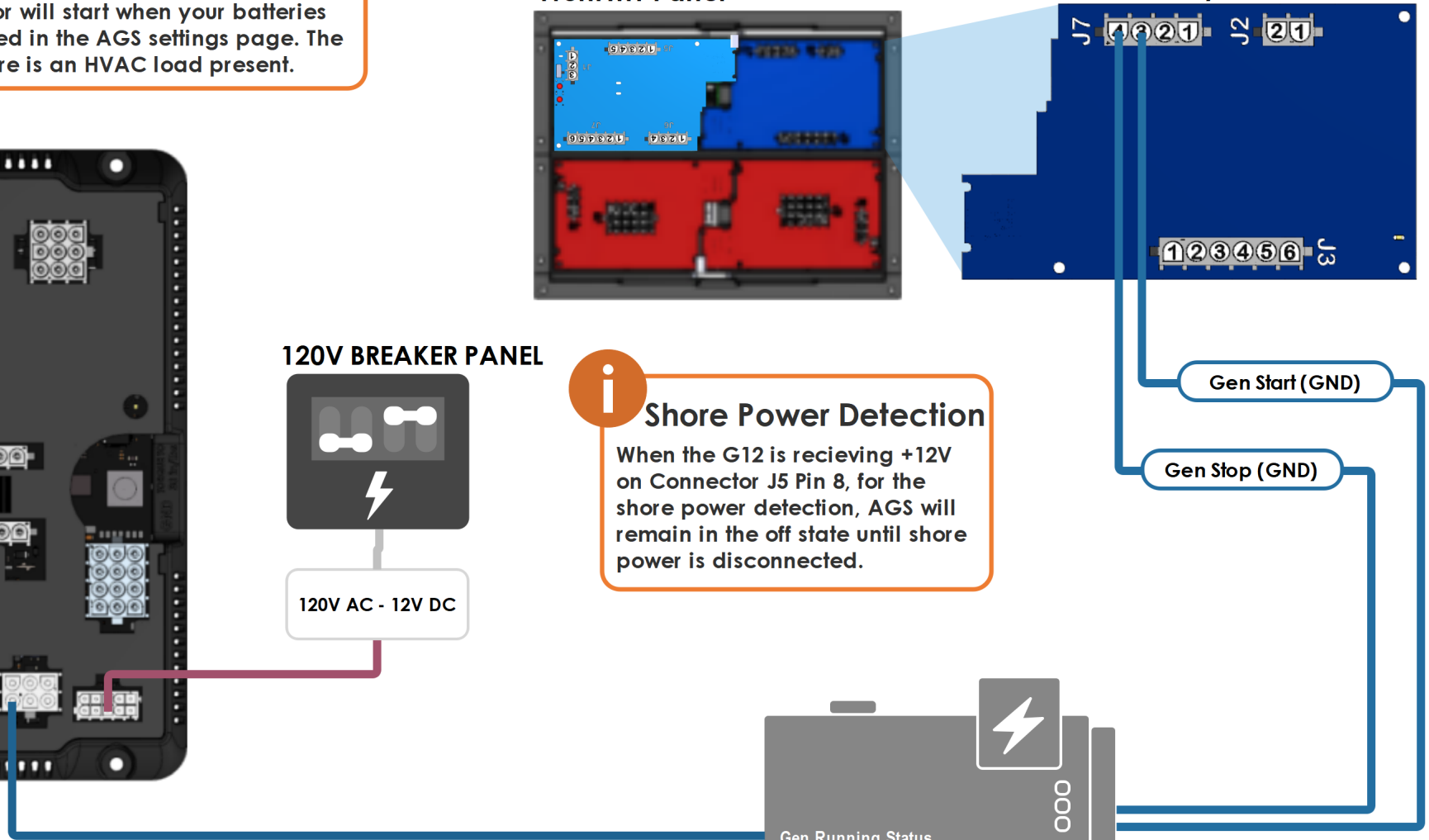
i **Shore Power Detection**
 When the G12 is receiving +12V on Connector J5 Pin 8, for the shore power detection, AGS will remain in the off state until shore power is disconnected.

G12 Module
@ Under Bed

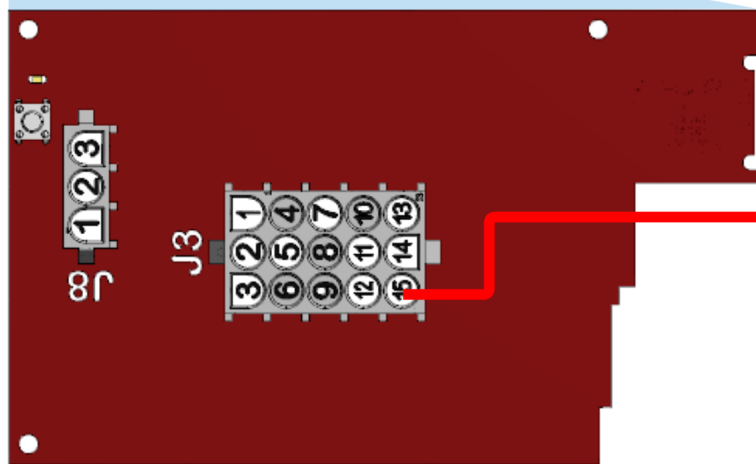
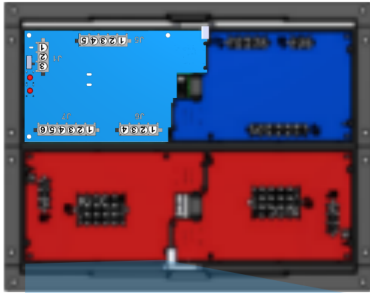


Gen Start (GND)

Gen Stop (GND)

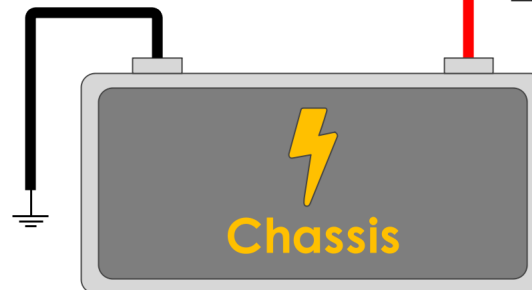
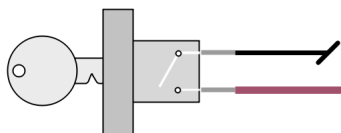


M1 Front Panel

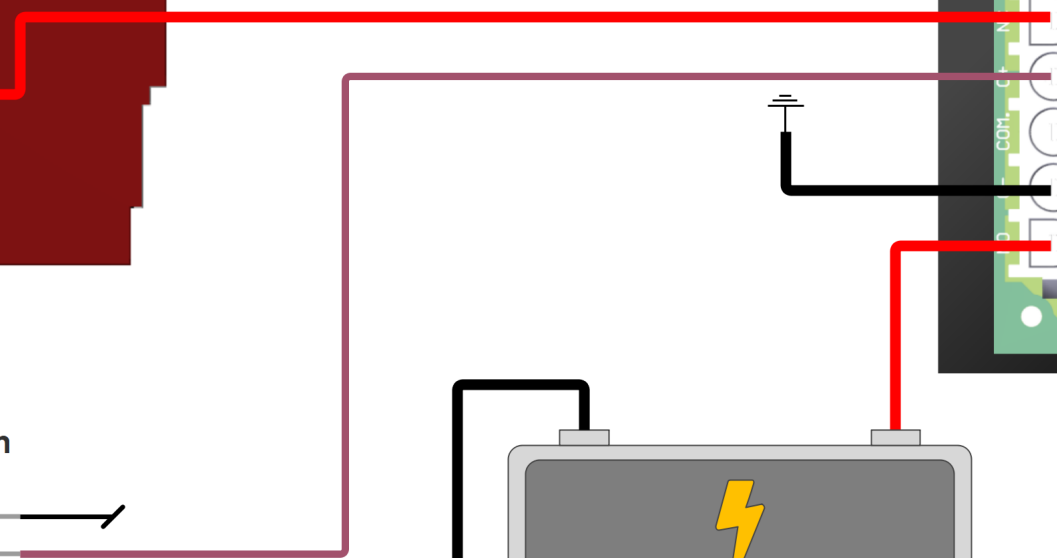
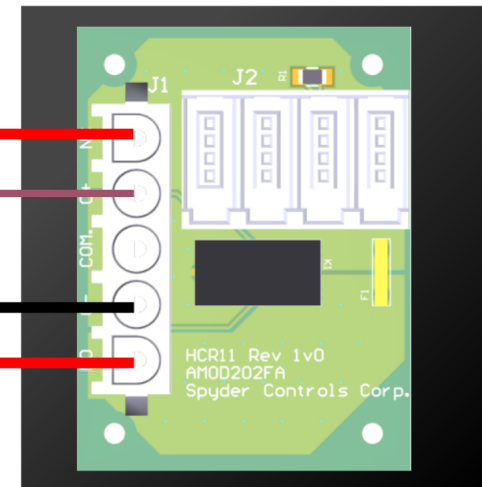


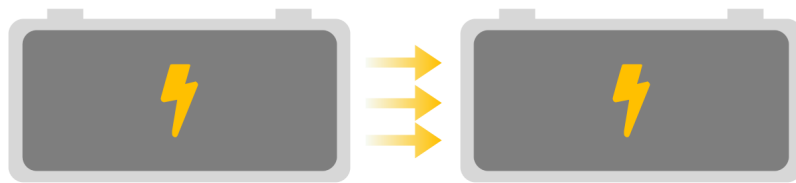
M1 Breaker Card

Ignition Switch



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



**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:

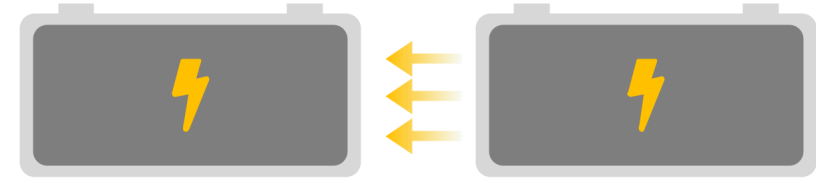
- Engine run or ignition signal is present and chassis voltage is above 13.3V (charging) for 30 seconds.

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+

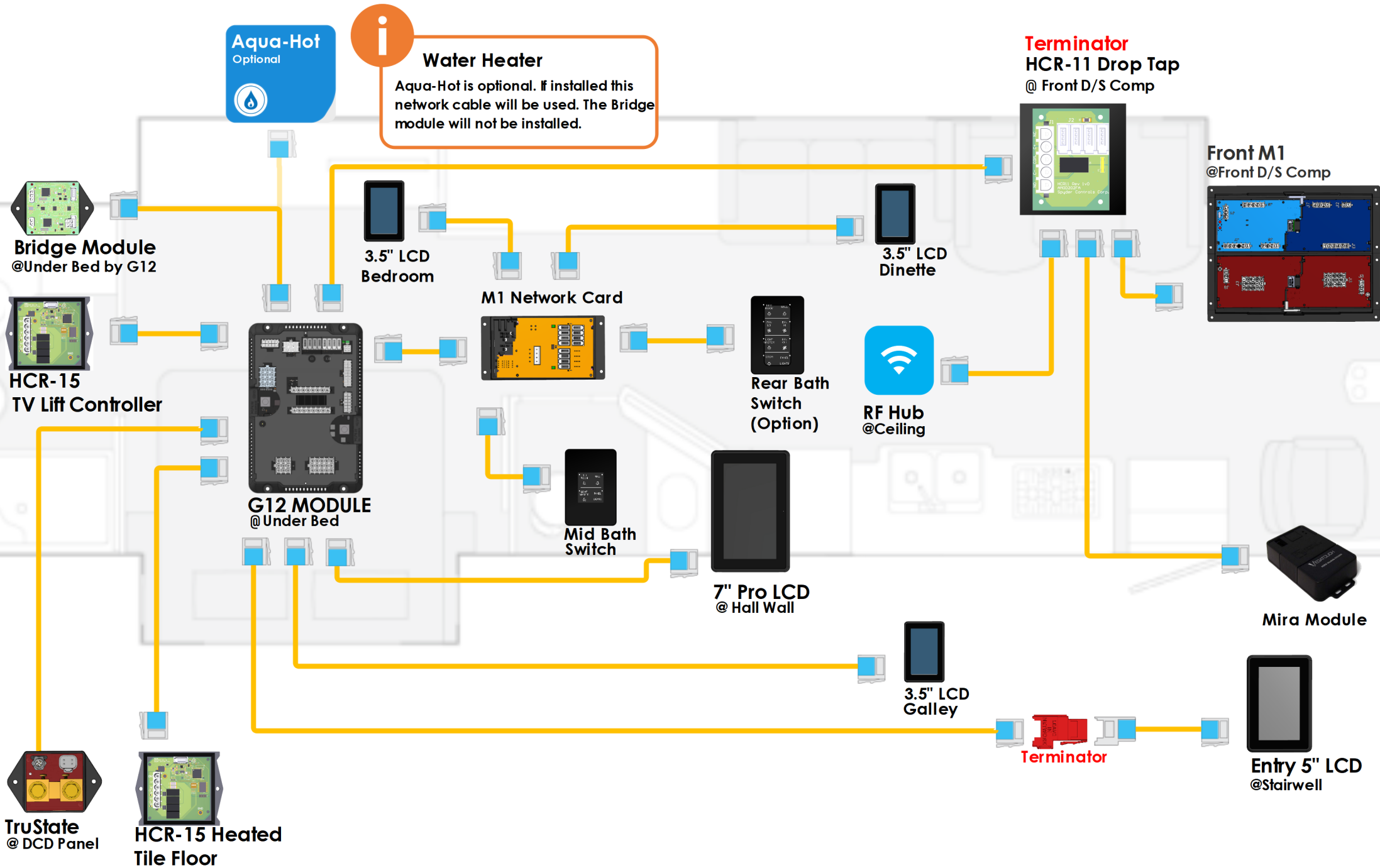
MERGE LOGIC - HOUSE CHARGING CHASSIS

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

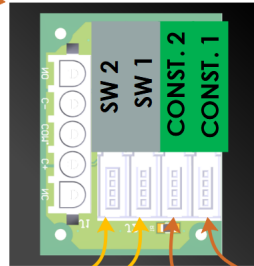


THE ORDER OF THE NETWORK CABLES AT THIS TAP IS IMPORTANT !

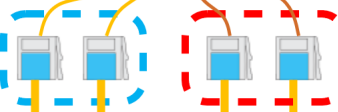
The RF Hub and M1 Panel MUST be plugged into the ports shown. The always on ports are powered when the house disconnect is off.



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

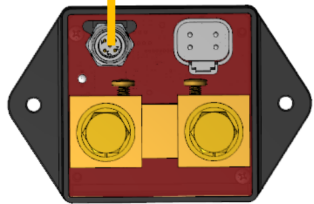
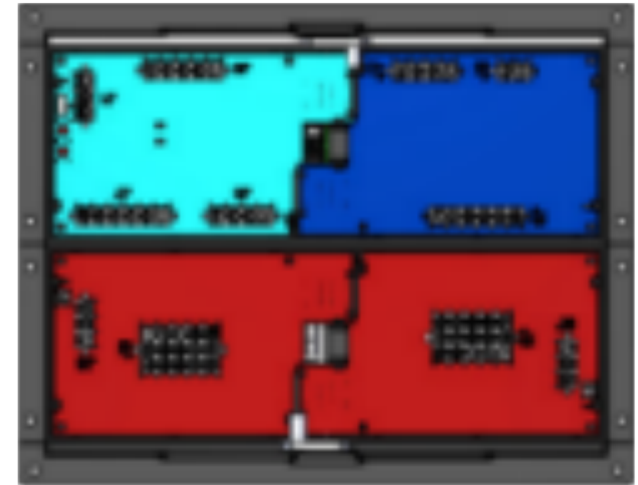


Switched



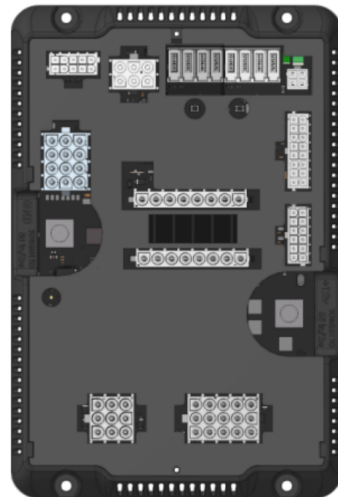
Always On

Tiffin P/N: 5126983
Front M1 Panel
@ Front D/S Comp



TruState
@ DCD Panel

Terminator



G12 MODULE
@ Under Bed
Tiffin P/N: 5126984



RF Hub
@Ceiling



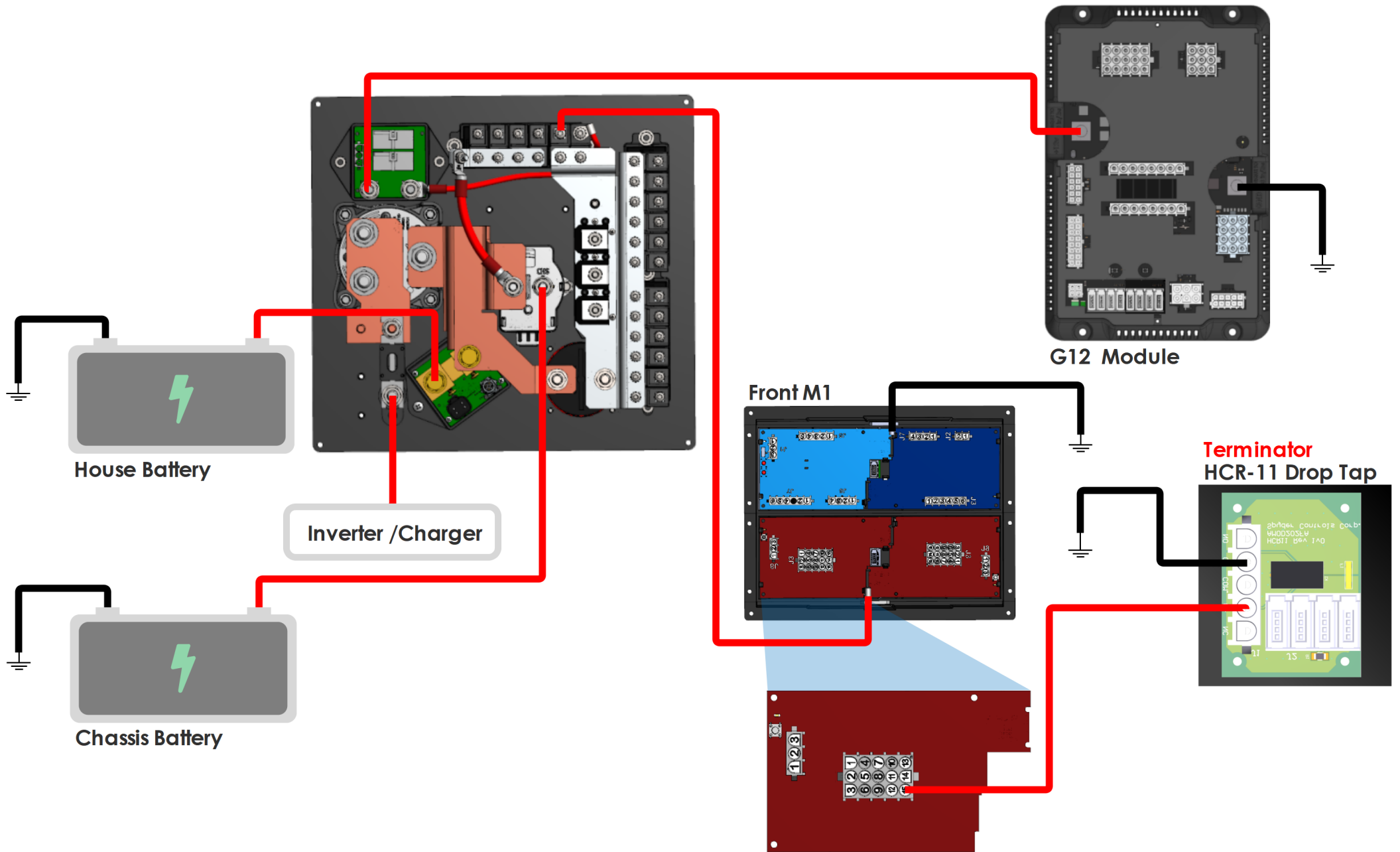
Always On Network

This network to remain powered while house disconnect is off.

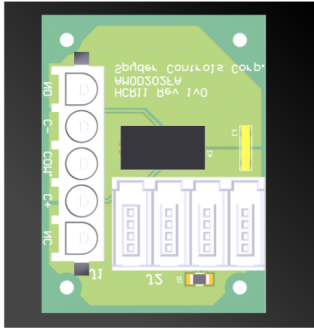
This network can be turned off using the battery disconnect on the DCD panel.

*(Ensure power does not transfer through the network cable to the G12, but does transfer to the RF Hub)

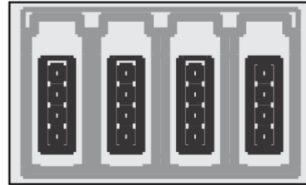




TERMINATOR
HCR-11
 Tiffin P/N: 5105426



G4 Common Drop Tap
 Tiffin P/N: 5016592



G4 Terminator Drop Tap
 Tiffin P/N: 5051936



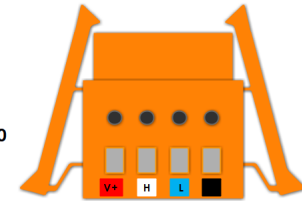
Mini-Clamp Plug
 Tiffin P/N: 5066157
 3M P/N: 37104-2165-000 FL 100



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



4 Pos Wago Connector
 Tiffin P/N: 5015508



Wago Hook Tool
 Wago P/N: 231-131

