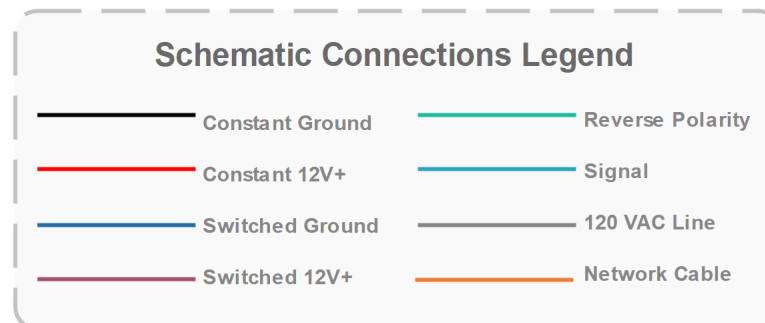




Multiplex Integration Schematic

2021 Allegro RED



2021 Tiffin Allegro RED

General Component Locations Diagram

(Components not to scale)

7" Lite Touch Screen
Tiffin P/N: 5103544



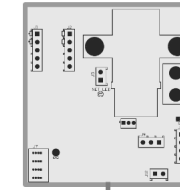
Bathroom



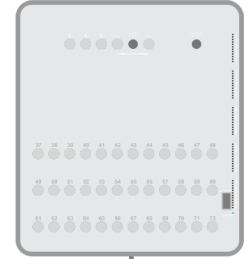
Galley



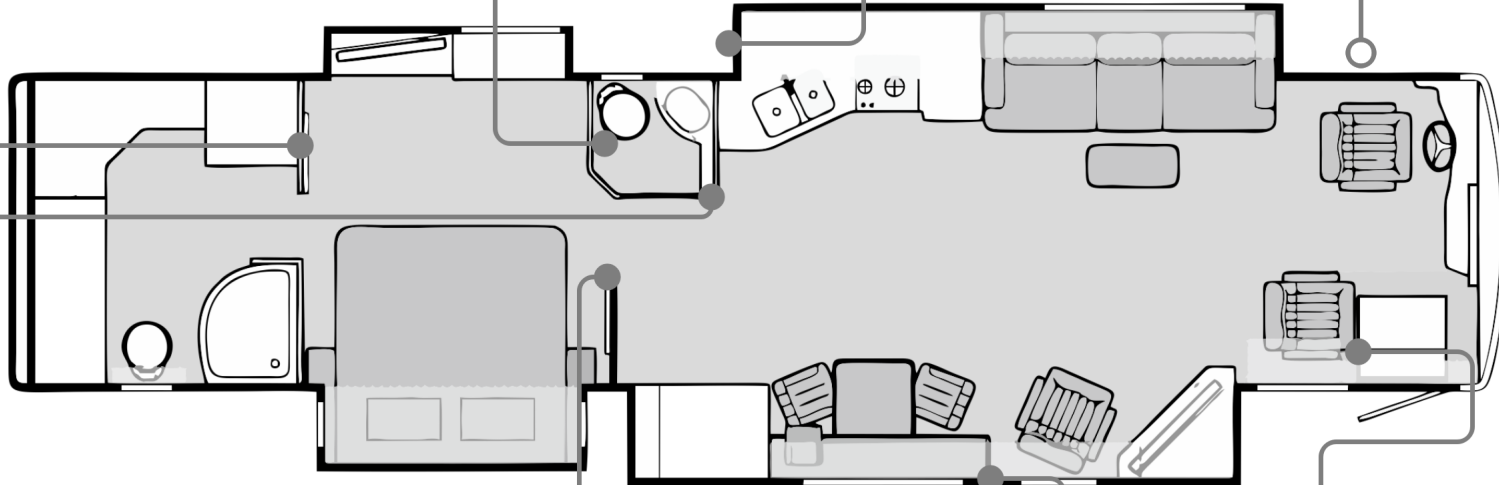
2019 RED PMM
Tiffin P/N: 5079063



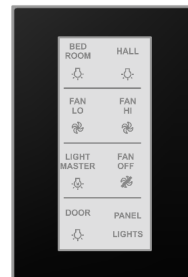
G6 Chassis Panel
Tiffin P/N: 5093306



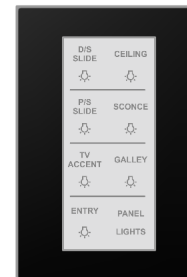
G6 House Panel
Tiffin P/N: 5103560



Bedroom



Dinette



Entry



Module located on exterior or under coach bay



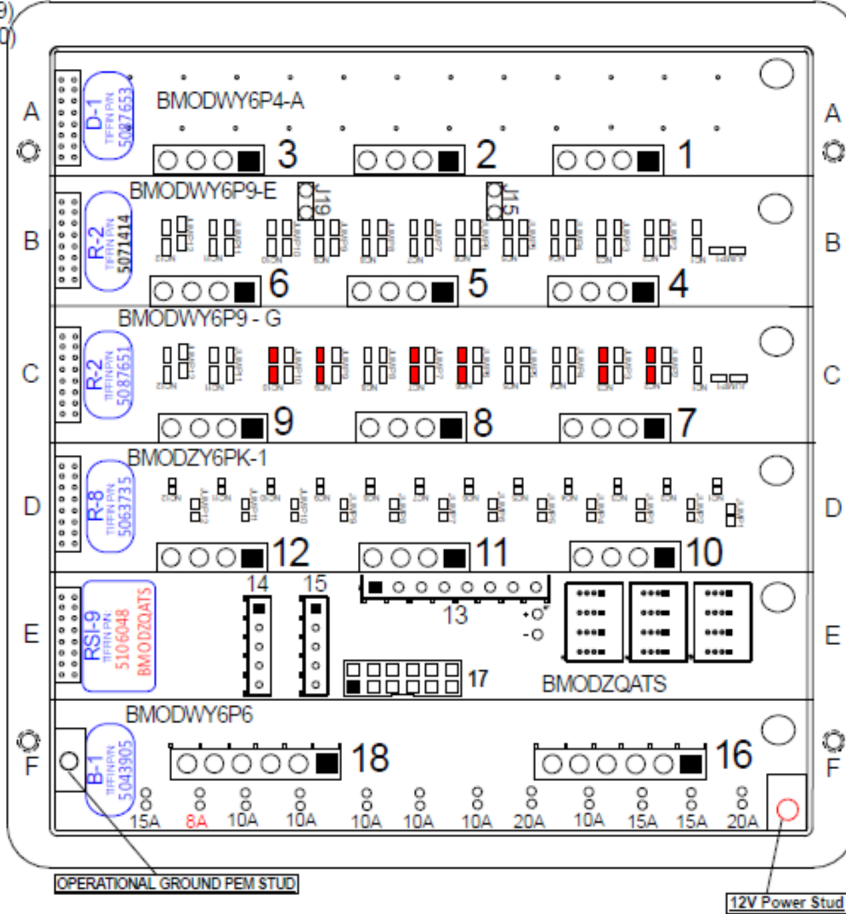
Module located inside the coach



G6A CONTROL PANEL LAYOUT
Tiffin PN: 5103560 Spyder PN: BENCZ52CY
2021 RED - HOUSE
PINOUT DIAGRAM - 2020-07-14

Back View

- CONNECTOR 4**
- 4-1 REAR BATH/MID SINK CEILING LIGHTS - (G6 LED 13)
 - 4-2 TASK LIGHTS - (G6 LED 14)
 - 4-3 MID BATH CEILING LIGHTS - (G6 LED 15)
 - 4-4 BEDROOM ACCENT (G6 LED 16)
- CONNECTOR 5**
- 5-1 TV LIFT UP - (G6 LED 17)
 - 5-2 TV ACCENT LIGHTS - (G6 LED 18)
 - 5-3 FR ZONE HT EXCHANGER - (G6 LED 19)
 - 5-4 RR ZONE HT EXCHANGER - (G6 LED 20)
- CONNECTOR 6**
- 6-1 TV LIFT DOWN - (G6 LED 21)
 - 6-2 PORCH LIGHT - (G6 LED 22)
 - 6-3 ELECTRIC WTR HT - (G6 LED 23)
 - 6-4 DIESEL / GAS WTR HT - (G6 LED 24)
- J15--- FR TV LIFT COMMON
- J19--- FR TV LIFT COMMON
- CONNECTOR 10**
- 10-1 A/C ON/OFF 1 - (G6 LED 37)
 - 10-2 A/C 1 LO - (G6 LED 38)
 - 10-3 A/C 1 HI - (G6 LED 39)
 - 10-4 A/C 1 STRIP HT - (G6 LED 40)
- CONNECTOR 11**
- 11-1 A/C ON/OFF 2 - (G6 LED 41)
 - 11-2 A/C 2 LO - (G6 LED 42)
 - 11-3 A/C 2 HI - (G6 LED 43)
 - 11-4 A/C 2 STRIP HT - (G6 LED 44)
- CONNECTOR 12**
- 12-1 A/C ON/OFF 3 - (G6 LED 45)
 - 12-2 A/C 3 LO - (G6 LED 46)
 - 12-3 A/C 3 HI - (G6 LED 47)
 - 12-4 A/C 3 STRIP HT - (G6 LED 48)
- CONNECTOR 17 THERMISTER INPUTS**
- RR FLOOR HEAT THERMISTER INPUT
 - FR FLOOR HEAT THERMISTER INPUT
 - BAY ZONE THERMISTER INPUT
 - MID ZONE THERMISTER INPUT
 - REAR ZONE THERMISTER INPUT
 - FRONT ZONE THERMISTER INPUT
- CONNECTOR 14 (12V+ INPUTS)**
- 14-1 WTR HTR STATUS
 - 14-2 IGN 12V+ INPUT
 - 14-3 AQUAHOT EXCHANGER INPUT (AQUAHOT PIN 7)
 - 14-4 FLUID FULL
 - 14-5
- CONNECTOR 15 (GND INPUTS)**
- 15-1 WATER PUMP SW
 - 15-2 PARK BRAKE INPUT
 - 15-3 CLOSET LIGHT SW
 - 15-4 ENTRY DOOR PIN SW
 - 15-5



- CONNECTOR 1**
- 1-1 MAIN O/H / LIV RM LIGHT 1 - (G6 LED 1)
 - 1-2 ENTRY / FLOOR LIGHT - (G6 LED 2)
 - 1-3 PS SLIDE LIGHTS - (G6 LED 3)
 - 1-4 DS SLIDE LIGHTS - (G6 LED 4)
- CONNECTOR 2**
- 2-1 MID HALL LIGHTS - (G6 LED 5)
 - 2-2 FURNACE 12V+ TRIGGER - (G6 LED 6)
 - 2-3 BAY HT EXCHANGER - (G6 LED 7)
 - 2-4 GALLEY LIGHTS - (G6 LED 8)
- CONNECTOR 3**
- 3-1 SCONCE - (G6 LED 9)
 - 3-2 MAIN O/H / LIV RM LIGHT 2 - (G6 LED 10)
 - 3-3 FRONT ACCENT - (G6 LED 11)
 - 3-4 BEDROOM LIGHTS - (G6 LED 12)
- CONNECTOR 7**
- 7-1 GALLEY FAN ON/OFF - (G6 LED 25)
 - 7-2 GALLEY FAN UP - (G6 LED 26)
 - 7-3 GALLEY FAN DN - (G6 LED 27)
 - 7-4 CLOSET LIGHTS (OPTIONAL) - (G6 LED 28)
- CONNECTOR 8**
- 8-1 MID BATH FAN ON/OFF - (G6 LED 29)
 - 8-2 MID BATH FAN UP - (G6 LED 30)
 - 8-3 MID BATH FAN DN - (G6 LED 31)
 - 8-4 REAR BATH / MID SINK FAN ON/OFF - (G6 LED 32)
- CONNECTOR 9**
- 9-1 REAR BATH / MID SINK FAN UP - (G6 LED 33)
 - 9-2 REAR BATH / MID SINK FAN DN - (G6 LED 34)
 - 9-3 CEILING FAN LO - (G6 LED 35)
 - 9-4 CEILING FAN HI - (G6 LED 36)
- CONNECTOR 13**
- 13-1
 - 13-2
 - 13-3 GND (COMMON FOR SENSORS)
 - 13-4 LPG SENSOR INPUT
 - 13-5 BLACK TANK SENSOR INPUT
 - 13-6 GREY TANK SENSOR INPUT
 - 13-7 FRESH TANK SENSOR INPUT
 - 13-8

- CONNECTOR 18**
- 18-1 FRONT THERMO - BREAKER #67
 - 18-2 MID THERMO - BREAKER #68
 - 18-3 TOILET/REAR THERMO - BREAKER #69
 - 18-4 BRKR TO RR SLIDE - BREAKER #70
 - 18-5 TRUMA WATER HEATER - BREAKER #71
 - 18-6 - BREAKER #72

- CONNECTOR 16**
- 16-1 MACERATOR TOILET - BREAKER #61
 - 16-2 FRONT FURNACE - BREAKER #62
 - 16-3 REAR FURNACE - BREAKER #63
 - 16-4 SWITCHER / LP/IR - BREAKER #64
 - 16-5 OUTSIDE TV - BREAKER #65
 - 16-6 BRKR TO FR SLD - BREAKER #66 / SHD MOD

Card Legend

- R=RELAY CARD
- B=BREAKER CARD
- RSI-9=INPUT MODULE
- D=DIMMER CARD
- = JUMPED

NOTE: CONNECTORS ARE SHOWN HERE IN THE LOADED (REAR) VIEW.

G6A CONTROL PANEL LAYOUT
 Tiffin PN: 5093306 Spyder PN: BENCZ54CR
 2021 RED - CHASSIS
PINOUT DIAGRAM - 2020.04.16

Back View

MUST HAVE SIDE MOUNTING TABS ON G6 PANEL

- CONNECTOR 4**
- 4-1 WATER PUMP
 - 4-2
 - 4-3 DOOR / ASSIST HANDLE
 - 4-4

- CONNECTOR 5**
- 5-1 DOOR AWN RET
 - 5-2 DOOR AWN EXT
 - 5-3
 - 5-4

- CONNECTOR 6**
- 6-1 GALLEY SHADE UP
 - 6-2 GALLEY SHADE DN
 - 6-3 GEN START
 - 6-4 GEN STOP

--- PARK BRAKE SIGNAL

--- IGNITION SIGNAL

- CONNECTOR 13**
- 13-1 MAP LT / RADIO / FANS - BREAKER #49
 - 13-2 USB POWER - BREAKER #50
 - 13-3 KEYLESS POWER - BREAKER #51
 - 13-4 ENTRY STEP SWITCH - BREAKER #52
 - 13-5 ENTRY STEP POWER - BREAKER #53
 - 13-6 CARGO LIGHTS (CONST) - BREAKER #54

- CONNECTOR 15**
- 15-1 POWER SEAT #1 - BREAKER #55
 - 15-2 CB - BREAKER #56
 - 15-3 ELEC STEP COVER - BREAKER #57
 - 15-4 SATELITE - BREAKER #58
 - 15-5 SHADES - BREAKER #59
 - 15-6 POWER SEAT #2 - BREAKER #60

Card Legend

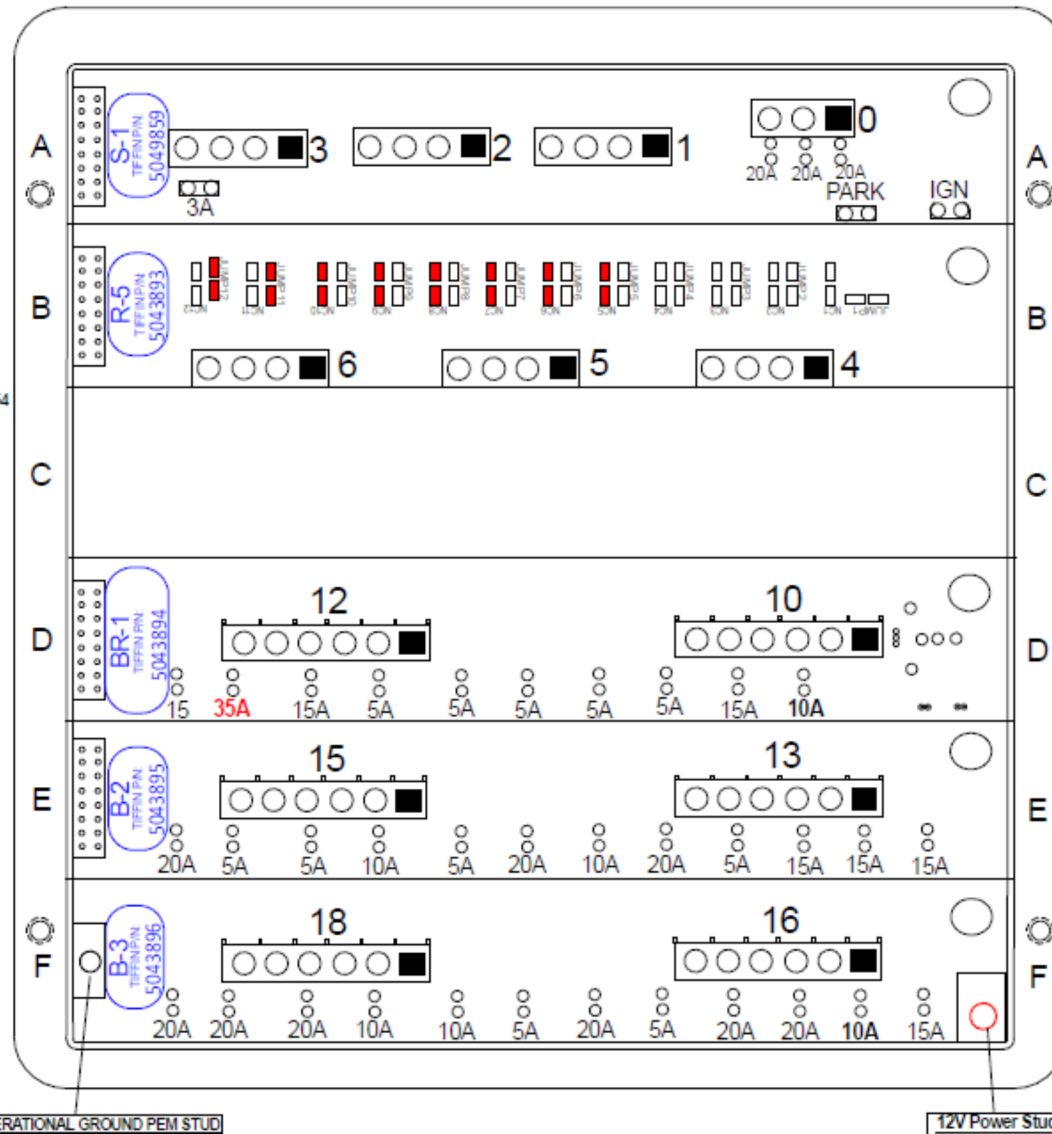
R=RELAY CARD

B=BREAKER CARD

BR=BREAKER/
RELAY CARD

D=DIMMER CARD

■ = JUMPERED



- CONNECTOR 0**
- 0-1 FRONT SLIDE MODULE
 - 0-2 VANITY SLIDE MODULE
 - 0-3 BED SLIDE MODULE

- CONNECTOR 1**
- 1-1 D/S FR SLIDE RET
 - 1-2 D/S FR SLIDE EXT
 - 1-3 P/S FR SLIDE RET
 - 1-4 P/S FR SLIDE EXT

- CONNECTOR 2**
- 2-1 D/S RR SLIDE RET
 - 2-2 D/S RR SLIDE EXT
 - 2-3 P/S RR SLIDE RET
 - 2-4 P/S RR SLIDE EXT

- CONNECTOR 3**
- 3-1 HYDRAULIC PUMP - D/S SLIDE
 - 3-2 HYDRAULIC PUMP - P/S SLIDE
 - 3-3
 - 3-4

- CONNECTOR 3A**
- 3A-1 UNDERCOACH CONSTANT

- CONNECTOR 10**
- 10-1 - BREAKER #37
 - 10-2 - BREAKER #38
 - 10-3 DENSO A/C PWR IGN(YLW) - BREAKER #39
 - 10-4 MIRRORS - BREAKER #40
 - 10-5 CAMERA IGN - BREAKER #41
 - 10-6 JACK BUZZER - BREAKER #42

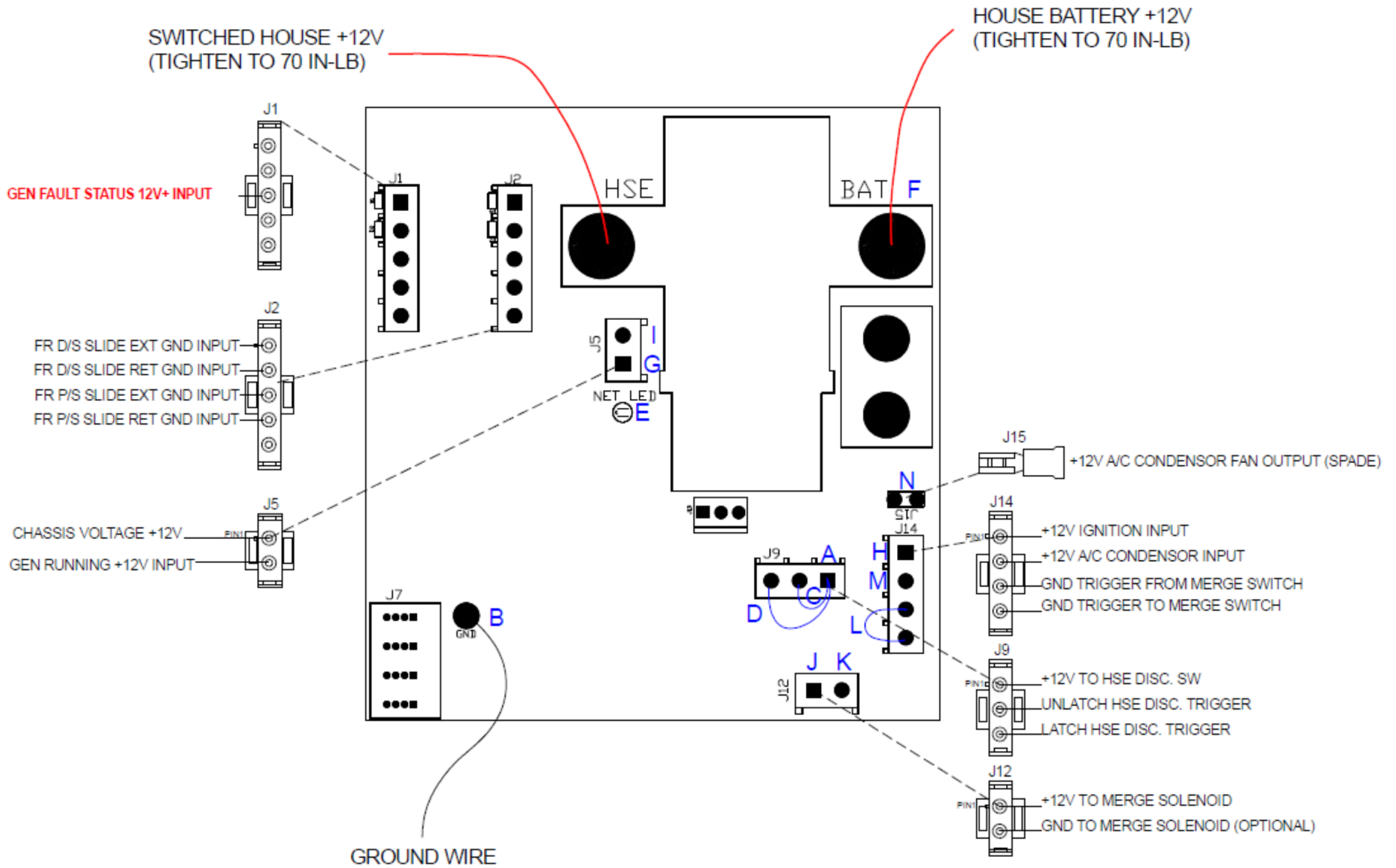
- CONNECTOR 12**
- 12-1 PANEL LAMP/HEADLT LED - BREAKER #43
 - 12-2 FRIDGE - BREAKER #44
 - 12-3 ENTRY STEP IGN - BREAKER #45
 - 12-4 DOCK LIGHT - BREAKER #46
 - 12-5 WIPER - BREAKER #47
 - 12-6 POWER WINDOW OPTION - BREAKER #48

- CONNECTOR 16**
- 16-1 RADIO MEMORY / XM PWR - BREAKER #61
 - 16-2 DENSO A/C POWER - BREAKER #62
 - 16-3 12V+ OUTLET #1 - BREAKER #63
 - 16-4 12V+ OUTLET #2 - BREAKER #64
 - 16-5 ENGINE PREHEAT SWITCH - BREAKER #65
 - 16-6 HYDRA-HOT (option) - BREAKER #66

- CONNECTOR 18**
- 18-1 EMS MODULE - BREAKER #67
 - 18-2 CORD REEL - BREAKER #68
 - 18-3 HOSE REEL - BREAKER #69
 - 18-4 FRONT SLIDE MODULE - BREAKER #70
 - 18-5 VANITY SLIDE MODULE - BREAKER #71
 - 18-6 BED SLIDE MODULE - BREAKER #72

NOTE: CONNECTORS ARE SHOWN HERE IN THE LOADED (REAR) VIEW.

Tiffin Motorhomes
Power Management Module
 2019 Tiffin RED, Breeze, Bay
 Tiffin PN: 5079063 | Spyder PN: BENCZP8CE
 03.21.2018

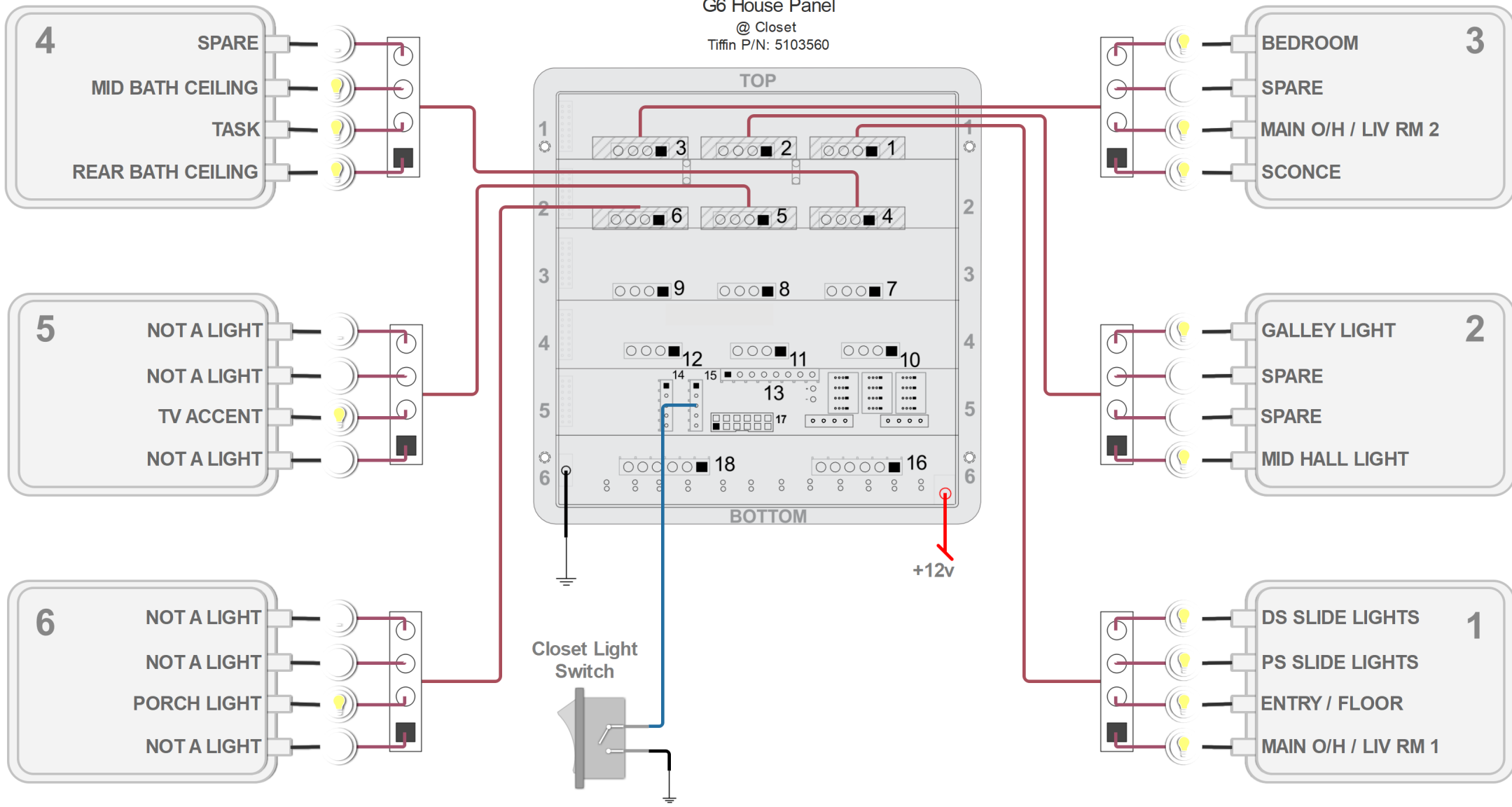


NOTE: CONNECTORS ARE SHOWN HERE IN THE LOADED (REAR) VIEW.

2021 Tiffin Allegro RED Lighting System (Components not to scale)

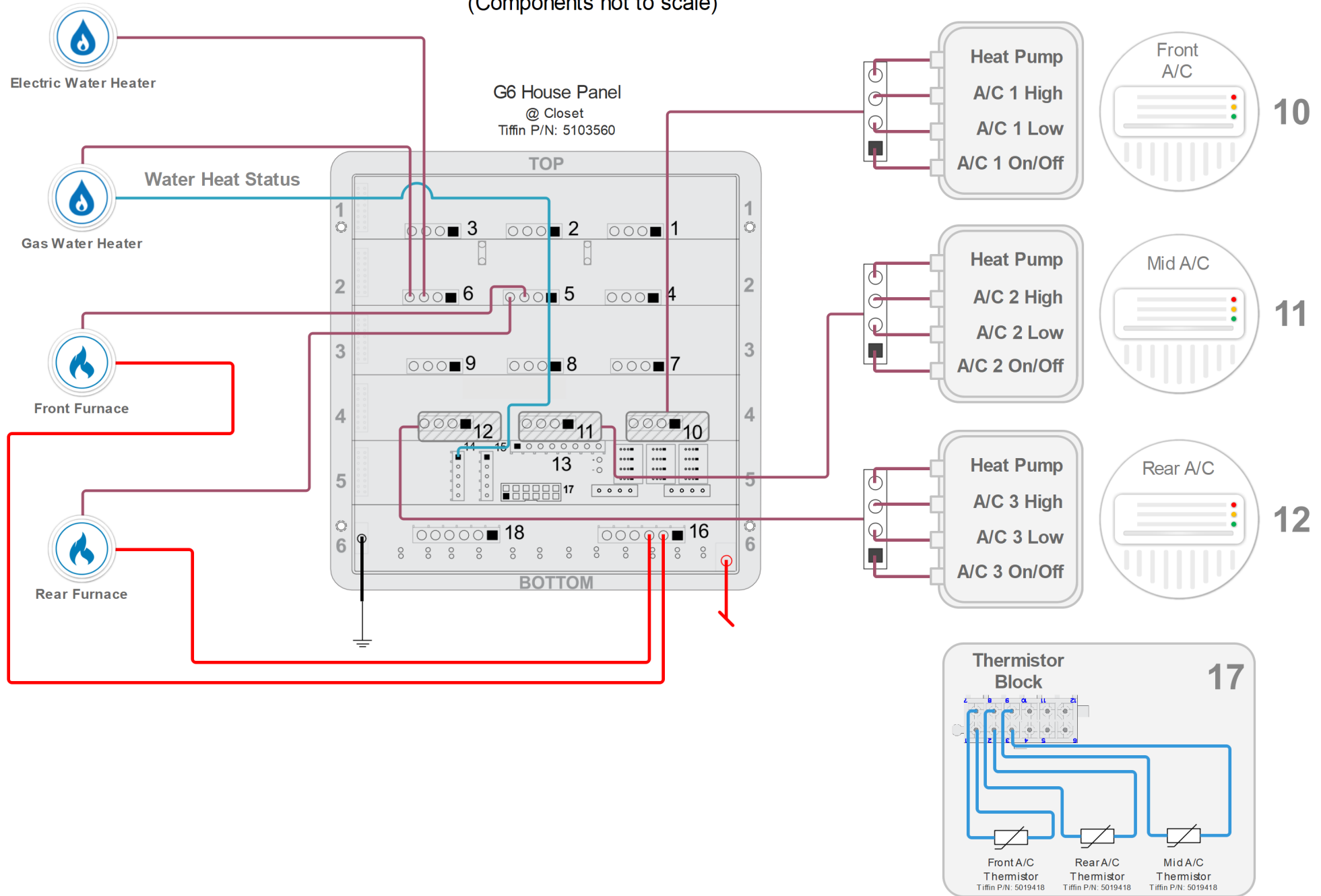
The lights below cannot dim

The lights below can dim



2021 Tiffin Allegro RED HVAC System

(Components not to scale)



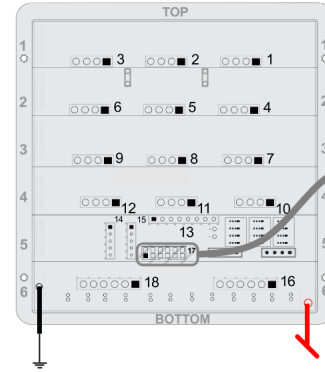
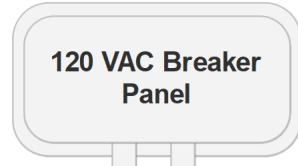
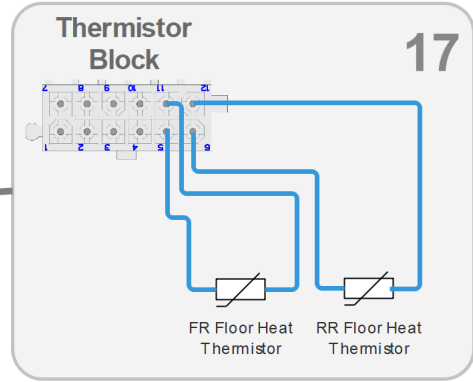
HVAC thermistors - 100K ohms @ 25 C

NOTE:
As the temperature increases the resistance lowers

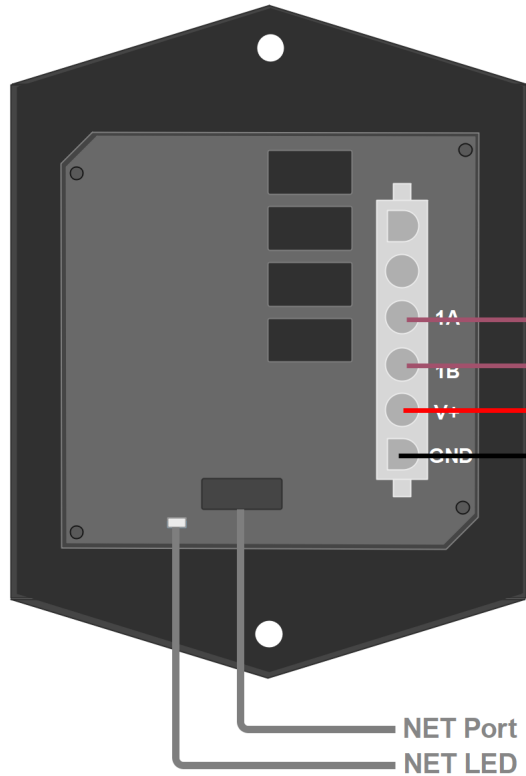
2021 Tiffin Allegro RED HVAC System

(Components not to scale)

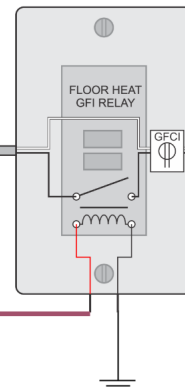
G6 House Panel
@ Closet
Tiffin P/N: 5103560



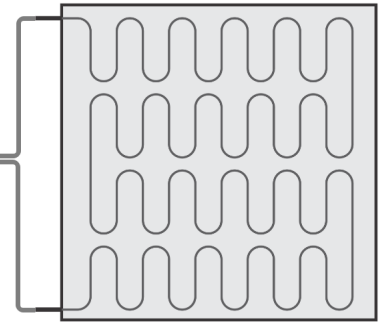
HCR-15 Single Motor Control
Tiffin P/N: 5092297 @ Rear



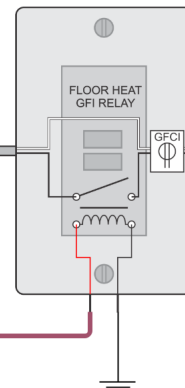
Front Floor Heat GFI Relay
@ Rear Closet
Tiffin P/N 5043498



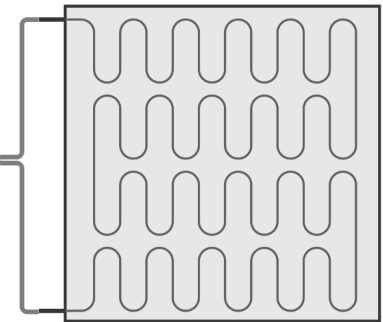
Front Floor Heat Pad



Rear Floor Heat GFI Relay
@ Rear Closet
Tiffin P/N 5043498

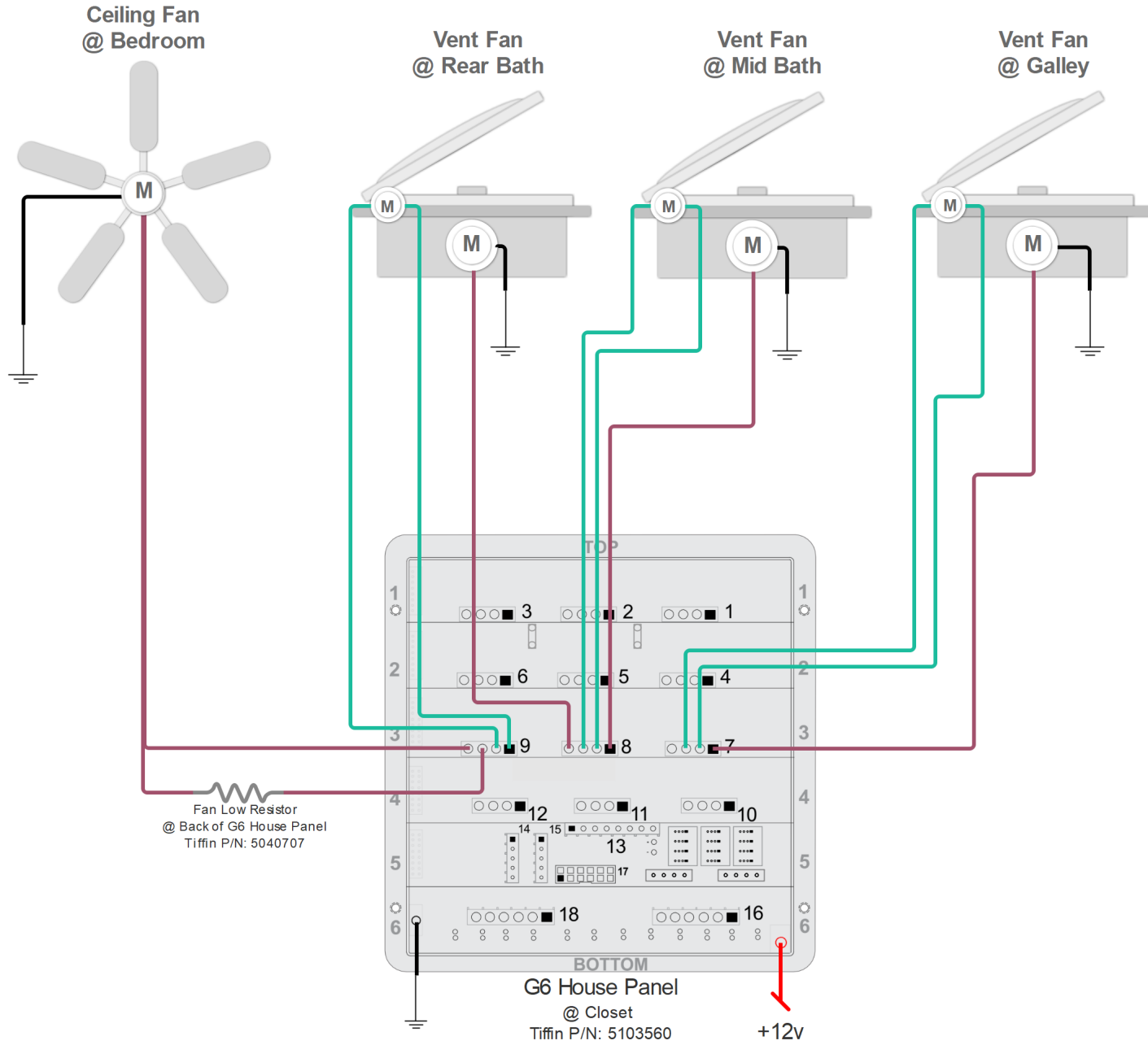


Rear Floor Heat Pad

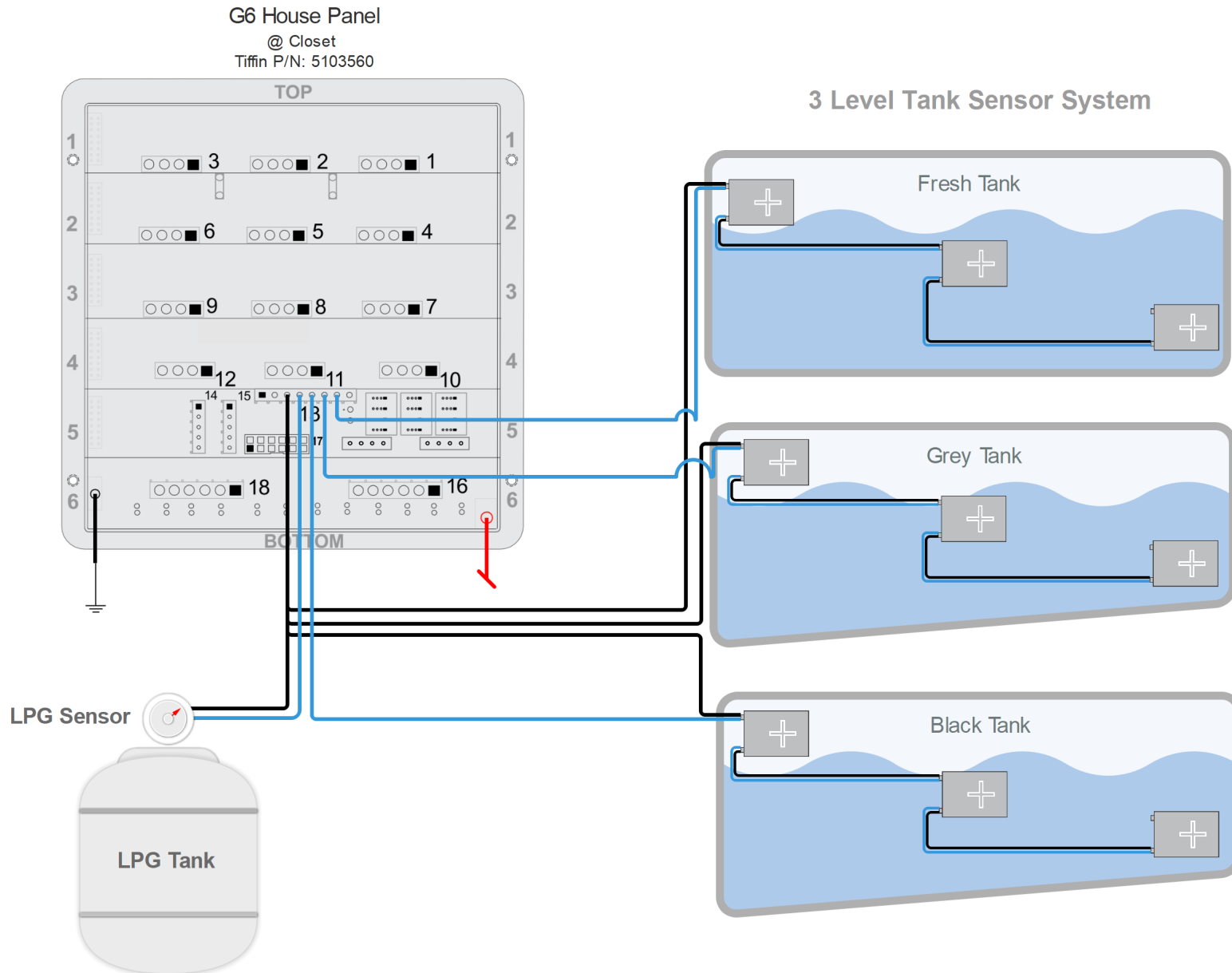


GND 12V+

2021 Tiffin Allegro RED Vent Fan & Ceiling Fan System (Components not to scale)



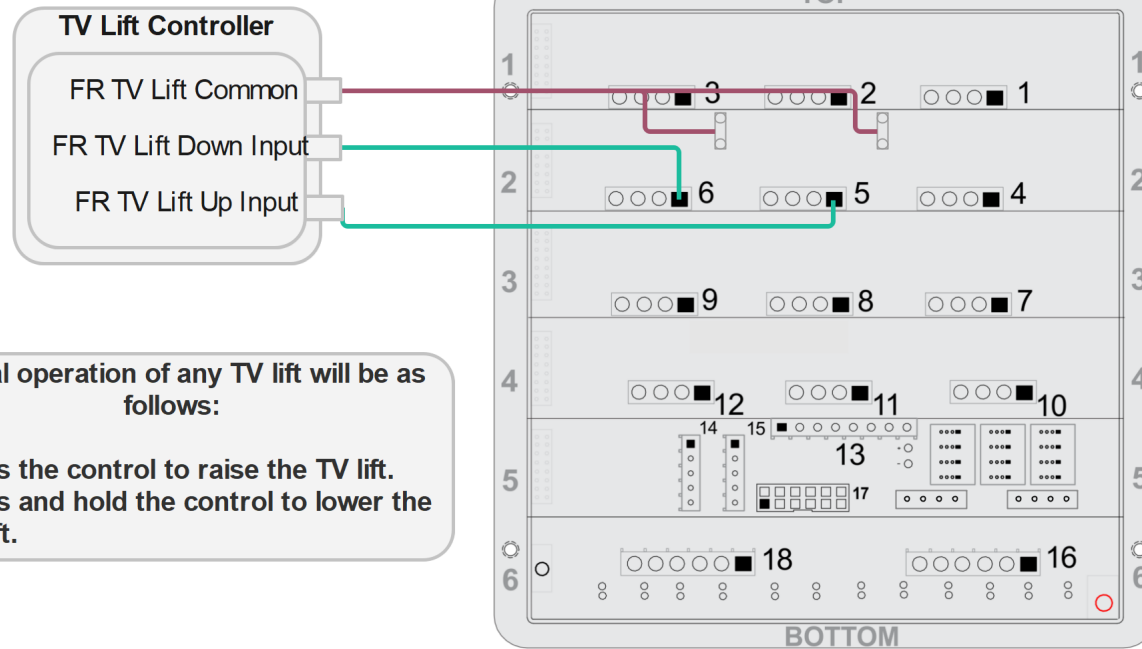
**2021 Tiffin Allegro RED
Tank Level System**
(Components not to scale)



**2021 Tiffin Allegro RED
TV Lift System**
(Components not to scale)

G6 House Panel

@ Closet
Tiffin P/N: 5103560



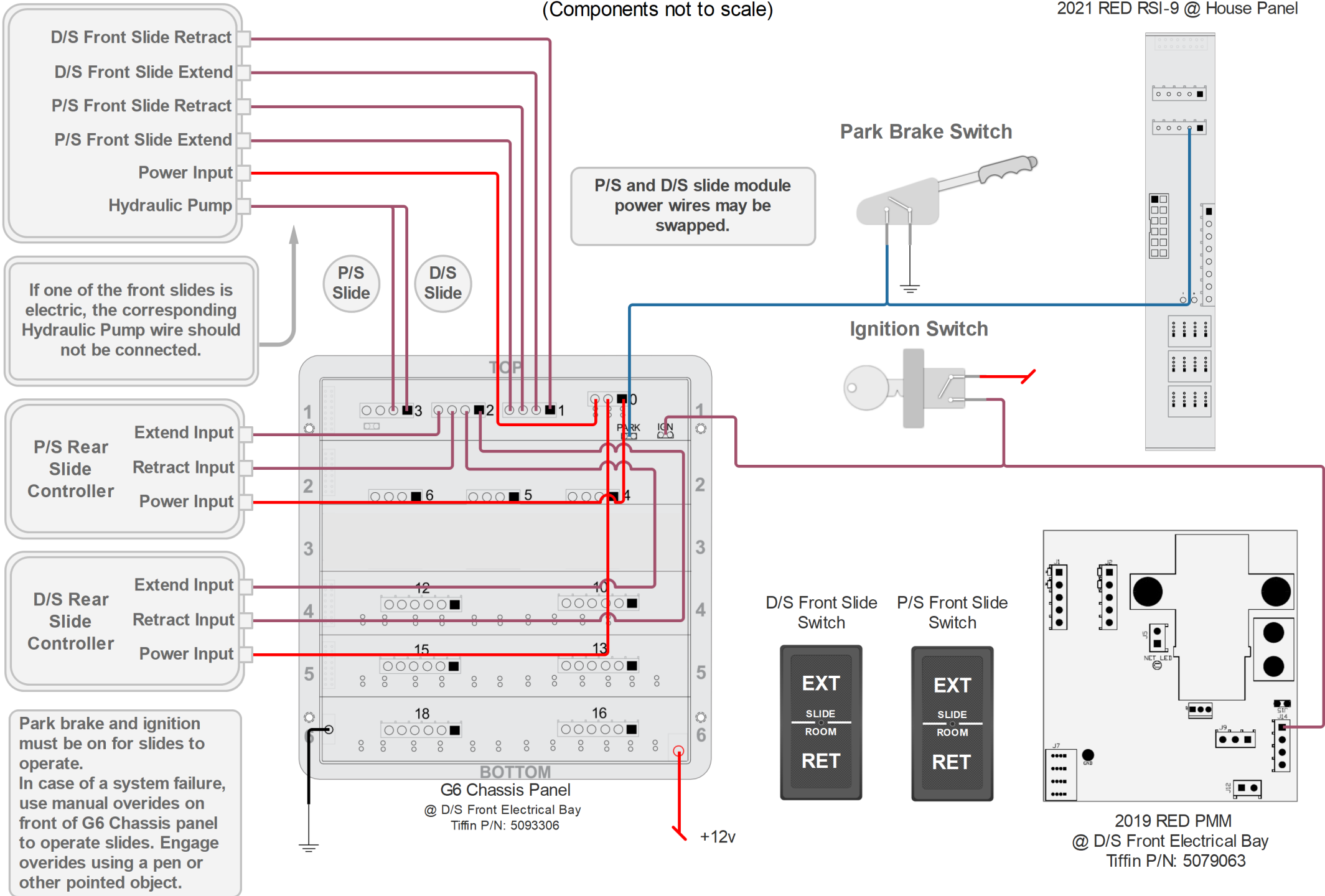
Normal operation of any TV lift will be as follows:

- Press the control to raise the TV lift.
- Press and hold the control to lower the TV lift.

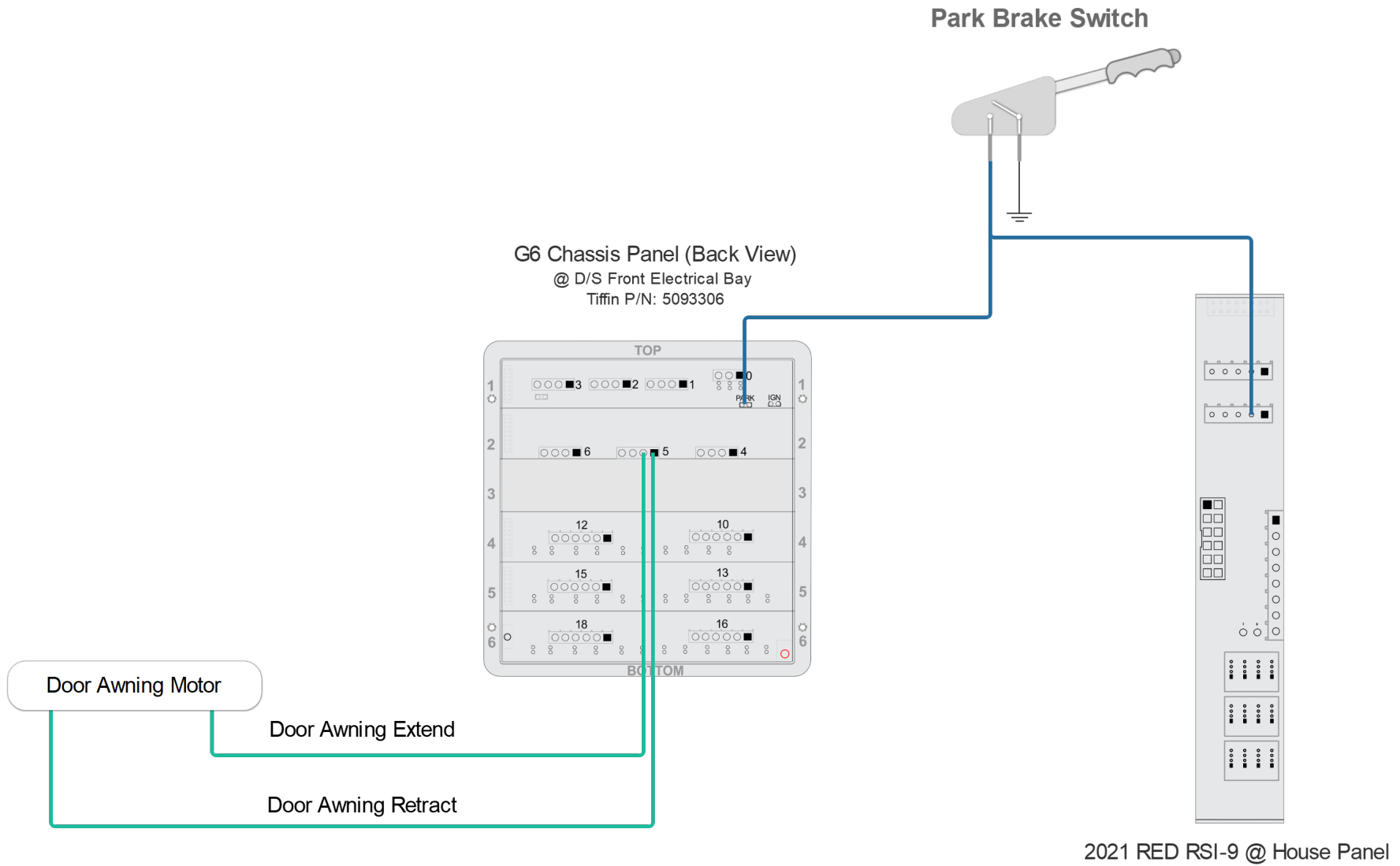
2021 Tiffin Allegro RED Slide System

(Components not to scale)

2021 RED RSI-9 @ House Panel

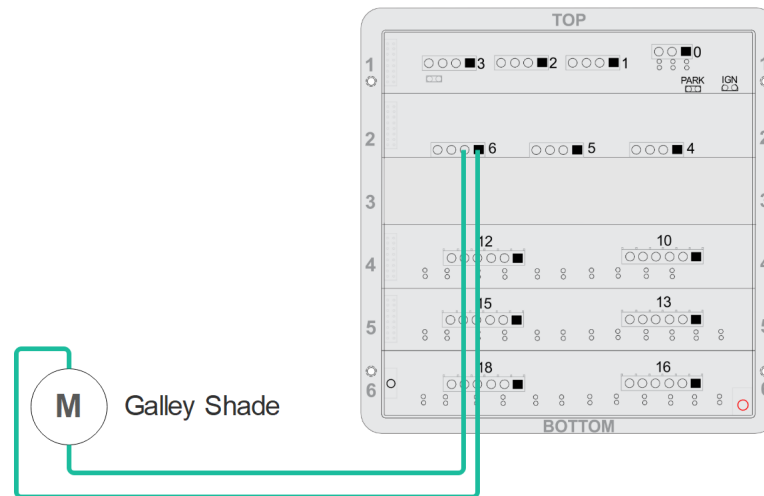


2021 Tiffin Allegro RED
Front Shade System
(Components not to scale)

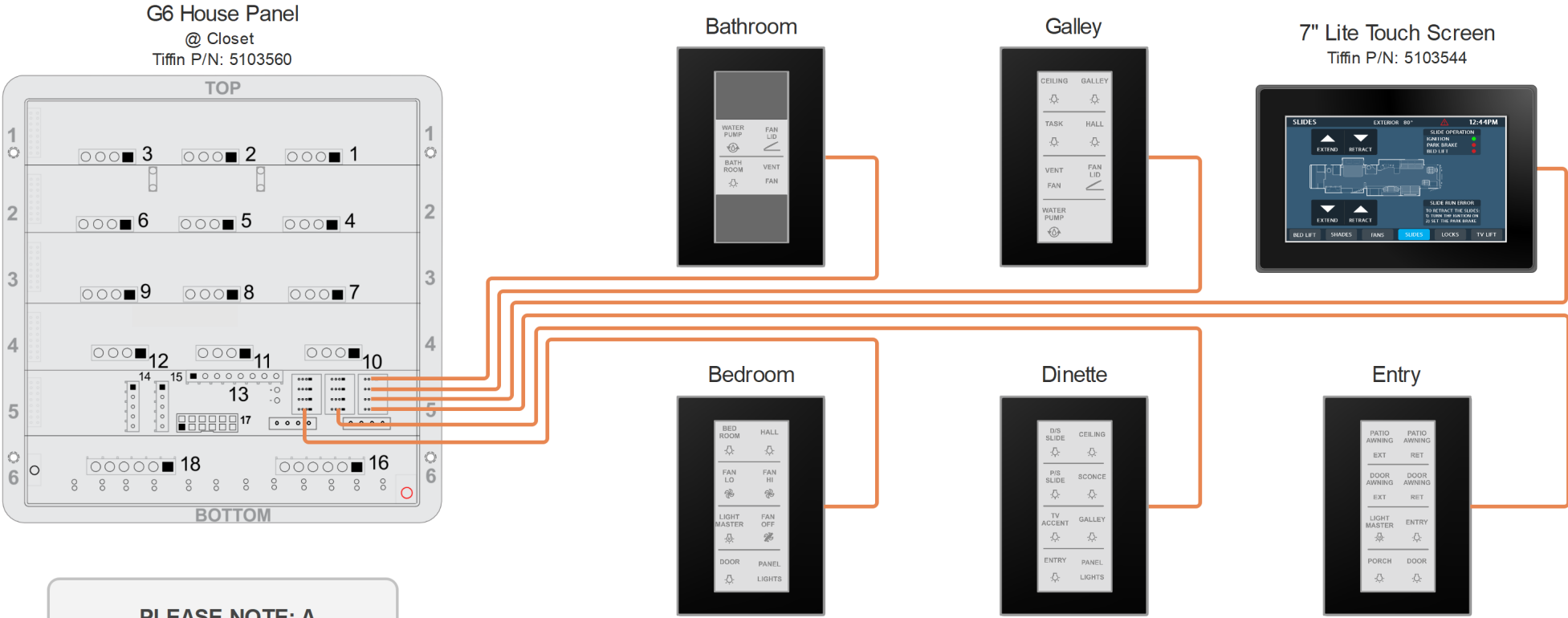


2021 Tiffin Allegro RED
Front Shade System
(Components not to scale)

G6 Chassis Panel (Back View)
@ D/S Front Electrical Bay
Tiffin P/N: 5093306



2021 Tiffin Allegro RED
Switch and Screen Network
 (Components not to scale)



PLEASE NOTE: A NETWORK CABLE CAN BE PLUGGED INTO ANY NETWORK PORT ON THE RSI-9

PLEASE DO NOT ORDER A REPLACEMENT SWITCH PANEL UNTIL YOU HAVE CALLED SPYDER CONTROLS. IT IS VERY RARE FOR A SWITCH PANEL TO FAIL

866-919-9092

2016-2021 Allegro Red / Breeze Battery Merge Logic

Case 1 – CHASSIS CHARGING HOUSE batteries

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

- Ignition signal present for 30 seconds; AND
- Chassis voltage is above 13.3V (charging)

The merge solenoid will dis-engage if under the following conditions:

- Generator starts – unmerge and lockout all merge functionality until the generator running signal is removed (or until the ignition signal is removed); OR
- Ignition signal is removed; OR
- Chassis voltage drops below 12.6V for more than 30 seconds, unmerge until the ignition signal is cycled

Case 2 – HOUSE CHARGING CHASSIS batteries

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 dis-engage if under 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

Pre-Service Bulletin House Voltage

Service Bulletin Took Affect 2016-01-01

Case 1 – CHASSIS CHARGING HOUSE batteries

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

- Ignition signal present for 30 seconds; AND
- Chassis voltage is above 13.3V (charging) AND
- House voltage is below 12.4V (Low Battery Voltage)

The merge solenoid will dis-engage if under the following conditions:

- Generator starts – unmerge and lockout all merge functionality until the generator running signal is removed (or until the ignition signal is removed); OR
- Ignition signal is removed; OR
- Chassis voltage drops below 12.6V for more than 30 seconds, unmerge until the ignition signal is cycled

Case 2 – HOUSE CHARGING CHASSIS batteries

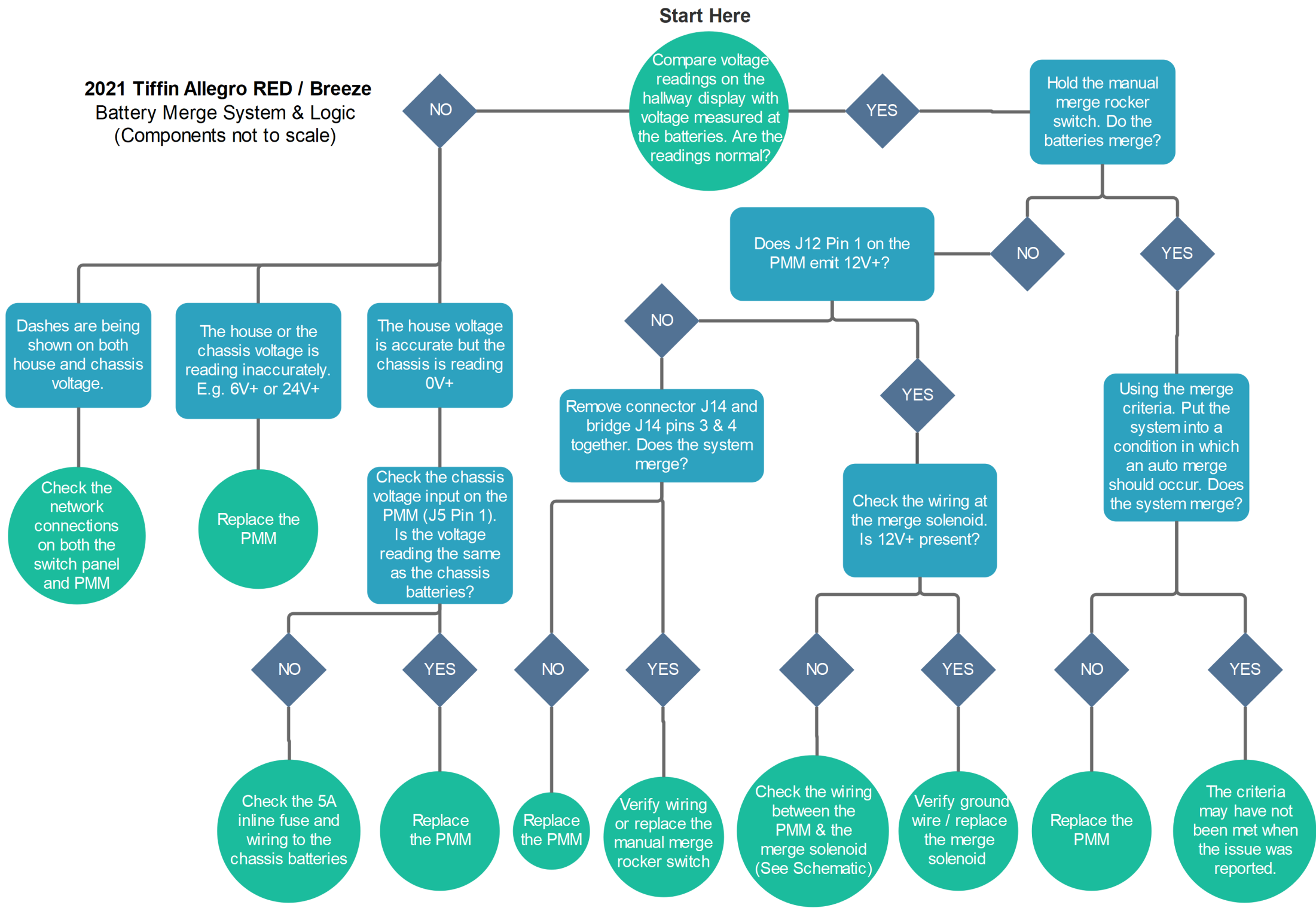
The merge solenoid will engage if the following conditions are present:

- House voltage is above 13.3V (charging); AND
- Chassis voltage is below 12.4V (low battery voltage) for 30 seconds

The merge solenoid will dis-engage if under the following conditions:

- House voltage drops below 12.6V 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

2021 Tiffin Allegro RED / Breeze
Battery Merge System & Logic
 (Components not to scale)



Dashes are being shown on both house and chassis voltage.

Check the network connections on both the switch panel and PMM

The house or the chassis voltage is reading inaccurately. E.g. 6V+ or 24V+

Replace the PMM

The house voltage is accurate but the chassis is reading 0V+

Check the chassis voltage input on the PMM (J5 Pin 1). Is the voltage reading the same as the chassis batteries?

NO
 Check the 5A inline fuse and wiring to the chassis batteries

YES
 Replace the PMM

Remove connector J14 and bridge J14 pins 3 & 4 together. Does the system merge?

NO
 Replace the PMM

YES
 Verify wiring or replace the manual merge rocker switch

NO
 Check the wiring between the PMM & the merge solenoid (See Schematic)

YES
 Verify ground wire / replace the merge solenoid

NO
 Replace the PMM

YES
 The criteria may have not been met when the issue was reported.

NO

Does J12 Pin 1 on the PMM emit 12V+?

NO

YES

Check the wiring at the merge solenoid. Is 12V+ present?

YES

Using the merge criteria. Put the system into a condition in which an auto merge should occur. Does the system merge?

NO

YES

Hold the manual merge rocker switch. Do the batteries merge?

YES

NO

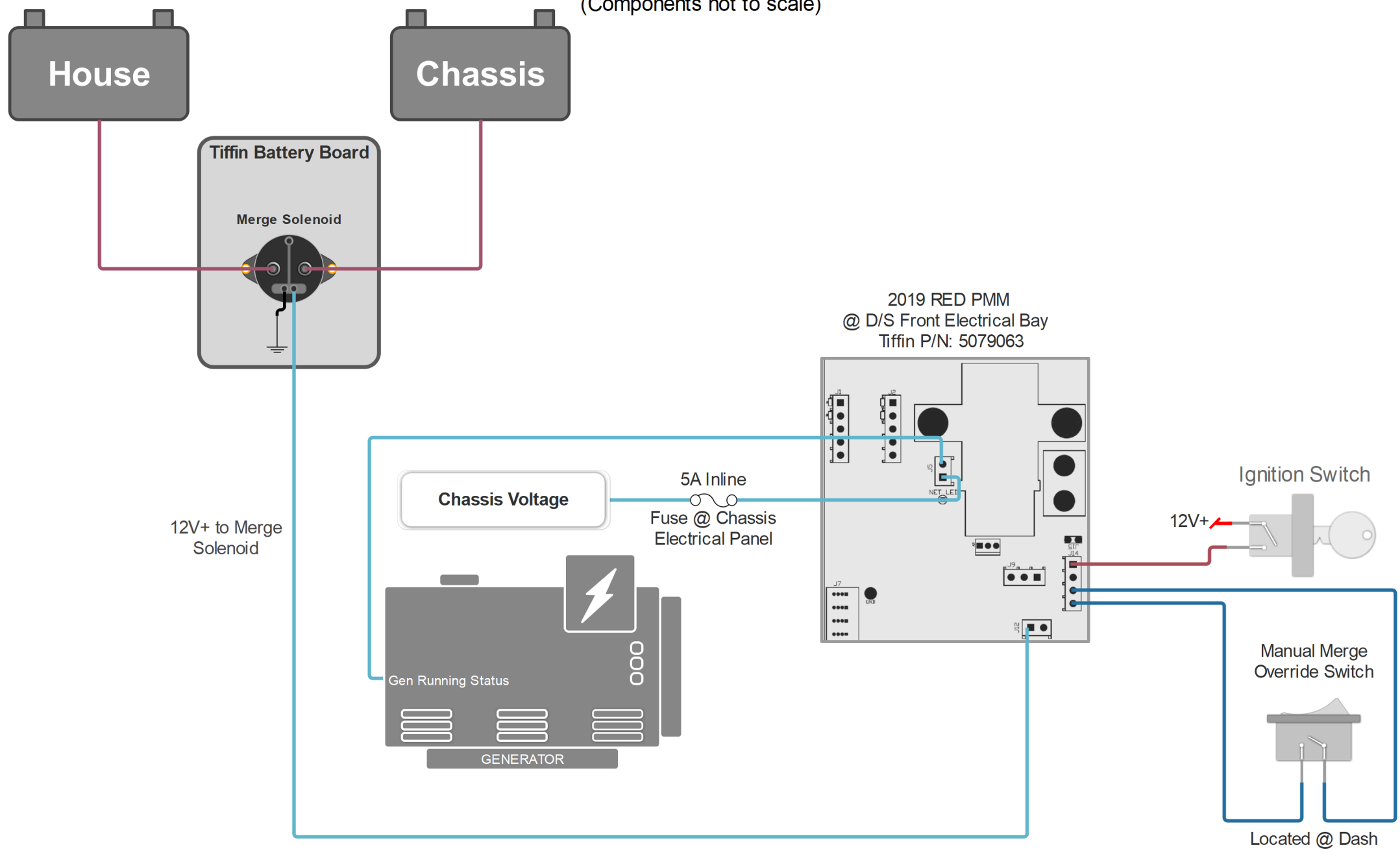
Start Here

Compare voltage readings on the hallway display with voltage measured at the batteries. Are the readings normal?

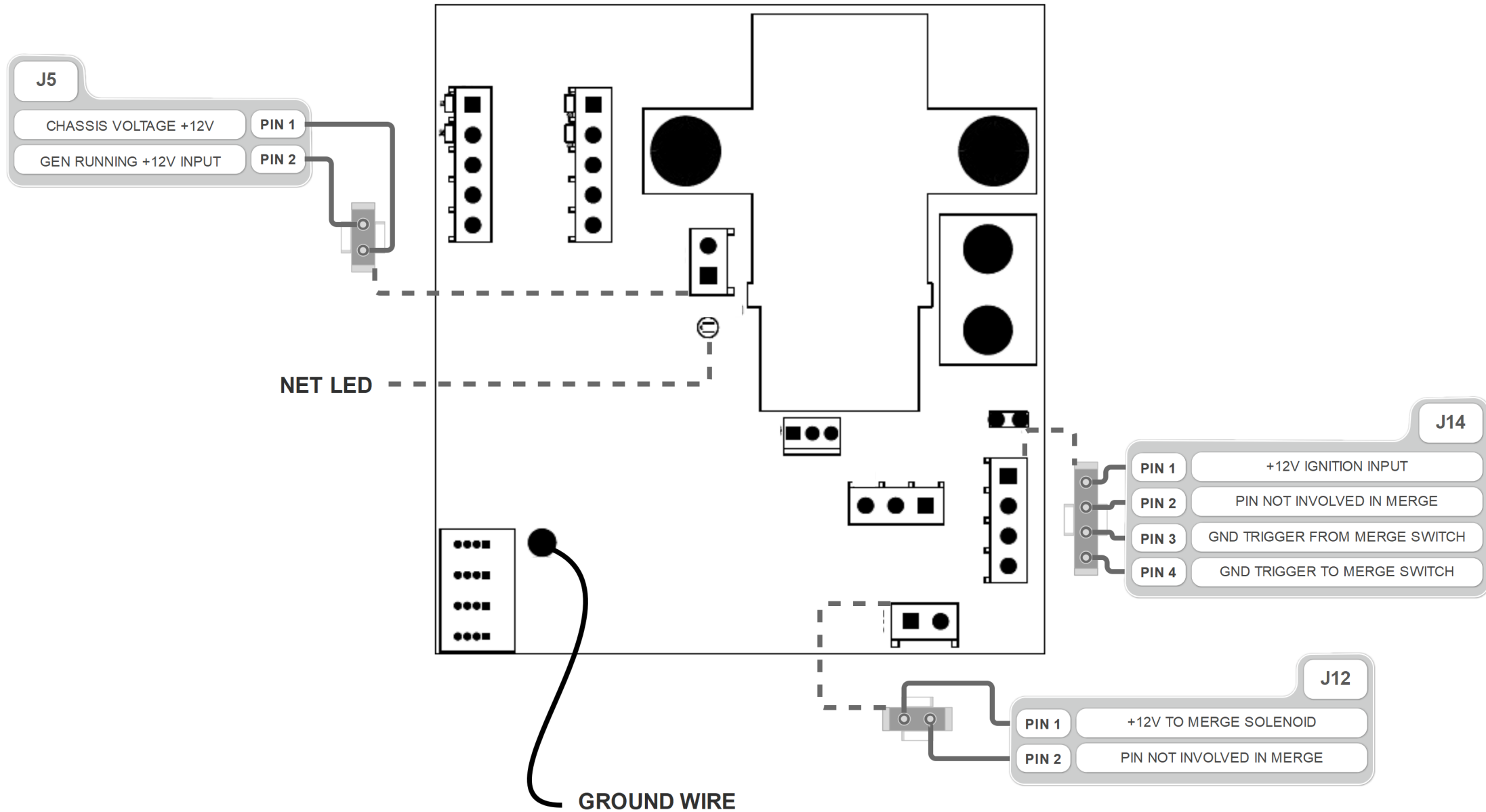
YES

2021 Tiffin Allegro RED / Breeze
Battery Merge System & Logic
 (Components not to scale)

2021 Tiffin Allegro RED
Battery Merge System & Logic
(Components not to scale)



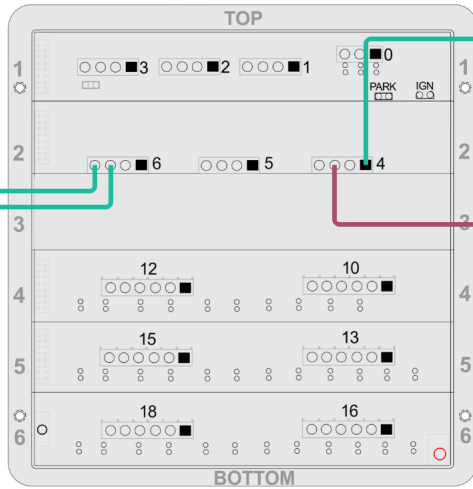
2021 Allegro RED PMM
@ D/S Front Electrical Bay
(2019 - Tiffin P/N: 5079063)



2021 Tiffin Allegro RED Miscellaneous (Components not to scale)

G6 Chassis Panel (Back View)

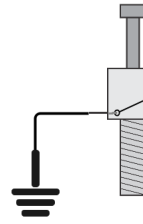
@ D/S Front Electrical Bay
Tiffin P/N: 5093306



Water Pump



Entry Door
Plunger Switch

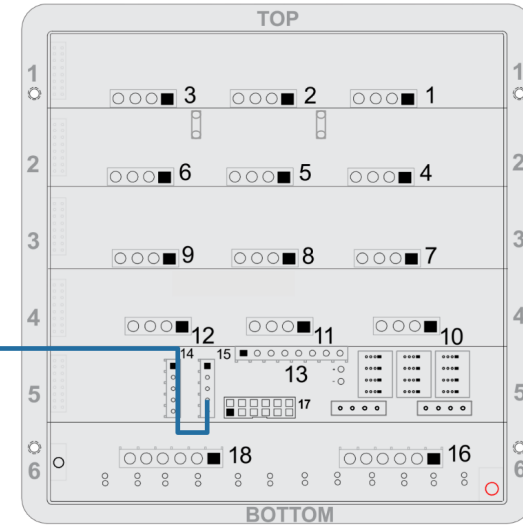


Door/Assist Handle

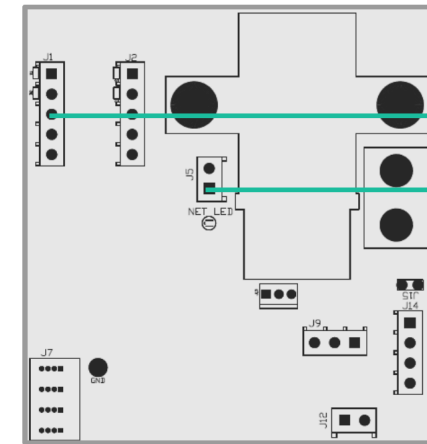
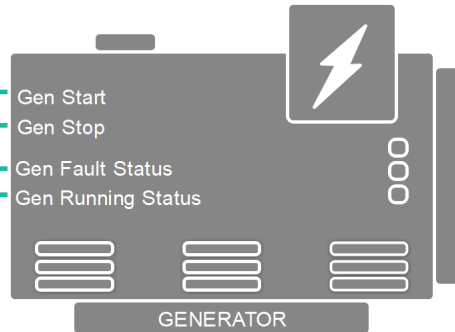


G6 House Panel

@ Closet
Tiffin P/N: 5103560



When the door is opened,
the Entry Light turns on for
2 minutes, the Door Shade
lifts, and panel lights on the
Entry switch panel turn on.



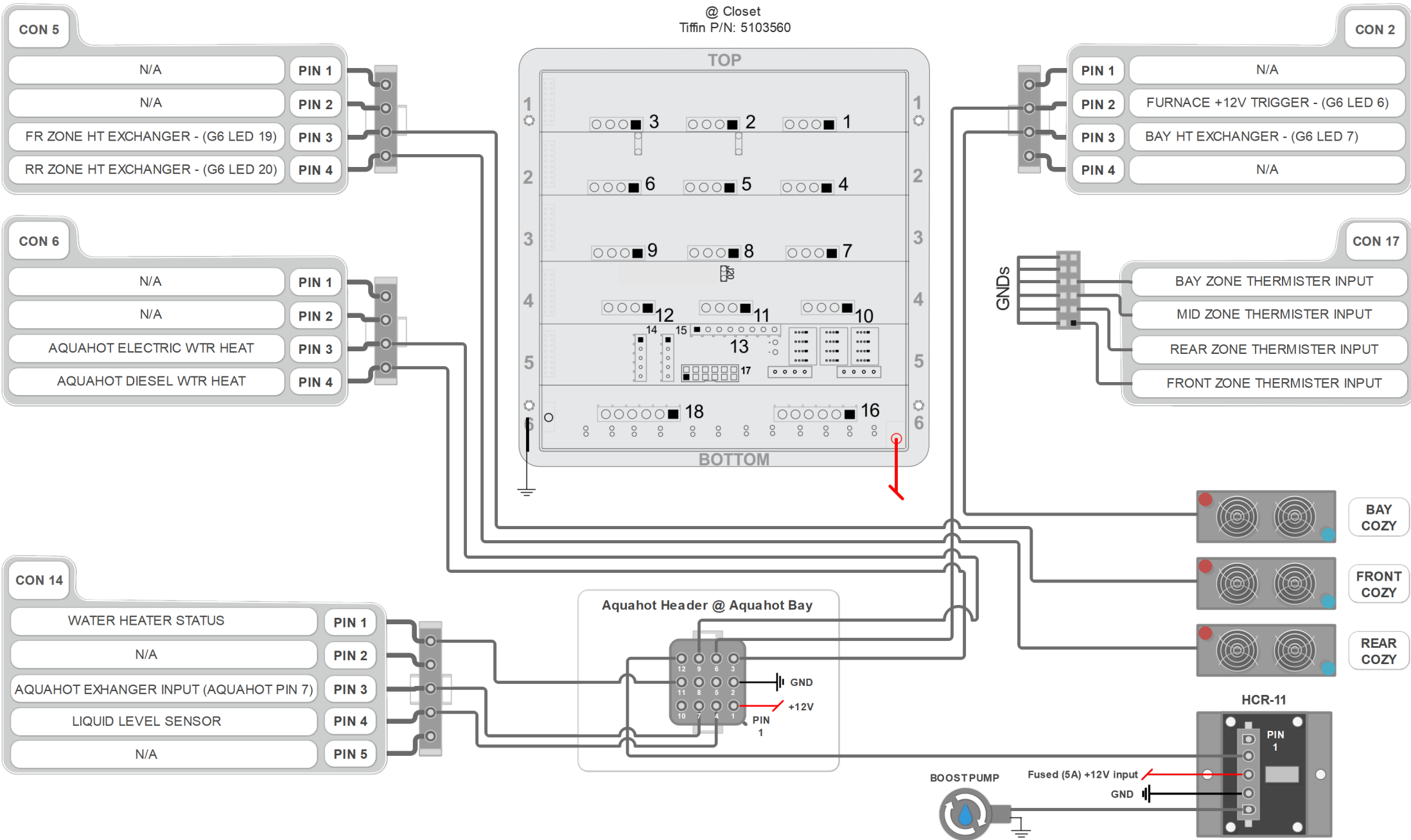
2019 RED PMM
@ D/S Front Electrical Bay
Tiffin P/N: 5079063

Aquahot 250D

G6 House Panel

@ Closet

Tiffin P/N: 5103560

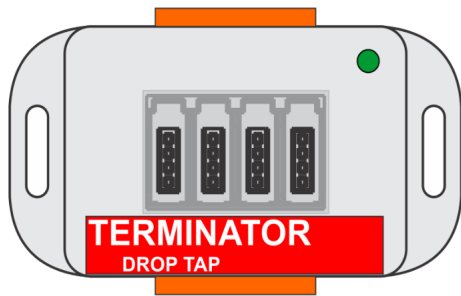


2021 Tiffin Allegro RED

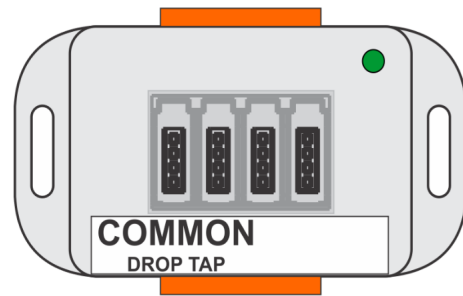
Network Connectors and Related Parts

(Components not to scale)

G3 Terminator Tap
Tiffin P/N: 5051935



G3 Common Tap
Tiffin P/N: 5027834



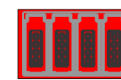
G4 Common Drop Tap
Tiffin P/N: 5016592



Mini-Clamp Plug
Tiffin P/N: 5066157



G4 Terminator Drop Tap
Tiffin P/N: 5051936



Mini-Clamp Socket
Tiffin P/N: 5066158



4 Pos Wago Connector
Tiffin P/N: 5015508

