Spyder Controls Corporation
Defining Innovation and Reliability in System Control

Allegro Bus G5B Load Center

Product Overview

Network Status Indicator
for 3 & 4 Button Swith Panels
(see legend below for details)

CHANNELS 1 to 12 - DIMMING OUTPUTS

2
4
6

GREEN INDICATOR = CHANNEL ON, FUSE GOOD
RED INDICATOR = CHANNEL ON, FUSE BLOWN
NO INDICATOR = CHANNEL OFF

REPLACEMENT FUSE - MINI-BLADE TYPE
(Littlefuse 257 series or Bussman ATM series)
15 amp MAX FUSE - CHANNELS 1-12

15A MAX FUSE

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

13 14
15 16
17 18
19 20

CHANNELS 13 to 20 - AUXILIARY RELAY OUTPUTS (UNUSED)

14
16

GREEN INDICATOR = CHANNEL ON
NO INDICATOR = CHANNEL OFF
NOTE: a built-in 3amp auto-reset PTC fuse for each channel
provides over-current protection. The indicator DOES NOT
show when this fuse is open or in short-circuit condition.

15A MAX FUSE

21 22
23 24
25 26
27 28
29 30

NET-FUSE
5A MAX

CHANNELS 21 to 30 - RELAY OUTPUTS

22
24
26

GREEN INDICATOR = CHANNEL ON, FUSE GOOD
RED INDICATOR = CHANNEL ON, FUSE BLOWN
NO INDICATOR = CHANNEL OFF

REPLACEMENT FUSE - MINI-BLADE TYPE
(Littlefuse 257 series or Bussman ATM series)
15 amp MAX FUSE - CHANNELS 21-30

NET-FUSE, 5 amp MAX
- RV-C network power. This fuse provides
power to the network powered devices
ONLY (typically all switch panels).
NOTE: this fuse does not have an indicator
light for fuse status.

Network Status Indicator
for Relays & Dimmer Controls
(see legend below for details)
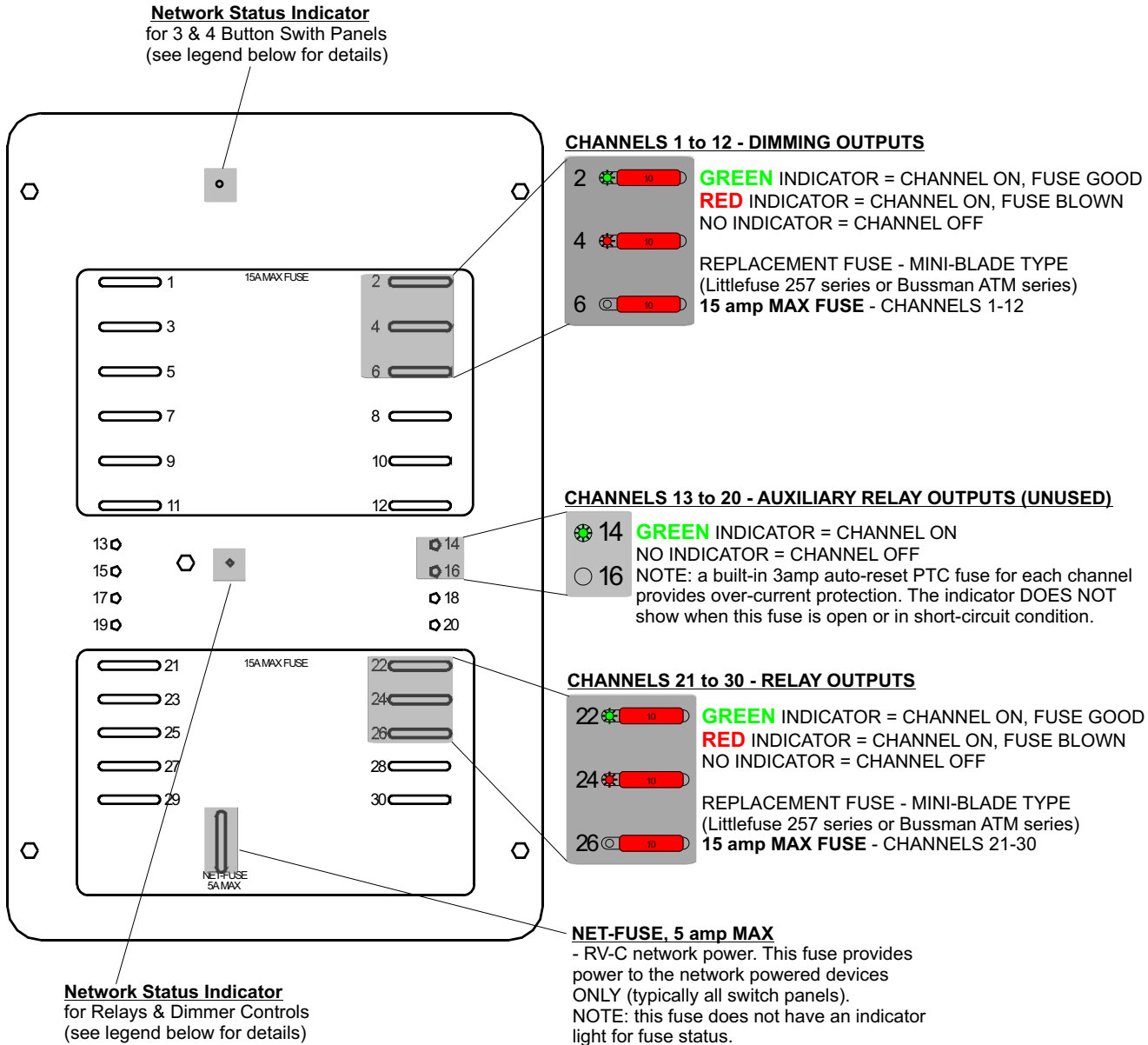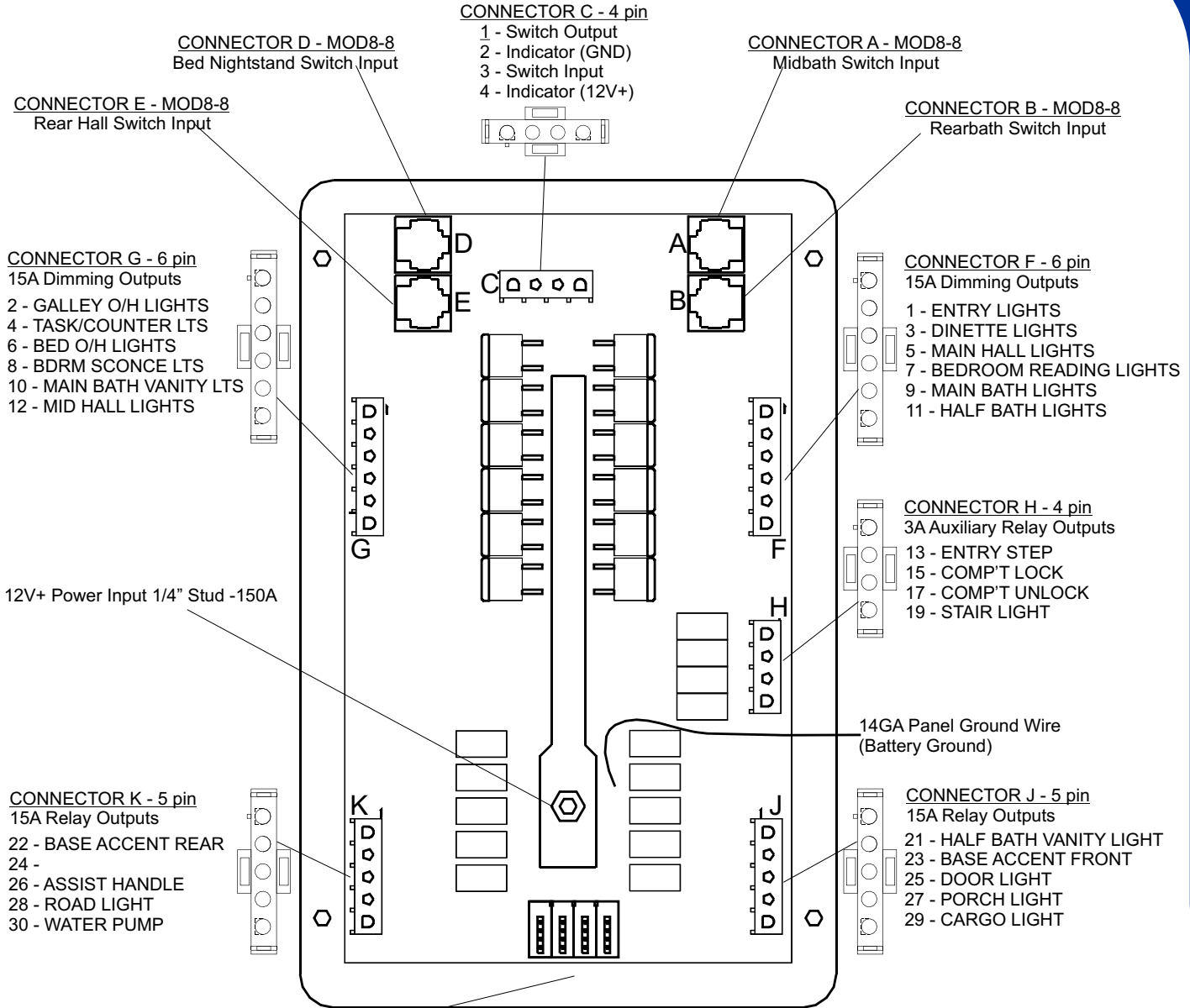
PANEL NETWORK STATUS INDICATOR

☀/○ - FAST FLASHING GREEN (4 times / sec.) - device is attempting to make initial connection and claim a network address

☀/○ - SLOW FLASHING GREEN (1 time / sec.) - device was online but has not seen a valid network address for 5 seconds

☀ - SOLID GREEN - device is connected to network and communicating properly

☀ - SOLID RED - device has gone offline and is not connected to network

☀/☀ - ALTERNATING RED & ORANGE - device has gone offline and is attempting to re-connect (within 30 seconds)

☀/☀ - ALTERNATING GREEN & ORANGE - device is currently online but has gone offline 2 or more times

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Product Overview

CONNECTOR C - 4 pin
1 - Switch Output
2 - Indicator (GND)
3 - Switch Input
4 - Indicator (12V+)

CONNECTOR D - MOD8-8
Bed Nightstand Switch Input

CONNECTOR A - MOD8-8
Midbath Switch Input

CONNECTOR E - MOD8-8
Rear Hall Switch Input

CONNECTOR B - MOD8-8
Rearbath Switch Input

CONNECTOR G - 6 pin
15A Dimming Outputs

2 - GALLEY O/H LIGHTS
4 - TASK/COUNTER LTS
6 - BED O/H LIGHTS
8 - BDRM SCONCE LTS
10 - MAIN BATH VANITY LTS
12 - MID HALL LIGHTS

CONNECTOR F - 6 pin
15A Dimming Outputs

1 - ENTRY LIGHTS
3 - DINETTE LIGHTS
5 - MAIN HALL LIGHTS
7 - BEDROOM READING LIGHTS
9 - MAIN BATH LIGHTS
11 - HALF BATH LIGHTS

CONNECTOR H - 4 pin
3A Auxiliary Relay Outputs

13 - ENTRY STEP
15 - COMP'T LOCK
17 - COMP'T UNLOCK
19 - STAIR LIGHT

12V+ Power Input 1/4" Stud -150A

14GA Panel Ground Wire
(Battery Ground)

CONNECTOR K - 5 pin
15A Relay Outputs

22 - BASE ACCENT REAR
24 -
26 - ASSIST HANDLE
28 - ROAD LIGHT
30 - WATER PUMP

CONNECTOR J - 5 pin
15A Relay Outputs

21 - HALF BATH VANITY LIGHT
23 - BASE ACCENT FRONT
25 - DOOR LIGHT
27 - PORCH LIGHT
29 - CARGO LIGHT

4-PORT DROP CABLE CONNECTOR
1 - RED 16GA - NET 12V+
2 - WHITE 20GA - CAN H
3 - BLUE 20GA - CAN L
4 - BLACK 16GA - NET GROUND

QTY:	MANU. P/N:	DESCRIPTION:	MANUFACTURER/SUPPLIER:
ALLEGRO BUS / SPYDER BILL OF MATERIALS - 1v0			
G5B DC Load Panel Components			
1	BENCZC400 A	G5B DC LOAD CENTER	SPYDER
2	640585-1	6 POS INLINE MATE-N-LOK PLUG HOUSING	TYCO ELECTRONICS
2	1-480763-0	5 POS INLINE MATE-N-LOK PLUG HOUSING	TYCO ELECTRONICS
2	1-480702-0	4 POS INLINE MATE-N-LOK PLUG HOUSING	TYCO ELECTRONICS
30	350550-1	MATE-N-LOK SOCKET CONTACT 20-14AWG	TYCO ELECTRONICS
1	37304-A165-00E	Mini Clamp W/M SKT 4P Blue for EU	3M

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Allegro Bus G5B Load Center

Product Overview

6.00"

9.25"

1   15A MAX FUSE   2
3   4
5   6
7   8
9   10
11   12
13   14
15   16
17   18
19   20
21   15A MAX FUSE   22
23   24
25   26
27   28
29   30

NET-FUSE 5A MAX
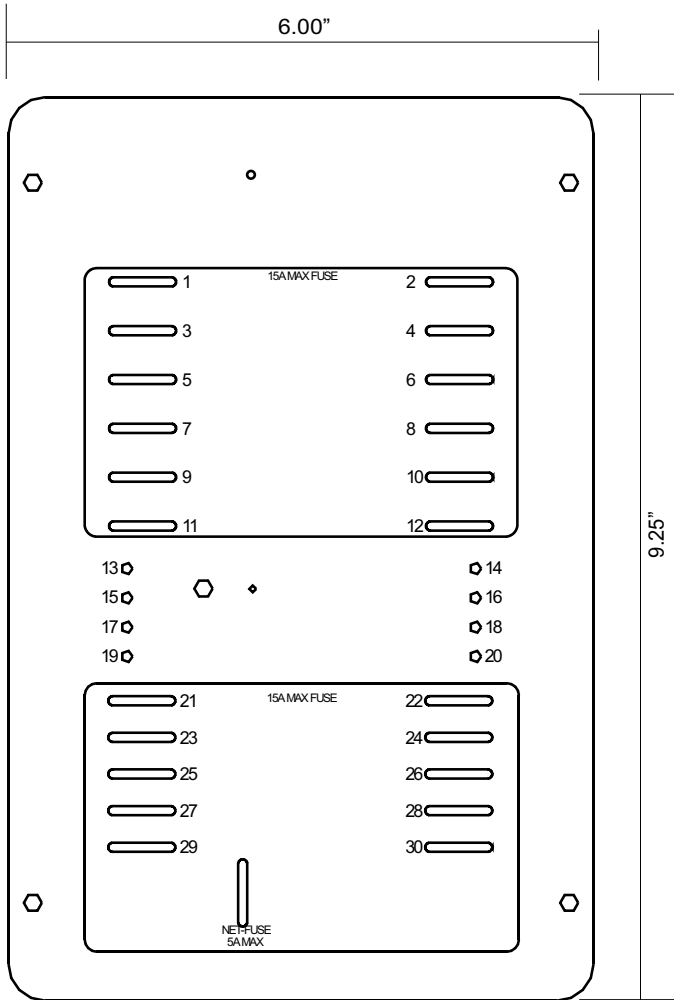
LOAD CENTER OUTPUT SCHEMATICS

SWITCHTED DIMMER
OUTPUT
GRN
RED
DIMMER
+12V

SWITCHTED RELAY
OUTPUT
GRN
RED
RELAY
+12V

SWITCHTED AUXILIARY RELAY
OUTPUT
CONTROLLER
GREEN
+12V JUMPER
GND GND
+12V +12V
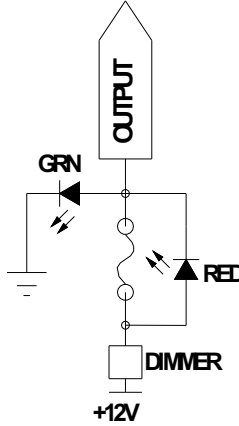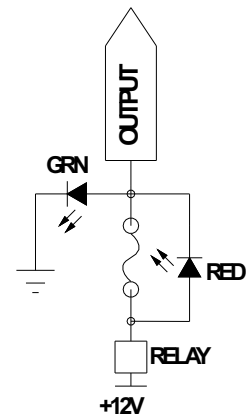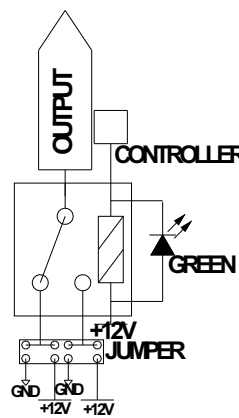
UNSWITCHED FUSED OUTPUT
OUTPUT
RED
+12V
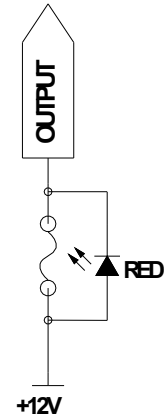
SPECIFICATION	G5B LOAD CENTER - SPYDER CONTROLS P/N
General	
Dimensions (H x W x D)	9.25 x 6.0 x 2.0 in. (23.5 x 15.24 x 5.08 cm.)
Cutout Dimensions (H x W)	8.25 x 5.0 in. (20.96 x 12.7 cm.)
Mount Depth (from mountaing surface)	2.0 in. minimum with MATE-N-LOK connectors in place (5.08 cm.)
Operating Temperature	-4 F to 140 F (-20 C to +60 C)
Electrical	
Input Voltage	9V+ to 16V+ dc
Minimum Current (No Outputs On)	102 mA @ 12V+ dc
Dimmer connection channels (Max)	12 @ 10A/Channel
Auxiliary Relay channels (Max)	8 @ 3A/Channel
High Current Relay channels (Max)	10 @ 10A/Channel
Module Maximum Current Rating	150A

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SSP13 - 12POS Switch Panel

INTRODUCTION:

This material provides the technical details for the SSP13 switch series. The clear and brightly backlit labels and raised buttons with symbols make operation very intuitive. Built-in LED indicators for each switch provide real-time status feedback for each switch group based on load function. The SSP13 series provides solutions for applications that require elegance and high-end features.

STATUS INDICATOR

NOTE: The green status indicators found on each switch will indicate if a load or output is on. In the case of pumps, steps, doors, light master or panel lights function, this status will not activate. This is normal.
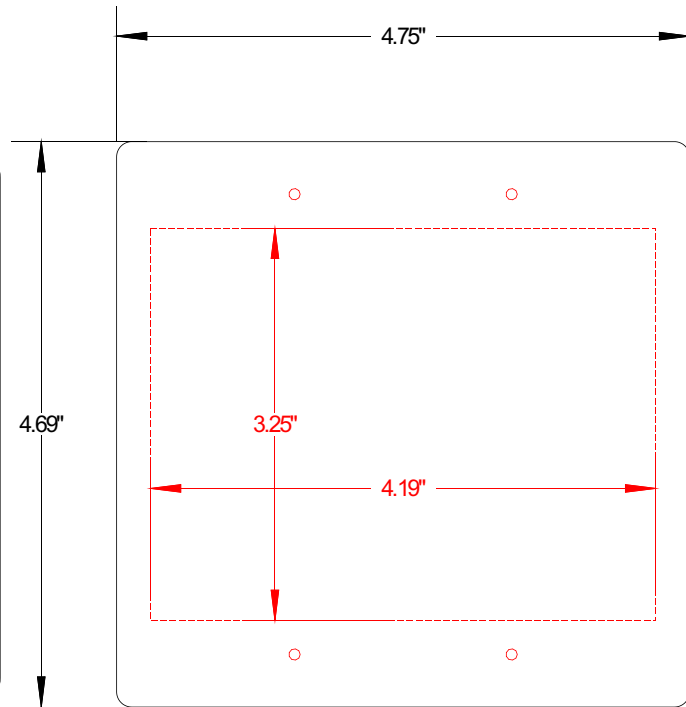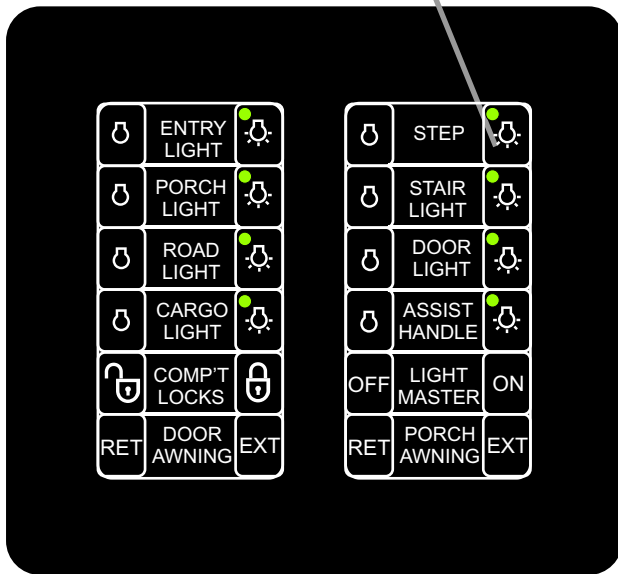
ENTRY LIGHT		STEP		
PORCH LIGHT		STAIR LIGHT		
ROAD LIGHT		DOOR LIGHT		
CARGO LIGHT		ASSIST HANDLE		
COMP'T LOCKS		OFF	LIGHT MASTER	ON
RET	DOOR AWNING	EXT	RET	PORCH AWNING	EXT

4.75"

4.69"

3.25"

4.19"

FRONT VIEW SAMPLE

NOTE: The cover for each switch panel is removed through inserting a small screw driver or using a finger to gently pry off.

DIMENSIONS/CUTOUT VIEW

Product Overview

Spyder Controls Corporation
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SSP13 - 12POS Switch Panel

DIP SWITCH SETTING 1-10

DIP SWITCHES CAN BE SET AS PER THE CHART BELOW FOR ALL ADDRESSES AND GROUP FUNCTIONS OF THE MODULE.
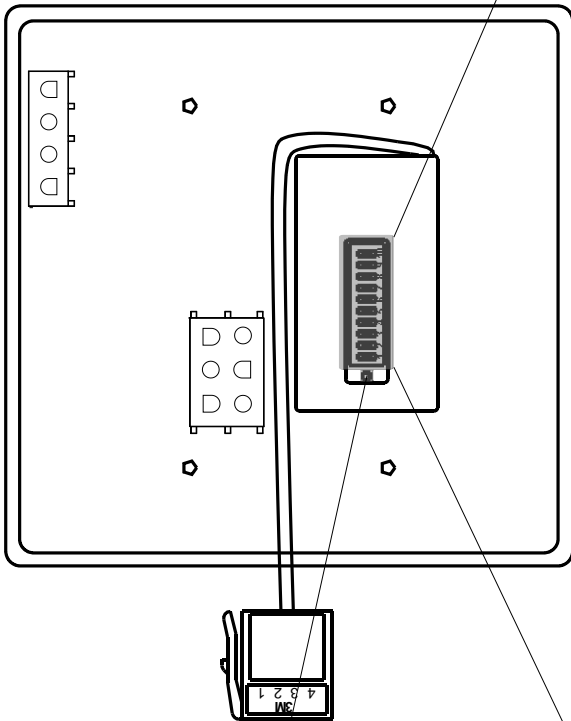
SWITCH PANEL DIP SWITCH GUIDE

NODE ADDRESS (DIP SW 1-6 respectively)			RESERVED (DIP SW 7-8 respectively)	
NA (NODE ADDRESS)	DIP SWITCH SETTING		FUNCTION	DIP SWITCH SETTING
1	100000		RESERVED	00
2	010000			
3	110000			
4	001000			
5	101000		**GROUP SETTINGS (DIP SW 9-10 respectively)**	
6	011000			
7	111000		GROUP # (MEMBER OF…)	DIP SWITCH SETTING
8	000100			
9	100100			
10	010100			
11	110100		NON-GROUP	11
12	001100		GROUP 1	00
13	101100		GROUP 2	01
14	011100		GROUP 3	10
15	111100			
16	000010			
17	100010			
18	010010			
19	110010			
20	001010			
21	101010			
22	011010			
23	111010		**DIP SWITCH POSITION**	
24	000110		0 = OFF	
25	100110		1 = ON	

MODULE NETWORK STATUS INDICATOR

- FAST FLASHING GREEN (4 times / sec.) - device is attempting to make initial connection and claim a network address

- SLOW FLASHING GREEN (1 time / sec.) - device was online but has not seen a valid network address for 5 seconds

- SOLID GREEN - device is connected to network and communicating properly

- SOLID RED - device has gone offline and is not connected to network

- ALTERNATING RED & ORANGE - device has gone offline and is attempting to re-connect (within 30 seconds)

- ALTERNATING GREEN & ORANGE - device is currently online but has gone offline 2 or more times

Product Overview

ENTRY STEP CONNECTOR - 4POS PINOUT
NOTE: THE ENTRY STEP FUNCTION REQUIRES AN
INDEPENDENT 12V+ CONSTANT TO OPERATE.

PIN 1 - 12V+ CONSTANT
PIN 2 - GROUND
PIN 3 - COMMON FROM STEP
PIN 4 - OUTPUT TO STEP

PIN 1
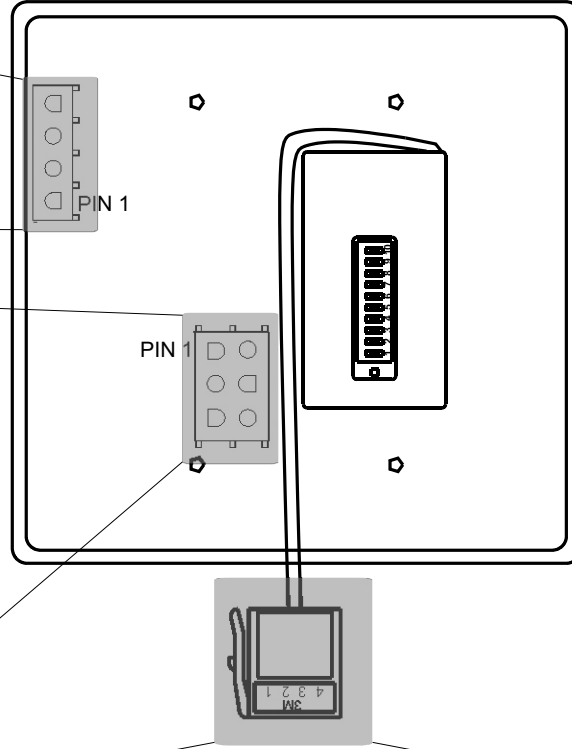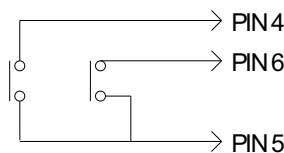
PORCH/DOOR CONNECTOR - 6POS PINOUT

PIN 1 - PORCH AWNING RETRACT
PIN 2 - PORCH AWNING COMMON
PIN 3 - PORCH AWNING EXTEND
PIN 4 - DOOR AWNING RETRACT
PIN 5 - DOOR AWNING COMMON
PIN 6 - DOOR AWNING EXTEND

PIN 1

PORCH SCHEMATIC

→ PIN 1
→ PIN 3
→ PIN 2

DOOR SCHEMATIC

→ PIN 4
→ PIN 6
→ PIN 5
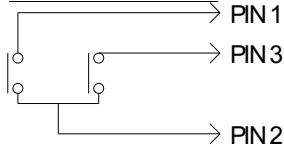
NETWORK CONNECTOR TO DROP CABLE CONNECTION
RV-C Mini-Clamp connector plug-in used for communication
and diagnostic purposes.

NETWORK PINOUT
1 - RED 16GA - NET 12V+
2 - WHITE 20GA - CAN H
3 - BLUE 20GA - CAN L
4 - BLACK 16GA - NET GROUND

PART COMPONENTS:

ALLEGRO BUS / SPYDER BILL OF MATERIALS - 1v0			
QTY:	MANU. P/N:	DESCRIPTION:	MANUFACTURER
12 Position Switch Panel Components			
1	BSSPZV4C4	SSP13 - 12 SWITCH PANEL	SPYDER
1	1-480702-0	4 POS INLINE MATE-N-LOK PLUG HOUSING	TYCO ELECTRONICS
1	640585-1	6 POS INLINE MATE-N-LOK PLUG HOUSING	TYCO ELECTRONICS
10	350550-1	MATE-N-LOK SOCKET CONTACT 20-14AWG	TYCO ELECTRONICS
1	37304-A165-00E	Mini Clamp W/M SKT 4P Blue for EU	3M

PRODUCT SPECIFICATIONS:

SPECIFICATION	SSP13-12 SWITCH PANEL - SPYDER CONTROLS
General	
Dimensions (H x W x D)	4.75 x 4.69 x 0.77 in. (12.07 x 11.91 x 1.94 cm.)
Cutout Dimensions (H x W)	4.19 x 3.25 in. (10.64 x 8.26 cm.)
Mount Depth (from mountaing surface)	0.77 in. (1.94 cm.)
Operating Temperature	-4 F to 140 F (-20 C to +60 C)
Electrical	
Input Voltage (Network Bus Supplied)	9V+ to 16V+ dc
Minimum Current (No Outputs On)	102 mA @ 12V+ dc

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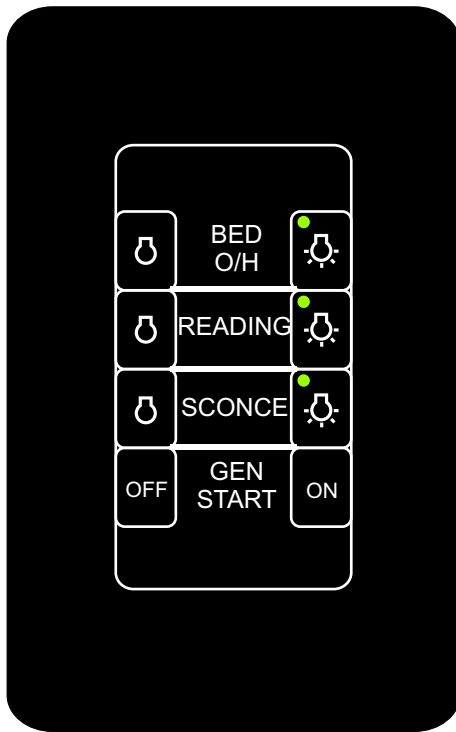
SSP13 - 4POS Switch Panel

INTRODUCTION:

This material provides the technical details for the SSP13 switch series. The clear and brightly backlit labels and raised buttons with symbols make operation very intuitive. Built-in LED indicators for each switch provide real-time status feedback for each switch group based on load function. The SSP13 series provides solutions for applications that require elegance and high-end features.

STATUS INDICATOR

NOTE: The green status indicators found on each switch will indicate if a load or output is on. In the case of pump, generators, light master or panel lights function, this status will not activate. This is normal.

BED O/H

READING

SCONCE

OFF GEN START ON

3.00"

4.69"

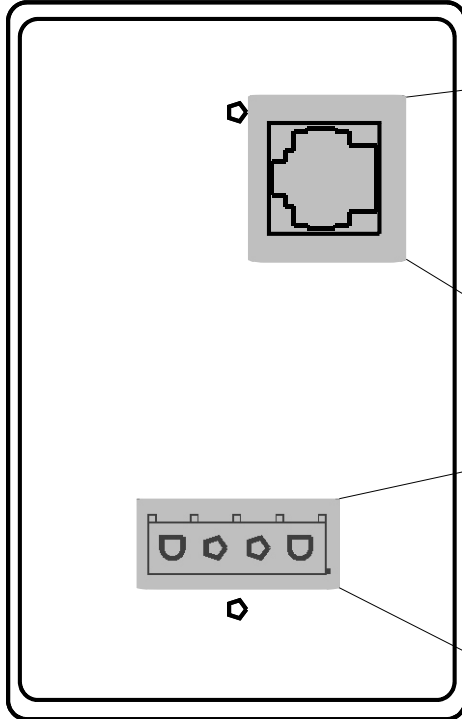3.06"

1.75"

FRONT VIEW SAMPLE

NOTE: The cover for each switch panel is removed through inserting a small screw driver or using a finger to gently pry off.
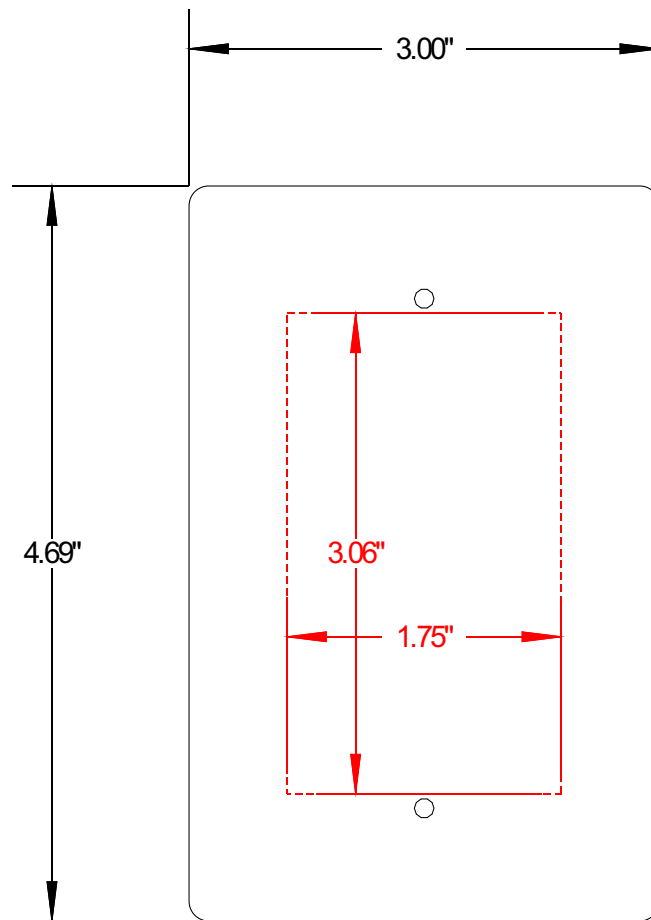
DIMENSIONS/CUTOUT VIEW

Product Overview

SSP13 - 4POS Switch Panel

NETWORK CONNECTOR TO G5B LOAD CENTER CONNECTION

MOD 8-8 connector plug-in used for communication
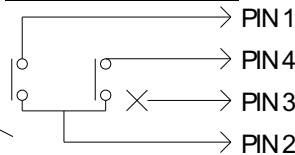and diagnostic purposes.

MOD 8-8 CONNECTOR PINOUT
1 - 12 VOLTS POWER
2 - GROUND
3 - OUTPUT 1
4 - STATUS 1
5 - OUTPUT 2
6 - STATUS 2
7 - OUTPUT 3
8 - STATUS 3

GEN START/STOP HEADER - 4 pin
1 - GEN OFF OUTPUT
2 - COMMON FROM GEN
3 - UNUSED
4 - GEN ON OUTPUT
SCHEMATIC DIAGRAM

→ PIN 1
→ PIN 4
→ PIN 3
→ PIN 2

Product Overview

PART COMPONENTS:

ALLEGRO BUS / SPYDER BILL OF MATERIALS - 1v0			
QTY:	MANU. P/N:	DESCRIPTION:	MANUFACTURER
6 Position Switch Panel Components			
1	BSSPZT4C4	SSP13 - 04 SWITCH PANEL	SPYDER
1	1-480702-0	4 POS INLINE MATE-N-LOK PLUG HOUSING	TYCO ELECTRONICS
4	350550-1	MATE-N-LOK SOCKET CONTACT 20-14AWG	TYCO ELECTRONICS
1	5-554739-3	CONN MOD PLUG 8-8 FLAT OVAL AU	TE CONNECTIVITY

PRODUCT SPECIFICATIONS:

SPECIFICATION	SSP13-04 SWITCH PANEL - SPYDER CONTROLS
General	
Dimensions (H x W x D)	3.0 x 4.69 x 0.77 in. (7.62 x 11.91 x 1.94 cm.)
Cutout Dimensions (H x W)	1.75 x 3.06 in. (4.45 x 7.77 cm.)
Mount Depth (from mountaing surface)	0.77 or 1.5 in. with optional MATE-N-LOK connector (1.94 or 3.81 cm.)
Operating Temperature	-4 F to 140 F (-20 C to +60 C)
Electrical	
Input Voltage (Network Bus Supplied)	9V+ to 16V+ dc
Minimum Current (No Outputs On)	102 mA @ 12V+ dc

Switch Panel Backlight Issues (white backlighting that illuminates the label text)

Notes: the backlighting is controlled by a 'PANEL LIGHTS' button at the Galley 8-button switch panel)

Backlighting is OFF on ALL switch panels and cannot be turned ON
>> 1. Verify the voltage at the G5B control panel in the passenger side bay #3
>> 2. Verify that the 5 amp network fuse on the G5B panel is good

Backlighting on the Entry and Galley switch panels is always out of sync with the other switch panels
>> 1. Cycle the 12V power by turning OFF / ON the 12V MASTER rocker switch at the passenger console.
>> 2. When the 12V power is turned back on, check if the backlighting is now in sync. You can turn the backlighting ON and OFF using the PANEL LIGHTS button on the Galley switch panel.
>> 3. If the backlighting on the front area switch panels (Entry and Galley) are still out of sync with the rear area switch panels (Mid-Bath, Bed Hall, Bedside, and Rear Bath), replace the G5B control panel in the passenger side bay #3.

Backlighting is always ON on specific switch panels and cannot be turned OFF
>> 1. Cycle the 12V power by turning OFF / ON the 12V MASTER rocker switch at the passenger console.

>> 2. When the 12V power is turned back on, check if the backlighting is now in turning OFF (you can turn the backlighting ON and OFF using the PANEL LIGHTS button on the Galley switch panel).
>> 3. If backlighting still remains ON constantly of specific switch panels, here are the next steps:
>>> **A. FRONT AREA SWITCH PANELS constantly ON (Entry or Galley locations):**
>>>> i. Remove the switch panel and check the network status LED on the back side:
>>>>> a. If the status LED is RED or RED/ORANGE, proceed to NETWORK TROUBLESHOOTING page.
>>>>> b. If the status LED of GREEN or GREEN/ORANGE, verify whether or not the various other buttons on the switch panel function:
>>>>>> - If all other buttons work properly and backlight still remains on constantly, replace the switch panel
>>>>>> - If no other buttons work properly, verify the correct DIP switch setting on the rear of the switch panel
>>> **B. REAR AREA SWITCH PANELS constantly ON (Mid-Bath, Bed Hall, Bedside, or Rear Bath):**
>>>> i. If the backlighting on the Rear Area Switch panels stays on constantly (even after a 12V reset), replace the G5B panel.

Backlighting is always OFF on a specific switch panel and cannot be turned ON
>> 1. Cycle the 12V power by turning OFF / ON the 12V MASTER rocker switch at the passenger console

>> 2. When the 12V power is turned back on, check if the backlighting can now be turned ON (you can turn the backlighting ON and OFF using the PANEL LIGHTS button on the Galley switch panel).
>> 3. If backlighting still remains OFF constantly of specific switch panels, here are the next steps:
>>> **A. FRONT AREA SWITCH PANELS are constantly OFF (Entry or Galley locations):**
>>>> i. Verify the voltage at the G5B panel is 11V or higher and that the 5 amp Network fuse is good.
>>>> ii. Remove the switch panel and check the network status LED on the back side:
>>>>> a. If the status LED is OFF, unplug the switch panel and plug it into a spare network port on the rear of the G5B panel:
>>>>>> - Network status LED comes on GREEN and the backlighting now functions properly, proceed to the NETWORK WIRING TROUBLESHOOTING to resolve cable problem and then re-install the switch panel.
>>>>>> - Network status LED still does not come on, check the connector termination on the 'pigtail'. If this does not fix problem, replace the switch panel.
>>>>> b. If the status LED is RED or RED/ORANGE, proceed to NETWORK TROUBLESHOOTING page.
>>>> iii. If the status LED of GREEN or GREEN/ORANGE, verify whether or not the various other buttons on the switch panel function:
>>>>> - If all other buttons work properly and backlight still remains OFF, replace the switch panel
>>>>> - If no other buttons work properly, replace the switch panel
>>> **B. ALL REAR AREA SWITCH PANELS are constantly OFF (Mid-Bath, Bed Hall, Bedside, or Rear Bath):**
>>>> i. On the backside of the G5B panel, unplug the (4) flat RJ-45 (MOD8) cables (after carefully noting their location) and leave them unplugged for 1 minute.
>>>> ii. Plug in one of the RJ45 cables into its assigned jack on the rear of the G5B panel and verify if the backlight for that sepcific switch panel is now on and then unplug that cable again.
>>>> iii. Go through this process of elimiantion procedure for each of the cables until you find one that does not light up.
>>>>> a. If none of the switch panels light up, replace the G5B panel
>>>>> b. If there is one cable that does not light up the switch panel, it is likely that there is a short on that cable that is tripping the auto-reset fuse that powers the backlight for all of the REAR switch panels. Verify the RJ45 cables and re-test.
>>> **C. ONLY 1 or 2 REAR AREA SWITCH PANELS are constantly OFF (Mid-Bath, Bed Hall, Bedside, or Rear Bath):**
>>>> i. To test the switch panel, borrow a REAR AREA switch panel within the coach that *is* backlit and temporarily use it to replace the one that isn't backlit
>>>>> a. If the 'test' switch panel lights up, replace the original 'unlit' switch panel with a new one.
>>>>> b. If the 'test' switch panel does NOT work, go the G5B panel and unplug the RJ45 cable for the switch panel that isn't working and plug it into the RJ45 jack that is working.
>>>>>> - If the 'test' switch panel still does NOT light up, the problem is in the RJ45 cable or connection between the G5B panel and the switch panel. Repair and re-test.
>>>>>> - If the 'test' switch panel still DOES light up, replace the G5B control panel.