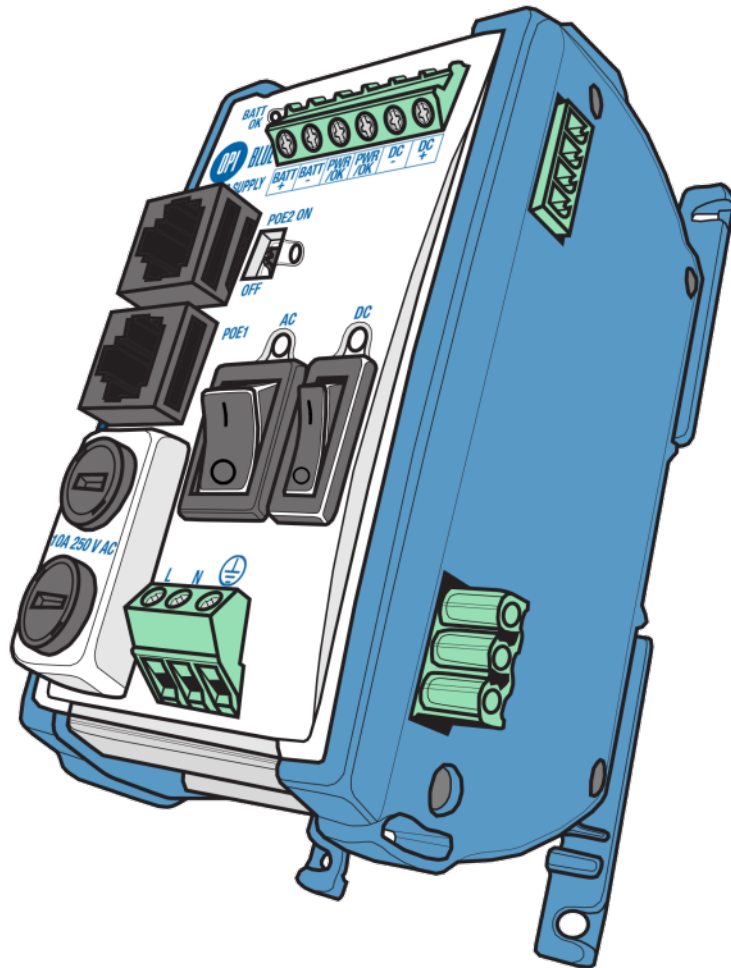


OPI BLUE POWER SUPPLY ASSEMBLY

Model: PS-3515



DOCUMENT APPROVED BY:

DOCUMENT PREPARED BY:

Jay Gervais

REVISION HISTORY			
ISSUE	ISSUE DATE	CHANGE DESCRIPTION	REVISED BY
001	2015-01-07	New Release Document	JG
002	2015-01-09	Light Pipe Part and Assembly/Part Changes	JG
003	2015-01-13	Standoff Parts and Assembly	JG
004	2015-01-26	Layout Changes	JG
005	2015-02-09	Document Edits	JG
006	2015-02-12		JG
007	2015-02-18		JG

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Notes:

Test all PCB assemblies before assembly

PART ITEMS NEEDED

VISUAL ID	PART DESCRIPTION	MANUFACTURER	QTY
PSB-1001-00	Power Switch PCB Assembly	OPI	1
PSB-2001-00	Switch/Fuse PCB Assembly	OPI	1
EPS-35-15	Switching Power Supplies 36W 15V 2.4A	MEAN WELL	1
3053 WH005	20 AWG, multistrand wire, White 75mm	Alpha Wire	1
3053 BK005	20 AWG, multistrand wire, Black 75mm	Alpha Wire	2
3053 RD005	20 AWG, multistrand wire, Red 75mm	Alpha Wire	1
SVH-41T-P1.1	Crimp Terminal	Digi-Key	4
VHR-3N	Housing	JST	1
VHR-2N	Housing	JST	1
101567	PS-Blue Aluminum Extrusion	Wave Industrial	1
101571	PS-Blue Top Cover	Wave Industrial	1
101570	Blue Series End Cap	Wave Industrial	2
32251	4-40 x 3/8" Thread Cutting Screw	Fastenal	8
72474	Machine Screw – 4-40 x 1/8" Stainless Steel	Fastenal	2
145973	4-40 x 1/4" Standoff Aluminum	Fastenal	1
93135A271	Machine Screw – 4-40 x 3/16" Nylon	McMaster	6
92319A216	4-40 x 1/4" Standoff Nylon	McMaster	3
H8550VBBB551W	Rocker Switch DPST 15A 250V	Arcoelectric	1
H8800VABB133W	Rocker Switch SPST 15A 250V	Arcoelectric	1
5SF 10-R	Fuse, Fast Blow, 10A, 250V 5x20mm	Bel Fuse	2
3055 GY005	Earth Wire – 110mm	Alpha Wire	1
PLP2-125	Light Pipe, 1/8" PNL Mount	Bivar	4
7113K264	Standard Ring Terminal, Nylon Insulated, 26-22 AWG, #4 Screw/Stud Size	McMaster	2
90403A110	Zinc-Plated Steel Pan Head Phillips Machine Screw, Internal Washer, 4-40 Thread, 1/2" Length	McMaster	2
90675A005	Zinc-Plated Steel Hex Nut with Tooth Washer, 4-40 Thread Size, 1/4" Nut Width, 7/64" Overall Height	McMaster	2
	OPI Blue Power Supply Label Sheet		1
	OPI Blue Power Supply Main Label		1
91113A029	Zinc-Plated Steel Internal-Tooth Lock Washer, 1/4" Screw Size	McMaster	2

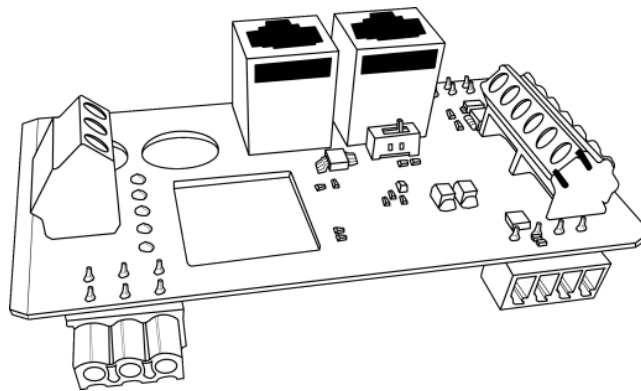
1. PARTS TO RECEIVE

PARTS TO RECEIVE: OVERVIEW

VISUAL ID	PART DESCRIPTION	MANUFACTURER	QTY
PSB-1001-00	Power Switch PCB Assembly	OPI	1
PSB-2001-00	Switch/Fuse PCB Assembly	OPI	1
EPS-35-15	Switching Power Supplies 36W 15V 2.4A	MEAN WELL	1
101571	PS-Blue Top Cover	Wave Industrial	1
H8550VBBB551W	Rocker Switch DPST 15A 250V	Arcoelectric	1
H8800VABB133W	Rocker Switch SPST 15A 250V	Arcoelectric	1
PLP2-125	Light Pipe, 1/8" PNL Mount	Bivar	4
101570	Blue Series End Cap	Wave Industrial	2
5SF 10-R	Fuse, Fast Blow, 10A, 250V 4x20mm	Bel Fuse	2
101567	PS-Blue Aluminum Extrusion	Wave Industrial	1

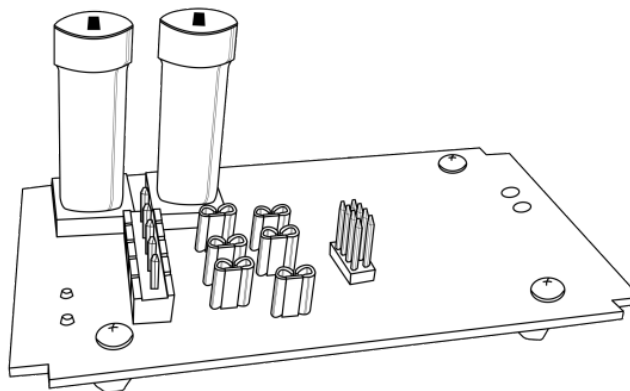
PART IDENTIFICATION

**OPI-BLUE-PSB
CONTROL**
(PSB-1001-00)



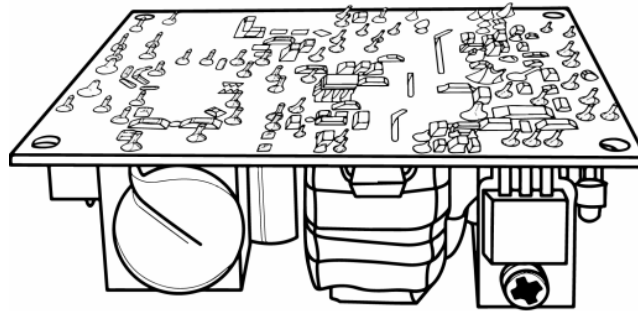
1.1

OPI-BLUE-PSB SWITCH
(PSB-2001-00)



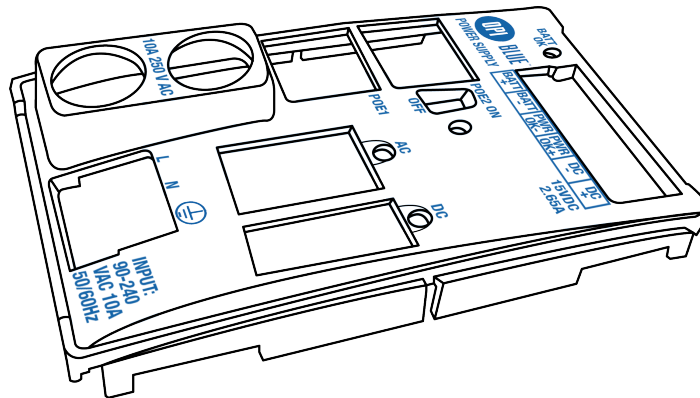
1.2

MEAN WELL EPS-35
(EPS-35-15)



1.3

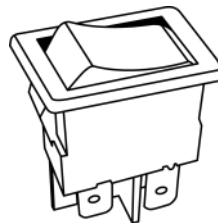
PS-BLUE TOP COVER
(101571)



1.4

ROCKER SWITCH
DPST 15A 250V
(H8550VBBB551W)

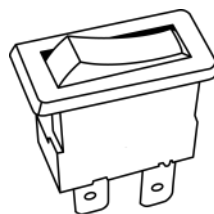
AC POWER SWITCH



1.5

ROCKER SWITCH
SPST 15A 250V
(H8800VABB133W)

AC POWER SWITCH



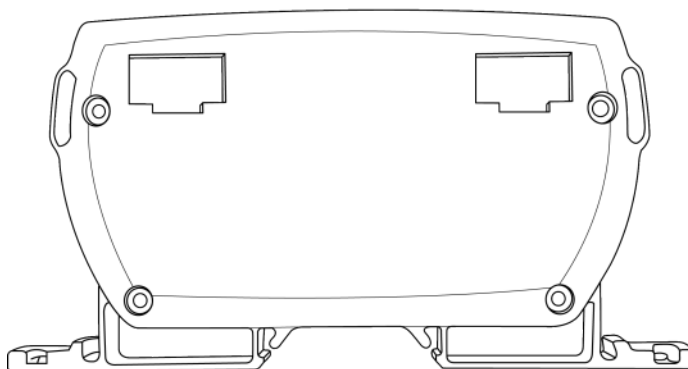
1.6

LIGHT PIPE 1/8" PNL
MOUNT
(PLP2-125) – X4



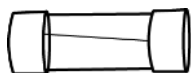
1.7

BLUE SERIES END CAP
(101570) – X2



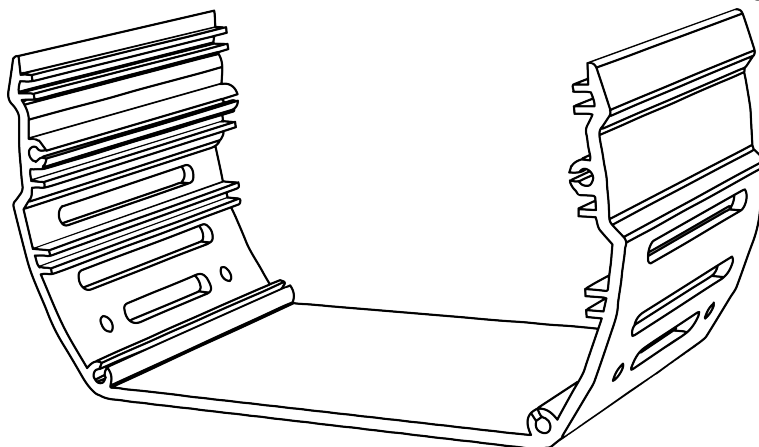
1.8

FUSE, FAST BLOW,
10A, 250V 5X22MM
(5SF 10-R) – X2



1.9

PS-BLUE ALUMINUM
EXTRUSION
(101567)



1.10

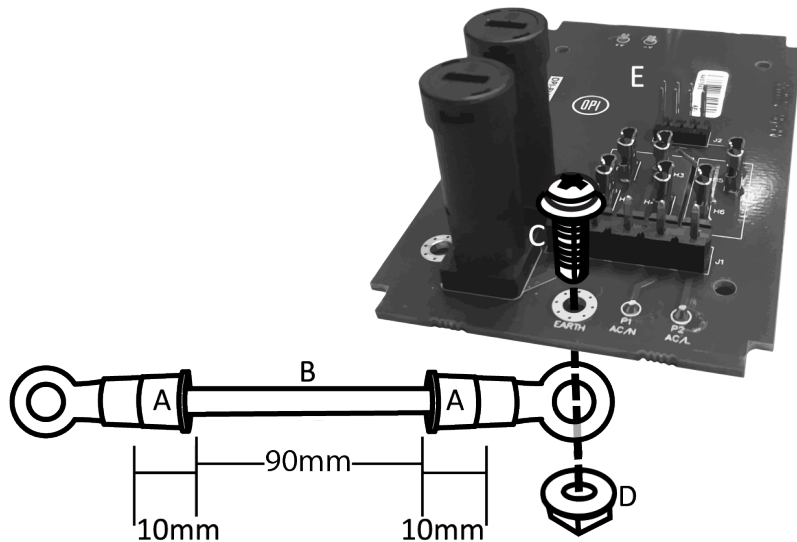
2. ASSEMBLIES

ASSEMBLIES: OVERVIEW	
#	Assembly
1	GROUND WIRE
2	DC TO EPS WIRE
3	AC TO EPS WIRE
4	PS-BLUE TOP COVER & SWITCHES
5	OPI-BLUE-PSB STANDOFFS
6	OPI-BLUE-PSB CONTROL TO PSB SWITCH
7	PS-BLUE TOP COVER WITH SWITCHES & MEAN WELL EPS-35
8	EARTH TO PSB-BLUE ALUMINUM EXTRUSION
9	BLUE SERIES END CAPS & FUSES
10	INSERT FUSES
11	APPLYING LABELS TO POWER SUPPLY

ASSEMBLY 1: GROUND WIRE

2.1.1

GROUND WIRE

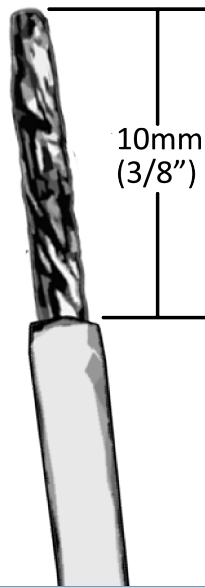


Part Name	Item ID	QTY
A Standard Ring Terminal, Nylon Insulated, 26-22 AWG, #4 Screw/Stud Size	7113K264	2
B Earth Wire – Total Length 110mm	3055 GY005	1
C Zinc-Plated Steel Pan Head Phillips Machine Screw, Internal Washer, 4-40 Thread, 1/2" Length	90403A110	1
D Zinc-Plated Steel Hex Nut with Tooth Washer, 4-40 Thread Size, 1/4" Nut Width, 7/64 Overall Height	90675A005	1
E Switch/Fuse PCB Assembly (OPI-Blue PSB Switch)	PSB-2001-00	1

ASSEMBLY 1: PROCEDURES

2.1.2

1. Cut **[B]** Earth Wire (3055GY005) 110mm in length.
2. Strip both ends of wire 10mm (3/8inches) with 20-AWG wire stripper.



3. 1. Use the correct tool to crimp **[A]** Ring Terminals (7113K264) to each end of the stripped wire (X2).

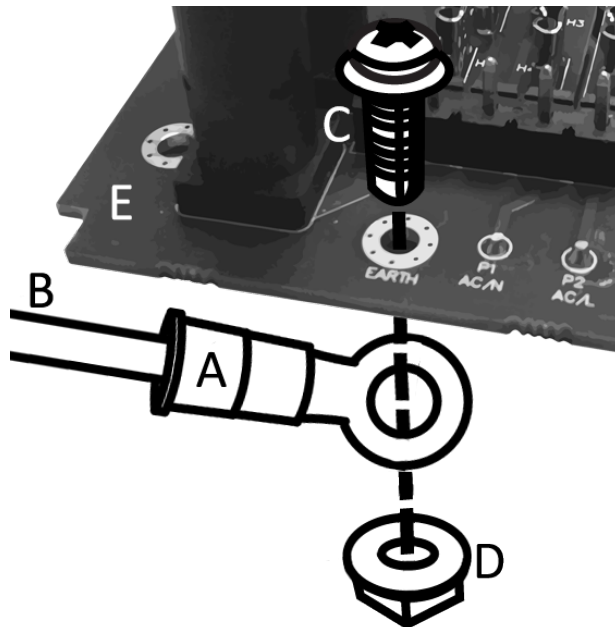


2.1.3

4. Insert **[C]** Zinc-Plated Steel Pan Head Phillips Machine Screw with Internal Washer (90403A110) into the **Earth** hole of the **[E]** PSB Switch (PSB-2001-00) from the top.

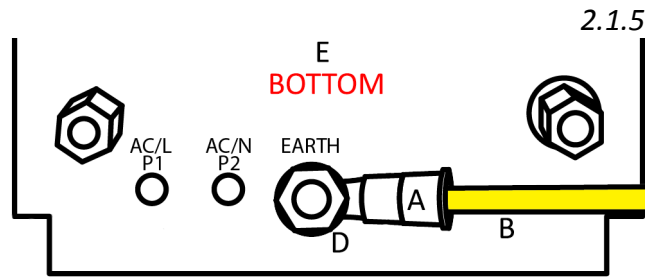
2.1.4

Place the **[A]** Ring Terminal of one end of the **[B]** Earth Wire onto the end of the **[C]** Machine Screw from the bottom of the **[E]** PSB Switch. Finish by tightening the **[D]** Zinc-Plated Steel Hex Nut with Tooth Washer onto the screw from the bottom of the PSB SWITCH.



Align the terminal so that the wire extends in the opposite direction as **P1 (AC/N)** and **P2 (AC/L)** connectors on the [E] PSB Switch as shown.

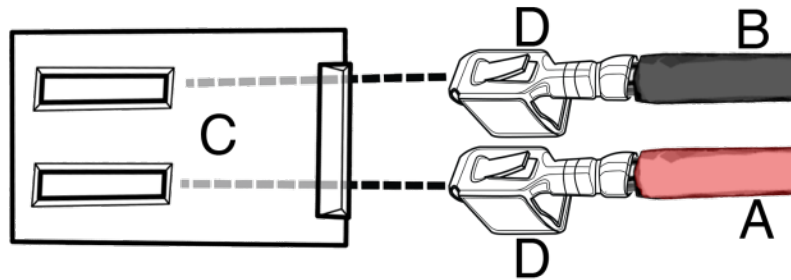
TORQUE SPECS!



ASSEMBLY 2: DC TO PSB EPS WIRE

2.2.1

DC TO EPS WIRE

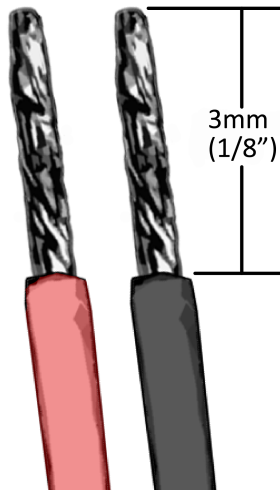


A	20 AWG, Multistrand Wire, Red 3" (75mm)	3053 RD005	1
B	20 AWG, Multistrand Wire, Black 3" (75mm)	3053 BK005	1
C	Housing	VHR-2N	1
D	Connection Terminal Crimp Pins	SVH-41T-P1.1	2
E	Switch/Fuse PCB Assembly (OPI-Blue PSB Switch)	PSB-2001-00	1

ASSEMBLY 2: PROCEDURES

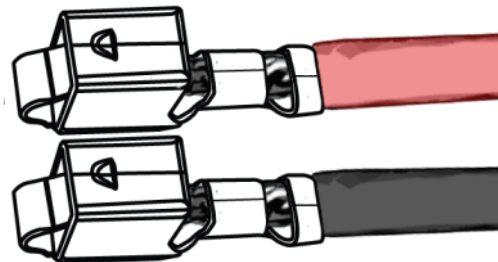
2.2.2

1. Cut both **[A]** 20 AWG, Multistrand Wire, Red and **[B]** 20 AWG, Multistrand Wire, Black 75mm (3") in length
2. Strip the ends of both wires 3mm (1/8") with 20-AWG wire stripper.



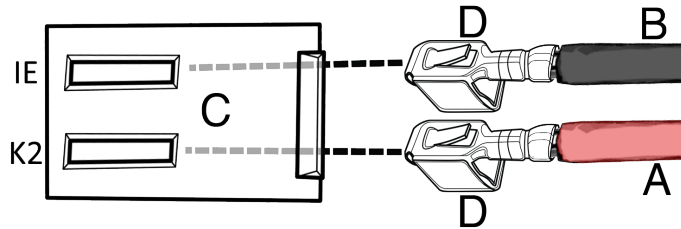
2.2.3

3. Use the Hand Crimp Tool VH 16-20AWG (455-1911-ND) to crimp **[D]** Connection Terminal Crimp Pins (SVH-41T-P1.1) onto one end of each wire.

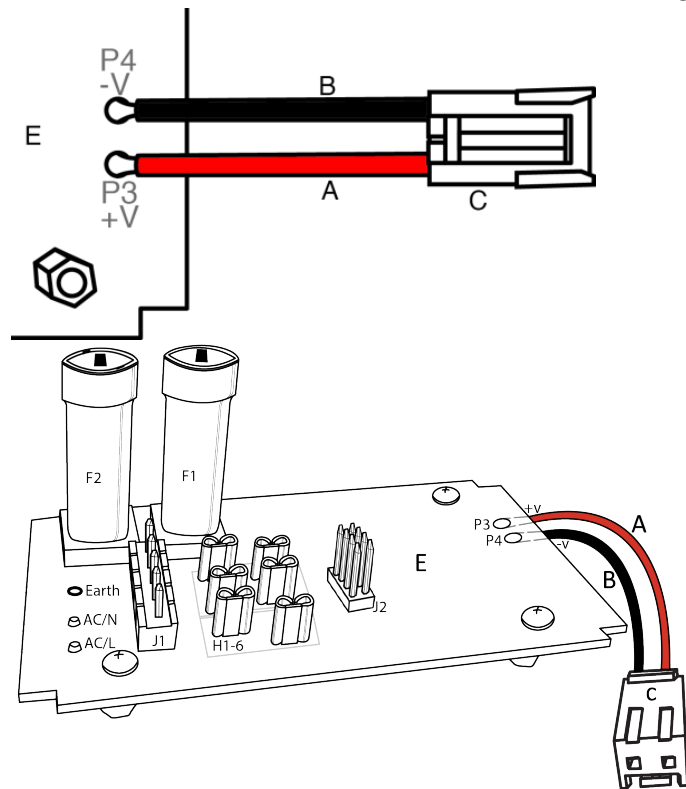


4. Insert the crimped **[D]** Connection Terminal Crimp Pins (SVH-41T-P1.1) of each wire into **[C]** Housing (VHR-2N).

Wire **[A]** 20 AWG, Multistrand, Red 75mm (3") is inserted into hole **K2** of **[C]** Housing, and Wire **[B]** 20 AWG, Multistrand Wire, Black 75mm (3") is inserted into hole **IE** of **[C]** until they lock into place.



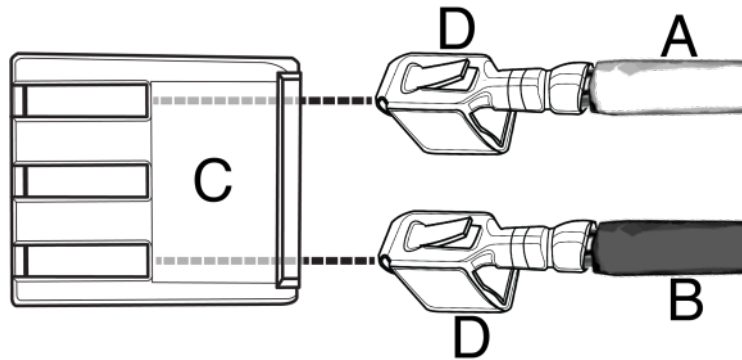
5. Insert and solder the stripped end of wire **[A]** 20 AWG, Multistrand, Red 75mm (3") to **P3 (+V)** and **[B]** 20 AWG, Multistrand Wire, Black 75mm (3") to **P4 (-V)** of the **[E]** PSB Switch (PSB-2001-00) Switch from the bottom.



ASSEMBLY 3: AC TO EPS WIRE

2.3.1

AC TO EPS WIRE

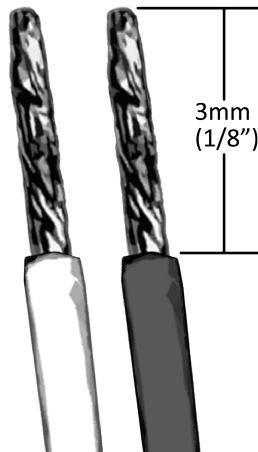


A	20 AWG, Multistrand Wire, White 3" (75mm)	3053 WH005	1
B	20 AWG, Multistrand Wire, Black 3" (75mm)	3053 BK005	1
C	Housing	VHR-3N	1
D	Connection Terminal Crimp Pins	SVH-41T-P1.1	2
E	Switch/Fuse PCB Assembly (PSB Switch)	PSB-2001-00	1

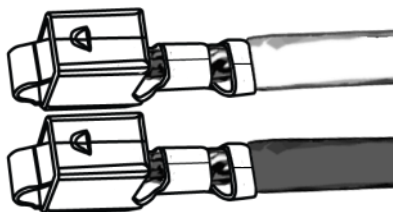
ASSEMBLY 3: PROCEDURES

2.3.2

1. Cut both **[A]** 20 AWG, Multistrand Wire, White 3" and **[B]** 20 AWG, Multistrand Wire, Black 3" 75mm in length
2. Strip the ends of both wires 3mm (1/8") with 20-AWG wire stripper.



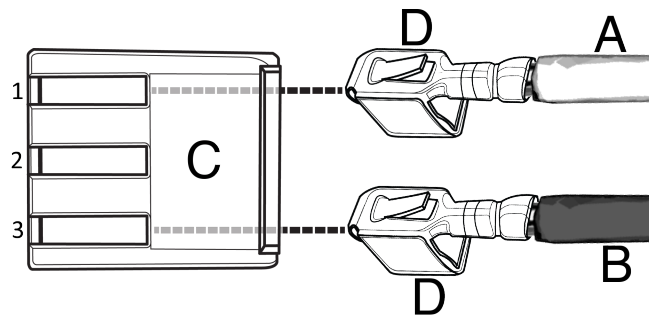
3. Use the Hand Crimp Tool VH 16-20AWG (455-1911-ND) to crimp **[D]** Connection Terminal Crimp Pins (SVH-21T-P1.1) onto one end of each wire.



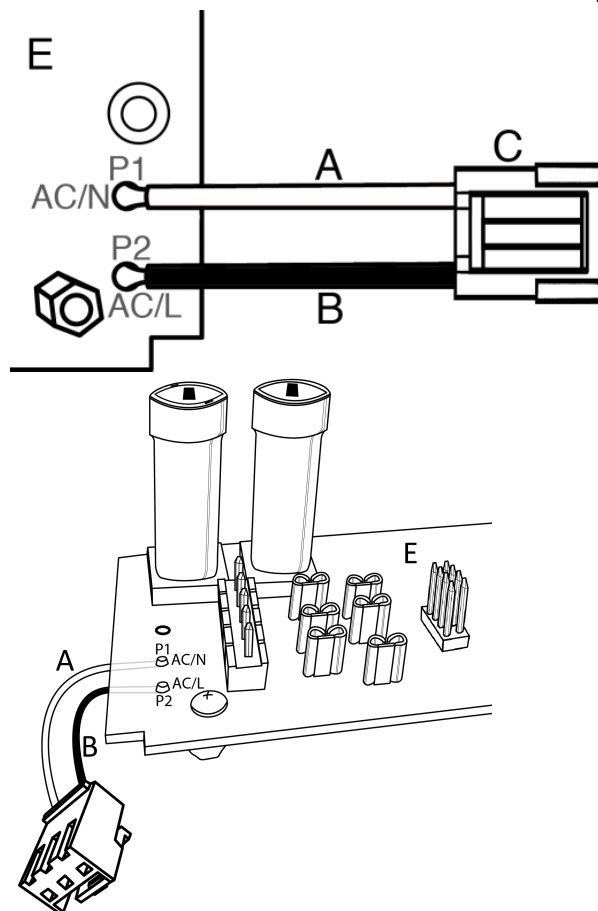
2.3.3

4. Insert the crimped **[D]** Pins (SVH-41T-P1.1) of each wire into the **[C]** Housing (VHR-3N).

Wire **[A]** 20 AWG, Multistrand, White 3" (75mm) is inserted into hole **1** of the **[C]** Housing, and Wire **[B]** 20 AWG, Multistrand Wire, Black 3" (75mm) is inserted into hole **3** of **[C]** Housing until they lock into place. Center Position 2 is not used.



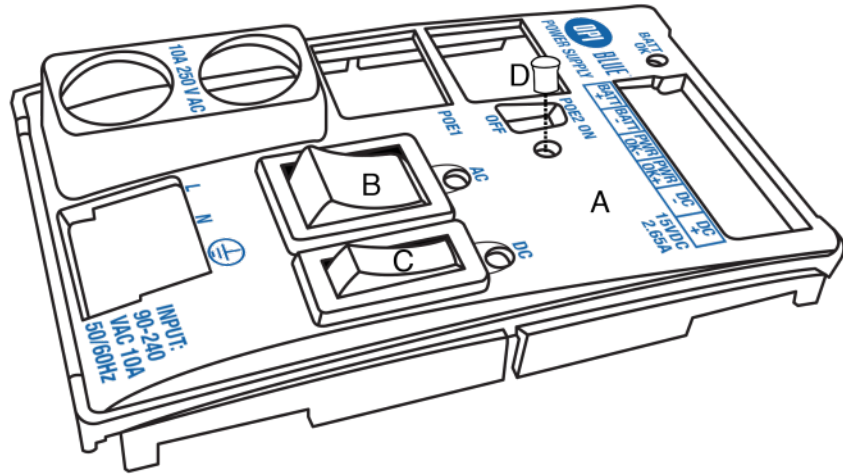
5. Insert and solder the stripped end of wire **[A]** 20 AWG, Multistrand, White 3" (75mm) to **P1 (AC/N)** and **[B]** 20 AWG, Multistrand Wire, Black 3" (75mm) to **P2 (AC/L)** of the **[E]** PSB Switch (PSB-2001-00) from the bottom.



ASSEMBLY 4: PS-BLUE TOP COVER & SWITCHES

2.4.1

PS-BLUE TOP COVER & SWITCHES



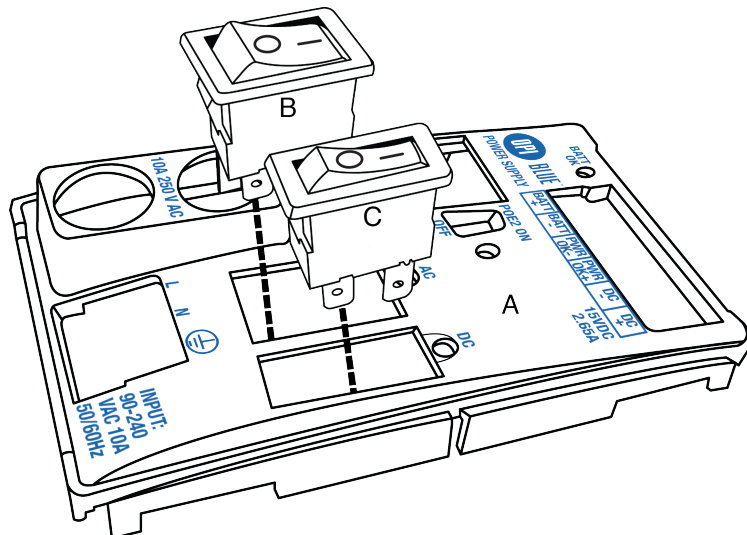
Part Name	Item ID	QTY
A PS-Blue Top Cover	101571	1
B Rocker Switch DPST 15A 250V	H8550VBBB551W	1
C Rocker Switch SPST 15A 250V	H8800VABB133W	1
D Light Pipe 1/8" PNL Mount	PLP2-125	4

ASSEMBLY 4: PROCEDURES

2.4.2

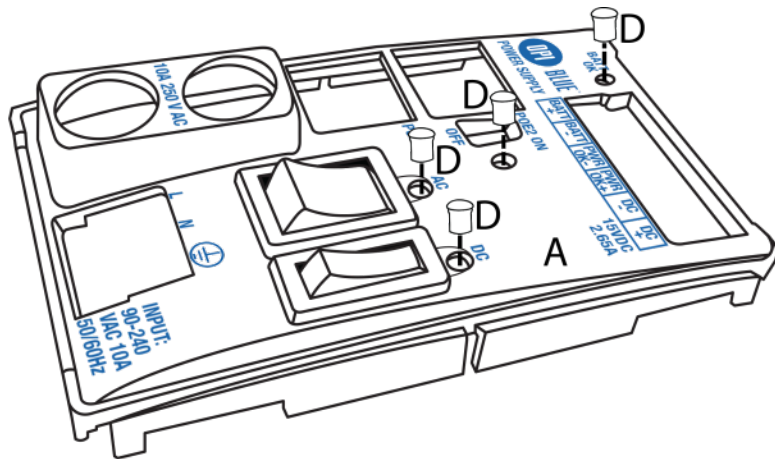
1. Insert **[B]** Rocker Switch DPST 15A 250V in the top of the **[A]** PS-Blue Top Cover into the AC Switch cutout until it bottoms out on the cover.

Insert **[C]** Rocker Switch SPST 15A 250V in the top of the **[A]** PS-Blue Top Cover into the DC Switch cutout until it bottoms out on the cover.



2. Insert **[D]** Light Pipe 1/8" PNL Mount into each of the 4 designated LED cutouts (PWR OK, POE ON, AC, and DC) of the **[A]** PS-Blue Top Cover.

Ensure a snug fit, and if light pipes are loose, try another cover.

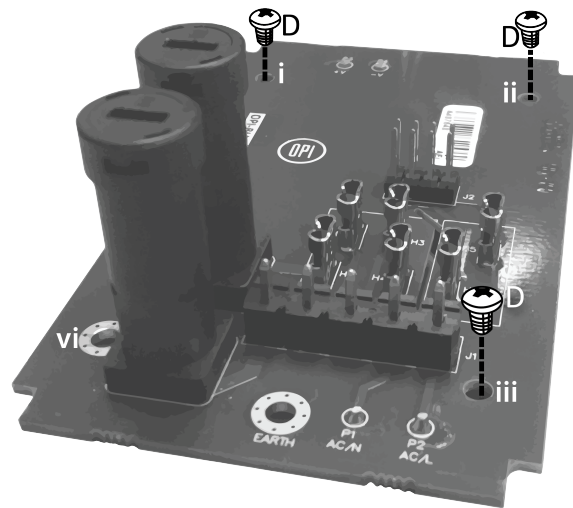


2.5.1

OPI BLUE Power Supply Assembly

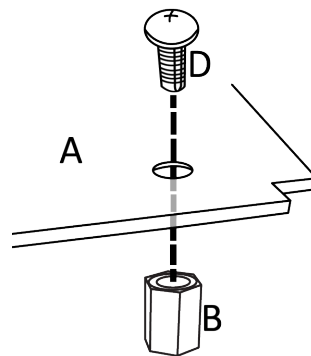
ASSEMBLY 5: PROCEDURES

1. Insert **[D]** Nylon EPS-35 Mounting Screw (X3) into holes **i**, **ii**, and **iii** of the **[A]** PSB Switch (shown in image 3.1.2).



2.5.2

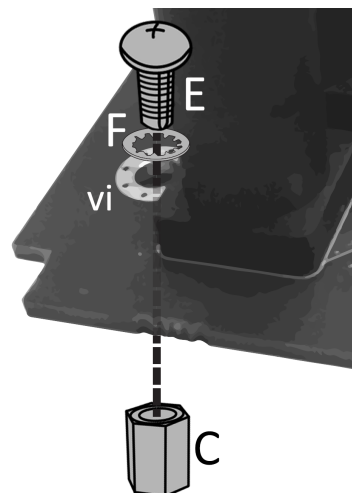
2. Tighten **[B]** 4-40 X 1/4" Standoff Nylon (X3) to each of the **[D]** Nylon EPS-35 Mounting Screws inserted in the **[A]** PSB Switch from the bottom (in holes **i**, **ii**, and **iii** shown in image 3.1.2).



2.5.3

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3. Insert **[F]** Stainless Steel Internal-Tooth Lock Washer, 1/4" onto **[E]** 4-40 X 1/4" Stainless Steel EPS-35 Mounting Screw and insert into hole **vi** (shown in image 3.1.4) from the top of the **[A]** PSB Switch (next to **F2**).



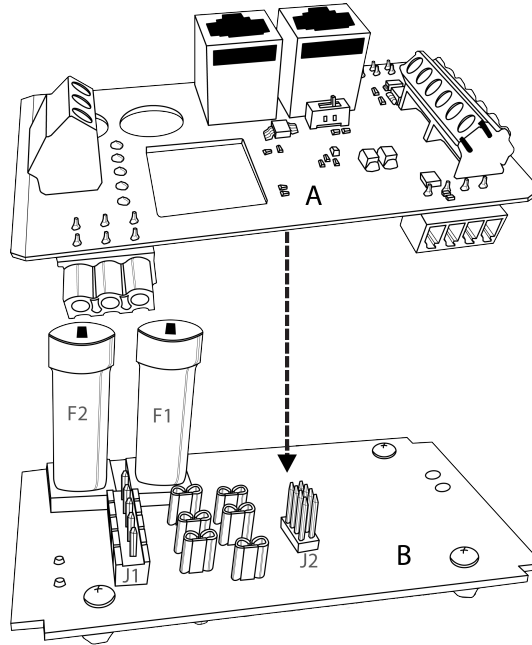
2.5.4

Tighten **[C]** 4-40 x 1/4" Standoff Aluminum to **[E]** Stainless steel EPS Mounting Screw from the bottom of the **[A]** PSB Switch.

ASSEMBLY 6: OPI-BLUE-PSB CONTROL TO PSB SWITCH

2.6.1

OPI-BLUE-PSB CONTROL TO PSB SWITCH



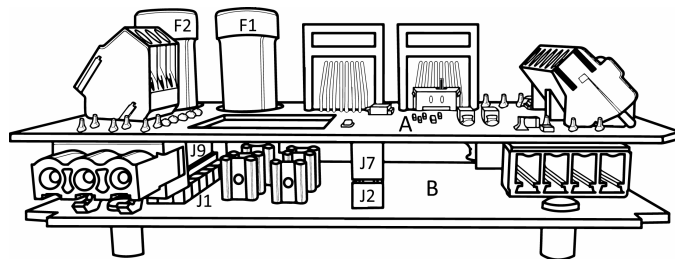
Part Name	Item ID	QTY
A Power Switch PCB Assembly (PSB Control)	PSB-1001-00	1
B Switch/Fuse PCB Assembly (PSB Switch)	PSB-2001-00	1

ASSEMBLY 6: PROCEDURES

2.6.2

1. The **[A]** PSB Control connects to the top of the **[B]** PSB Switch.

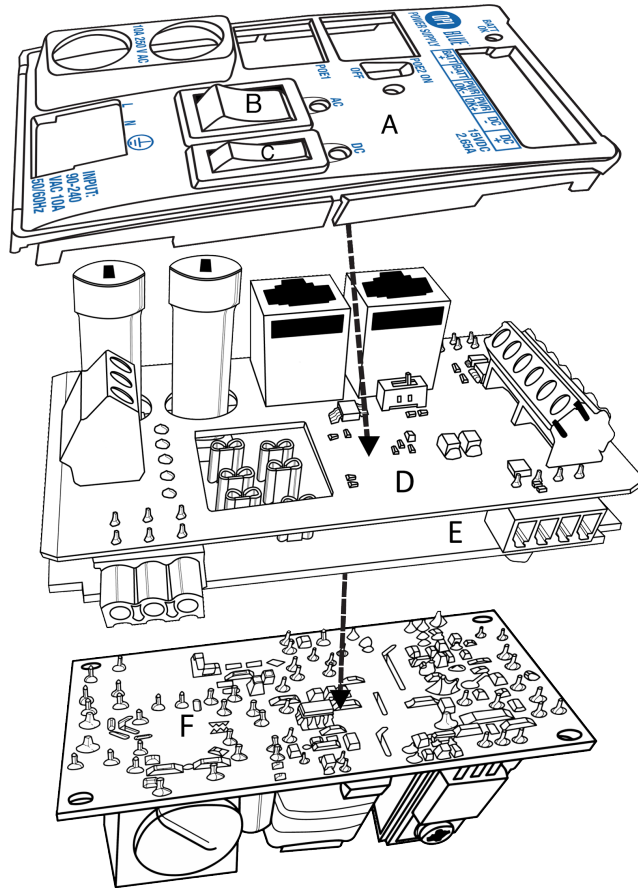
F1 and **F2** of the **[A]** PSB Switch fit through openings in the **[B]** PSB Control when aligned and placed on top. **J7** of the **[A]** PSB Control connects to **J2** of the **[B]** PSB Switch, and **J9** of the **[A]** PSB Control connects to **J1** of the **[B]** PSB Switch (see image 2.6.2).



ASSEMBLY 7: PS-BLUE TOP COVER WITH SWITCHES & MEAN WELL ESP-35

2.7.1

PS-BLUE TOP COVER WITH SWITCHES & MEAN WELL EPS-35



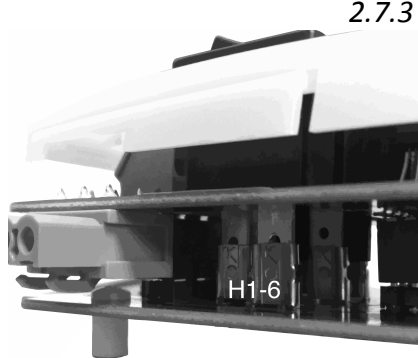
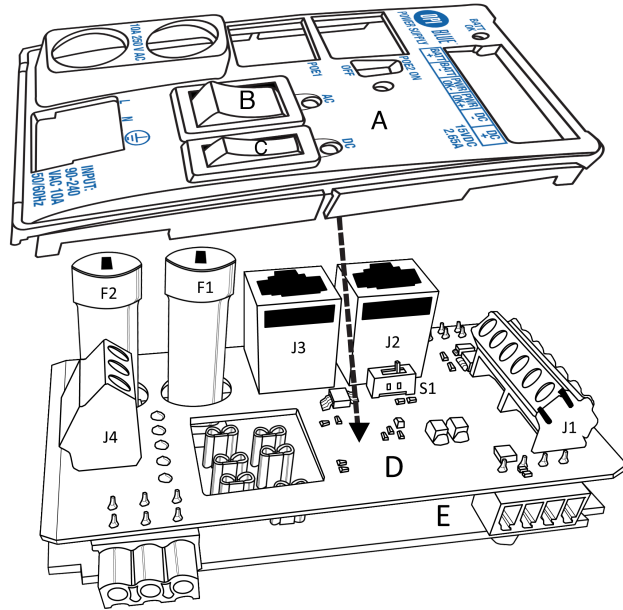
Part Name	Item ID	QTY
A PS-Blue Top Cover	101571	1
B Rocker Switch DPST 15A 250V	H8550VBBB551W	1
C Rocker Switch SPST 15A 250V	H8800VABB133W	1
D Power Switch PCB Assembly (PSB Control)	PSB-1001-00	1
E Switch/Fuse PCB Assembly (PSB Switch)	PSB-2001-00	1
F Switching Power Supplies 26W 15V 2.4A	EPS-35-15	1
G 4-40 X 1/4" Nylon EPS-35 Mounting Screw	93135A271	3
H 4-40 X 1/4" Stainless Steel EPS-35 Mounting Screw	72474	1
I Zinc-Plated Steel Internal-Tooth Lock Washer, 1/4" Screw Size	91113A029	1

ASSEMBLY 7: PROCEDURES

2.7.2

1. The **[A]** PS-Blue Top Cover (with the **[B]** AC Switch and **[C]** DC Switch inserted) is placed on top of the **[D]** OPI-BLUE-PSB Control.

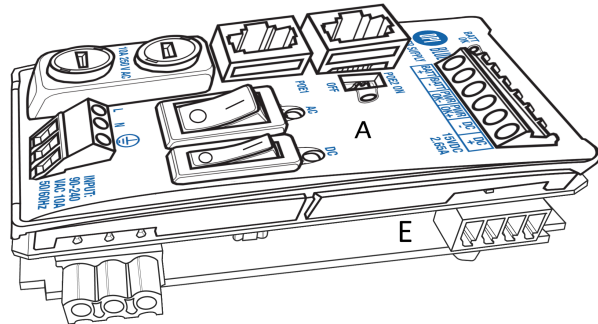
The **[B]** AC Switch connects to **H1-4** and the **[C]** DC Switch connects to **H5-6** of the **[E]** PSB Switch through the opening in the **[D]** OPI-BLUE-PSB Control.



2.7.3

J2, J3, J4, J1, and S1 of the **[D]** PSB Control fit through cutouts in the **[A]** PS-BLUE Top Cover when placed on top of the unit.

NOTE: Verify all (6) blades on the switches have been properly inserted into the receptacles. Place **[E]** PSB Switch on a flat surface and push firmly on **[B]** and **[C]** switches to seat connectors fully.

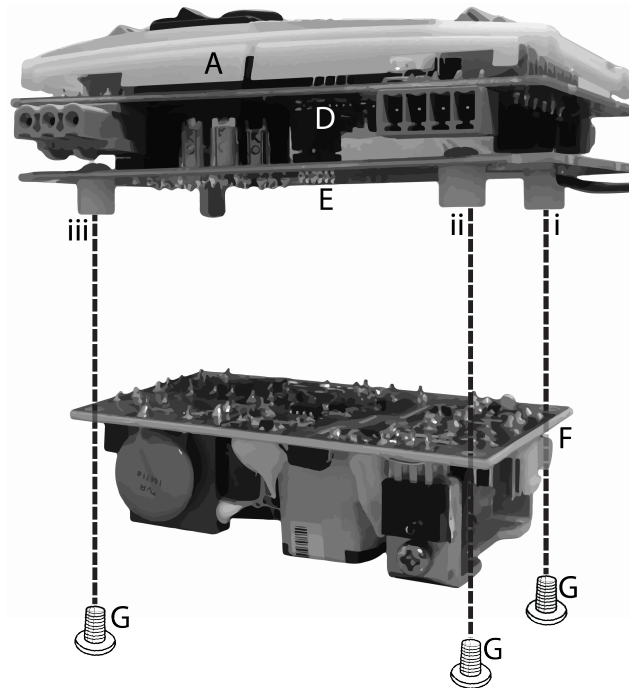


2.7.4

2.7.5

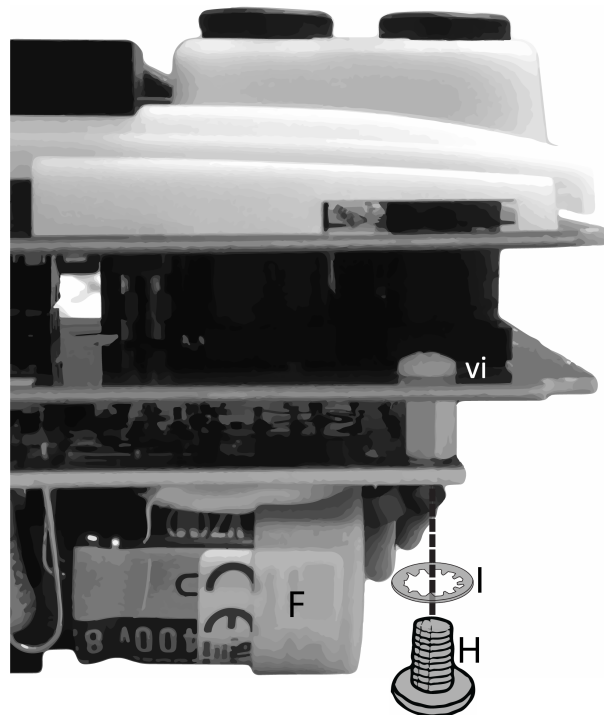
2. Align the standoffs of the **[E]** PSB Switch to the screw holes of the **[F]** EPS-35. To ensure that the units are lined up properly, make sure the aluminum heat sink of the **[F]** EPS-35 is aligned with 6 the position terminal block H connection on the top of the unit.

Insert **[G]** 4-40 X 1/4" Nylon EPS-35 Mounting Screws (X3) from the bottom of the **[F]** EPS-35 and into the Nylon standoffs of holes **i**, **ii**, and **iii** of the **[E]** PSB Switch.



2.7.6

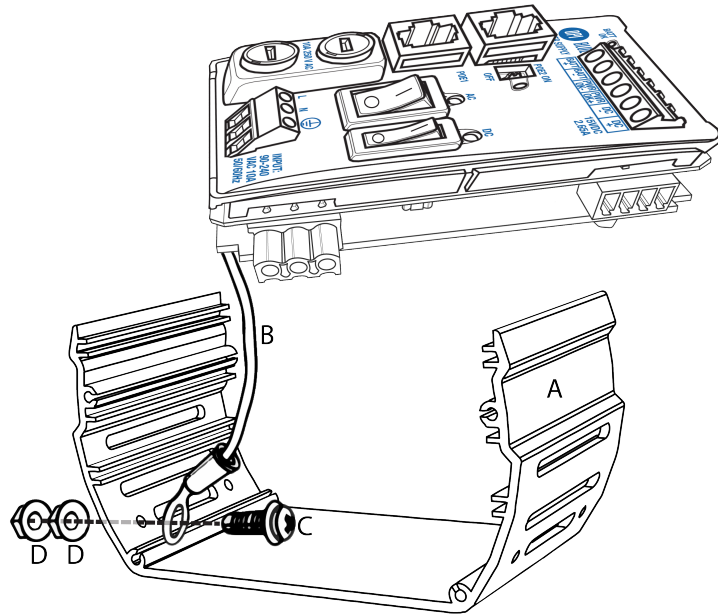
3. Insert **[I]** Zinc-Plated Steel Internal-Tooth Lock Washer, 1/4" Screw Size over **[H]** 4-40 X 1/4" Stainless Steel EPS-35 Mounting Screw and insert into the Aluminum standoff inserted into hole **vi** of the **[B]** PSB Switch from the bottom of the **[F]** EPS-35.



ASSEMBLY 8: EARTH TO PS-BLUE ALUMINUM EXTRUSION

2.8.1

EARTH TO PS-BLUE ALUMINUM EXTRUSION



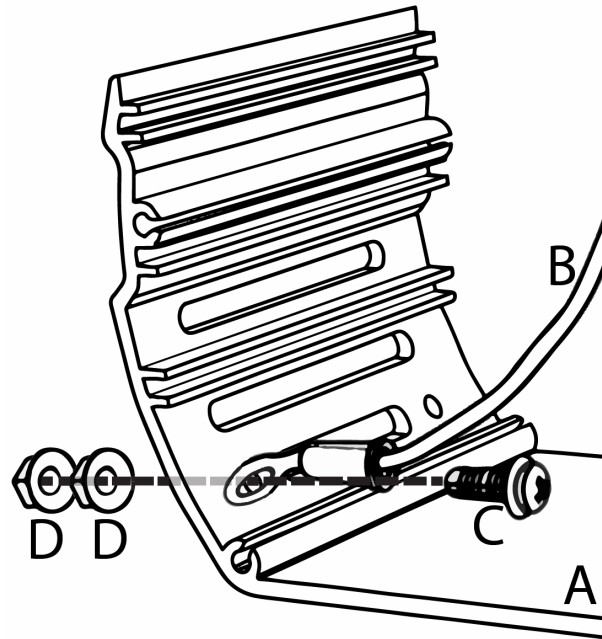
Part Name	Item ID	QTY
A PS-Blue Aluminum Extrusion	101567	1
B Earth Wire Assembly from PSB Switch	3055GY005	1
C Zinc-Plated Steel Pan Head Phillips Machine Screw, Internal Washer, 4-40 Thread, 1/2" Length	90403A110	1
D Zinc-Plated Steel Hex Nut with Tooth Washer, 4-40 Thread Size, 1/4" Nut Width, 7/64" Overall Height	90675A005	2

ASSEMBLY 8: PROCEDURES

2.8.2

1. Attach the **[B]** Earth Wire Assembly from the PSB switch to the inside wall of the **[A]** PS-Blue Aluminum Extrusion.

Begin by inserting the **[C]** Zinc-Plated Steel Pan Head Phillips Machine Screw through the ring terminal of the **[B]** Earth Wire Assembly and into the inside wall of the **[A]** PS-Blue Aluminum Extrusion. Place the **[D]** Zinc-Plated Steel Hex Nut with Tooth Washer over the **[C]** Zinc-Plated Steel Pan Head Phillips Machine Screw from the outside of the **[A]** PS-BLUE Aluminum Extrusion and tighten. Attach and hand-tighten second **[D]** Zinc-Plated Steel Screw with Washer onto the **[C]** pan head screw from the outside of the **[A]** PS Blue Aluminum Extrusion.



TORQUE SPECS!!

2.8.3

2. Slide the unit along the tracks into the **[A]** PS-BLUE Aluminum Extrusion.

Ensure that the top PCB goes into the top groove and the middle PCB in the second groove, directly below the screw insert.



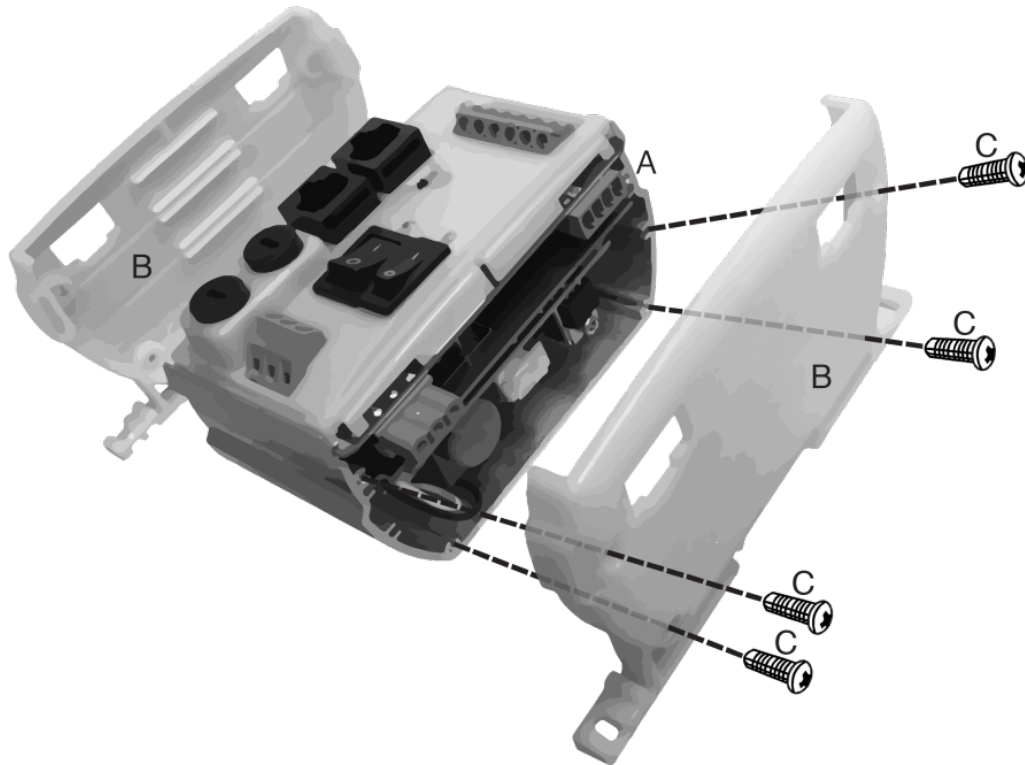
3. Slide unit until centered on **[A]** Aluminum Extrusion.



ASSEMBLY 9: BLUE SERIES END CAPS & FUSES

BLUE SERIES END CAPS

2.9.1

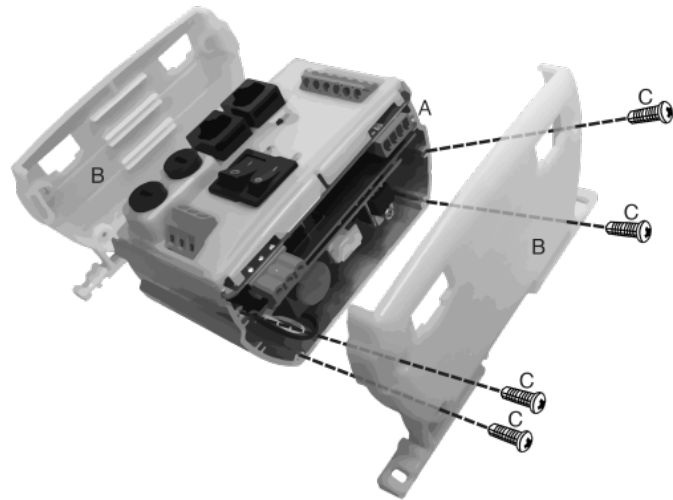


Part Name		Item ID	QTY
A	PS-Blue Aluminum Extrusion	101567	1
B	Blue Series End Cap	101570	2
C	4-40 X 3/8" Thread Forming Screw	32251	8

ASSEMBLY 9: PROCEDURES

2.9.2

1. Place both **[B]** Blue Series End Caps over the exposed sides of the Power Supply Unit so that the outside edges align with the **[A]** PS-Blue Aluminum Extrusion.



2.9.3

2. Insert **[C]** Thread Forming Screws into each of the four screw cutouts on both **[B]** Blue Series End Caps and tighten into the screw retainers of the **[A]** PS-BLUE Aluminum Extrusion.

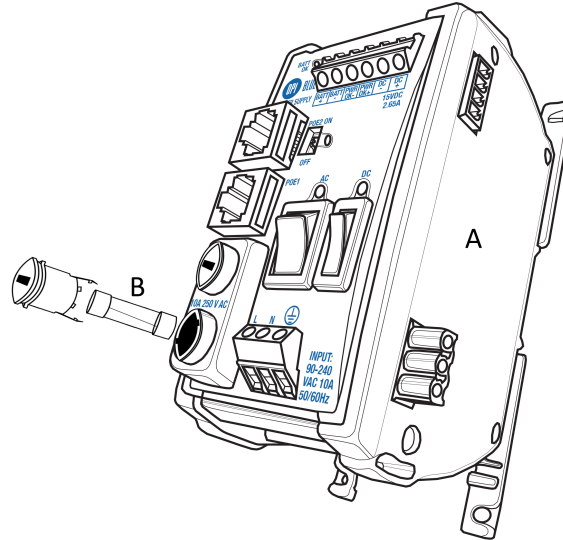
TORQUE SPECS!!



ASSEMBLY 10: INSERT FUSES

INSERT FUSES

2.10.1

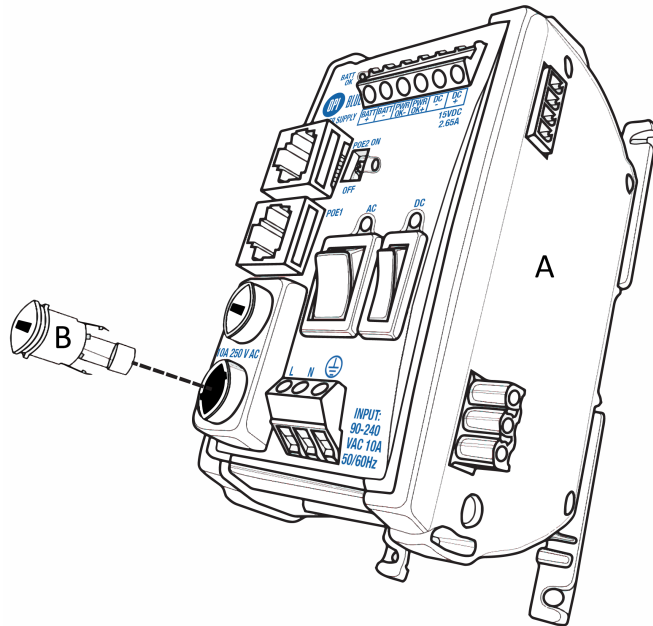


Part Name	Item ID	QTY
A OPI Blue Power Supply Unit		1
B Fuse, Fast, 10A, 250V, 5x20mm	5SF 10-R	2

ASSEMBLY 10: STEPS

2.10.2

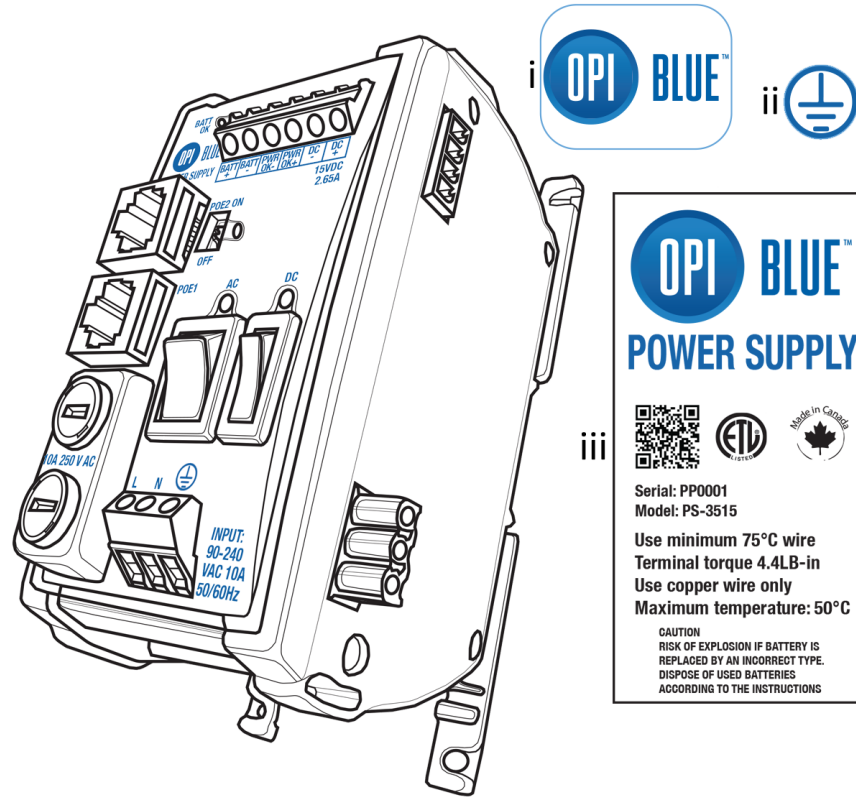
1. Remove both of the fuse holder caps on the **[A]** OPI Blue Power Supply Unit with a flat head screwdriver.
2. Insert **[B]** Fuse, Fast Blow, 10A, 250V, 5x20mm into each cap and tighten back onto the fuse container with fuses inserted.



ASSEMBLY 11: APPLYING LABELS TO POWER SUPPLY

APPLYING LABELS TO POWER SUPPLY

2.11.1

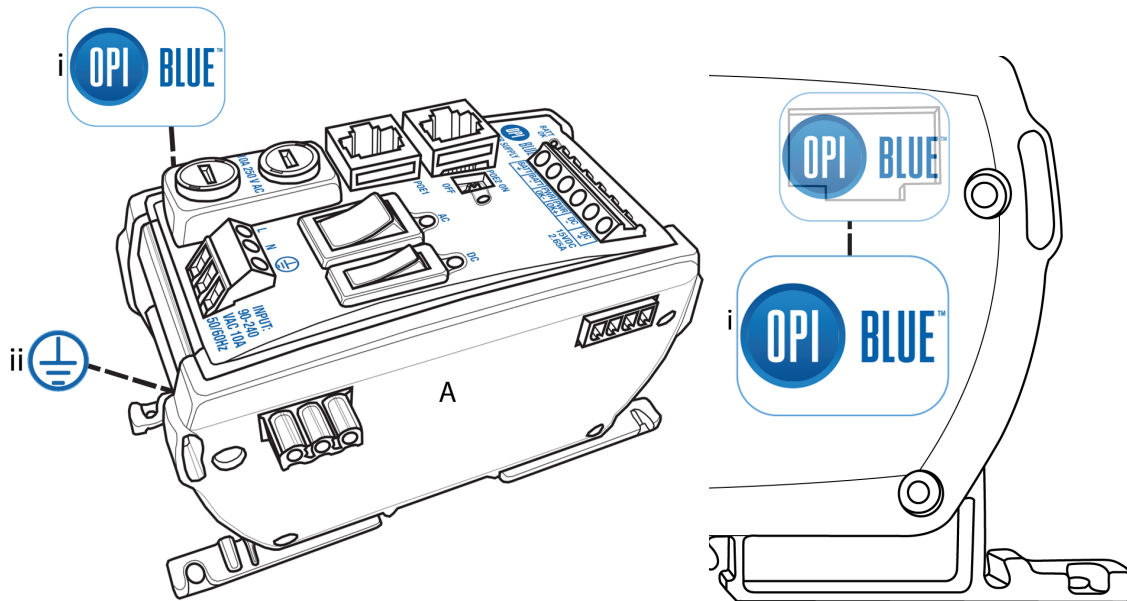


Part Name	Item ID	QTY
i OPI Blue Side Label		1
ii Ground Lug Label		1
iii OPI Power Information Label		1

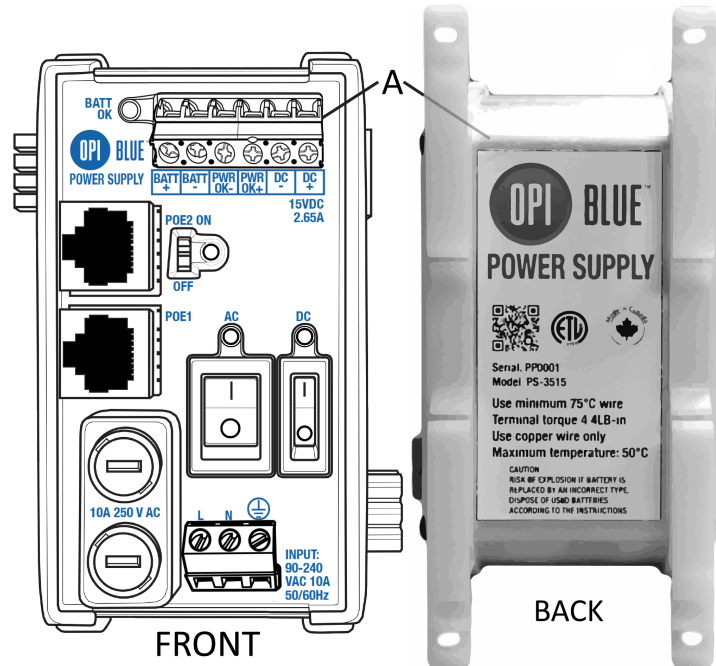
ASSEMBLY 11: PROCEDURES

1. Apply labels to the OPI Blue Power Supply
 - i. Place over the opening with no connection in the OPI Blue End Cap directly below the fuse containers.
 - ii. Place upright directly above the ground lug nut.

3.11.2



2. Place label on the bottom of Aluminum Extrusion so that OPI BLUE aligns to end of unit with 6 position Terminal A.



Test the unit for functionality.