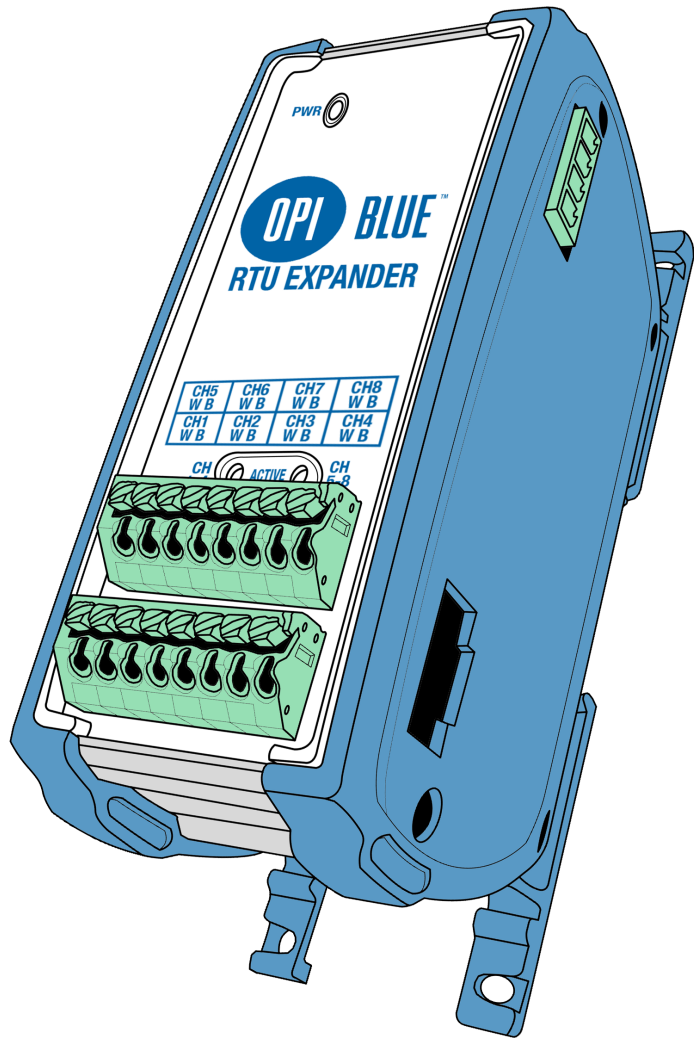


OPI BLUE RTU EXPANDER (RT8) ASSEMBLY



DOCUMENT APPROVED BY:

DOCUMENT PREPARED BY:

Jay Gervais

Revision History

ISSUE	ISSUE DATE	CHANGE DESCRIPTION	REVISED BY
001	2015-02-17	New Release Document	JG

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PART ITEMS NEEDED

PART ITEMS NEEDED			
VISUAL ID	PART DESCRIPTION	MANUFACTURER	QTY
	Top Cover	Wave Industrial	1
RT8-2001-00	OPI-BLUE-RT8	OPI	1
	Aluminum Extrusion	Wave Industrial	1
101570	Blue Series End Cap	Wave Industrial	2
32251	4-40 x 3/8" Thread Cutting Screw	Fastenal	8
PLP2-125	Light Pipe, 1/8" PNL Mount	Bivar	3
91114A005	Zinc-Plated Steel Internal-Tooth Lock Washer	McMaster-Carr	3
91773A108	Stainless Steel Round Head Phillips Machine Screw, 4-40 Thread, 3/8" Length	McMaster-Carr	1
90480A005	Low-Strength Steel Hex Nut, Zinc-Plated, 4-40 Thread Size, 1/4" Wide, 3/32" High	McMaster-Carr	1
3055 GY005	Earth Wire – 110mm	Alpha Wire	1
7113K264	Standard Ring Terminal, Nylon Insulated, 26-22 AWG, #4 Screw/Stud Size	McMaster	1

1. PARTS TO RECEIVE

PARTS TO RECEIVE: OVERVIEW			
VISUAL ID	PART DESCRIPTION	MANUFACTURER	QTY
	Top Cover	Wave Industrial	1
RTB-2001-00	OPI-BLUE-RT8 PCB	OPI	1
	Aluminum Extrusion	Wave Industrial	1
101570	Blue Series End Cap	Wave Industrial	2

PART IDENTIFICATION

TOP COVER 1.1

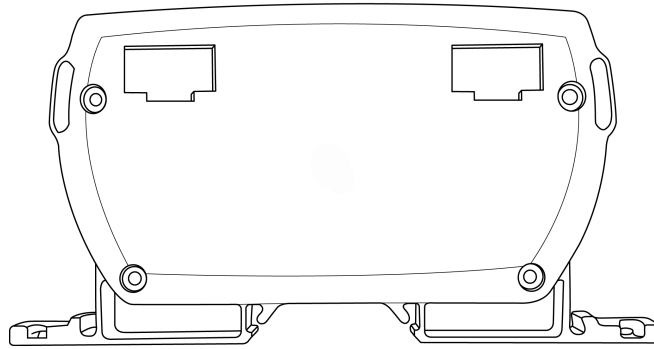
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| RT8 | RT8 | RT8 | RT8 | RT8 | RT8 | RT8 | RT8 |

 The cover also features a circular hole on the right side and a small rectangular slot on the left side.

**OPI-BLUE-RT8
RT8-2001-00** 1.2

ALUMINUM EXTRUSION 1.3

**END CAP (X2)
101570**



2. PROCEDURES

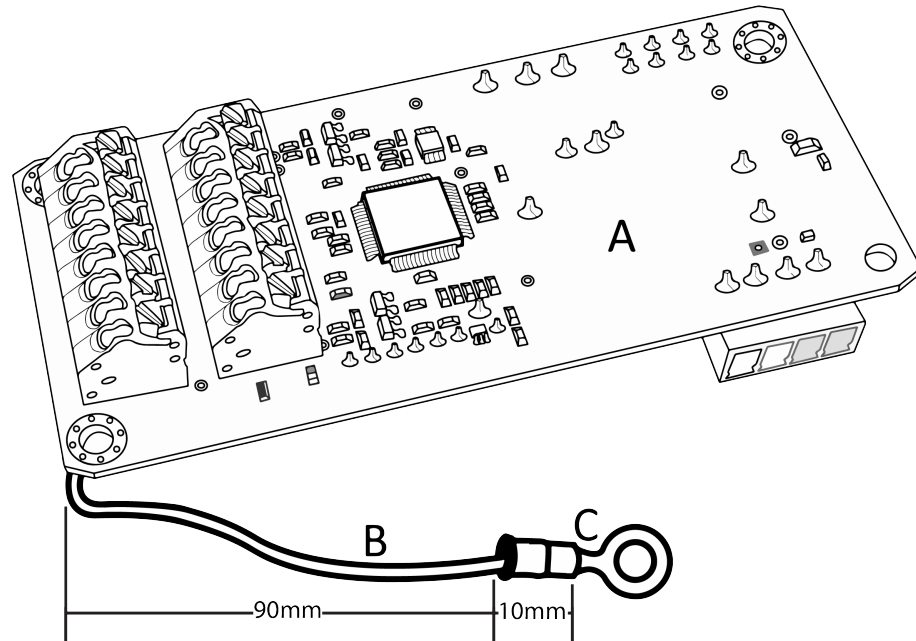
PROCEDURE: OVERVIEW

#	ASSEMBLY	PARTS	QTY
1.	GROUND WIRE	RT8-PCB	1
		EARTH WIRE – 110MM	1
		STANDARD RING TERMINAL, NYLON INSULATED, 26-22 AWG, #4 SCREW/STUD SIZE	1
1.	TOP COVER	TOP COVER	1
		RT8-PCB	1
2.	ALUMINUM EXTRUSION	ALUMINUM EXTRUSION	1
3.	END CAPS	END CAP	2
		4-40 X 3/8" THREAD FORMING SCREW	8
4.	LIGHT PIPES	LIGHT PIPE	3
5.	LABELS	RT8 LABEL SHEET	1

ASSEMBLY 1: GROUND WIRE

2.1.1

GROUND WIRE

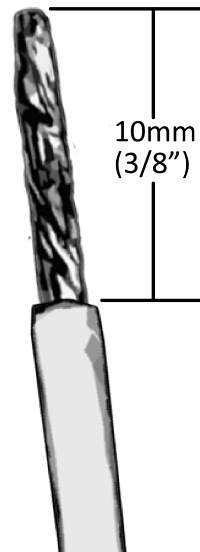


Part Name	Item ID	QTY
A RT8-PCB		1
B Earth Wire – 110mm	3055 GY005	1
C Standard Ring Terminal, Nylon Insulated, 26-22 AWG, #4 Screw/Stud Size	7113K264	1

ASSEMBLY 1: PROCEDURES

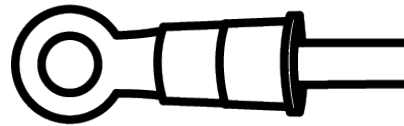
2.1.2

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



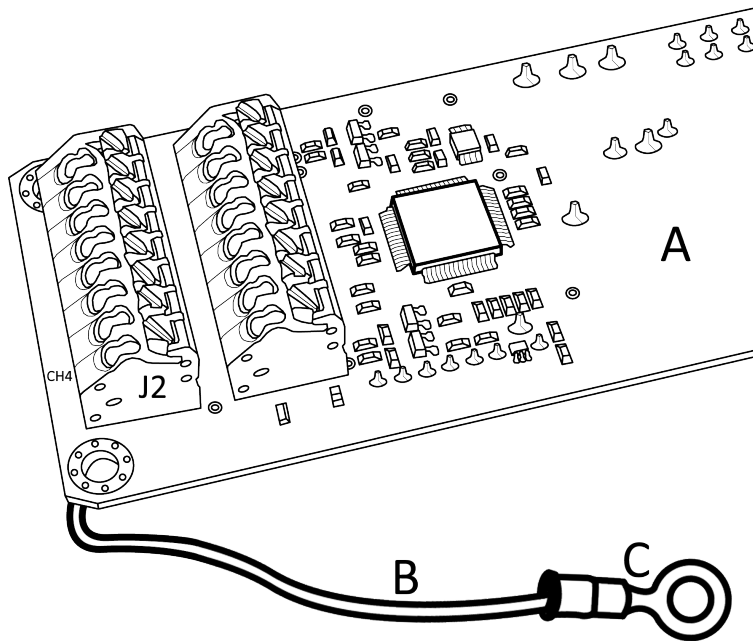
2.1.3

3. Use the correct tool to crimp [C] Ring Terminals to each to one end of the stripped wire.



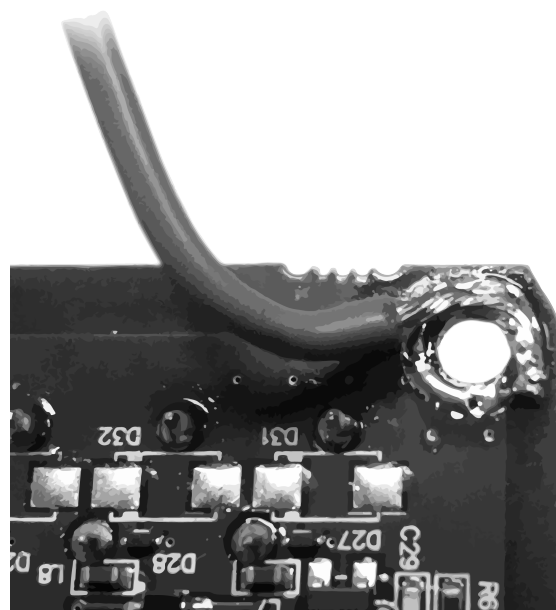
2.1.4

4. Solder the stripped end of the [B] Earth Wire to the [A] RT8-PCB in the bottom of the hole next to CH4 of the J2 connector.



The wire threads need to be soldered along the ridge of the hole so that the [B] Earth Wire extends inwards along the bottom of the [A] RT8-PCB.

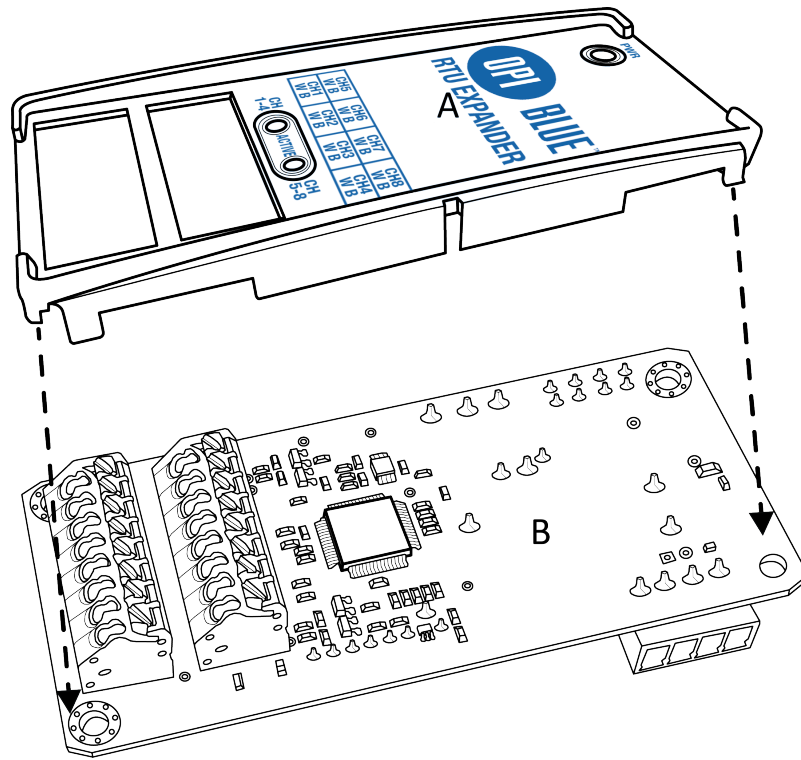
2.1.5



ASSEMBLY 2: TOP COVER

2.2.1

TOP COVER

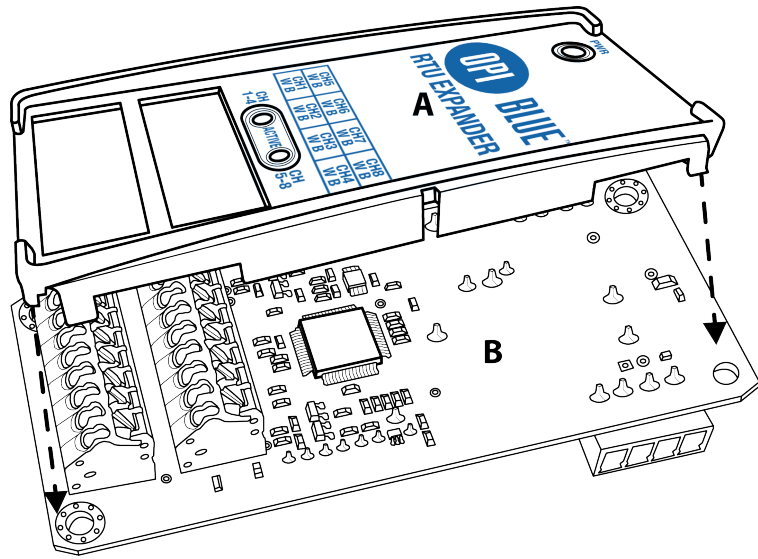


Part Name	Item ID	QTY
A RT8-Top Cover		1
B RT8-PCB		1

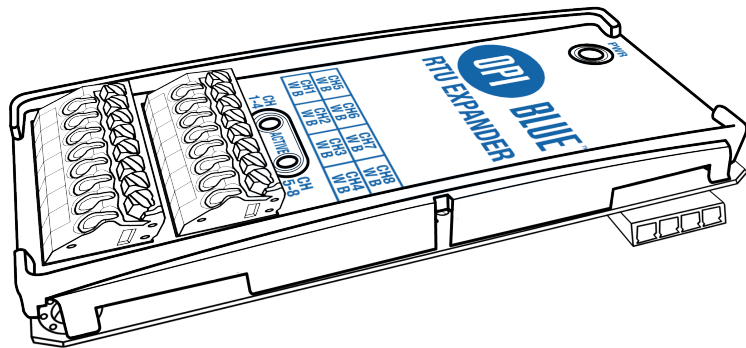
ASSEMBLY 2: PROCEDURES

2.2.2

1. Place the **[A]** RT8 Top Cover onto the **[B]** OPI-BLUE-RT8 board so that **J1** and **J2** of the **[B]** OPI-BLUE-RT8 board fit into the two openings of the **[A]** Top Cover.



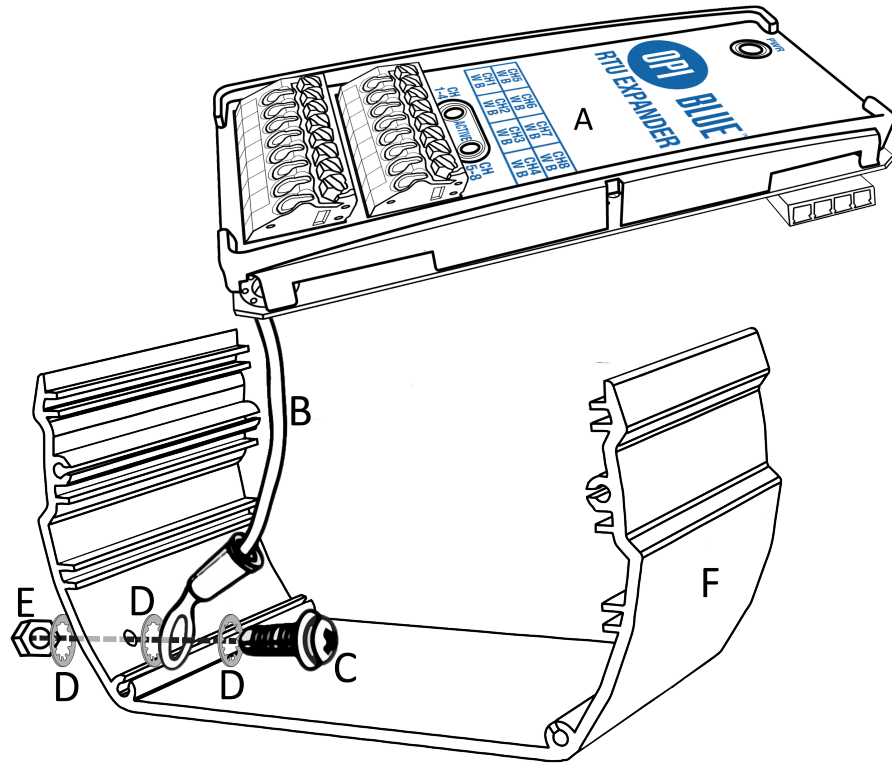
2.2.3



ASSEMBLY 3: EARTH TO PS-BLUE ALUMINUM EXTRUSION

2.3.1

EARTH TO PS-BLUE ALUMINUM EXTRUSION

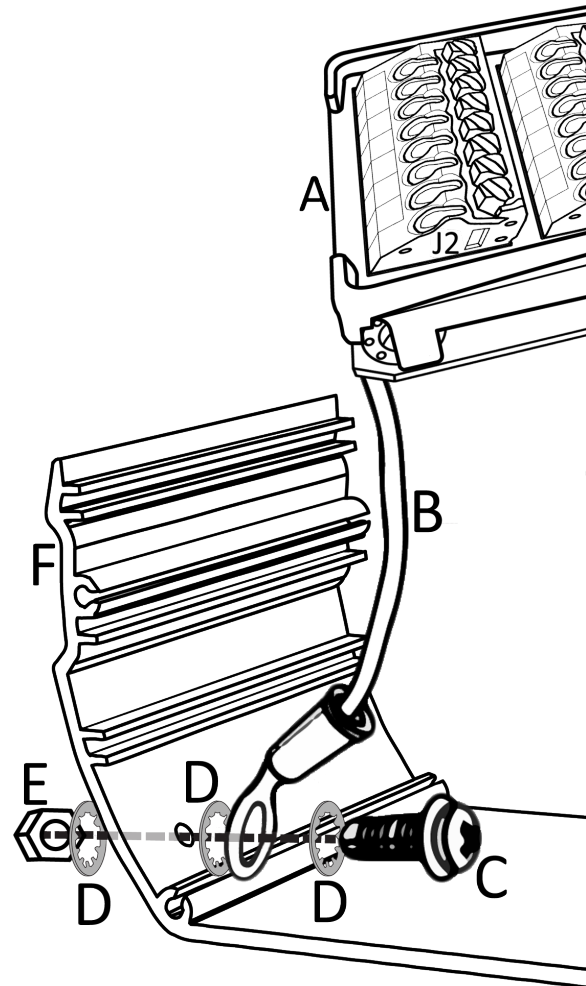


Part Name	Item ID	QTY
A RT8-Assembly		1
B Earth Wire Assembly		1
C Stainless Steel Round Phillips Machine Screw, 4-40 Thread, 3/8" Length	91773A108	1
D Zinc-Plated Steel Internal-Tooth Lock Washer	91114A005	3
E Low-Strength Steel Hex Nut, Zinc-Plated, 4-40 Thread Size, 1/4" Wide, 3/32" High	90480A005	1
F Aluminum Extrusion		1

1. Attach the [B] Earth Wire Assembly from the [A] RT8-Assembly to the inside wall of the [F] Aluminum Extrusion.

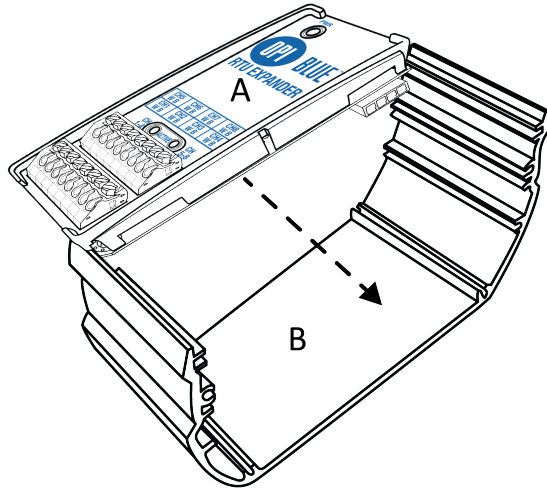
Begin by inserting a [D] Zinc-Plated Steel Internal-Tooth Lock Washer onto the [C] Stainless Steel Round Phillips Machine Screw. Insert the [C] Stainless Steel Machine Screw with washer into the Ring Terminal of the [B] Earth Wire Assembly, apply a second [D] Zinc-Plated Steel Internal-Tooth Lock Washer, and insert into the [F] Aluminum Extrusion. (See orientation in image 2.3.2).

Apply a third [D] Zinc-Plated Steel Internal-Tooth Lock Washer onto the protruding end of the [C] Stainless Steel Machine Screw from the outside of the [F] Aluminum Extrusion, and tighten with [E] Low-Strength Steel Hex Nut.

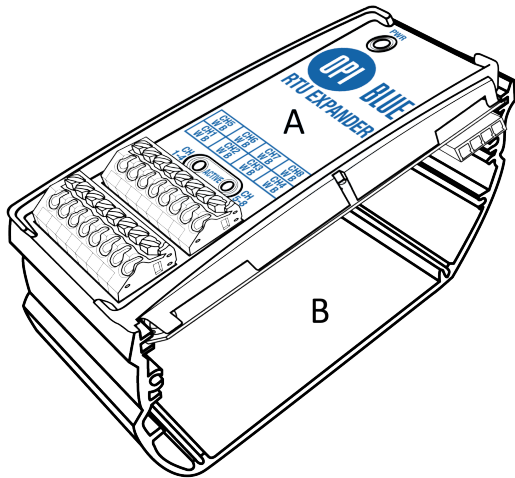


TORQUE SPECS!

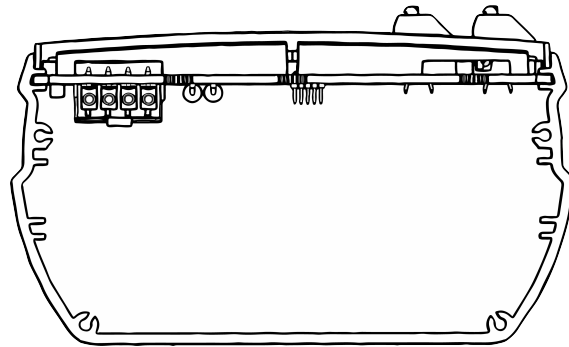
- Slide the **[A]** RT8-PCB with Top Cover attached into the **[B]** Aluminum Extrusion. Slide the **[A]** RT8-PCB along top track of the **[B]** Aluminum Extrusion until the unit is centered.



2.3.4



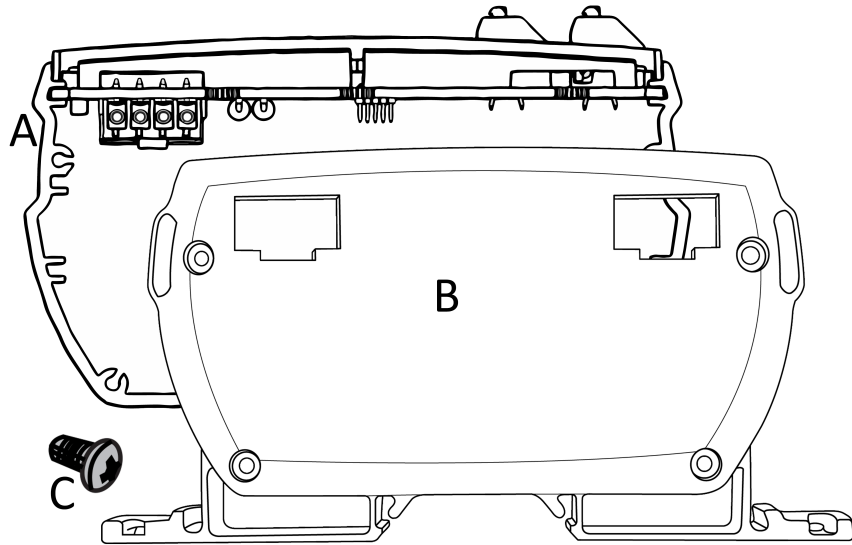
2.3.5



ASSEMBLY 4: END CAPS

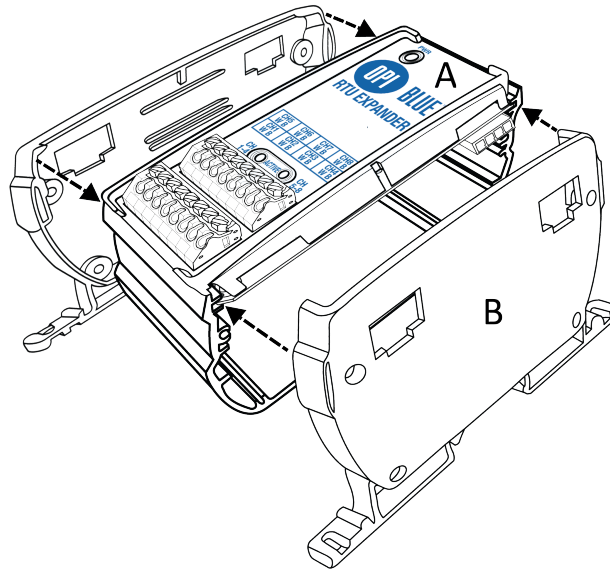
2.4.1

END CAPS

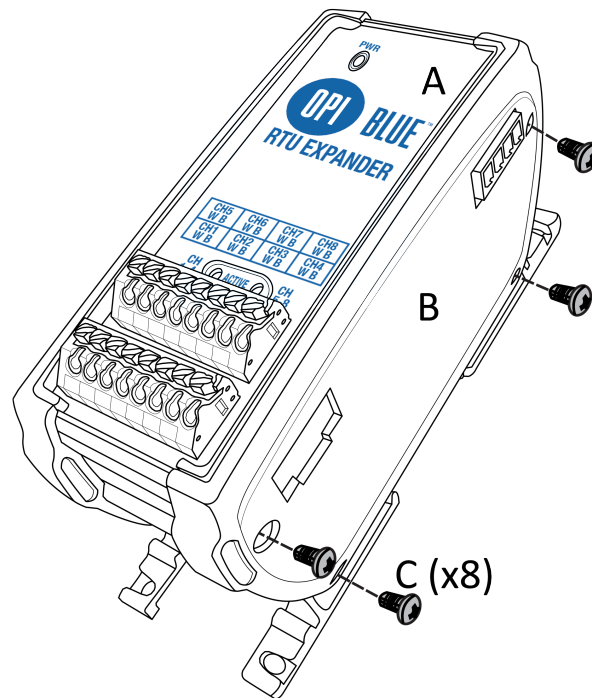


Part Name	Item ID	QTY
A RT8-Assembly		1
B End Cap		2
C 4-40 x 3/8" Thread Forming Screw	32251	8

1. Place both **[B]** End Caps over the exposed sides of the **[A]** RT8-Assembly so that the outside edges align with the Aluminum Extrusion



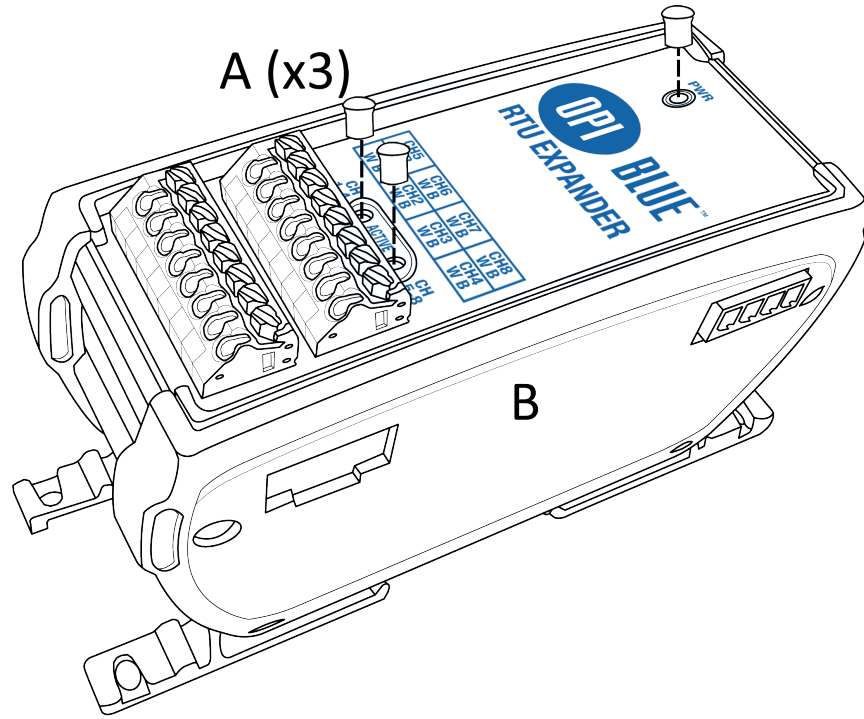
2. Insert **[C]** Thread Forming Screws into each of the four screw holes on both **[B]** End Caps and tighten into the screw retainers of the Aluminum Extrusion (x8)



ASSEMBLY 5: LIGHT PIPES

2.5.1

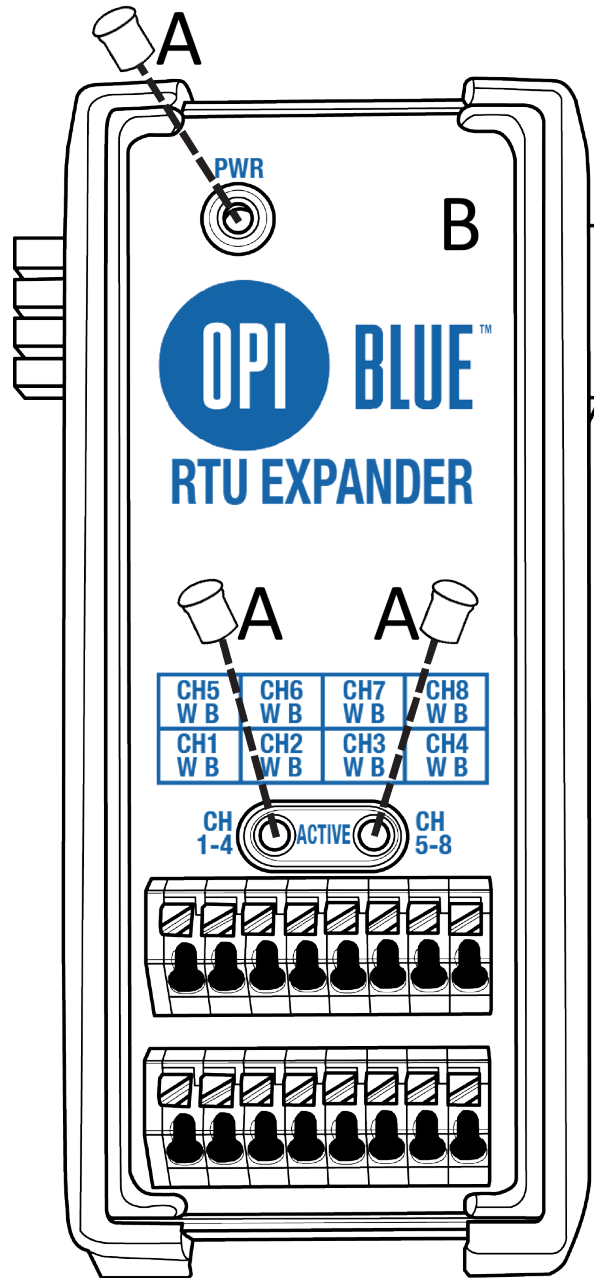
LIGHT
PIPES



Part Name	Item ID	QTY
A Light Pipe 1/8" PNL Mount	PLP2-125	3
B RT8-Assembly		1

1. Insert **[A]** Light Pipe 1/8" PNL Mount into each of the 3 designated LED cutouts (CH 1-4/5-8 ACTIVE and PWR OK) of the **[B]** RT8-PCB Top Cover.

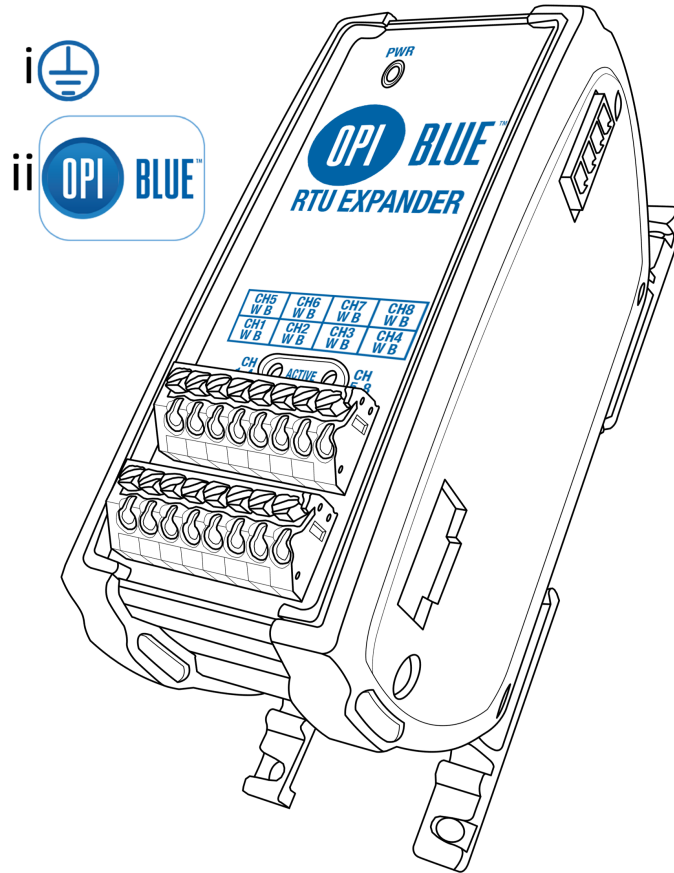
Ensure a snug fit, and if light pipes are loose, try another cover.



ASSEMBLY 6: LABELS

2.6.1

LABELS



Part Name	Item ID	QTY
i Ground Label		1
ii OPI Blue Side Label		1

ASSEMBLY 6: PROCEDURES

1. Apply labels to the OPI Blue RTU Expander (RT8)
 - i. Place upright directly above the ground lug nut
 - ii. Place over the opening with no connection in the End Cap, directly below the Channel Connectors

2.6.2

