

# **OWNER'S MANUAL**



High Intensity LED Runway Light L-862(L), L-862E(L) LED

# Elevated High Intensity L-862(L), L862E(L) LED

# LED Runway Light Owner's Manual

#### In accordance with:

FAA

Advisory Circular AC-150/5345-46 Engineering Brief 67

**ICAO Annex 14** 

**Transport Canada TP312** 



# Manufactured by:

**Airport Lighting Company** 

108 Fairgrounds Drive Manlius, New York 13104 (315) 682-6460

Email: info@airportlightingcompany.com Website: www.airportlightingcompany.com



# L-862(L), L-862E(L) High Intensity LED Light



#### **Compliances**

FAA: L-862(L) and L-862E(L) AC 150/5345-46 and Engineering Brief No. 67 (Current Edition) Canada: TP 312



ICAO: Annex 14, Volume 1

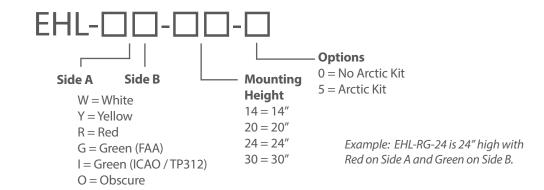
#### **Applications**

Runway Edge, Threshold, Displaced Threshold, Threshold/End, Displaced Threshold Precision IFR Runways

#### **Key Features**

- Long Life LEDs for over 56,000 hours of service
- Light clarity ensured for years with glass lens.
- Dimmable to FAA intensity curve from 2.8 amp to 6.6 amps.
- Fixtures without arctic kits use 30/45W isolation transformers, fixtures with arctic kits use 65W isolation transformers.
- Plug and Know circuit design. Dynamic controller senses the attached light engines, allowing for greater service flexibility.
- Daytime recognition provided on lens retainers
- Leveling surface and sighting cross on cap eliminates the need for an aiming device
- Fixture surface area designed to meet LED thermal requirements

General
Catalog
Numbers



# **DATA SHEET**



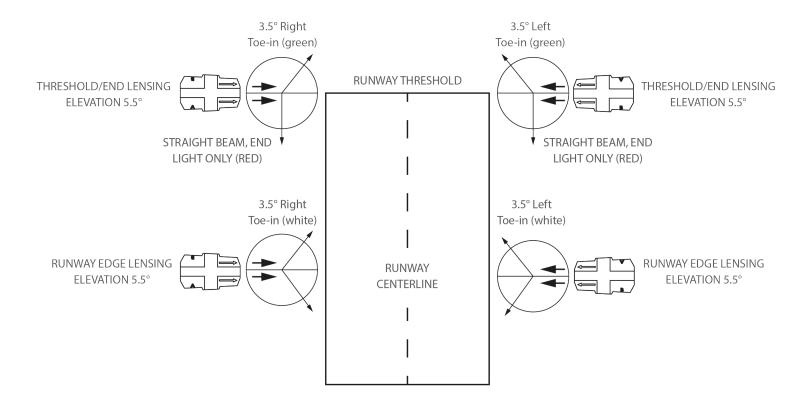
# **Specifications**

#### **Dimensions & Weight**

Height, head assembly	6.8 inches
Height, w/ slip fitter	8.9 inches
Width	5.5 inches
Length	5.2 inches
Weight	7.2 pounds

The L862 fixtures ship in a single box (9  $1/8 \times 5 \% \times 7$ ) or in a case of 18 (18 x 17 x 16).

View runway edge lights from runway centerline perpendicular to fixture when determining color in conjunction with right-hand and left-hand fixtures. The first color will be on the left toe-in side of the light fixture.



# **TABLE OF CONTENTS**

How to Get Help				
Warranty	2			
Safety	3			
Description Catalog Ordering Information L862 Fixtures L862E Fixtures ICAO / TP312 Fixtures Fixture Loads Dimensions Storage	4 5 6 7			
restallation FAA References and Siting Requirements Installation Tools Required for Installation Tools Required for Maintenance Installation Precautions Install Proper Transformer Install Fixture Install Frangible Coupling Aim Fixture Level Fixture Torque Bolts  1	8 8 8 8 8 9 9 0			
Operation1Plug and Know LED Circuit1Multiple Light Devices1Arctic Kit1	1 1			
Maintenance 1 Daily Maintenance 1 Monthly Maintenance 1	2			

# **TABLE OF CONTENTS**



Tech Support Replacing Electronic Parts Replacing Lens, Gasket, and Light Engine
Parts
Wiring Diagrams 21-23
Notes
List of Figures
Figure 1: Light Placement Figure 2: Side A, Side B Figure 3: Fixture Dimensions Figure 4: Fixture Aiming Figure 5: Leveling, Front View Figure 6: Leveling, Side View Figure 7: Electronic Component Assembly Figure 8: How to Remove Ferrule Figure 9: Lens Assembly Figure 9: Lens Assembly Figure 10: Parts Diagram Figure 11: Arctic Kit Parts Figure 12: Schematic, Bi-directional Fixture Figure 13: Schematic, Bi-directional Arctic Kit Figure 14: Schematic, Uni-directional With Arctic Kit Figure 15: Schematic, Uni-directional with Arctic Kit
List of Tables
Table 1: PF and VATable 2: TorqueTable 3: TroubleshootingTable 4: Light EnginesTable 5: Columns and CordsTable 6: Bill of MaterialsTable 7: Arctic Kit Bill of Materials





# **Have Questions? Contact Us:**

PHONE: (315) 682-6460

EMAIL: info@airportlightingcompany.com

**WEBSITE:** www.airportlightingcompany.com



An ISO 9001:2015 Certified Company

108 Fairgrounds Drive Manlius, New York 13104





### **Statement of Warranty**

Products manufactured by Airport Lighting Company (ALC) which use LEDs as a light source are warranted against mechanical and physical defects in design or manufacture for a period of 2 years from date of installation per the applicable FAA Advisory Circular and against electrical defects in design or manufacture of the LED or LED specific circuitry for a period of 4 years per FAA EB67D. ALC will correct such defects by repair or replacement, at its option, provided the products have been properly handled and stored prior to installation, properly installed and operated after installation, and provided further that the Buyer has notified ALC in writing within the warranty period and within a reasonable time after notice of such defects. Refer to handling, storage, installation and operational instructions for proper procedural guidance that must be followed to maintain warranty provisions.

This warranty is in effect for the specified term as long as the equipment, in ALC's judgment, has not been altered in such a way as to affect the equipment adversely, subject to accident, negligence, improper storage, and has been operated and maintained in accordance with accepted FAA guidelines as described in AC 150/5340-26 and ALC's published operational guidelines.

ALC reserves the right to examine products about which a claim has been made. Equipment must be presented in the same condition as when the defect was discovered. ALC also reserves the right to require the return of equipment to establish any claim.

**Disclaimer:** ALC's obligation under this warranty is limited to repair or replacement of defective equipment sold by ALC at no cost to Buyer. This does not include any other costs such as the cost of removal, shipping, or installation of the defective part or repaired or replaced product, including labor or any consequential damages of any kind. Warranty services provided under this agreement do not assure uninterrupted operations of LED illuminated equipment. ALC shall not be liable for any indirect or consequential damages.

ALC's liability under no circumstances will exceed its sales price of the products claimed to be defective. All transportation costs under this warranty are the responsibility of the purchaser. Replacement parts and/or equipment provided under this warranty are covered under the same terms until the expiration of the original warranty period that began upon the first installation of the equipment.

This is ALC's sole and exclusive warranty with respect to the equipment sold to the Buyer. There are no express or implied warranties of fitness for any particular purpose or any implied warranties other than those made expressly herein.

ALC shall not be liable to the purchaser of this product or third parties for indirect or consequential damages, or for damages arising from the use of any options or parts other than those designated by ALC as approved products. Damage caused by lightning, flood and other natural or manmade causes are outside the scope of this warranty.





# **Safety**

It is not safe to work on a constant current power system when the power is on. Make sure the power is off before installing a runway light fixture. A lock out, tag out, procedure should be used. An additional safety measure is to test that the circuit is off by using a clamp-on ammeter. By using a clamp-on ammeter, clamped over the primary cable of the isolation transformer, the installer can confirm that the circuit being worked on is off by verifying that no current is flowing thru the primary cable.



# **Description**

The High Intensity LED Runway Lights are elevated bi-directional and uni-directional runway lights. The High Intensity LED Runway Light operate on a 2.8 - 6.6 Amp series runway circuit.

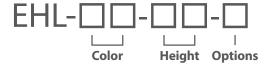
**FAA:** This product line meets the requirements for L862 and L862E

**ICAO:** This product line meets the standards as shown Appendix 2, A2-3 (green threshold light), A2-8 (red runway end light), and A2-10 (white, yellow and red runway edge light where width of runway is 60m).

**TP312:** This product line meets the standards as shown in Appendix B.1.3 (green threshold light), B.1.9.3 (red runway end light), and B.1.11 (white, yellow and red runway edge light where width of runway is 60m).

# **Catalog Ordering Information**

#### L-862(L) Fixtures

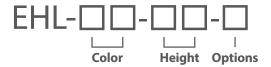


Color	Height	Options
WW = White / White	14 = 14" (36cm)	5 = Arctic Kit
WY = White / Yellow	20 = 20" (51cm)	
YW = Yellow / White	24 = 24" (61cm)	
WR = White / Red	30 = 30" (76cm)	Side A
RW = Red / White	Other heights available	
GY = Green / Yellow		
YG = Yellow / Green		Side B
RY = Red / Yellow		) Side b
YR = Yellow / Red		Figure 1: Light Plac

**Example:** EHL-WY-24 is 24" high fixture with white on side A and yellow on side B.

# **Catalog Ordering Information Continued**

#### L-862E(L) Fixtures



Color	Height	Options	
RR = Red / Red	14 = 14" (36cm)	5 = Arctic Kit	
RG = Red / Green	20 = 20" (51cm)		
GR = Green / Red	24 = 24" (61cm)	Side Side Side	le l
RO = Red / Obscure	30 = 30" (76cm)	A A	
OR = Obscure / Red	Other heights available		
GO = Green / Obscure			
OG = Obscure / Green		Stand on runway centerline	
		Stand on runway centerline Look at fixture Read left to right SideA, Side B	

Figure 2: Side A, Side B

**Example:** EHL-RG-24 is 24" high with red on side A and green on side B.

# **Catalog Ordering Information Continued**

#### **ICAO / TP312 Fixtures**



**Example:** EHL-IO-24 is 24" high uni-directional fixture with green on side A.

White, Yellow and Red (W, Y, R) meet the runway light requirements for a runway 60m wide as stated in Annex 14, Appendix 2, A2-10 and TP312, Appendix B.1.11.

**Red (R)** meets the requirement for a runway end light as stated in Annex 14, Appendix 2, A2-8 and TP312, Appendix B.1.9.3

**Green (I)** meets the requirements for a threshold light as stated in Annex 14, Appendix 2, A2-3 and TP312, Appendix B.1.3.

**Note:** G represents a green light engine that does **NOT** meet ICAO or TP312 specifications. The green ICAO and TP312 threshold light must designated as I when ordering a fixture.

#### **Fixture Loads**

#### Table 1: PF and VA

	<b>Fixture Load</b>	Iso Tran Load	VA	PF
WW	44.8	13.5	58.3	0.95
WW arctic kit	58.8	10.6	69.4	0.98
Green unidirectional (GO)	24.4	14.3	38.7	0.96
GO arctic kit	31.4	11.1	42.5	0.97

### **Dimensions**

Height, head assembly:6.8 inches, (173mm)Height, w/ slip fitter:8.9 inches, (226mm)Width:5.5 inches, (140mm)Length:5.2 inches, (132mm)Weight:5 pounds, (2.3kg)

#### **Single Box**

(9 1/8 x 5 3/4 x 7 inches) or (232 x 178 x 1468mm)

#### 9 Fixtures in a Box

(17 x 16 ½ x 10 inches) or (432 x 420 x 254mm)

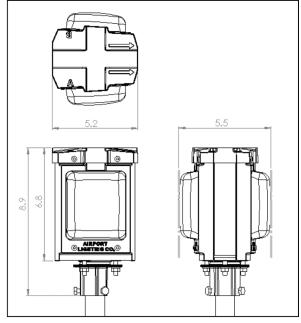


Figure 3: Fixture Dimensions

# **Storage**

The Elevated High Intensity fixtures should be stored indoors and kept dry.

**Storage Temperature:** -55C (-67F) to +55C (131F).





# **FAA References and Siting Requirements**

The requirements for siting of high intensity runway edge lights are explained in FAA advisory circular 150/5340-30J.

The L862E fixtures, bidirectional red/green and red/red, and unidirectional red or green will come with red and/or green lens retainers to provide daytime recognition.

#### **Installation**

#### **Tools Required for Installation:**

- 7/16 wrench
- 1 ½ inch wrench

#### **Tools Required for Maintenance:**

- 7/16 wrench
- 1 ½ inch wrench
- Torx T20 driver

#### **Installation Precautions**

It is not safe to work on a constant current power system when the power is on. Make sure the power is off before installing a light fixture. A Lock Out Tag Out procedure is strongly recommended. An additional safety measure is to test circuit by using a clamp on current meter. By clamping over the primary cable in the fixture can, the installer has performed an additional safety check by checking the circuit they are working on is off. At the vault make sure the Constant Current Regulator powering the circuit is off and has been tagged out. At the fixture, place a clamp-on ammeter over the primary cable and verify that the current measures zero amps.

### **Install Proper Transformer**

It is recommended to use the specified transformer to power the High Intensity LED Runway Light. A smaller transformer will not allow the fixture to work properly. An oversized transformer can be used but will not work as efficiently. A 30/45-Watt isolation transformer is specified for all fixtures without an arctic kit. All fixtures that have an optional arctic kit require a 65W isolation transformer.



#### **Install Fixture**

Loosely install the column to the fixture and pass the secondary cable thru the column and frangible coupling. Connect the secondary to the transformer. Fasten the column to the frangible coupling with a torque of 64 inchpounds (5.3 foot-pounds).

#### **Install Frangible Coupling**

Install frangible coupling into baseplate and torque to 50 ft-lbs. (68Nm). For a 62-1060 coupling into a 2in NPS baseplate, connect the 62-1060 to a 2in to 1 1/2in reducer, then install the reducer and coupling into the baseplate with a torque of 50 ft-lbs. (68Nm).

#### **Aim Fixture**

The arrows on the fixture cap should be pointed towards the runway centerline. The shorter cross on top of the cap is used to sight the fixture for alignment with the row of edge lights, the longer member of the cross can be used to align with the threshold lights.

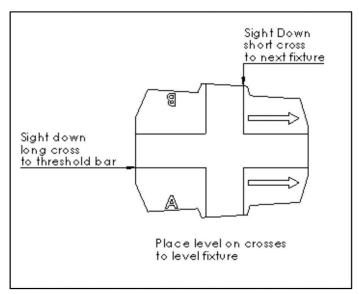


Figure 4: Fixture Aiming

#### **Level Fixture**

Place a level on top of the cap and level the fixture. If a torpedo level is used, level in both directions of the cross. A bull's eye level can be used at the cross intersection.

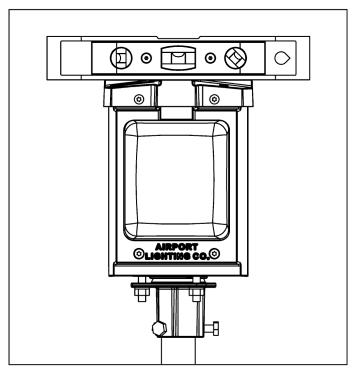


Figure 5: Leveling, Front View

Figure 6: Leveling, Side View

# **Torque Bolts**

Once the fixture has been aimed and leveled, torque the  $\frac{1}{4}$ -20 fasteners to 64 inch-pounds (5.3 foot-pounds). Recheck the level of the fixture.

**Table 2: Torque** 

	Inch-pounds	Foot-pounds	Newton-meters
#8	18.4	1.5	2.1
1/4-20	63.6	5.3	7.2
1 1/2 & 2	na	50	68



### **Operation**

The L862 LED product line is designed to work on a constant current electrical supply that delivers current from 2.8 amps to 6.6 amps. The fixture measures the input current and automatically adjusts the light intensity. The fixture contains an input board, a controller, and light engine(s). The fixture senses which color will be emitted by the light engine and adjusts its power accordingly. Change of light engine to a different color requires no user adjustments.

Inspect that the fixture is properly installed and connected to the correct isolation transformer. Turn on the fixture and the LEDS come on. Step the current level and the light intensity will adjust to the correct intensity. When stepping current, allow a few seconds for the intensity to readjust.

### **Plug and Know LED Circuit**

The ALC L-862 light engines use a 6-pin connector. 2 of the 6 pins provide power to the LEDs. The remaining 4 pins are used to identify the light engine. When a light engine is connected to the fixture, the fixture knows which light engine has been connected. This allows the circuit to properly drive each light engine to its correct intensity.

# **Multiple Light Devices**

The light engines are made up of multiple LEDS. FAA requires the fixture to shut off if 25% of the LEDs fail. The circuit is constantly looking at the LEDs. When 25% or more fail, the circuit will power down within 2 minutes and a minute later it will shut the fixture off. If the fixture is off, do not touch the fixture. There is still power going to the fixture. If a fixture appears to be off, cycle the power off and on. Observe the light engines. Replace the light engine that does not have all the LEDs working.

### **Arctic Kit**

The optional arctic kit operates in series with the L-862(L) fixture. A thermostat determines whether the arctic kit is needed. If the temperature is low, the thermostat sends power to the heater(s) and the glass lens is heated. If the temperature is high, the thermostat shorts and only the fixture sees power.





# **Daily Maintenance**

- Check that all lights are working.
- Check that all lights have similar light output.
- · Check that the lenses are clean.

# **Monthly Maintenance**

- Check that all fixtures are aimed properly.
- Check that all fixtures are level on 2 axes.
- Check that the fixture is secure, and all fasteners are tight.
- Check that all LEDs are illuminated.
- Clean the lenses.

# **TROUBLESHOOTING**



# **Tech Support**

Outside of aiming, leveling, and cleaning, the L-862 LED should require very little maintenance. The end user has the option to use this manual to perform advanced maintenance, to call tech support at Airport Lighting Company at (866) 212-1060 or to contact us by email at support@airportlightingcompany.com.

Tech support can provide the end user with an RMA, Return Merchandise Authorization number. Once the fixture has been evaluated by ALC, you will be either granted a warranty replacement, the option to repair the fixture or the option to purchase a new fixture.

#### **Table 3: Troubleshooting**

Problem	Cause	Solution
Light output too low	Glass is dirty	Clean lens
	Wrong current level	Check current on CCR
	Isolation transformer too small	Install the proper sized transformer
	LED light engine is failing	Replace light engine
	Controller is failing	Replace controller
Only one side of fixture has light output	LED light engine is disconnected	Check light engine connection
	LED light engine has failed	Replace light engine
	Controller has failed	Replace controller
Both sides of fixture, no light output	Connection failed	Check all connections
	LED light engine(s) failed	Replace light engine(s)
	Controller failed	Replace controller
	Power input board failed	Replace power input board
	Arctic Kit has open circuit	Check arctic kit connections
Condensation inside lens	Excess humidity	It will clear itself

# **Q** TROUBLESHOOTING



### **Replacing Electronic Parts**

When the light is out the cause can be in a few areas. The way to isolate the problem is to start with a known good fixture. Test each part from the inoperable fixture in the known good fixture, one at a time, until the problem is isolated. Then replace the defective part.

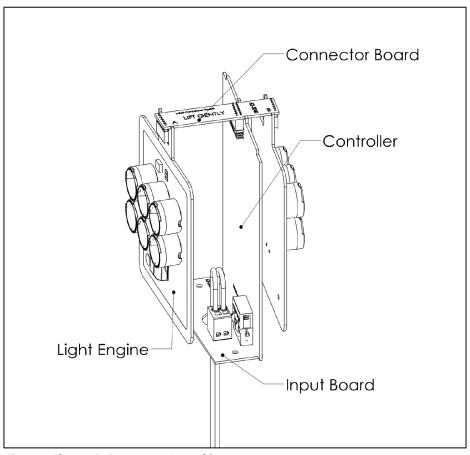


Figure 7: Electronic Component Assembly

- Note which side is side A and which side is side B.
- Remove the 4 screws that hold the cap in place.
- Remove the cap.
- Carefully pull the connector board upward to disconnect.
- Remove the 2 screws that hold the side A lens retainer in place.
- Remove side A LED light engine.
- Remove the 2 screws that hold the Side B lens retainer in place.
- Remove side B LED light engine.
- Pull the connector board upward and out of the fixture.
- Remove the 4 screws holding the bottom to the body.

# **Q** TROUBLESHOOTING

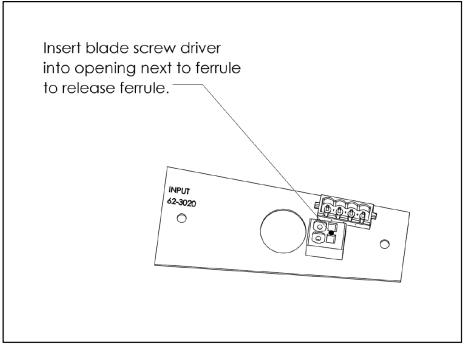


Figure 8: How to Remove Ferrule

- Insert a small blade screwdriver into the openings next to the ferrules to release the ferrules.
- Remove the 2 screws holding the input board to the bottom.

#### **Replacing Electronic Parts**

- Connect the input board to the bottom with 2 screws.
- Push the ferrules into the input board terminal block until the ferrules are flush with the top
  of the terminal block.
- Position the controller board into the input board.
- Slide the controller board into the body. Make sure the board is in the grooves correctly.
- Connect the bottom to the body with 4 screws.
- Install the connector board to the controller.
- Use the cap to determine Side A and Side B.
- Slide Side A light engine into the connector board.
- Place the lens retainer over the light engine.
- Make sure the top edges are flush.
- Install the 2 lower screws.
- Slide Side B light engine into the connector board.
- · Place the retainer over the light engine.
- Make sure the top edges are flush.
- Install the 2 lower screws.
- Place the cap in position and apply a downward pressure while installing 4 screws.

# **TROUBLESHOOTING**



# **Replacing Lens, Gasket, and Light Engine**

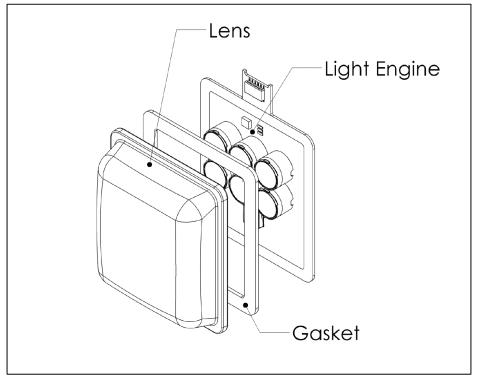


Figure 9: Lens Assembly

It is recommended to purchase the light engine as an assembly with a new glass lens. If the lens is broken and the light engine still works properly, the glass lens can be replaced. And if the lens is good, the light engine can be replaced.

- Replacing the Light Engine, Lens and Gasket
- Cut the gasket with a box cutter.
- Separate the two parts.
- Peel the gasket off the parts that are going to be reused.
- Use an adhesive cleaner to remove any remaining adhesive.
   (Goo Gone, or De-Solv-It work well)
- Use alcohol to clean the surface for the new gasket.
- · Clean the lens.
- Peel and stick the new gasket to the lens.
- Peel and stick the gasket and lens to the light engine.



# **High Intensity Runway Light LED Light Engines**

There are 5 different light engines to choose from. There is 1 white, 1 yellow, 1 red and 2 green light engines. Each light engine meets a specification or multiple specifications. All specifications are met when the fixture is aimed properly. Table 4 shows the available light engines. All light engines work on either side of a fixture.

**Table 4: Light Engines** 

Color	Order Code	Light Engine w/ Lens	Light Engines	LEDs	FAA		ICAO
White	W	262-1200	62-3030	7	L862	A2-10	Runway Edge Light to 60m wide
Yellow	Υ	262-1201	62-3031	7	L862	A2-10	Runway Edge Light to 60m wide
Red	R	262-1202	62-3032	7	L862 L862E	A2-10 A2-8	Runway Edge Light to 60m wide. Runway End Light
Green	G	262-1203	62-3033	4	L862 L862E		
Green	I	262-1204	62-3034	9		A2-3	Threshold Light

# **Column and Cords Part Numbers**

**Table 5: Columns and Cords** 

Fixture Height	Column Part Number	Cord PN
14 inches (36cm)	77	262-1200
20 inches (51cm)	78	262-1201
24 inches (61cm)	78-16	262-1202
30 inches (76cm)	79	262-1203





# **Parts Diagram**

Item	Part Number	Qty.
1	262-1300 L862 Cap	1
2	62-1010, L862 Body	1
3	62-3040, L862 Connector Board	1
4	62-3010, L862 Controller	1
5	62-3020, L862 Input Board	1
6	62-1040, L862 Bottom	1
7	62-1050, L862 Slip Fitter	1
8	Column (see table)	1
9	62-1060, Hex Coupling	1
10	62-1030, L862 Retainer	1 or 2
11	62-1070, L862 LED Lens	1 or 2
12	62-2020, Lens Gasket	1 or 2
13	Light Engine (see table)	1 or 2
14	99-00109, Strain Relief	1
15	99-00244, #8 Torx T20	12

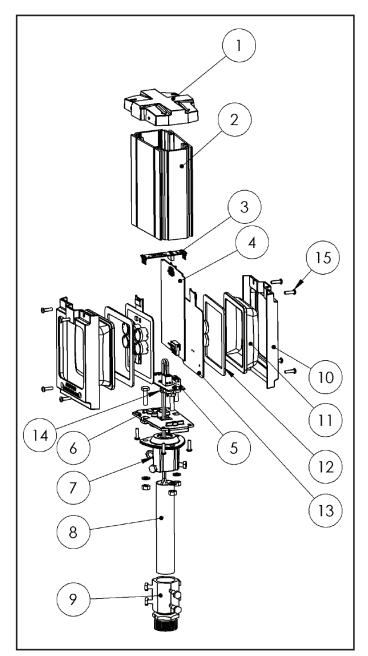


Figure 10: Parts Diagram





### **Arctic Kit Parts**

Item	Part Number	Description
1	62-3025	PCB AK Input Board
2	62-3050	PCB Thermostat Board
3	62-3060	Heater

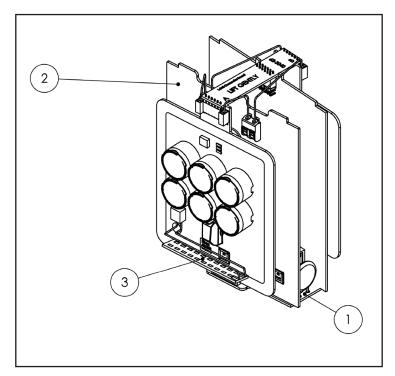


Figure 11: Arctic Kit Parts





#### **Table 6: Bill of Materials**

<b>Part Number</b>	Name	Description
62-1010	L862 Body	Extrusion body
262-1300	Cap w/ Gaskets	Die cast cap
62-1030	L862 Retainer Yellow	Die cast yellow lens retainer
62-1031	L862 Retainer Red	Die cast red lens retainer
62-1032	L862 Retainer Green	Die cast green lens retainer
62-1033	L862 Retainer Blank	Solid retainer, obscure side of unidirectional
62-1040	L862 Bottom	Die cast bottom
62-1050	L862 Slip Fitter	Die cast slip fitter
62-1060	Hex Coupling	Frangible coupling
62-1070	Lens	Glass lens
62-2020	Lens Gasket	Gasket
62-3010	PCB Controller	PCB controls unit
62-3020	PCB Input Board	PCB input connection
62-3025	PCB AK Input Board	PCB input connection (arctic kit option)
62-3040	PCB Connector Board	PCB connects light engines to controller
62-3030	PCB Light Engine White	White 7 LED light engine with optics
62-3031	PCB Light Engine Yellow	Yellow 7 LED light engine with optics
62-3032	PCB Light Engine Red	Red 7 LED light engine with optics
62-3033	PCB Light Engine Green	Green 4 LED light engine with optics
62-3034	PCB Light Engine, ICAO Threshold	Green 9 LED light engine with optics
62-3050	PCB Thermostat Board	Thermostat board (arctic kit option)
62-3060	PCB Heater Board	Heater (arctic kit option)
262-1200	Light Engine Ass'y, White	White 7 LED light engine with lens and gasket
262-1201	Light Engine Ass'y, Yellow	Yellow 7 LED light engine with lens and gasket
262-1202	Light Engine Ass'y, Red L862	Red 7 LED light engine with lens and gasket
262-1203	Light Engine Ass'y, Green L862	Green 4 LED light engine with lens and gasket
262-1204	Light Engine Ass'y, ICAO Threshold	Green 9 LED light engine with lens and gasket
262-1100	L862(L) Cord Set, 14" OAH	L-823, Style 6 for 14" (36cm) EHL Fixture
262-1101	L862(L) Cord Set, 20" OAH	L-823, Style 6 for 20" (51cm) EHL Fixture
262-1102	L862(L) Cord Set, 24" OAH	L-823, Style 6 for 24" (61cm) EHL Fixture
262-1103	L862(L) Cord Set, 30" OAH	L-823, Style 6 for 30" (76cm) EHL Fixture
77	Column for 14	Column for 14 (36cm)
78	Column for 20	Column for 20 (51cm)
78-16	Column for 24	Column for 24 (61cm)
79	Column for 30	Column for 30 (76cm)
99-00244	8-32 x 5/8 Torx Pan Taplite SS	Hardware, T20
903	Thread Reducer	2" NPT to 1 ½-12 NF thread reducer





#### **Table 7: Arctic Kit Bill of Materials**

Part Number	Name	Description
62-3025	PCB AK Input Board	Input Board
62-3130	PCB Light Engine White	White light engine
62-3131	PCB Light Engine Yellow	Yellow light engine
62-3132	PCB Light Engine Red	Red light engine
62-3133	PCB Light Engine Green	Green L-862 Light engine
62-1033	L862 Retainer Blank	Solid retainer, obscure side of unidirectional
62-3134	PCB Light Engine ICAO Threshold	ICAO green threshold light engine
62-3050	PCB Thermostat Board	Thermostat board
62-3060	PCB Heater Board	Heater
62-3065	Heater Tape	Heater tape
262-1210	Light Engine Ass'y, White	White lens and light engine
262-1211	Light Engine Ass'y, Yellow	Yellow lens and light engine
262-1212	Light Engine Ass'y, Red	Red lens and light engine
262-1213	Light Engine Ass'y, Green	Green lens and light engine
262-1214	Light Engine Ass'y, ICAO Threshold	ICAO green lens and light engine



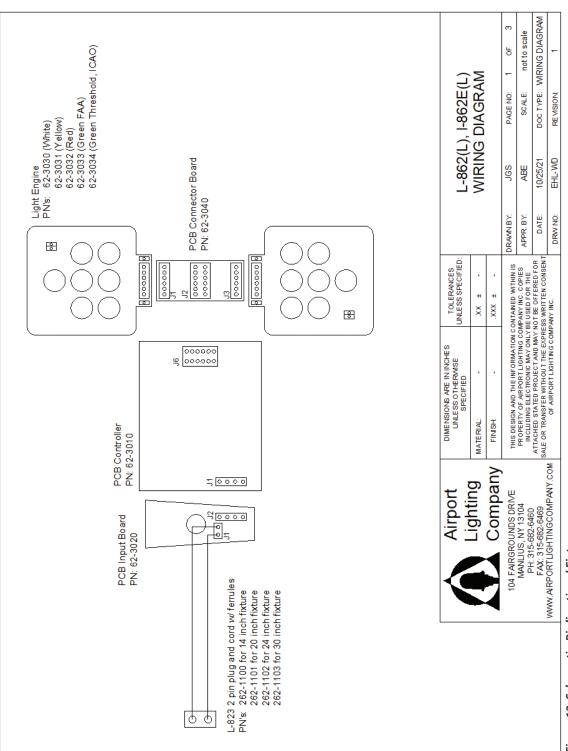


Figure 12: Schematic, Bi-directional Fixture

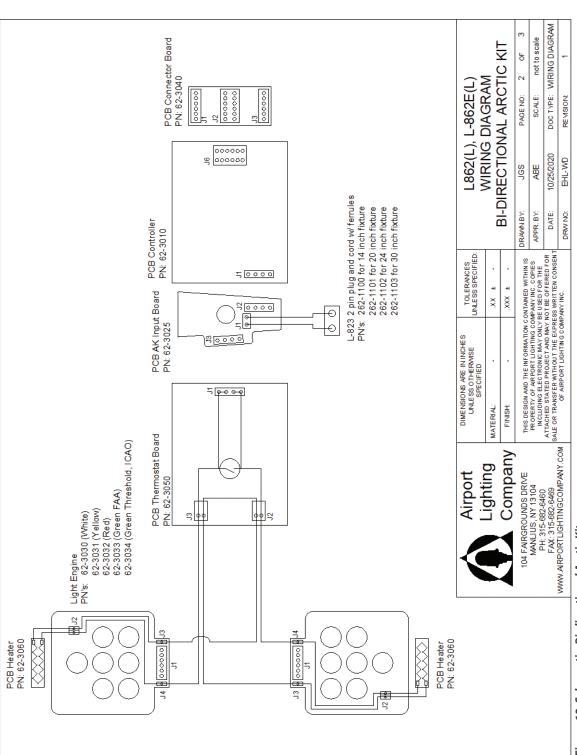


Figure 13: Schematic, Bi-directional Arctic Kit



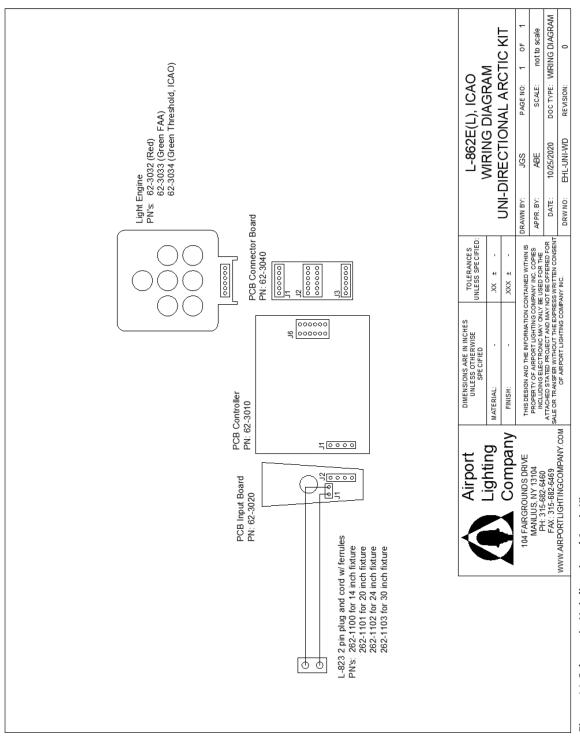


Figure 14: Schematic, Uni-directional Arctic Kit

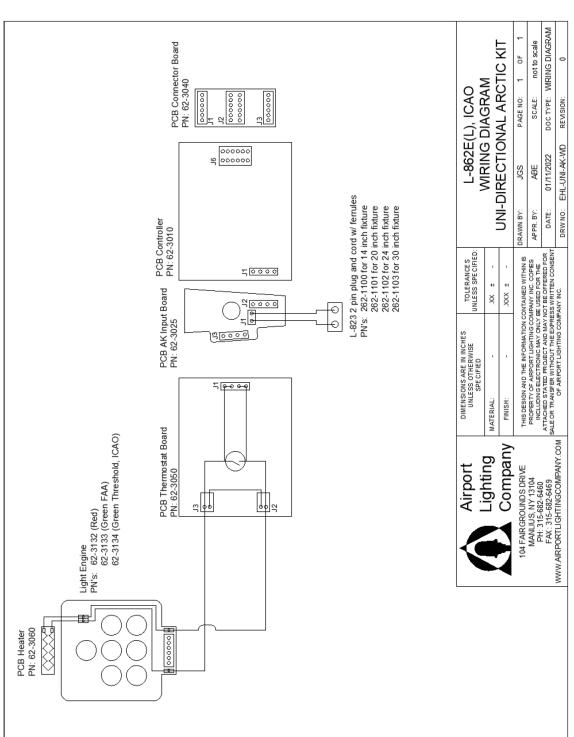


Figure 15: Schematic, Uni-directional with Arctic Kit

# **NOTES**

