



LED REIL
Runway End Identification Light

Spare Parts

SP_3096, Rev. A, 2020/08/04


**ADB
SAFEGATE**

A.0 Disclaimer / Standard Warranty

CE certification

The equipment listed as CE certified means that the product complies with the essential requirements concerning safety and hygiene. The European directives that have been taken into consideration in the design are available on written request to ADB SAFEGATE.

ETL certification

The equipment listed as ETL certified means that the product complies with the essential requirements concerning safety and FAA Airfield regulations. The FAA directives that have been taken into consideration in the design are available on written request to ADB SAFEGATE.

All Products Guarantee

ADB SAFEGATE will correct by repair or replacement per the applicable guarantee above, at its option, equipment or parts which fail because of mechanical, electrical or physical defects, provided that the goods have been properly handled and stored prior to installation, properly installed and properly operated after installation, and provided further that Buyer gives ADB SAFEGATE written notice of such defects after delivery of the goods to Buyer. Refer to the Safety section for more information on Material Handling Precautions and Storage precautions that must be followed.

ADB SAFEGATE reserves the right to examine goods upon which a claim is made. Said goods must be presented in the same condition as when the defect therein was discovered. ADB SAFEGATE further reserves the right to require the return of such goods to establish any claim.

ADB SAFEGATE's obligation under this guarantee is limited to making repair or replacement within a reasonable time after receipt of such written notice and does not include any other costs such as the cost of removal of defective part, installation of repaired product, labor or consequential damages of any kind, the exclusive remedy being to require such new parts to be furnished.

ADB SAFEGATE's liability under no circumstances will exceed the contract price of goods claimed to be defective. Any returns under this guarantee are to be on a transportation charges prepaid basis. For products not manufactured by, but sold by ADB SAFEGATE, warranty is limited to that extended by the original manufacturer. This is ADB SAFEGATE's sole guarantee and warranty with respect to the goods; there are no express warranties or warranties of fitness for any particular purpose or any implied warranties of fitness for any particular purpose or any implied warranties other than those made expressly herein. All such warranties being expressly disclaimed.

Standard Products Guarantee

Products of ADB SAFEGATE manufacture are guaranteed against mechanical, electrical, and physical defects (excluding lamps) which may occur during proper and normal use for a period of two years from the date of ex-works delivery, and are guaranteed to be merchantable and fit for the ordinary purposes for which such products are made.



Note

See your sales order contract for a complete warranty description.

FAA Certified product installed in the United States and purchased or funded with monies through the Airport Improvement Program (AIP) installations guarantee

ADB SAFEGATE L858 Airfield Guidance Signs are warranted against mechanical and physical defects in design or manufacture for a period of 2 years from date of installation, per FAA AC 150/5345-44 (applicable edition).

ADB SAFEGATE L858(L) Airfield Guidance Signs are warranted against electrical defects in design or manufacture of the LED or LED specific circuitry for a period of 4 years from date of installation, per FAA EB67 (applicable edition).

ADB SAFEGATE LED light fixtures (with the exception of obstruction lighting) are warranted against electrical defects in design or manufacture of the LED or LED specific circuitry for a period of 4 years from date of installation, per FAA EB67 (applicable edition).

**Note**

See your sales order contract for a complete warranty description.

Liability

**WARNING**

Use of the equipment in ways other than described in the catalog leaflet and the manual may result in personal injury, death, or property and equipment damage. Use this equipment only as described in the manual.

ADB SAFEGATE cannot be held responsible for injuries or damages resulting from non-standard, unintended uses of its equipment. The equipment is designed and intended only for the purpose described in the manual. Uses not described in the manual are considered unintended uses and may result in serious personal injury, death or property damage.

Unintended uses, includes the following actions:

- Making changes to equipment that have not been recommended or described in this manual or using parts that are not genuine ADB SAFEGATE replacement parts or accessories.
- Failing to make sure that auxiliary equipment complies with approval agency requirements, local codes, and all applicable safety standards if not in contradiction with the general rules.
- Using materials or auxiliary equipment that are inappropriate or incompatible with your ADB SAFEGATE equipment.
- Allowing unskilled personnel to perform any task on or with the equipment.

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1.0 Introduction

The ADB Safegate Runway End Identification Light, LED REIL flashing light system provides a visual indication of the runway threshold to pilots during an approach for landing. The system is composed of two sequenced flashers that operate simultaneously to produce short-duration flashes twice a second, one located on each side of the runway threshold. Each LED REIL is composed of an LED optical flash head and an individual control cabinet.

The REIL system may be operated either by local or remote control. There are three styles of REIL systems available to choose from. Style A can be operated at high intensity only, style C can be operated at low intensity only, and style E can be operated at low, medium, or high intensity. The REIL system is available in both voltage powered or a current powered systems. The voltage powered REIL can be operated from a 240 Vac (2-wire) or 120/240 Vac (3-wire), ±10%, 50/60Hz, power supply. The current powered REIL can be operated from a 2.8 to 6.6 A series circuit.



LED REIL - A/C/E

1.1 Runway End Identification Light

Compliance with Standards

FAA:	L-849(L) Style A, C and E AC 150/5345-51 (Current Edition) and the FAA Engineering Brief No. 67. ETL Certified.
ICAO:	Annex 14, Vol. 1, para. 5.3.8
T/C:	Transport Canada TP 312, 5th Edition, Sec. 5.3.10

Uses

LED REIL provides a visual indication to pilots of the runway threshold during an approach.

- Style A**
 - Unidirectional, high intensity, one brightness step
- Style C**
 - Unidirectional, low intensity, one brightness step
- Style E**
 - Unidirectional, three brightness steps

Operating Conditions

Temperature:	-40 °F to +131 °F (-40 °C to +55 °C)
Humidity:	0 to 100% (including conditions where condensation takes place in the form of water or frost)
Altitude:	0 to 10,000 ft (3,000 m)
Wind:	Up to 150 knots
Exposure:	Withstands windblown rain, sand, dust particles, and a salt-laden atmosphere

Optional Features

- On/Off Maintenance Switch Kit 94A0609 – Local switch for removing power to the LED REIL for field maintenance. Installed on the LED REIL enclosure. Available for current-driven only.
- Flange Mount 62B0107/3 – A single-leg enclosure is normally installed onto a threaded coupling, which is attached to the end of a conduit elbow. An optional 6.25-inch (15.88 cm) O.D. flange can be bolted over any conduit elbow flush with the top of the pad.
- Baffle Kit 94A0198-LED – If the standard +15° horizontal beam axis is operationally objectionable on the LED REIL, an optional baffle kit is available. If used, the LED REIL must be set at +3° vertical and +10° horizontal.

Photometric Data

Style	High Intensity (cd)	Medium Intensity (cd)	Low Intensity (cd)
Style A	15,000	N/A	N/A
Style C	N/A	N/A	700
Style E	15,000	1,500	300

Note

Candelas above are within a beam pattern of 10° vertical by 30° horizontal for each flasher. Tolerance of 50% in effective intensity.

Packaging

Styles A/C/E	
Weight	40 lb (18.1 kg) each assembly
Enclosure Dimensions (H x W x D)	16 x 16 x 9 in (40.6 x 40.6 x 22.9 cm)
Packaging Dimensions (H x W x D)	24 x 41 x 29 in (60.96 x 104.14 x 73.66 cm)

Note

Packaging is for information purposes only and is based on, one pallet containing one primary and one secondary cabinet in a box

Equipment Data

Control	Remote, local, or automatic (when current sensing used)
Flash Rate	120 flashes per minute. Both optical assemblies flash simultaneously with less than a 10-millisecond separation.
Light Beam	Adjustable vertically from 0° to 15° and horizontally 15° each side of the zero reference point. The horizontal scale is in 1° increments and the vertical scale is in 0.5° increments. Nominal setting is +10° vertical and +15° horizontal.
Light Source Locking	A positive locking device prevents accidental movement of LED light assembly after aiming
Mounting	Each LED REIL cabinet with frangible coupling (supplied) can be mounted on a concrete pad with a 2-inch NPT pipe or with an optional floor flange
Enclosure	The cabinets can be padlocked and include an interlock switch to disconnect input power when the cabinet door is open

Power Supply

The LED REIL system operates from a 240 VAC (2-wire) or 120/240 VAC (3-wire), ±10%, 50/60 Hz power supply. The system can also operate from a series lighting circuit using a 6.6/6.6 A or 20/6.6 A isolation transformer at each unit.

Power Requirements

Style	Each Unit	Transformer Size	Total
Voltage-powered LED REIL			
A/E	36 VA Average, 119 VA Peak	NA	72 VA Average, 238 VA Peak
C	19 VA Average, 35 VA Peak	NA	38 VA Average, 70 VA Peak
Current-powered LED REIL ¹			
A/E	73 VA Average, 161 VA Peak	100 W	146 VA Average, 322 VA Peak ²
C	48 VA Average, 53 VA Peak	30/45 W	96 VA Average, 106 VA Peak ²

Notes

¹ As powered by ferroresonant CCR

² This is total CCR load and includes isolation transformer losses

2.0 REIL-A/E/C Parts

To order parts, call ADB Safegate Customer Service or your local representative. Use the parts lists, and the accompanying illustration, to describe and locate parts correctly.

Ordering Code

REIL / X X X X X 0 X 2

Style

- A = High-intensity, one brightness step
- C = Low-intensity, one brightness step
- E = Three brightness steps

Power

- 1 = Current-powered¹
- 2 = Voltage-powered

Current Sensing Option²

- 0 = Without current sensing
- 1 = With current sensing

Flash Head Mounting

- 0 = Mounted with enclosure (as shown above)
- 1 = Separate remote mounting on a 2-inch EMT³

Enclosure Mounting

- 1 = One-leg mounting
- 2 = Two-leg mounting

0

Enclosure Type

- 1 = Steel (Painted Aviation Orange)
- 2 = Stainless Steel (Not ETL Certified)

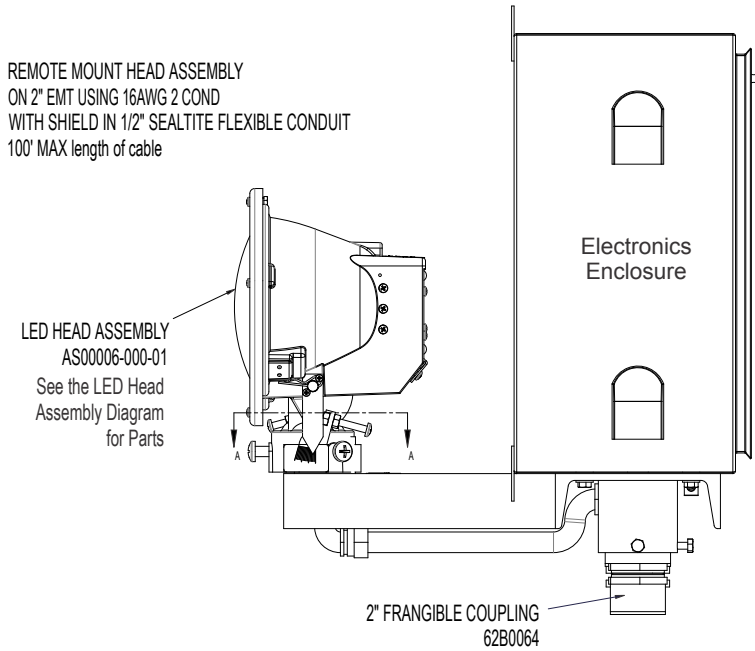
2

Notes

- ¹ A current-powered REIL (powered by a CCR) always has current sensing and cannot be ordered without the current sensing option.
- ² The current sensing option provides ON/OFF control (Style A/C) or 3-step intensity control (Style E) of the REIL system depending on the current level in the series lighting circuit. The current-powered LED REIL doesn't require a separate isolation transformer. The input current from the isolation transformer that powers the primary cabinet is also used for current sensing control. The current sensing input of a voltage-powered LED REIL can be connected to 6.6 A or 20 A series with a 30/45 W isolation transformer 6.6/6.6 A (35C0077) or 20/6.6 A (35C0078). Use 16 AWG 600 V shielded cable supplied by contractor.
- ³ EMT and flash head cabling to be supplied by contractor. Use 16 AWG 600 V shielded cable. Cable length may be up to 100 ft (30.5 m) maximum.

2.1 REIL Assembly Parts

Figure 1: REIL Side View



Note
The same control panel is used in each individual control cabinet.

Figure 2: Enclosure Assembly

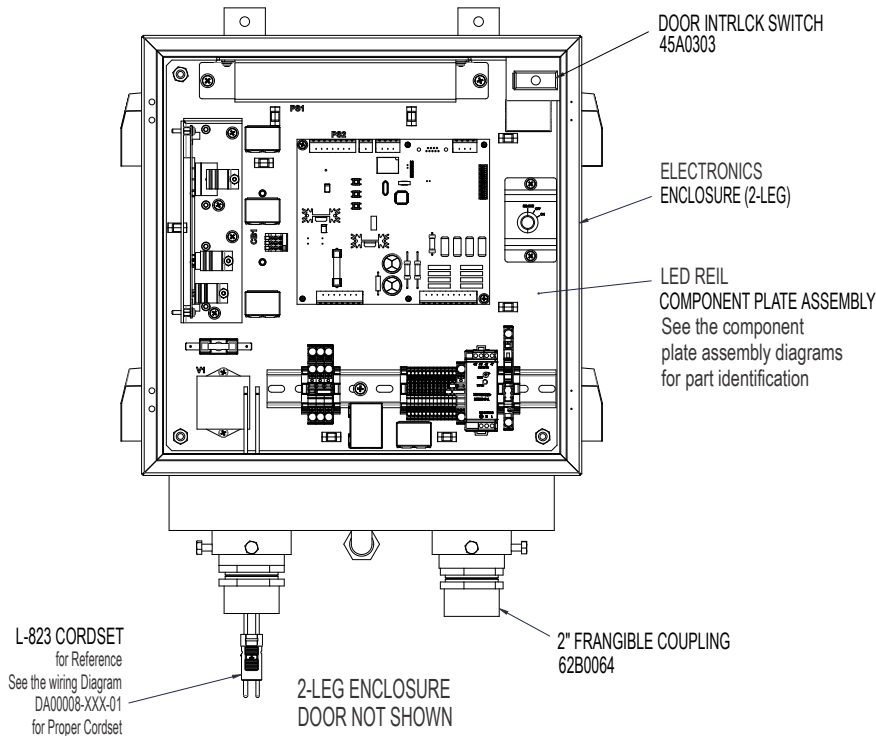


Figure 3: Component Panel Parts (voltage)

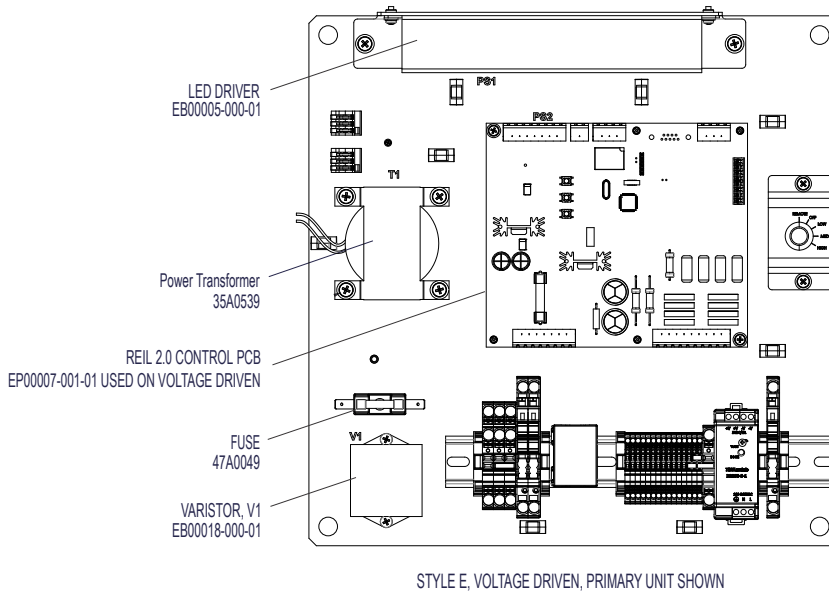


Figure 4: Component Panel Parts (current)

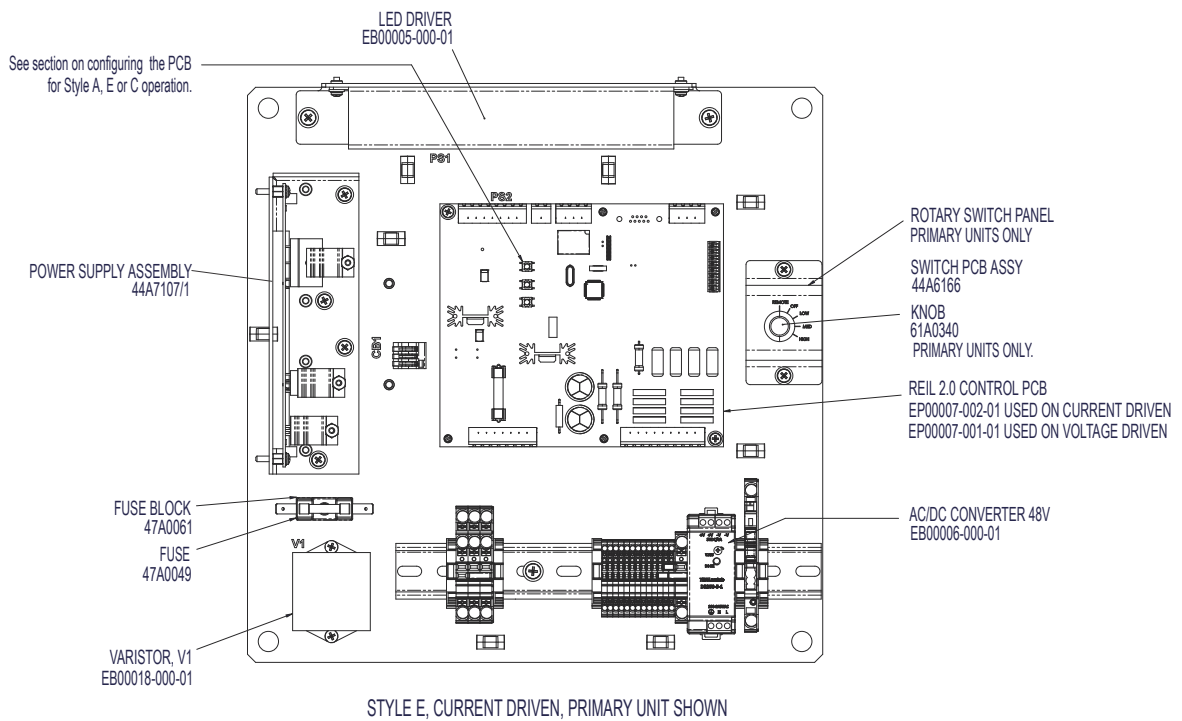


Figure 5: LED REIL Flash Head Assembly

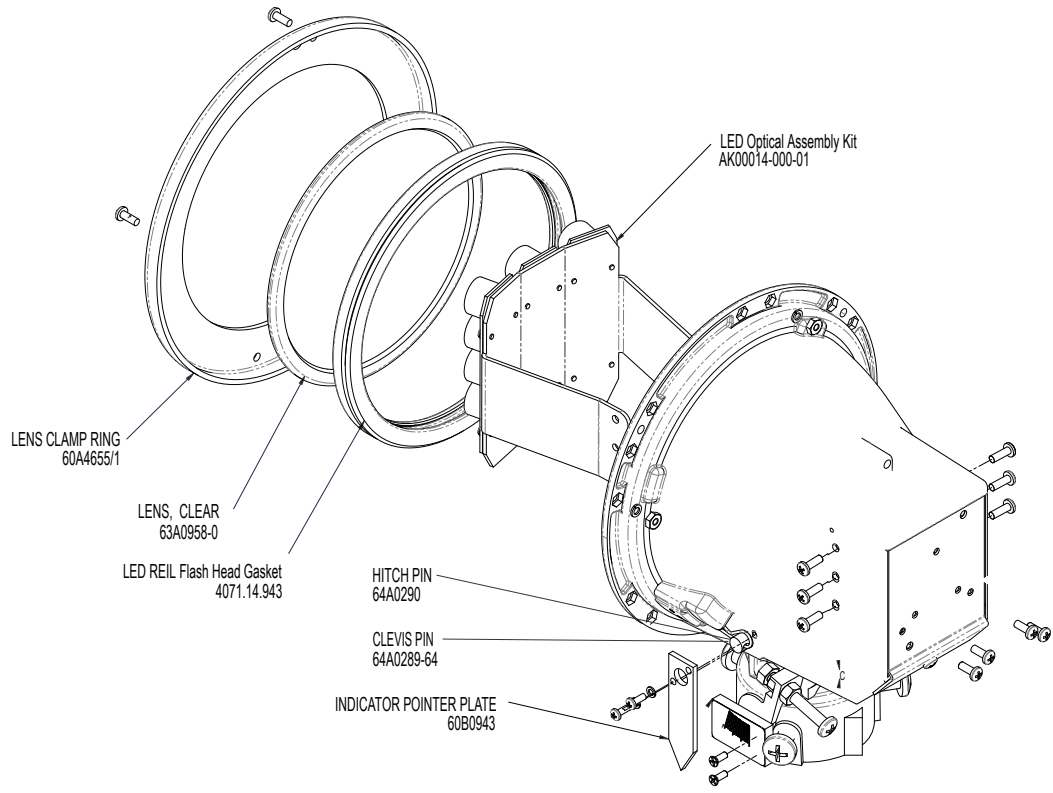


Figure 6: LED REIL Flash Head Assembly KIT AK00014-000-01

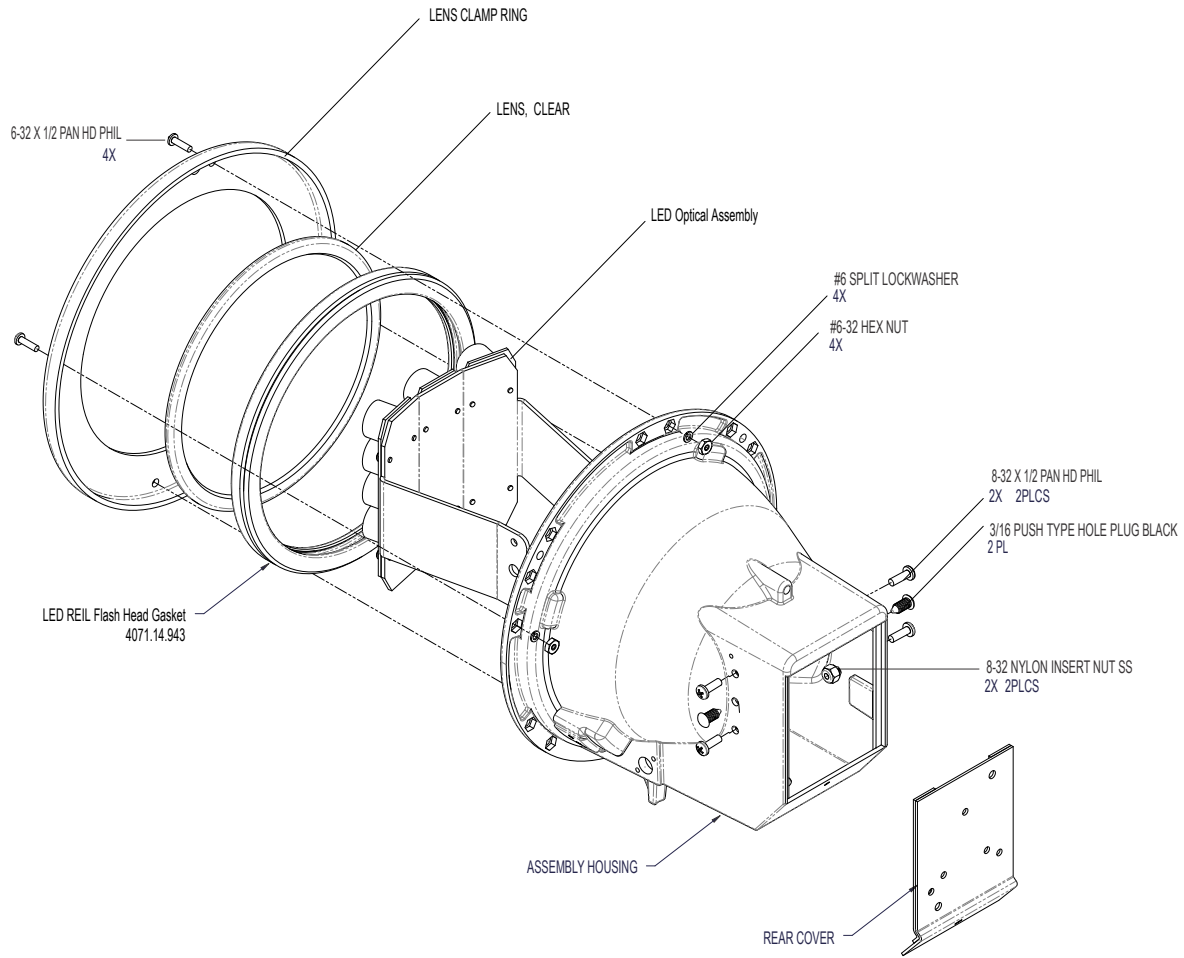


Table 1: Spare Parts

Part number	Description	Note
EP00007-001-01	Control PCB Voltage	Voltage Powered Units Only see Figure 3
EP00007-002-01	Control PCB Current	Current Powered Units Only see Figure 4
35A0539	Power Transformer, T1	Voltage Only see Figure 3
EB00005-000-01	LED Driver	All REIL Cabinets see Figure 4 or Figure 3
EB00006-000-01	AC/DC Converter 48V	Primary Only see Figure 4 or Figure 3
EB00018-000-01	Varistor, V1	Figure 4 or Figure 3
61A0340	Knob	Primary Only see Figure 4 or Figure 3
44A6166	Switch PCB Assembly	Primary Only see Figure 4 or Figure 3
45A0303	Door Interlock Switch	Figure 2
44A7107/1	Power Supply Assembly	Current Only see Figure 4
47A0049	Fuse 2A Slow Blow, F1	Figure 4 or Figure 3

Table 1: Spare Parts (continued)

Part number	Description	Note
AS00006-000-01	LED Head Assembly	Figure 1
AK00014-000-01	LED Engine Replacement Kit includes: <ul style="list-style-type: none"> • AS00007-000-01 Optical Assembly (Qty 1) • 4071.14.943 Gasket (Qty 1) • 65A0347/8 8-32 Nut with nylon insert (Qty 4) • 64A0191/8 8-32x1/2 Pan Head (Qty 4) • 64A0198/8 6-32 X ½ Pan Head Phillips Screw (Qty 4) • 66A0026/11 #6 Split Lockwasher (Qty 4) • 65A0015/11 6-32 Hex Nut (Qty 4) • 63A1091 Black Nylon Hole Plug (Qty 2) 	Figure 5
64A0290	Hitch Pin	Figure 5
64A0289-64	Clevis Pin	Figure 5
60A4655/1	Lens Clamp Ring	Figure 5
63A0958-0	Lens, Clear	Figure 5
4071.14.943	LED REIL Flash Head Gasket	Figure 5
60B0943	Indicator Pointer Plate	Figure 5

Appendix A: SUPPORT

Our experienced engineers are available for support and service at all times, 24 hour/7 days a week. They are part of a dynamic organization making sure the entire ADB SAFEGATE is committed to minimal disturbance for airport operations.

ADB SAFEGATE Support

Live Technical Support - Americas

If at any time you have a question or concern about your product, just contact ADB SAFEGATE's technical service department. Trained in all areas of system issues, troubleshooting, quality control and technical assistance, our highly experienced Technical support specialists are available 24 hours a day, seven days a week to provide assistance over the phone.

ADB SAFEGATE Americas Technical Service & Support (US & Canada): +1-800-545-4157

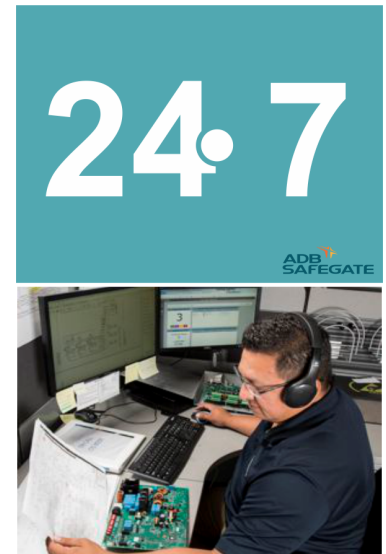
ADB SAFEGATE Americas Technical Service & Support (International): +1-614-861-1304

During regular business hours, you can also Chat with a Service Technician. We look forward to working with you!

Before You Call

When you have an airfield lighting or system control system problem it is our goal to support airfield maintenance staff as quickly as possible. To support this effort we ask that you have the following information ready before calling.

- The *airport code*
- If not with an airport, then company name (prefer customer id number)
- Contact phone number and email address
- Product with part number preferable or product number
- Have you reviewed the product's manual and troubleshooting guide
- Do you have a *True RMS* meter available (and any other necessary tools)
- Be located with the product ready to troubleshoot



Note

For more information, see www.adbsafegate.com, or contact ADB SAFEGATE Support via email at support@adbsafegate.com or

Brussels: +32 2 722 17 11

Rest of Europe: +46 (0) 40 699 17 40

Americas: +1 614 861 1304. Press 3 for technical service or press 4 for sales support.

China: +86 (10) 8476 0106

A.1 ADB SAFEGATE Website

The ADB SAFEGATE website, www.adbsafegate.com, offers information regarding our airport solutions, products, company, news, links, downloads, references, contacts and more.

A.2 Recycling

A.2.1 Local Authority Recycling

The disposal of ADB SAFEGATE products is to be made at an applicable collection point for the recycling of electrical and electronic equipment. The correct disposal of equipment prevents any potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling. The recycling of materials helps to conserve natural resources. For more detailed information about recycling of products, contact your local authority city office.

A.2.2 ADB SAFEGATE Recycling

ADB SAFEGATE is fully committed to environmentally-conscious manufacturing with strict monitoring of our own processes as well as supplier components and sub-contractor operations. ADB SAFEGATE offers a recycling program for our products to all customers worldwide, whether or not the products were sold within the EU.

ADB SAFEGATE products and/or specific electrical and electronic component parts which are fully removed/separated from any customer equipment and returned will be accepted for our recycling program.

All items returned must be clearly labeled as follows:

- For *ROHS/WEEE* Recycling
- Sender contact information (Name, Business Address, Phone number).
- Main Unit Serial Number.

ADB SAFEGATE will continue to monitor and update according for any future requirements for *EU directives* as and when *EU member states* implement new *regulations* and or *amendments*. It is our aim to maintain our *compliance plan* and assist our customers.

Company Addresses

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