Dialight





Dialight Obstruction LED Solutions

High, Medium & Low Intensity Products

APRIL 2019

DIALIGHT IS THE INNOVATION AND MARKET LEADER IN LED OBSTRUCTION SOLUTIONS FOR MORE THAN 20 YEARS

TRUSTED

Every Dialight LED Obstruction system is fully certified and compliant with FAA, ICAO, and international standards, for dependability and performance you can trust.

DIFFERENTIATED

Dialight offers the industry's most comprehensive, energy-efficient and reliable line of LED-based obstruction solution systems in the world. Our precision patented optics ensure maximum safety with minimal ground scatter for community-friendly illumination.



CONVENIENT

Dialight systems offer a small, light-weight flash head for ease of installation, while our low-maintenance fixtures virtually eliminate tower climbs and unplanned site visits for years, dramatically reducing maintenance costs and non-compliance risk.

INTELLIGENT

Dialight controlled LED Obstruction solutions can be seamlessly integrated into existing operation and control centers while providing additional valuable information, both locally and remotely.

FEATURES & BENEFITS

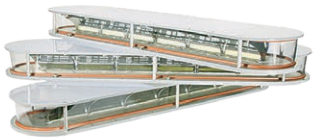
- 5 year warranty
- Resistant to shock and vibration
- High impact polycarbonate lens with UV, scratch and chemical resistant coating
- Reduction in tower climbs for lower maintenance costs/unplanned site visits
- Smallest flash head in the industry
- Community friendly lighting system utilizing patented optics

Dialight's LED Technology Innovations Over the Years

First ever FAA certified LED obstruction light

Vigilant® LED Based L-864/L-856 High Intensity System





2011 (White) — Current (Red/White)

Vigilant® LED Based L-810 Red Obstruction Light



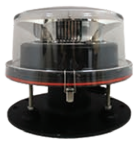


1999 — Current

Vigilant® LED Based L-864 Red Beacon









2001 — Current

Vigilant® LED Based L-864/L-865 Flashing Dual (Red/White) System







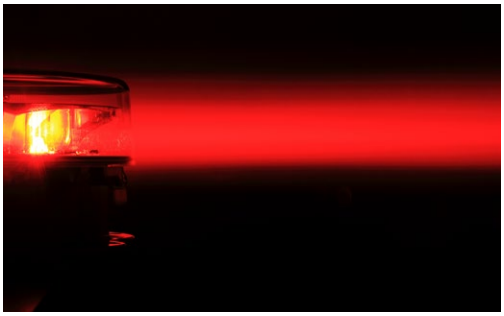




2007 — Current

Patented Optics

Minimum ground scatter for a "community-friendly" lighting system



Dialight Timeline

First ever FAA certified LED:

1999	2001	2007	2011	2012
L810	L864	L864/L865	L856	L864/L856

Dialight (LSE: DIA.L) is leading the energy efficient LED lighting revolution around the world for industrial and hazardous areas as well as for transportation and infrastructure applications. For 40 years we have been committed to the development of LED lighting solutions that enable organizations to vastly reduce energy use and maintenance needs, improve safety, ease disposal and reduce CO2 emissions.

Table of Contents

High Intensity Products

Vigilant® D266 LED High Intensity System L-864/L-865 **4–5**

Medium Intensity Products

Vigilant® D1RW LED Medium Intensity System L-864/L-865 **6–8**
Vigilant® D5R LED Medium Intensity L-864 **9–10**

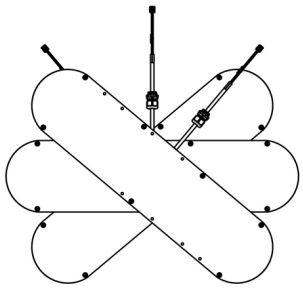
Low Intensity Products

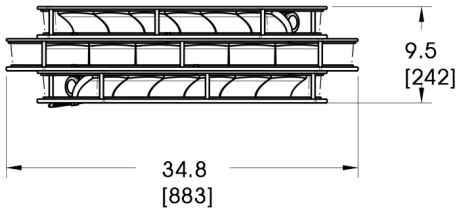
Vigilant® RTO LED Low Intensity L-810 **11**
Vigilant® 860 LED Low Intensity L-810 **12**

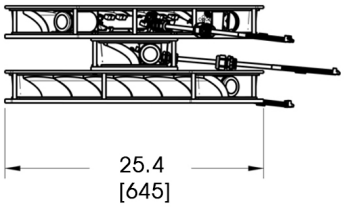
Vigilant® LED High Intensity System L-864/L-856

High Intensity (Red/White) System









Dimensions in inches [mm]

Certifications & Compliance

- FAA AC 150/5345 - 43H
- FAA EB No. 67D
- IP66
- Transport Canada Standard 621
- ICAO Annex 14
- DGAC Mexico

Features & Benefits

- 5 year warranty
- ETL verified to FAA standards
- Superior surge and lightning protection
- Controller can be mounted at the base of the structure
- IP66/NEMA 4X outdoor rated enclosures
- Low power consumption
- IP66 rated light fixtures
- Impact and vibration resistant
- Provision for padlock on the enclosure
- Patented optics for minimal down light/ground scatter
- Dry contacts for alarm monitoring/status
  - › Photocell alarm
  - › Sync alarm
  - › White mode alarm
  - › Red mode alarm
  - › Communication
  - › Operation mode (day/night)
  - › Power fail

Technical Information:

Flash head weight:	63 lbs (30 kg)
Operating voltage:	208–277 VAC 50/60 Hz
Effective intensity:	White Day - 270,000 cd White Twilight - 20,000 cd White Night - 2,000 cd Red - 2,000 cd
Wattage:	White Day - 220 W White Twilight - 40 W White Night - 30 W Red - 30 W
Power factor:	> 0.9
Ambient temperature:	-40 °F to +131 °F (-40 °C to +55 °C)
Synchronization:	Multiple unit sync from single controller

All values typical unless otherwise stated (tolerance ± 10%)

US Patents: #7,281,821 | #9,423,086 | #9,581,309 (other patents pending)

Part Number	Description	Voltage	Certification/Compliance
D266-A57-270	Flash head (120°) and power supply	208–277 VAC	FAA/TC/ICAO
D266-A57-CTRAC	Base controller w/ display	208–277 VAC	FAA/TC/ICAO
D256-6000-PEC	Day/Twilight/Night photocell w/ enclosure and 3/4 inch conduit entry	—	FAA/TC/ICAO
D266KITSTDAOL	Aviation obstruction light (AOL) & power supply kit for FAA, Types C & F	208–277 VAC	FAA/TC/ICAO

*Intertek verified FAA compliant system number D266A57SYS (system number not for order)

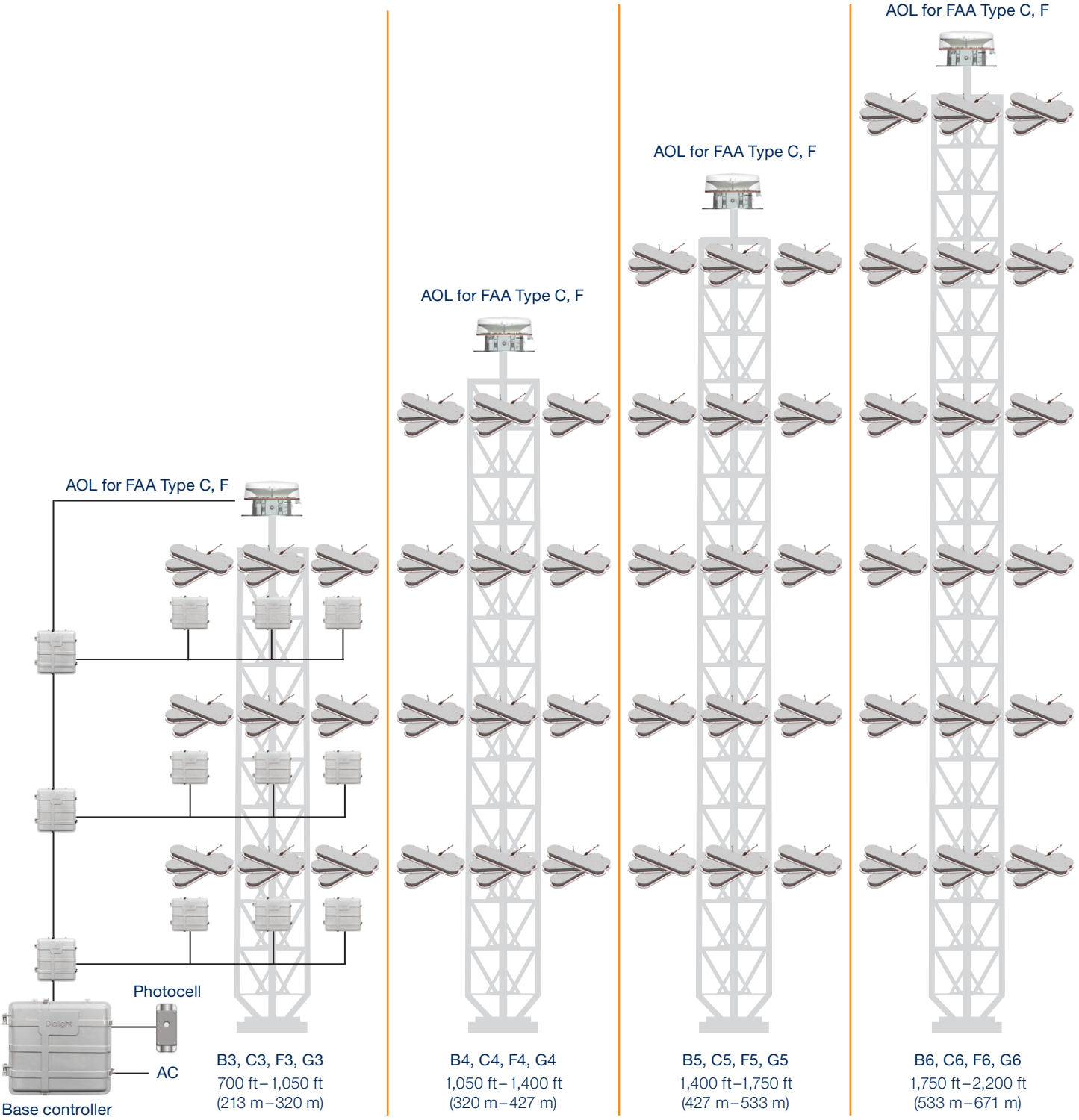
Vigilant® LED High Intensity System L-864/L-856

High Intensity (Red/White) System

FAA Type B, C, F & G

Application

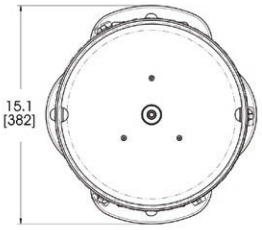
The Dialight Vigilant® High Intensity Red/White System is the first all LED L-864/L-856 unit designed for the lighting of communication towers, chimneys, smoke stacks, broadcast towers and other tall obstructions to aerial navigation, as specified by the FAA and ICAO.

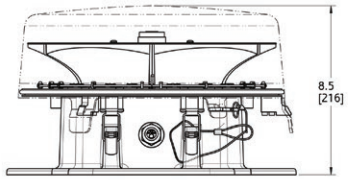


Vigilant® LED Medium Intensity System L-864 / L-865

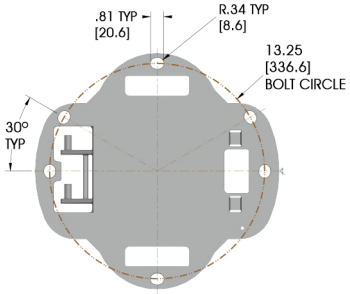
Medium Intensity (Red / White) System - Infrared (IR) or GPS models available



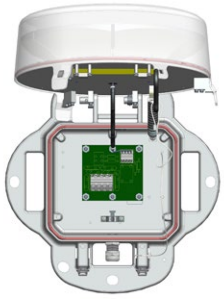




Dimensions in inches [mm]



Flip top design for simple installation



Certifications & Compliance

- FAA AC 150/5345 - 43H
- FAA EB No. 67D
- IP66
- Transport Canada Standard 621
- ICAO Annex 14
- DGAC Mexico

Features & Benefits

- 5 year warranty
- ETL verified to FAA standards
- Superior surge and lightning protection
- Patented optics for minimal down light / ground scatter
- Remote monitoring options available
- Integrated controller with LCD backlit display
- Universal 120–277 VAC input or 48 VDC input
- IP66/NEMA 4X outdoor rated enclosure
- GPS synchronized controller available
- Provisions for padlock on the enclosure

Cable

- Recommended UV rated 4 conductor cable with metal foil and braid. 14AWG (2.08 mm2) for lengths up to 680' (207 m) or 12AWG (3.31 mm2) for lengths above 680' (207 m).
- Complete kits available: D1, E1, E1+1, E2, D2, E2+1 and D2+1

Technical Information:

Flash head weight:	21 lbs (9.5 kg)
Operating voltage:	120-277 VAC 50/60 Hz or 48 VDC power factor corrected supply
Supply voltage ranges:	Nominal ± 10%
Effective intensity:	White Day - 20,000 cd White Night- 2,000 cd Red Night - 2,000 cd
Flash head power:	White Day - 36 W (system = 75 w) White Night - 4 W (system = 10 w) Red Night - 12 W (system = 25 w)
Power factor:	> 0.9
Operating temperature:	-40 °F to +131 °F (-40 °C to +55 °C)
Synchronization:	Multiple unit sync from single controller

All values typical unless otherwise stated (tolerance ± 10%)

US Patents: #7,208,881 | #7,568,821 | #7,604,380 | #7,777,424 | #9,423,086 | #9,476,548 | #9,581,309

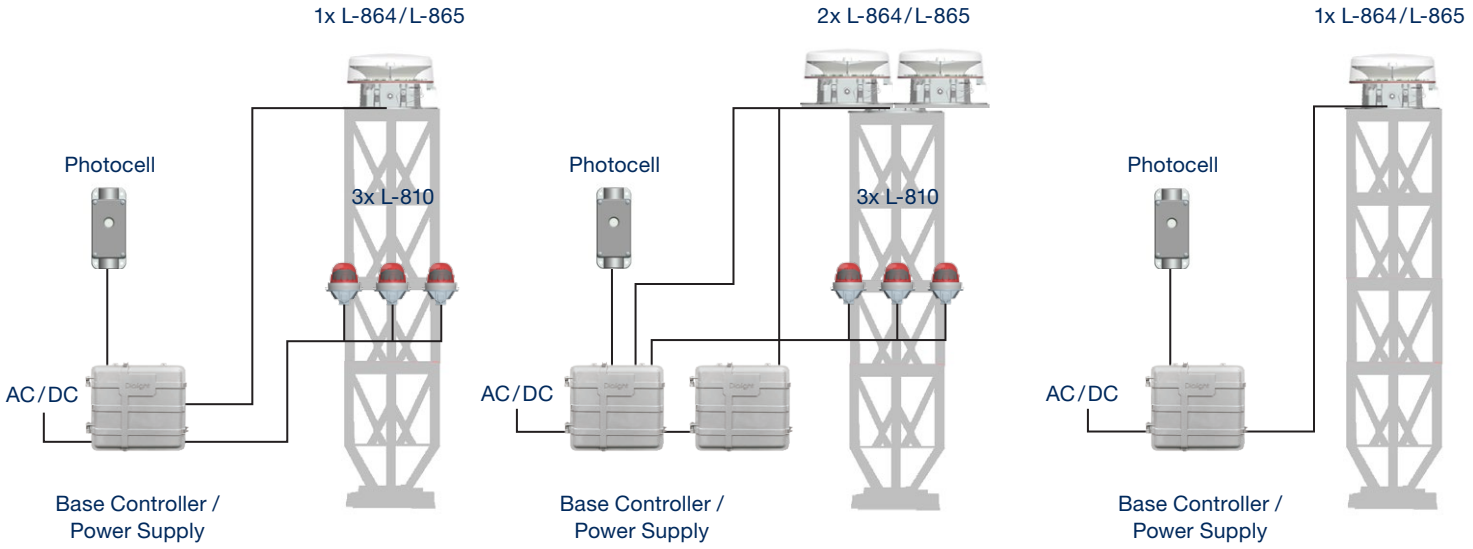
Vigilant® LED Medium Intensity System L-864/L-865

Medium Intensity (Red/White) System - Infrared (IR) or GPS models available

FAA Type D & E

Application

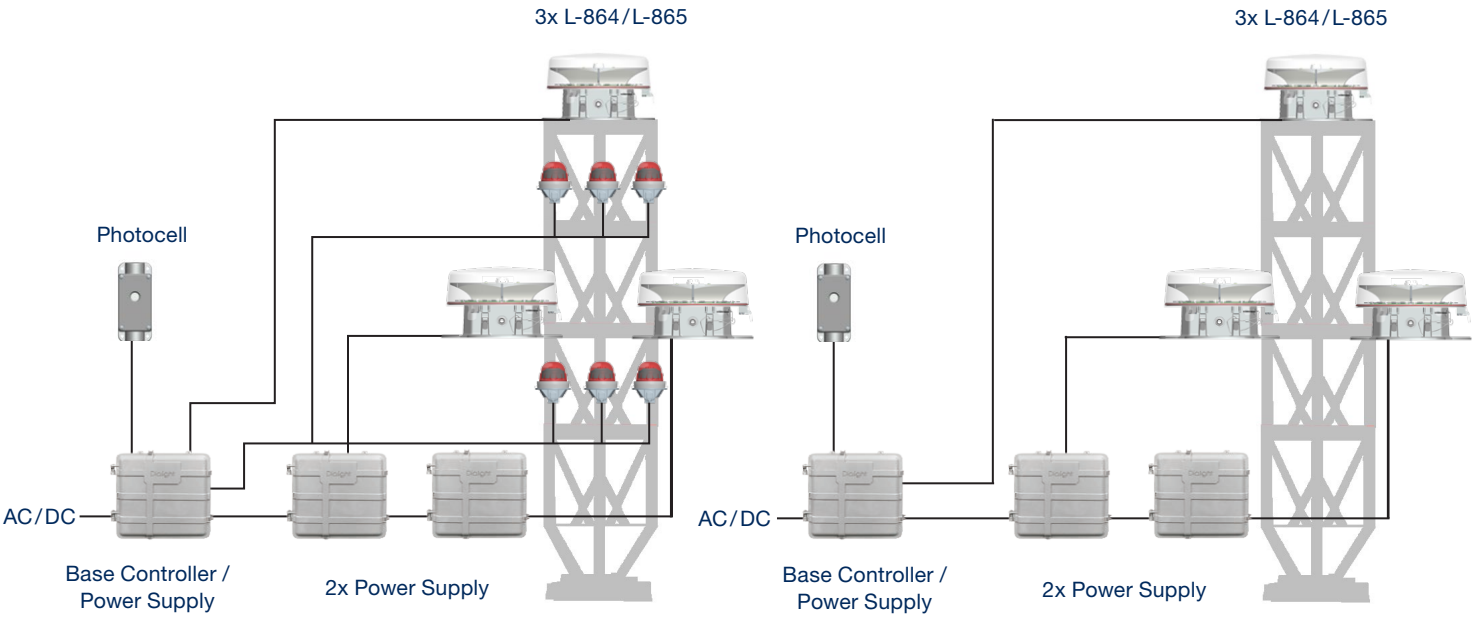
Dialight's LED based dual (Red/White) obstruction system is ideal for D & E style FAA communication tower types and can be used to mark other structures as well. The operation of the lights is configurable and fully monitored. The side markers can be run in steady burn or flashing mode. The lights are ETL verified to the FAA requirements.



E1
200 ft–350 ft
(61 m–107 m)

E1+1
200 ft–350 ft
(61 m–107 m)

D1
200 ft–350 ft
(61 m–107 m)



E2 (Non-Avian)
350 ft–700 ft
(107 m–213 m)

D2/E2 (Avian)
350 ft–700 ft
(107 m–213 m)

Vigilant® LED Medium Intensity System L-864/L-865

Medium Intensity (Red/White) System - Infrared (IR) or GPS models available

LED Flash Head (L-864/L-865)

Part Number	Description
D1RWFH409	Dual Red/White Medium Intensity Flash Head
D1CWFH409	Dual Red/White Medium Intensity Flash Head w/ IR*

LED Side Markers L-810 & L-810 (F)

Input	Part Number	Description
12-48 VDC	RTO1R18001	L-810 Low Intensity Side Marker: DC Input
12-48 VDC	RTOCR08001	L-810 Low Intensity Side Marker w/ IR: DC Input*

Controllers

Input	Part Number	Description
120-277 VAC	D1RWCTR409	Dual Red/White Medium Intensity Controller: AC Input
120-277 VAC	D1CWCTR409	Dual Red/White Medium Intensity Controller w/ IR: AC Input
120-277 VAC	D1RWCTR409GPS	Dual Red/White Medium Intensity Controller GPS: AC Input
48 VDC	D1RWCTR449	Dual Red/White Medium Intensity Controller: DC Input
48 VDC	D1CWCTR449	Dual Red/White Medium Intensity Controller w/ IR: DC Input

Power Supply

Input	Part Number	Description
120-277 VAC	D1RWPS9409	Dual Red/White Medium Intensity Power Supply: AC Input
120-277 VAC	D1CWPS9409	Dual Red/White Medium Intensity Power Supply w/ IR: AC Input
48 VDC	D1RWPS9449	Dual Red/White Medium Intensity Power Supply: DC Input
48 VDC	D1CWPS9449	Dual Red/White Medium Intensity Power Supply w/ IR: DC Input

Photocell

Part Number	Description
D2566000PEC	Photocell: Single 3/4" NPT Entry
D2566001PEC	GPS System Photocell: Two 3/4" NPT Entries

GPS Antenna

Part Number	Description
D1RWANT01	GPS Antenna

Cable

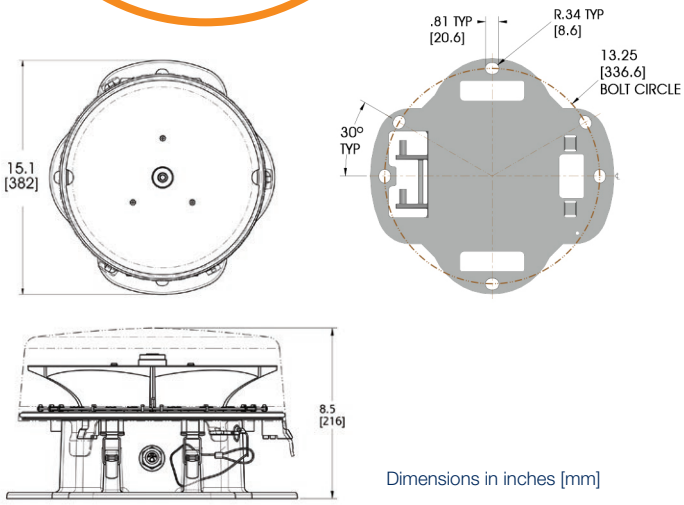
Tower Height	Description
up to 680 ft (207 m)	14 AWG (2.08 mm^2) UV rated 4 conductor cable with metal foil and braid
above 680 ft (207 m)	12 AWG (3.31 mm^2) UV rated 4 conductor cable with metal foil and braid

*Optically compliant to FAA Engineering Brief 98
** Intertek verified FAA compliant system numbers D1xWC1xx09SYS (System numbers not for order).

Vigilant® LED Based L-864

Medium Intensity (Red) Beacon - Infrared (IR) models available





Dimensions in inches [mm]

Certifications & Compliance

- FAA AC 150/5345 - 43H
- FAA EB No. 67D
- IP66
- Transport Canada Standard 621
- ICAO Annex 14
- DGAC Mexico

Features & Benefits

- 5 year warranty
- ETL verified to FAA standards
- Superior surge and lightning protection
- Patented optics for minimal down light/ground scatter
- IP66/NEMA 4X outdoor rated enclosures
- Remote monitoring options available
- Provisions for padlock on the enclosure
- 6kV of surge protection
- Shock and vibration resistant

Technical Information:

Flashhead weight:	18 lbs (8.2 kg)
Flash rate:	20, 30, or 40 (±1%)
Effective intensity:	2,000 cd
Wattage:	3.3 W (16.7% duty circle) - standard 7.0 W (16.7% duty circle) - IR models 20 flashes per minute with 0.5 sec. on time
Operating temperature:	-40 °F to +131 °F (-40 °C to +55 °C)
Power factor:	> 0.9

All values typical unless otherwise stated (tolerance ±10%)

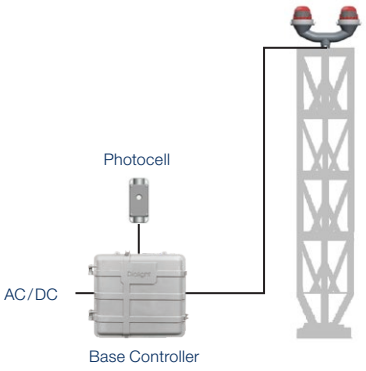
US Patents: # 7,281,821 | #7,568,821 | #9,423,086 | #9,423,086 | #9,476,548 #9,581,309 (other patents pending)

Part Number	Description	Notes	Certification / Compliance
Standard Models			
D564A13001	L-864 Red Beacon	120–240 VAC	FAA (TC) L-864
D564A54001	L-864 Red Beacon	24–48 VDC	FAA (TC) L-864
RTO1R07001	L-810 Low Intensity Side Marker - single	120–240 VAC	FAA (TC) L-810
RTO1R07002	L-810 Low Intensity Side Marker - double	120–240 VAC	FAA (TC) L-810
RTO1R18001	L-810 Low Intensity Side Marker - single	12–48 VDC	FAA (TC) L-810
RTO1R18002	L-810 Low Intensity Side Marker - double	12–48 VDC	FAA (TC) L-810
RTO1R07001EU	ICAO Low Intensity Side Marker - single	120–240 VAC	ICAO only, 32 cd
RTO1R07002EU	ICAO Low Intensity Side Marker - double	120–240 VAC	ICAO only, 32 cd
Photocell			
D2566000PEC	Photocell: Single 3/4" NPT Entry	—	FAA (TC) L-864
Controllers			
D5RB55CCTR	A0/A1 Red Controller (24-48 VDC)	2 outputs	FAA (TC) L-864/L-810
D5RB77CCTR	A0/A1 Red Controller (AC system)	2 outputs	FAA (TC) L-864/L-810
D5RE77CCTR	A2-A3 Non-Avian (A2-A6 Avian) Red Controller (AC system)	12 outputs	FAA (TC) L-864/L-810
D5RG77CCTR	A2-A6 Avian or Non-Avian Red Controller (AC system)	18 outputs	FAA (TC) L-864/L-810
Infrared (IR) Models			
D564R13001	L-864 Red Beacon w/ IR	120–240 VAC	FAA (TC) L-864
RTOCR07001	L-810 Low Intensity Side Marker w/ IR - single	120–240 VAC	FAA (TC) L-810
RTOCR07002	L-810 Low Intensity Side Marker w/ IR - double	120–240 VAC	FAA (TC) L-810

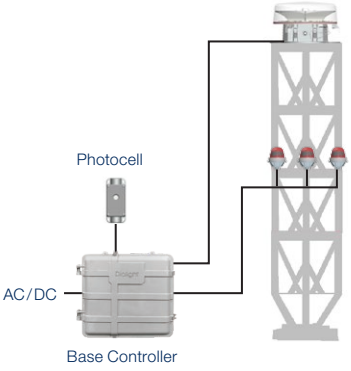
* Intertek verified FAA compliant system numbers D5R1x0xSYS (System numbers not for order) | * Optically compliant to FAA Engineering Brief 98

Vigilant® LED Based L-810/L-864 & L-810/L-864 (F)

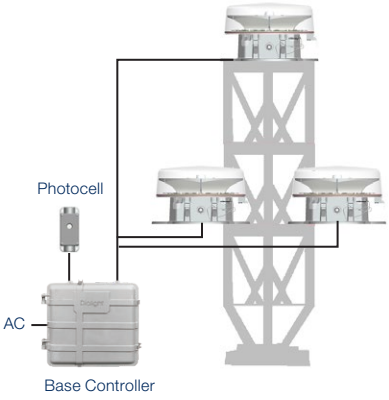
Red-Only Medium and Low Intensity Systems - Infrared (IR) models available



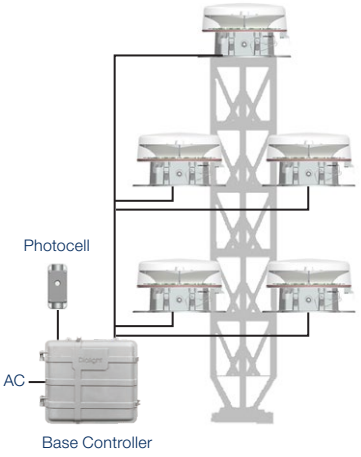
A0 (Avian)
0 ft - 150 ft
(0 m - 46 m)



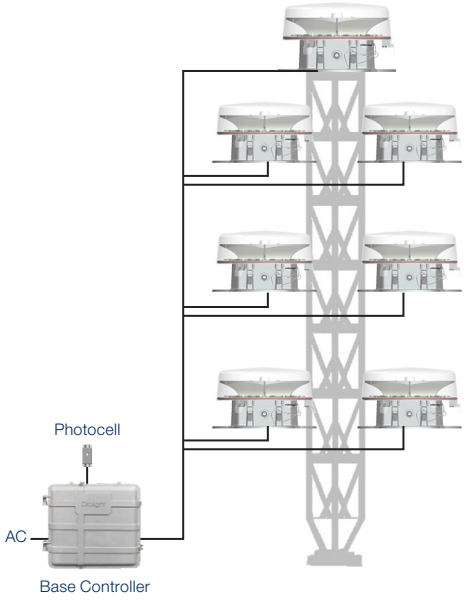
A1 (Avian)
150 ft - 350 ft
(46 m - 107 m)



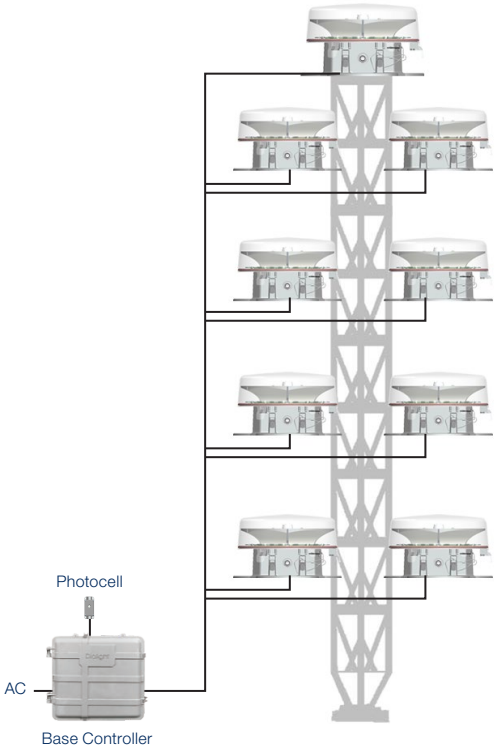
A2 (Avian)
350 ft - 700 ft
(107 m - 213 m)



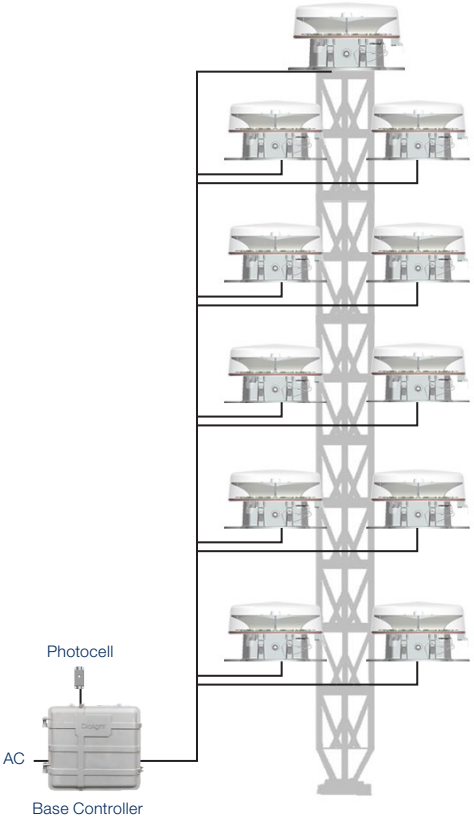
A3 (Avian)
700 ft - 1,050 ft
(213 m - 320 m)



A4 (Avian)
1,050 ft - 1,400 ft
(320 m - 427 m)



A5 (Avian)
1,400 ft - 1,750 ft
(427 m - 533 m)

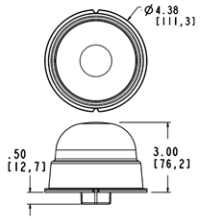


A6 (Avian)
1,750 ft - 2,200 ft
(522 m - 671 m)

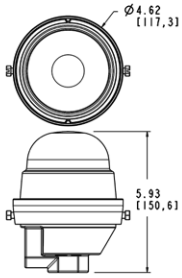
Vigilant® LED Based L-810 & L-810 (F)

Low Intensity (Red) RTO Side Marker - Infrared (IR) models available

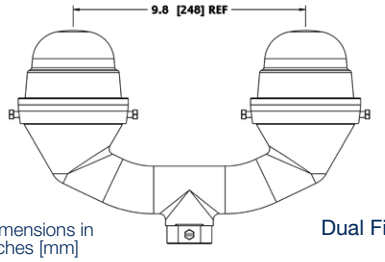




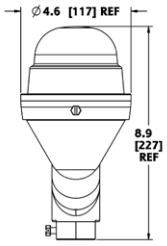
Retro-fit Unit



Single Fixture



Dimensions in inches [mm]



Dual Fixture

Certifications & Compliance

- FAA AC 150/5345 - 43H
- FAA EB No. 67D
- IP66
- German Air Traffic Control Notices for Pilots Part I, 6 January 2005
- Transport Canada Standard 621
- ICAO Annex 14
- DGAC Mexico
- Nachrichten für Luftfahrer Teil I Langen, 6. Januar 2005

Features & Benefits

- ETL verified to FAA standards
- Superior surge and lightning protection
- Controllers available for all applications
- Compact, low power design
- Ideal for towers, stacks, wind turbines, buildings, etc.
- 360 degree coverage for each flash head
- Shock and vibration resistant
- Lighting kits available for standard towers

Technical Information:

Unit weight:	1.25 lbs (0.56 kg) (Retro unit) 2.00 lbs (0.91 kg) (Single unit) 4.60 lbs (2.09 kg) (Dual unit)
Supply voltage ranges:	Nominal ±10%
Power factor:	> 0.9 (All AC units)
Operating temperature:	-40 °F to +131 °F (-40 °C to +55 °C)
Input AC frequency:	50/60 Hz

All values typical unless otherwise stated (tolerance ± 10%)

US Patent #7,604,384 | # 9,423,086 | #9.423,086

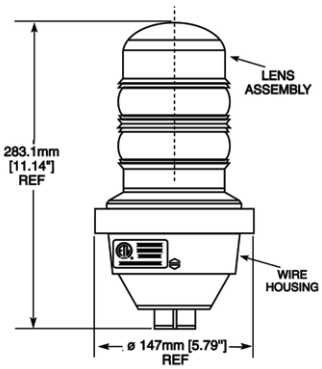
Part Number	Description	Voltage	Certification / Compliance	Wattage
RTO1R06001	Single Fixture	277 VAC	FAA (TC) L-810(F)	8.0
RTO1R07001	Single Fixture	120–240 VAC	FAA (TC) L-810(F)	6.5
RTO1R08001	Single Fixture	12–48 VDC	FAA (TC) L-810(F)	3.5
RTO1R18001	Single Fixture - Low Power	12–48 VDC	FAA (TC) L-810(F)	1.5
RTO1R06002	Dual Fixture	277 VAC	FAA (TC) L-810(F)	8.0
RTO1R07002	Dual Fixture	120–240 VAC	FAA (TC) L-810(F)	6.5
RTO1R08002	Dual Fixture	12–48 VDC	FAA (TC) L-810(F)	3.5
RTO1R18002	Dual Fixture - Low Power	12–48 VDC	FAA (TC) L-810(F)	1.5
RTO1R07004	Single Side Marker Retro-fit Fixture	120–240 VAC	FAA (TC) L-810(F)	6.5
RTO1R08004	Single Side Marker Retro-fit Fixture	12–48 VDC	FAA (TC) L-810(F)	3.5
RTO1R18004	Single Side Marker Retro-fit Fixture - Low Power	12–48 VDC	FAA (TC) L-810(F)	1.5
RTOCR07001	Single Fixture Red/Infrared (IR)	120–240 VAC	FAA (TC) L-810(F)	5.5
RTOCR08001	Single Fixture Red/Infrared (IR)	12–48 VDC	FAA (TC) L-810(F)	5.0
RTOCR07002	Dual Fixture Red/Infrared (IR)	120–240 VAC	FAA (TC) L-810(F)	5.5
RTOCR08002	Dual Fixture Red/Infrared (IR)	12–48 VDC	FAA (TC) L-810(F)	5.0
RTOCR07004	Single Side Marker Retro-fit Fixture Red/Infrared (IR)	120–240 VAC	FAA (TC) L-810(F)	5.5
RTOCR08004	Single Side Marker Retro-fit Fixture Red/Infrared (IR)	12–48 VDC	FAA (TC) L-810(F)	5.0
RTO1R07001EU	Single Fixture	120–240 VAC	ICAO only, 32cd	6.5
RTO1R07002EU	Dual Fixture	120–240 VAC	ICAO only, 32cd	6.5
RTO1R07004EU	Single Side Marker Retro-fit Fixture	120–240 VAC	ICAO only, 32cd	6.5

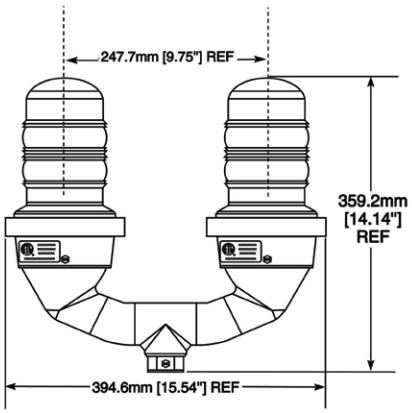
*Optically compliant to FAA Engineering Brief 98

Vigilant® LED Based L-810

Low Intensity (Red) Light







Dimensions in inches [mm]

Certifications & Compliance

- IP66
- Transport Canada Standard 621
- ICAO Annex 14
- CASA

Features & Benefits

- Superior surge and lightning protection
- Controllers available for all applications
- Ideal for towers, stacks, wind turbines, buildings, etc.
- 360 degree coverage for each flash head
- Shock and vibration resistant
- Lighting kits available for standard towers
- 6kV of surge protection

Technical Information:

Unit weight:	7.14 lbs (3.23 kg) (Single unit) 16.06 lbs (7.28 kg) (Dual unit)
Wattages:	15 W/120mA (120 VAC) ± 10% 16 W/120mA (230 VAC-60 Hz) ± 15% 16 W/(230 VAC - 50 Hz) 24 W/2.0A (12 VDC - Standard) 20 W/920mA (24 VDC) 13 W/275mA (48 VDC)
Voltage amp:	44 VA (120 VAC) ± 10% 67 VA (230 VAC) ± 15%
Operating temperature:	-67 °F to +131 °F (-55 °C to +55 °C)

All values typical unless otherwise stated (tolerance ± 10%)

US Patent #6,425,678 (other patents pending)

Part Number	Description	Voltage
860-1R01-001	Single Fixture	120 VAC
860-1R02-001	Single Fixture	230 VAC
860-1R03-001	Single Fixture	12 VDC
860-1R04-001	Single Fixture	48 VDC
860-1R05-001	Single Fixture	24 VDC
860-1R01-002	Dual Fixture	120 VAC
860-1R02-002	Dual Fixture	230 VAC
860-1R04-002	Dual Fixture	48 VDC
860-4R02-001-EU	Single Fixture	230 VAC
860-1R02-002-EU	Dual Fixture	230 VAC
860-6R01-001	Single Fixture	120 VAC
860-6R01-002	Dual Fixture	120 VAC

notes

North American HQ
1501 Route 34 South
Farmingdale, NJ 07727
Tel: 732-919-3119
Fax: 732-751-5778
info@dialight.com

EMEA Technical Centre
Ejby Industrivej 91 B
2600 Glostrup
Tel: +45 8877 4545 (Denmark)
Tel: +44 1638 666541 (UK)
Tel: +49 89 12089 5713 (Germany)
Tel: +33 3 23 22 62 58 (France)
sales-europe@dialight.com

Houston
16830 Barker Springs Rd
Ste 407
Houston, TX 77084
Tel: 732-919-3119
Fax: 281-492-1531
info@dialight.com

Middle East
Level 42
Emirates Towers (Office Tower)
Sheikh Zayed Road
Dubai, United Arab Emirates
Fax: +971 (0) 4319 7686
Tel: +971 (0) 4319 7686

Australia
38 O'Malley Street
Osborne Park, WA 6017
Tel: +61 (0) 8 9244 7600
Fax: +61 (0) 8 9244 7601
info@dialight.com.au

Southeast Asia
33 Ubi Avenue 3
#07-72 Vertex (Tower A)
Singapore 408868
Tel: +65 6578 7157
Fax: +65 6578 7150
enquiry@dialight.com.sg

Brazil
Alameda Mercurio,
225 – American Park Empresarial NR
Indaiatuba – SP – 13347– 662
Tel: +55 (19) 3113-4300
Fax: +55 (19) 3113-4300
brasil@dialight.com

All values are design or typical values when measured under laboratory conditions. The lighting efficiency statements contained herein are calculated on a lumen per watts basis when comparing fixtures with similar features. All information provided is accurate as of the date of publication, is subject to change without notice and does not form part of any contract with dialight. Dialight does not warrant or represent that its products are fit for any particular purpose and has no responsibility for the inappropriate/unauthorised/non-approved use of any Dialight products by the end user.

Dialight reserves the right to make changes at any time in order to supply the best product possible.

The most current version of this document will always be available at: www.dialight.com