OL2A Solar Safety Light

The OL2A is a solar safety light ideal for marking railroad blue safety flags, barricades, obstacles and other hazards in mining, obstruction and construction zones. This compact, self-contained marking solution provides premium reliability and excellent value for use in hard-to-access locations.

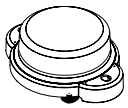
Advances Optics

- Up to 29 candela intensity
- 40 user-adjustable flash patterns with ability to directly enter intensity
- Available in red, white, green, yellow and blue

Easy Installation

- Installs in minutes—“out-of-box” operation
- Flange-mount and pole-mount options
- Automatic dusk-to-dawn operation
- Optional on/off switch
- Optional mini Infrared Programmer

Optional Infrared Programmer



Flange Mount

Pole Mount

Low Maintenance

- Replaceable and recyclable AA NiMH batteries
- Automatic Light Control (ALC) regulates intensities based on 5-day data trends for longer battery life and optimal performance

Reliable

- Premium-grade, UV-resistant polycarbonate body and lens material
- Waterproof; IP 68 immersion
- Ventilated battery compartment
- Life expectancy over 15 years; 3-year warranty

Trusted

With thousands of installations worldwide, Flash Technology solar LED lights operate year-round at permanent and temporary installations.

OL2A

SPECIFICATIONS

Optical	29 cd peak intensity; see table
	High-powered LED
	Red, green, white, yellow and blue color outputs
	Proprietary optical design
	40 flash patterns
Solar Panel	Best-in-class high-efficiency solar cells 0.6 W
Battery	3 high-temperature NiMH AA batteries rated for -40 to 185 ºF (-40 to 85 ºC)
	5-year battery life; Replaceable and recyclable
Energy Management System (EMS)	Intelligent, microprocessor EMS
Automatic Light Control (ALC) 2.0	When enabled, automatically adjusts to low levels of sunlight to ensure continuous operation
Programming	Programmable with optional IR programmer
Construction	Premium-grade, UV-resistant, polycarbonate body and lens
	Waterproof battery compartment with Gore® vent
	Color indicator matches LED color
Temperature	-22 to 122 ºF (-30 to 50 ºC) optimal
	-40 to 176 ºF (-40 to 80 ºC) maximum
Weight	Flange mount: 0.8 lbs (0.4 kg) Pole mount: 0.9 lbs (0.4 kg)
Mounting	Flange or pole-mount options
Wind Loading	161 mph (72 m/s)
Ice Loading	0.03 psi (22 kg/m2)
Shock & Vibration	MIL-STD-202G
Ingress	EN 60529 IP 68 immersion, 24 hrs at 3' (1 m) MIL-STD-202G immersion & damp heat cycling MIL-STD-810G rain & salt fog
Compliance	RoHS, WEE
	FCC, CE

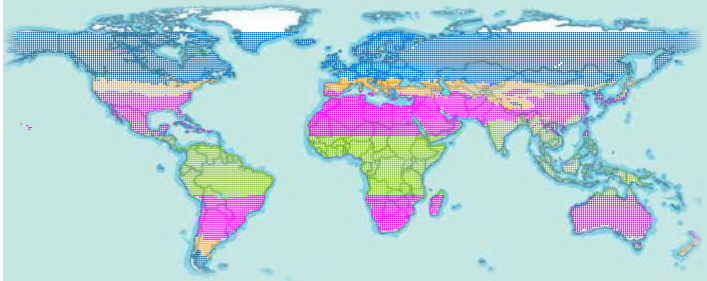
ORDER KEY

Model	Output	Mount
OL2A	Red	Flange mount Flange mount with switch Pole mount
	Green	
	White	
	Yellow	
	Blue	

PEAK INTENSITY*

Color	Intensity
Red	18 cd
Green	23 cd
White	29 cd
Yellow	25 cd
Blue	8 cd

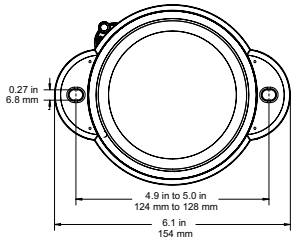
OL2A RED: TYPICAL PERFORMANCE
Flash Code 001: Steady-on Dusk-to-Dawn, 6 days autonomy min.

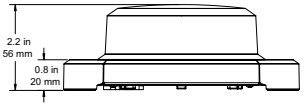


Effective Intensity	Intensity Code	Effective Intensity	Intensity Code
0.4 cd	600	2 cd	602
1 cd	601	3 cd	603

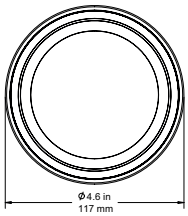
DIMENSIONS

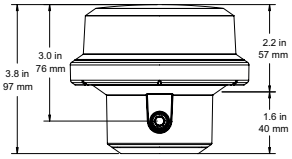
Flange Mount





Pole Mount





With sleeve: 1.9" (48 mm) pole ID
Without sleeve: 2.4" (61 mm) pole ID
Over-top mount: 2.8" (71 mm) pole OD

Peak intensity dependent on location and flash pattern.

OL4 Solar Warning Light

The OL4 is a high-performance warning light designed to perform reliably at tough industrial locations including rail yards, construction zones, mining operations and more. Suitable for permanent, temporary or emergency installations, the OL4 is unrivaled by any other hazard marking or barricade light currently available.

- Dusk to dawn operation
- Lightweight, self-contained
- Sophisticated solar energy management
- Intuitive onboard user interface
- Intelligent deployment settings for reliable performance in a wide-range of locations
- Proven technology platform

Easy installation and Relocation

Lights are immediately operational following a simple installation process. No specialized work crews required.

Self-Contained and Low-Maintenance

All components are safely encased in a durable, rugged enclosure. The OL4 includes a replaceable battery pack that extends the total cost of ownership beyond 5 years and offers significant cost savings.

Intelligent Deployment Settings

The OL4 has the unique ability to be tuned to its precise installation location, protecting it against improper configuration.

Unprecedented Reliability

Microprocessor Energy Management System (EMS) monitors and adapts to environmental conditions for consistent operation and long life under the toughest conditions.

User-Friendly Design

Onboard user interface, optional Infrared Programmer and USB device manager software offer easy configuration and programming.

Green Solution

Recyclable batteries and a RoHS compliant design combined with natural solar charging ensure the lightest environmental footprint.

OL4

SPECIFICATIONS

Compliance	MIL-STD-202G: Humidity, immersion, vibration, shock
	MIL-STD-810G: Solar radiation, salt-fog
	EN 60945: ESD, EMI, EMC; IP68; L70
	FAA Advisory Circular AC 150/5370-2E Commercial Part 139 Airports for barricade and construction applications
	ICAO Annex 14, Volume 1, 4th edition (blue light)
Solar Panel	High-efficiency cells with bypass and blocking diode function
	Maximum power point tracking (MPPT) for optimal energy collection
Battery	Tool-less replaceable and recyclable best-in-class battery pack with extreme temperature range
	Battery status feedback of Good, Charge or Bad (Replace)
Light Source	High-powered LEDs
	Color-specific temperature corrected LED drivers provide consistent intensity under all operating conditions
Intensity	Greater than 10 cd intensity, steady-on
	18 cd peak intensity, flashing, 12.5% duty cycle (red LEDs)
Flash Patterns	256+
Construction	Premium-grade, UV-resistant, polycarbonate/polysiloxane co-polymer body and lens material
	Double O-ring sealing with waterproof vent
Colors	Red, blue, yellow, green, white
	ICAO and SAE25050 (FAA) compliant chromaticity
Color Indicator	Yes, FAA Eng. Brief 67 compliant
Temperature	-45 to 124 ºF (-43 to 51 ºC) operating
	-45 to 176 ºF (-43 to 80 ºC) storage
Weight	3.5 lbs (1.58 kg)
Wind Loading	400 mph (180 m/s)
Automatic Light Control (ALC)	When enabled, automatically adjusts to low levels of sunlight to provide continuous operation

ORDER OPTIONS

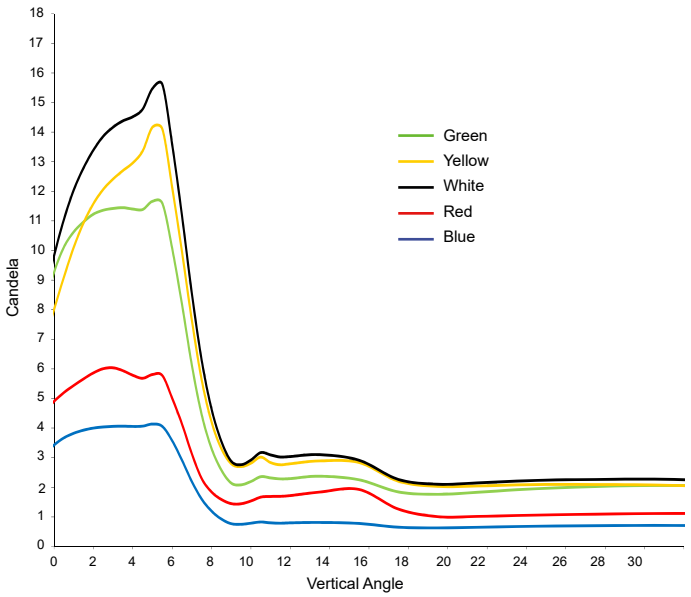
Model	Output	Switch	Control
OL800	Red Blue Green White Yellow	Switched Non-Switched	None GPS

ACCESSORY ORDERING CODES

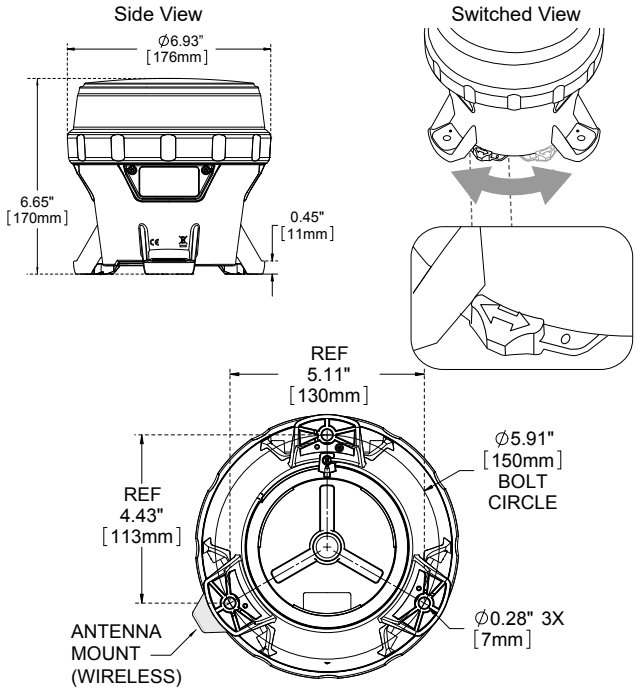
Additional bird deterrent (1 ships with each light)	57003
Bottom cover replacement kit	57392 (with switch) 57393 (without switch)
Battery replacement pack	72835
Battery charger (includes multiple ends for international use)	59188 (100 - 240 VAC)
USB cable	57394
Device manager software	Contact Customer Support
Infrared programmer	69899
Magnetic mounting kit (3x magnets and hardware)	76296

Additional accessories and mounting options available. For a complete list, consult our accessories specification sheet.

PHOTOMETRICS



TECHNICAL DRAWINGS AND DIMENSIONS



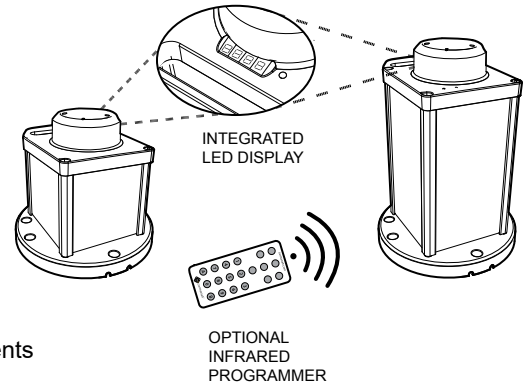
OL800 Solar LED Obstruction Light

The OL800 is an integrated solar solution that includes a high-efficiency LED light source, solar panels and battery.

The OL800 is designed to meet lighting standards for FAA L-810, ICAO low intensity types A/B (red) and CAR 621 CL-810. Optional infrared (IR) LEDs comply with FAA AC 150/5345-43J and Engineering Brief 98. Easy to install, the OL800 requires minimal maintenance and is ideal for temporary installations like cranes, MET towers and during wind farm construction as well as permanent structures like communications towers.

Intuitive Setup & Programming

- Top-mounted LED display with simple tap-to-activate functionality
- Easily check light settings without external controller
- Programmable with optional Infrared Programmer



Scalable, Cost-effective Design

- Customizable for best value-for-performance
- Multiple battery pack options

Intelligent Energy Management

- Best-in-class, high-efficiency solar panels
- Maximum Power Point Tracking (MPPT)
- Patented Energy Management System (EMS)
- Ensures maximum battery life and light performance even in the harshest of environments

Durable, Low Maintenance

- Compact, stand-alone, maintenance-free unit
- Integrated solar panels, battery, electronics and LED light source
- Replaceable battery extends life beyond 5 years

OL800 Compact

- 9.9 lbs (4.5 kg)
- 63 Wh X-cells battery pack
- Suitable for at least 7 days autonomy in mid to high sun locations

OL800 Standard

- 14 lbs (6.4 kg)
- 100.8 Wh E-cells battery pack
- 7-10 days battery autonomy
- Provides reliable solar lighting over a wider geographical range

OL800 Large

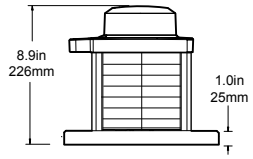
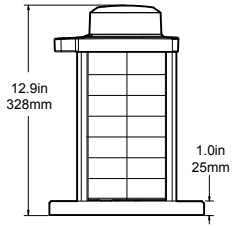
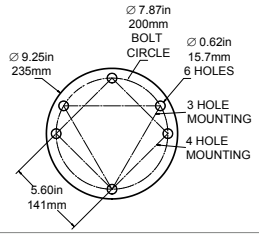
- 22.4 lbs (10.2 kg)
- 210 Wh BC-cells battery pack
- 7-10 days battery autonomy
- Provides reliable obstruction lighting in difficult solar geographies

OL800

SPECIFICATIONS

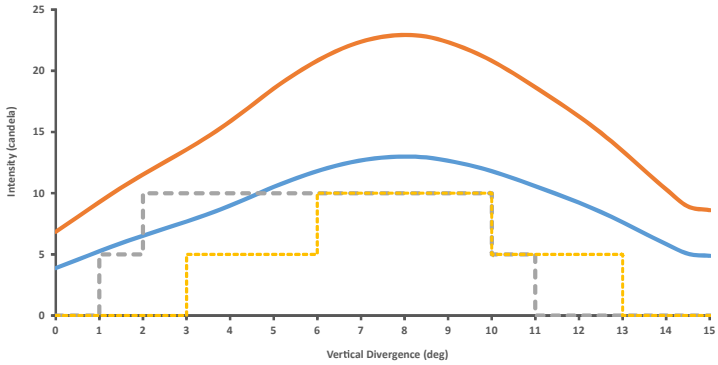
Optical	High-powered LEDs meet IES LM-80 lumen maintenance ensuring consistent photometrics for life of product
	FAA L-810 per FAA AC 150/5345-43G (red)
	ICAO Annex 14 5th and 6th editions low intensity types A & B (red)
	CASA 10 cd (Part 139, Vol. 2)
	ICAO, FAA SAE25050 and FAA EB 67 compliant chromaticity: red, green, white and yellow
	Steady-on and 250+ flash patterns
Solar Panel	Best-in-class high-efficiency solar cells with blocking diodes
	Maximum power point tracking with temperature compensation (MPPT-TC) for optimal energy collection
Battery	EnerSys CYCLON pure-lead VRLA AGM battery -85 to 176ºF (-65 to 80ºC) manufacturers operating range
	Onboard battery status
	Optional port for battery charging
	Designed for 5-year battery life; Replaceable and recyclable
Energy Management System (EMS)	Intelligent, microprocessor
Automatic Light Control (ALC)	When enabled, automatically adjusts to lower levels of sunlight to ensure continuous operation
Programming	Programmable with optional IR programmer
	Integrated 4-character LED display
GPS Synchronization	Optional GPS enables 2 or more lights to flash in unison
Construction	Premium-grade, UV-resistant polycarbonate lens/head
	Polycarbonate/polysiloxane co-polymer base
	Environmentally friendly, durable powder-coated aluminum chassis (applied by trivalent chromate process)
	Thermoplastic gaskets
	Waterproof, vented battery compartment
	Top color indicator matches LED color
	Integrated handle
	Bird deterrent included
Temperature	-22 to 122 ºF (-30 to 50 ºC) optimal
	-40 to 176 ºF (-40 to 80 ºC) maximum
Mounting	3 or 4, 7.87" (200 mm) bolt circle mounting pattern
Wind Loading	161.1 mph (72 m/s)
Ice Loading	0.03 psi (22 kg/m2)
Shock & Vibration	MIL-STD-202G (for shock and vibration)
Ingress	EN 60529 IP 68 immersion MIL-STD-202G immersion & damp heat cycling MIL-STD-810G rain & salt fog
Electrostatic Discharge (ESD)	FAA-STD-0193, EN61000-4-2

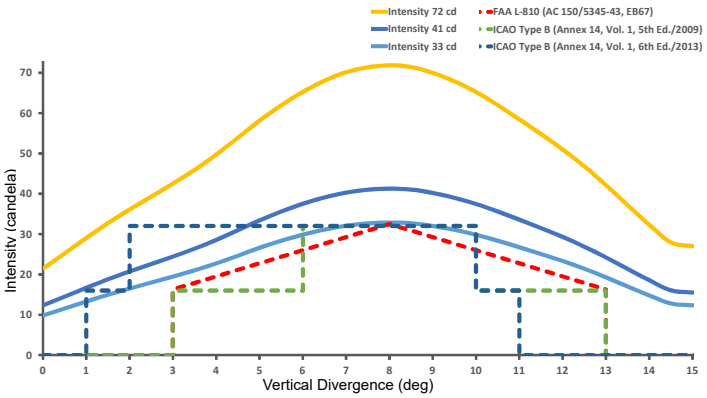
DIMENSIONS

Compact	
Standard and Large	
Bolt Pattern	

ORDER OPTIONS & PEAK INTENSITY

Model	Output	Solar Engine	Infrared	Control	Charge Port	Chassis
OL800	Red 209 cd* Green 287 cd White 374 cd Yellow 319 cd	Compact Standard Large	None Infrared	None GPS Sync	None Charge Port	Yellow





Infrared only available in red. Intensity capped at 70 cd.

LED Marker Lights

A direct replacement or retrofit for FAA type L-810 incandescent obstruction lighting markers, Flash Technology's L-810 LED marker fixtures are available as AC and DC applications.

- Marker 370 accommodates AC voltages
- Marker 371 accommodates DC voltages

These compact and efficient marker lights reduce operating costs through nominal power consumption and extended longevity. They also easily install onto existing marker bases without disturbing the existing conduit.

The DC electronics design features an integrated monitoring circuit that interfaces with the Vanguard® Red FTC 371 SMART red light controller. This allows for accurate monitoring of up to 8 low-power LED markers.

Single L-810

OL2 (Double L-810)

Standard Features

- Easy installation with minimal mounting hardware
- Lightweight and compact design allows for versatile mounting options
- Clear lens allows for daytime visibility at the tower site to assist with troubleshooting efforts
- Available as a single or double unit
- Weather, corrosion and vibration resistant
- Patented optics eliminate ground scatter
- 5-year warranty

System Options

- Infrared marker LEDs for NVG and NVIS compatibilty

Regulatory Compliance

- FAA AC 150/5345-43H type L-810
- Accommodates FAA AC 70/7460-1K (steady) and FAA AC 70/7460-1L (flashing) marker requirements
- Transport Canada CAR 621.19 type CL-810
- ICAO Annex 14 (6th edition) medium intensity type B
- DGAC Mexico type L-810

LED Marker Lights

SPECIFICATIONS

Input Voltage	MKR 370	120-240 VAC
	MKR 371	12-48 VDC
		24-48 VDC infrared
Dimensions	L-810	9 x 2.75 x 2.13” (228.6 x 69.9 x 54.1 mm)
	OL2	11 x 5 x 8.75” (279.4 x 127 x 222.25 mm)
Weight	L-810	1.6 lbs. (0.7 kg)
	OL2	5.4 lbs. (2.45 kg)

POWER CONSUMPTION

			Steady	30 fpm* (10% Duty Cycle)
MKR 370	AC	L-810	2.7	-
		L-810 with IR	4.6	-
		OL2	5.4	-
		OL2 with IR	9.2	-
MKR 371	DC	L-810	2.5	0.5
		L-810 with IR	3.9	0.8
		CL-810	3.7	0.7
		CL-810 with IR	5.0	1.0
		OL2	5.0	1.0
		OL2 with IR	7.8	1.6
		OL2 CL-810	7.4	1.4
		OL2 CL-810 with IR	10.0	2.0

LED MARKER CONVERSION KIT

The LED marker conversion kit converts incandescent markers on specific xenon lighting systems to Vanguard LED. The new red light module provides adjustment for proper marker alarming.

- For FTB 324, FTB 311 and FTB 314 systems only
- 5-year warranty on LED markers
- Reduce tower climbs with long-lasting LED
- Power consumption reduced from 116 watts to 2.7 watts per marker
- Part number: 11000016245

**Only 30 fpm flash rate is applicable for FAA certified applications filed under AC 70/7460-1L.*

FTS 350i Wind Turbine Lighting System

The FTS 350i is an economical FAA L-864 / ICAO Type B red LED lighting system specifically designed for wind turbine applications that do not require the advanced features of the FTS 370i.

Small and light, this stand-alone obstruction light does not have a controller taking up scarce space inside the nacelle. The weather-proof, UV-resistant, polycarbonate construction provides a 90% weight reduction over the FTS 370i.

The FTS 350i is fully compliant with FAA AC 70/7460-1L requirements for turbines with rotor tip heights less than 699 feet and is certified to AC 150/5345-43J with infrared LEDs.

Standard Features

- Fully integrated system – no external controller
- Easy to carry and install on turbines due to extremely low weight
- Infrared (IR) LEDs for compatibility with NVG and NVIS per FAA AC 150/5345-43J
- Fresnel optics minimize ground scatter, making the light more community friendly
- 10kA surge protection, two times the FAA-specified minimum
- GPS for synchronized flashing
- Handheld remote controller simplifies light setup
- Field-configurable flash rate of 20 or 30 fpm
- Dry contact alarm for beacon, GPS sync and mode change
- 2-year replacement warranty

Optional Features

- Adaptor plates for existing mounting brackets
- Mounting brackets available for multiple turbine manufacturers
- Overvoltage protection device (OVP)

PRODUCT COMPARISON	FTS 350i	FTS 370i
Surge Protection	10kA	25kA
Warranty	2-year replacement	5-year parts
Weight	2.9 lbs. (1.3 kg)	26.3 lbs. (11.9 kg)
Wind Area	26.8 in^2 (17,290 mm^2)	99 in^2 (63,870.8 mm^2)
Power Consumption at 30 fpm	9 W	10 W
GPS Sync	✓	✓
Alarm Relay	✓	✓
Infrared LEDs	✓	✓
Radar Interface	–	✓

FTS 350i

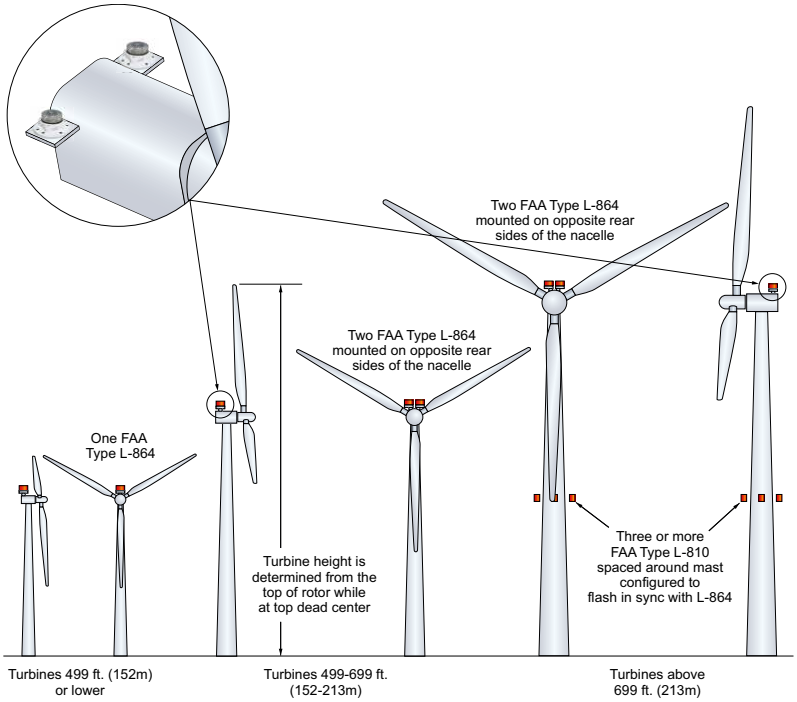
SPECIFICATIONS

Input Voltage	120-240 VAC
Frequency	50-60 Hz
FH Weight	2.9 lbs. (1.3 kg)
FH Aerodynamic Wind Area	26.8 in² (17,290 mm²)
Protection Rating	IP66

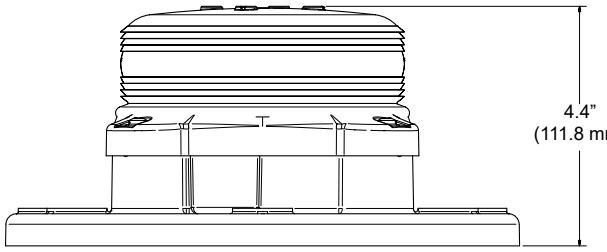
POWER CONSUMPTION

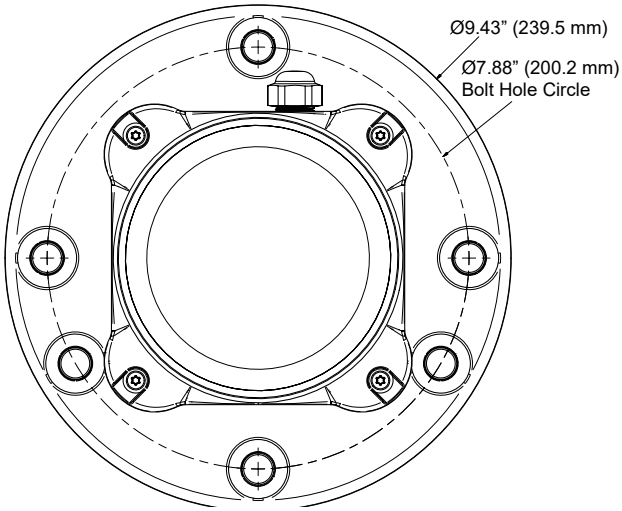
	20 fpm	30 fpm
L-864 red night at 2,000 ± 25% ECD flash intensity	6W	9W
Power consumption is 1 watt in stand-by.		

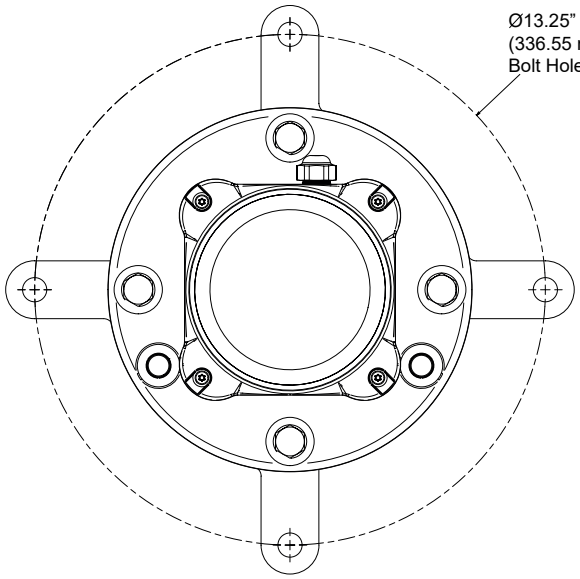
FAA WIND TURBINE LIGHTING



DIMENSIONS







FTS 350i with
Adaptor Plates

Vanguard® FTS 370i Wind Turbine Lighting

The Vanguard Medium FTS 370i-2 IR is available as an FAA L-864 or ICAO Type B medium intensity aircraft warning light specifically designed for wind turbines. The FTS 370i utilizes LED technology, advanced optics and industry-leading surge protection to ensure long-term reliability and compliance. For wind turbines with a rotor tip height between 500' and 700', two Vanguard 370i-2 IR units can be used together on one nacelle to meet FAA AC 70/7460-1L specifications.

Standard Features

- Powder-coated aluminum top plate and base
- Fully integrated system – no external controller
- Dry contact for integration with Aircraft Detection Lighting System (ADLS)
- Surge immunity of 25kA withstands 99% of all lightning strikes
- GPS for synchronized flashing
- Patented 360-degree light collector to control mode change
- Infrared (IR) LEDs for compatibility with NVG and NVIS
- Patented Fresnel optics to minimize ground scatter
- Field configurable flash rate to 20 or 30 fpm
- 1 dry contact relay: beacon, sync and mode status

System Options

- Mounting brackets available for multiple turbine manufacturers
- Additional overvoltage protection (OVP) device protects against lightning strikes (approved for Siemens turbines)

Regulatory Compliance

- FAA L-864 per AC 150/5345-43J
- ICAO Medium Intensity type B
- DGAC L-864
- CSA
- CE

Warranty

- 5-year parts warranty

FTS 370i-2

SPECIFICATIONS

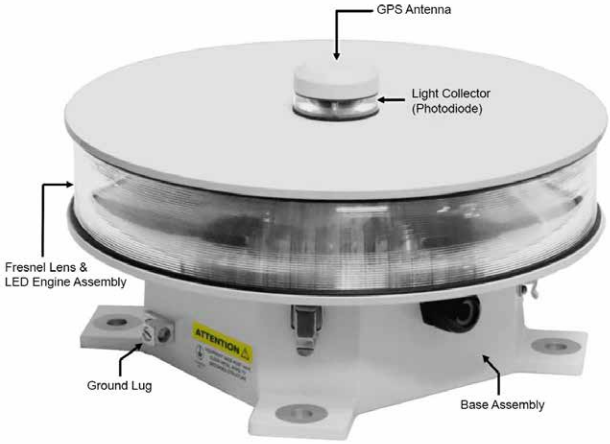
Input Voltage	120-240 VAC
Frequency	50-60 Hz
FH Dimensions	15.75 dia. x 7.31" (8.7" top of GPS) 400 dia. x 180.6 mm (220.7 mm top of GPS)
FH Weight	26.3 lbs. (11.9 kg)
FH Aerodynamic Wind Area	99.125 in² (63,900.51 mm²)
Protection Rating	IP66

POWER CONSUMPTION

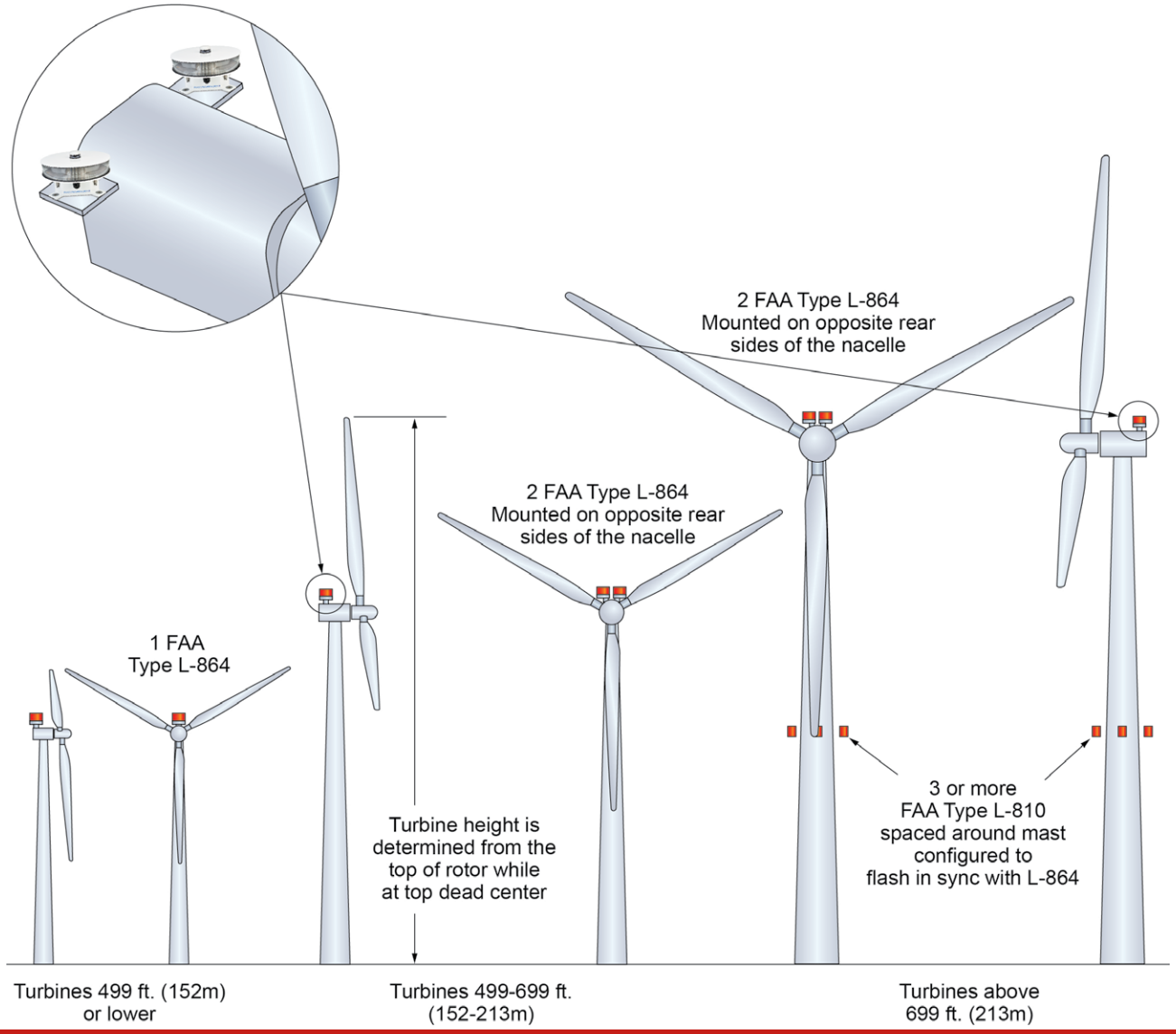
	20 fpm	30 fpm	40 fpm
L-864 red night at 2,000 ± 25% ECD flash intensity	7W	10W	13W

Power consumption is 2 watts in stand-by.

FTS 370I-2 COMPONENTS



FAA WIND TURBINE LIGHTING



Vanguard® Medium FTS 370w LED

The Vanguard Medium FTS 370w is a white L-865 medium intensity LED obstruction lighting system for structures 200' and 700' AGL (FAA D-type towers). The system also meets FAA L-865 low intensity catenary requirements. It complies with CAR 621 2nd edition for medium intensity CL-865 flashing lights and ICAO 6th edition standards for medium intensity type A obstacle lights.

The FTS 370w uses a single cable for communications as well as beacon and marker power. Firmware can be upgraded for future compatibility with no need for controller modification. The single enclosure houses a low-voltage environment, removing the need for an interlock switch and allowing alarms to remain active when the door is open.

Standard Features

- Infrared (IR) lighting – NVG and NVIS compatibility using 850nm IR LEDs on the flashhead per FAA AC 150/5345-43J
- Interleaved LEDs and by-pass circuitry provide longer life by allowing the loss of individual LEDs up to the 25% limit
- Surge immunity of 25kA to withstand 99% of all lighting strikes
- LTE modem for improved communication stability
- Ruggedized photodiode in metal housing with shielded cable
- Input power breaker switch eliminates replaceable fuses
- Outdoor Wi-Fi antenna for onsite diagnostics and lighting inspections
- Patented Fresnel optics to minimize ground scatter
- Aircraft Detection Lighting Systems (ADLS) interface
- Automatic failsafe switches to day mode after 19 hours of no mode change; can be disabled if necessary
- 4-line OLED backlit display for visibility in any lighting conditions
- Dry contact monitoring (day, night, marker, PED, GPS, comm alarms and mode status)
- Compliant with FAA AC 70/7460-1L
- 5-year warranty

System Options

- Infrared LEDs on L-810 marker lights
- SMART card – monitor and control the system remotely, and receive full diagnostic information through LTE modem or ethernet-based connectivity. SNMP, Modbus or Eagle protocols may be used.
- GPS synchronization
- Upgrade firmware remotely
- TECK90 support – provides protection from RF interference and damage on high-power broadcast towers up to 700' AGL

FTS 370w

SPECIFICATIONS

Regulatory Compliance	FAA AC 150/5345-43J L-865, L-866
	ICAO Annex 14 6th edition Medium Intensity type A
	Transport Canada CAR 621 2nd edition CL-865
	DGAC L-865
	CSA
	CE
Input Voltage	100-240 VAC ±24 VDC (optional) ±48 VDC (optional)
Frequency	50-60 Hz
FH Dimensions	15.8 dia. x 7.3” (400 dia. x 190.5 mm)
FH Weight	26.3 lbs (11.92 kg)
FH Aerodynamic Wind Area	99.1 in^2 (0.06 m^2)
Controller Dimensions	23 x 17.1 x 6.4” (584.2 x 434.3 x 162.6 mm)
Controller Weight	44 lbs (20 kg)
Protection Rating	IP66, NEMA 4X

POWER CONSUMPTION

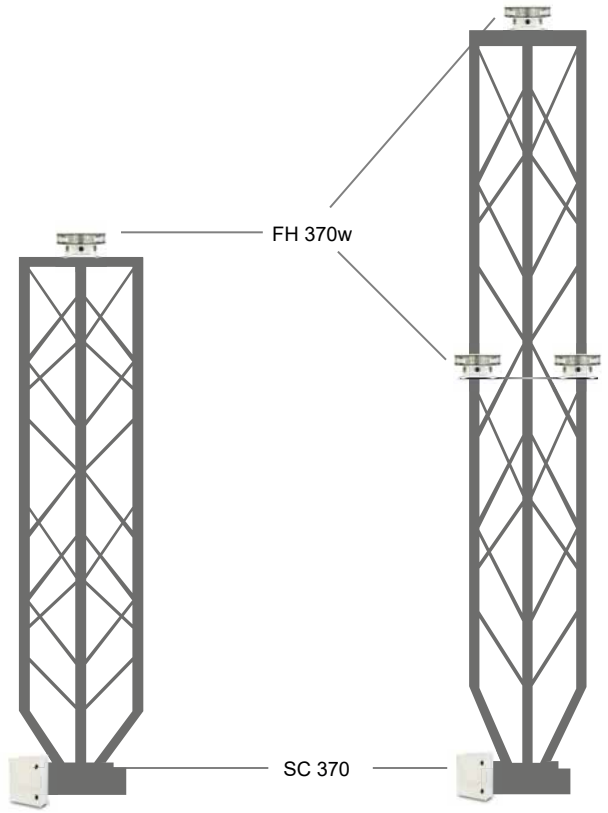
		Wattage (IR)	Flash Rate	Flash Intensity *
L-865	Day (white)	80 W (70 W)	40 fpm	20,000 ±25%ECD
	Night (white)	40 W (40 W)	40 fpm	2,000 ±25%ECD
L-866	Day (white)	110 W (100 W)	60 fpm	20,000 ±25%ECD
	Night (white)	50 W (50 W)	60 fpm	2,000 ±25%ECD

* Optional 4,000 cd night mode for international standards.

FAA WHITE TOWER LIGHTING

FAA AC 70/7460-1L and 1K

- **Tower Type D1:** 200-350’ including any appurtenances with 1 L-865 medium intensity beacon
- **Tower Type D2:** 350-700’ including any appurtenances with 3 L-865 medium intensity beacons



FAA D1 Tower Type

FAA D2 Tower Type

Vanguard® Red FTS 371

The Vanguard Red FTS 371 is a low-power FAA L-810/L-864 red obstruction lighting system for FAA type A0/A1 structures. It meets changing FAA regulations (AC 150/5345-43J) for flashing markers.

With LED replacing incandescent lighting and marker power consumption decreasing by as much as 98%, a new approach for accurate monitoring is required. The FTS 371 uses a patent-pending current feedback monitoring technology that will not fluctuate with changes in incoming power and temperature, providing consistent and predictable results.

A1 configuration

A0 configuration

Standard Features

- Flash rate of 20, 30, 40 or 60 flashes per minute (200 ms flash duration)*
- Infrared beacon LEDs for night vision compatibility
- Mode override switch
- Photodiode control with alarm inhibit option
- 1 dry contact relay (primary alarm)
- Support for up to 4 markers and 1 beacon
- 5-year warranty

System Options

- Available with infrared (IR) and non-IR markers

Regulatory Compliance

- FAA types L-864 and L-810 under AC 150/5345-43J
- Accommodates FAA AC 70/7460-1K and 1L marker requirements (steady or flashing)
- Transport Canada CAR 621.19 type CL-864
- ICAO Annex 14 (7th edition) medium intensity types B and C
- DGAC Mexico type L-864

Vanguard® Red FTS 371

SPECIFICATIONS

Input Voltage	85-265 VAC at 50/60 Hz 12-48 VDC ± 10% (12 VDC for markers only)
FH Aerodynamic Wind Area	99.125 in^2
Protection Rating	IP66, NEMA 4X

DIMENSIONS AND WEIGHT

Component	Dimensions		Weight
Polycarbonate Controller	7.8 x 8.25 x 4” (198.1 x 209.6 x 101.9 mm)	AC/DC	2.1 lbs. (0.95 kg)
Flashhead	15.75” dia. x 7.5” (400 dia. x 190.5 mm)	AC/DC	25.6 lbs. (11.7 kg)
Single L-810	9” x 2.75” x 2.13” (228.6 x 69.9 x 54.1 mm)	DC	1.6 lbs. (0.7 kg)
Double L-810	11.0” x 5.0” x 8.75” (279.4 x 127 x 222.25 mm)	DC	5.4 lbs. (2.45 kg)

POWER CONSUMPTION

		20 fpm	30 fpm*	Steady
FTC 371	AC	0.9	0.9	0.9
	DC	0.8	0.8	0.8
FH 371	AC	4.0	5.3	30
	DC	4.0	5.3	30
Single L-810	DC	-	0.5	2.5
			0.8 IR	3.9 IR
Double L-810	DC	-	1.0	5.0
			1.6 IR	7.8 IR

RED TOWER LIGHTING

FAA AC 70/7460-1L

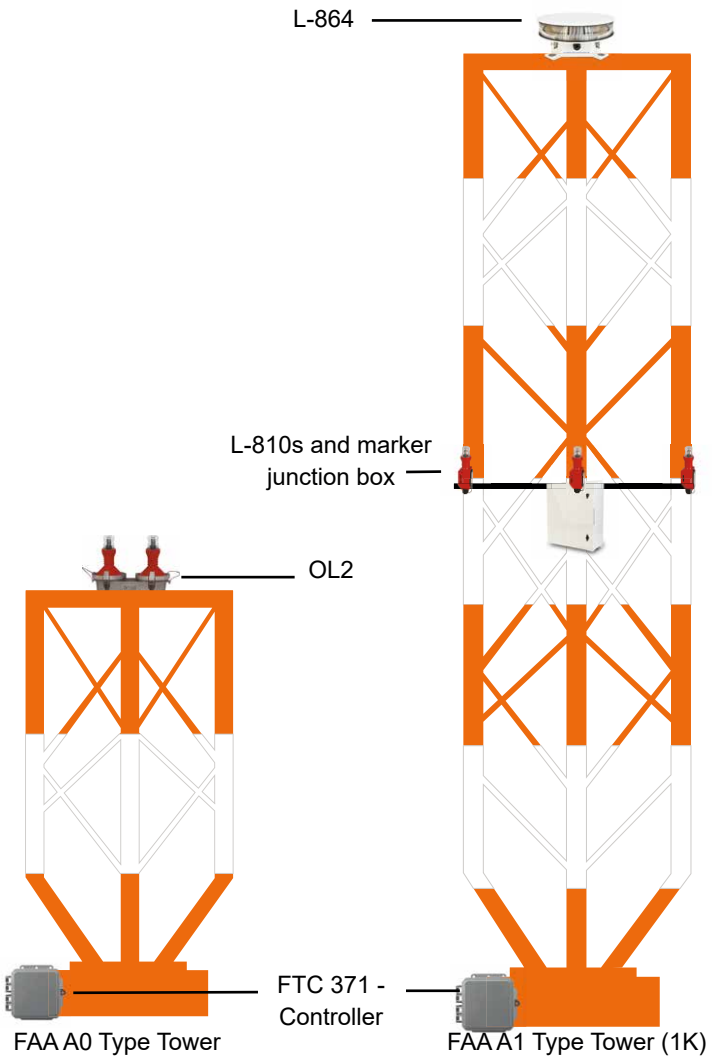
- **Tower Type A0:** Less than 150’ including appurtenances, marked with 1 steady-burn double L-810 (OL2) for night
- **Tower Type A1:** 150-300’ including appurtenances, marked with 1 L-864 medium intensity beacon and 2 or more single L-810 marker lights configured to flash in sync with the L-864 at 30 fpm for night

FAA AC 70/7460-1K

- **Tower Type A0:** Less than 150’ including appurtenances, marked with 1 steady-burn double L-810 (OL2) for night
- **Tower Type A1:** 150-300’ including appurtenances, marked with 1 L-864 medium intensity beacon and 2 or more low intensity type B steady red lights for night

ICAO Annex 14

- **Type B Lighting:** 45-105 m including appurtenances, marked with 1 medium intensity type B flashing beacon and 2 or more steady-burn single L-810 marker lights for night
- **Type C Lighting:** 45-105 m including appurtenances, marked with 3 medium intensity type C steady-burn red beacons for night



** Only 30 fpm is applicable for FAA-certified applications files under AC 70/7460-1L.*

Vanguard® Medium FTS 370d LED

The Vanguard Medium FTS 370d is a dual FAA L-864/L-865 medium intensity LED lighting system for structures between 200’ and 700’ AGL (FAA E-type towers). The system also meets FAA L-885 low intensity catenary requirements. It complies with CAR 621 2nd edition for medium intensity CL-864/CL-865 flashing lights and ICAO 6th edition standards for medium intensity type A/type B obstacle lights.

The FTS 370d uses a single cable for communications as well as beacon and marker power. Firmware can be upgraded for future compatibility with no need for controller modification. The single enclosure houses a low-voltage environment, removing the need for an interlock switch and allowing alarms to remain active when the door is open.

Standard Features

- Infrared (IR) lighting – NVG and NVIS compatibility using 850nm IR LEDs on the flashhead per FAA AC 150/5345-43J
- Interleaved LEDs and by-pass circuitry provide longer life by allowing the loss of individual LEDs up to the 25% limit
- Surge immunity of 25kA to withstand 99% of all lighting strikes
- LTE modem for improved communication stability
- Ruggedized photodiode in metal housing with shielded cable
- Input power breaker switch eliminates replaceable fuses
- Outdoor Wi-Fi antenna for onsite diagnostics and lighting inspections
- Patented Fresnel optics to minimize ground scatter
- Aircraft Detection Lighting Systems (ADLS) interface
- Automatic failsafe switches to day mode if no mode change detected
- 4-line OLED backlit display for visibility in any lighting conditions
- Dry contact monitoring (day, night, marker, PED, GPS, comm alarms and mode status)
- Compliant with FAA AC 70/7460-1L
- 5-year warranty

System Options

- Infrared LEDs on L-810 marker lights
- SMART card – monitor and control the system remotely, and receive full diagnostic information through LTE modem or ethernet-based connectivity. SNMP, Modbus or Eagle protocols may be used.
- GPS synchronization
- Upgrade firmware remotely
- TECK90 support – provides protection from RF interference and damage on high-power broadcast towers up to 700’ AGL

FTS 370d

SPECIFICATIONS

Regulatory Compliance	FAA AC 150/5345-43J L-864, L-865, L-866, L-885
	ICAO Annex 14 6th edition Medium Intensity types A and B
	Transport Canada CAR 621 2nd edition CL-864/ CL-865
	DGAC L-864/L/865
	CSA
	CE
Input Voltage	100-240 VAC ±24 VDC (optional) ±48 VDC (optional)
Frequency	50-60 Hz
FH Dimensions	15.8 dia. x 7.3” (400 dia. x 190.5 mm)
FH Weight	26.3 lbs (11.92 kg)
FH Aerodynamic Wind Area	99.1 in^2 (0.06 m^2)
Marker Power Consumption*	2.1w (3.4w with IR)
Marker Dimensions	9 x 2.8 x 2.1” (228.6 x 69.9 x 54.1 mm)
Marker Weight	1.6 lbs. (0.7 kg)
Controller Dimensions	23 x 17.1 x 6.4” (584.2 x 434.3 x 162.6 mm)
Controller Weight	44 lbs (20 kg)
Protection Rating	IP66, NEMA 4X

POWER CONSUMPTION

		Wattage (IR)	Flash Rate**	Flash Intensity
L-864/ L-865	Day (white)	80w (70w)	40 fpm	20,000 ±25%ECD
	Night (red)	40w (40w)	20/30/40 fpm	2,000 ±25%ECD
	Night (white)	40w (40w)	40 fpm	2,000 ±25%ECD
L-866/ L-885	Day (white)	110w (100w)	60 fpm	20,000 ±25%ECD
	Night (red)	50w (50w)	60 fpm	2,000 ±25%ECD
	Night (white)	50w (50w)	60 fpm	2,000 ±25%ECD

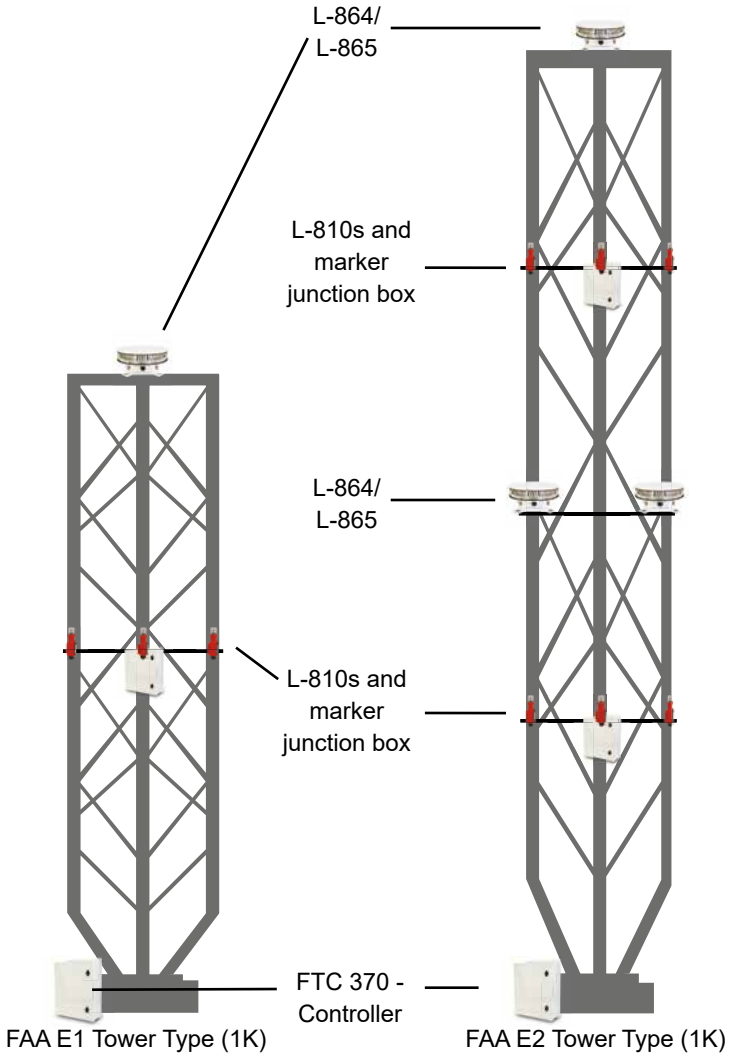
FAA DUAL TOWER LIGHTING

FAA AC 70/7460-1L

- **Tower Type E1:** 200-350’ including any appurtenances with 1 dual medium intensity L-864/L-865 beacon and 2 or more L-810 marker lights flashing in sync with the L-864 at 30 fpm
- **Tower Type E2:** 350-500’ including any appurtenances with 3 dual medium intensity L-864/L-865 beacons

FAA AC 70/7460-1K

- **Tower Type E1:** 200-350’ including any appurtenances with 1 dual medium intensity L-864/L-865 beacon and 2 or more steady-burn L-810 marker lights
- **Tower Type E2:** 350-500’ including any appurtenances with 3 dual medium intensity L-864/L-865 beacons and 6 steady-burn L-810 marker lights (8 markers if square)



*Not included in system power consumption.

**Only 30 fpm is applicable for FAA-certified applications files under AC 70/7460-1L, and requires the use of L-810(f) depending on the height of the structure.

Broadcast and Telecom Lighting

The FAA has liberalized regulations in AC 70/7460-1L to permit the use of medium intensity lighting on broadcast and telecom towers up to 700' AGL. Deploying a Vanguard Medium FTS 370d system with TECK90 cable is more cost effective and faster to install than conduit.

Designed for tall broadcast towers, the rugged TECK90 cable protects equipment from RF interference and damage. Impervious to all challenging environments including extremes of wet, damp and dry conditions, TECK90 cable resists chemical and mechanical abuse and is even suitable for hazardous locations.

Standard Features

- Lower installation time and cost
- Protection from RF interference and damage
- Infrared (IR) lighting – NVG and NVIS compatibility using 850nm IR LEDs on the flashhead per FAA AC 150/5345-43J
- Surge immunity of 25kA to withstand 99% of all lighting strikes
- Interleaved LEDs and by-pass circuitry provide longer life by allowing the loss of individual LEDs up to the 25% limit
- Patented Fresnel optics to minimize ground scatter
- LTE modem for improved communication stability
- Input power breaker switch eliminates replaceable fuses
- Outdoor Wi-Fi antenna for onsite diagnostics and lighting inspections
- Automatic failsafe switches to day mode if no mode change detected
- 4-line OLED backlit display for visibility in any lighting conditions
- Dry contact monitoring (day, night, marker, PED, GPS, comm alarms and mode status)
- Compliant with FAA AC 70/7460-1L
- 5-year warranty

System Options

- Infrared LEDs on L-810 marker lights
- SMART card – monitor and control the system remotely, and receive full diagnostic information through LTE modem or Ethernet-based connectivity. SNMP, Modbus or Eagle protocols may be used.
- GPS synchronization
- Upgrade firmware remotely

Broadcast and Telecom Lighting

SPECIFICATIONS

Regulatory Compliance	FAA AC 150/5345-43J L-864, L-865, L-866, L-885
	ICAO Annex 14 6th edition Medium Intensity types A and B
	Transport Canada CAR 621 2nd edition CL-864/ CL-865
	DGAC L-864/L/865
	CSA
Input Voltage	100-240 VAC ±24 VDC (optional) ±48 VDC (optional)
Frequency	50-60 Hz
FH Dimensions	15.8 dia. x 7.3" (400 dia. x 190.5 mm)
FH Weight	26.3 lbs (11.92 kg)
FH Aerodynamic Wind Area	99.1 in^2 (0.06 m^2)
Marker Power Consumption*	2.1w (3.4w with IR)
Marker Dimensions	9 x 2.8 x 2.1" (228.6 x 69.9 x 54.1 mm)
Marker Weight	1.6 lbs. (0.7 kg)
Controller Dimensions	23 x 17.1 x 6.4" (584.2 x 434.3 x 162.6 mm)
Controller Weight	44 lbs (20 kg)
Protection Rating	IP66, NEMA 4X

POWER CONSUMPTION

		Wattage (IR)	Flash Rate**	Flash Intensity
L-864/ L-865	Day (white)	80w (70w)	40 fpm	20,000 ±25%ECD
	Night (red)	40w (40w)	20/30/40 fpm	2,000 ±25%ECD
	Night (white)	40w (40w)	40 fpm	2,000 ±25%ECD
L-866/ L-885	Day (white)	110w (100w)	60 fpm	20,000 ±25%ECD
	Night (red)	50w (50w)	60 fpm	2,000 ±25%ECD
	Night (white)	50w (50w)	60 fpm	2,000 ±25%ECD

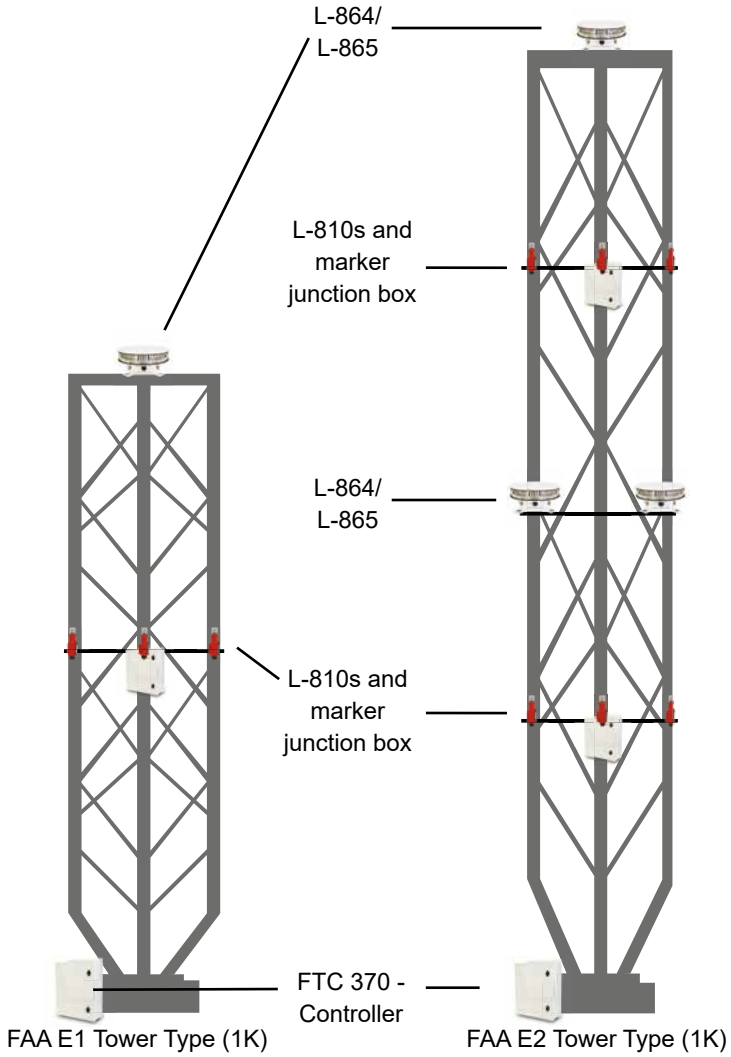
FAA DUAL TOWER LIGHTING

FAA AC 70/7460-1L

- **Tower Type E1:** 200-350' including any appurtenances with 1 dual medium intensity L-864/L-865 beacon and 2 or more L-810 marker lights flashing in sync with the L-864 at 30 fpm
- **Tower Type E2:** 350-500' including any appurtenances with 3 dual medium intensity L-864/L-865 beacons

FAA AC 70/7460-1K

- **Tower Type E1:** 200-350' including any appurtenances with 1 dual medium intensity L-864/L-865 beacon and 2 or more steady-burn L-810 marker lights
- **Tower Type E2:** 350-500' including any appurtenances with 3 dual medium intensity L-864/L-865 beacons and 6 steady-burn L-810 marker lights (8 markers if square)



FAA E1 Tower Type (1K) FAA E2 Tower Type (1K)

*Not included in system power consumption.

***Only 30 fpm is applicable for FAA-certified applications files under AC 70/7460-1L, and requires the use of L-810(f) depending on the height of the structure.*

Vanguard® Medium FTS 370d for MET Towers

The Vanguard Medium FTS 370d is a dual (white, red and infrared) FAA L-864/L-865 LED aviation obstruction lighting system. It is suitable for towers between 200′ and 700′ AGL (FAA E-type towers) including meteorological (or MET mast) towers. The FTS 370d uses a single cable for both power and communication.

Standard Features

- Aircraft Detection Lighting Systems (ADLS) interface
- Infrared (IR) LEDs on the flashhead for compatibility with NVG and NVIS per FAA AC 150/5345-43J
- Patented Fresnel optics to minimize ground scatter
- Interleaved LEDs and by-pass circuitry for longer life
- Surge immunity of 25kA to withstand 99% of all lighting strikes
- Powder-coated aluminum top plate, base and controller box to prevent corrosion or damage from flying debris like ice
- 4-line OLED backlit on-board user interface for diagnostics and programming
- Photodiode uses ruggedized metal housing and is equipped with shielded cable to prevent EMI interference and crosstalk
- Input power breaker switch eliminates replaceable fuses
- Outdoor Wi-Fi antenna for onsite diagnostics, programming and lighting inspections
- Automatic failsafe switches to day mode if no mode change detected
- 6 dry contacts for monitoring

System Options

- Infrared LEDs on L-810 marker lights
- SMART Card
  - Monitor and control the system remotely
  - Receive full diagnostic information through LTE modem or ethernet-based connectivity via SNMP or Modbus protocols
  - Upgrade firmware remotely
- GPS synchronization

Warranty

- 5-year parts warranty

FTS 370d for MET Towers

SPECIFICATIONS

Regulatory Compliance	FAA AC 150/5345-43J L-864, L-865, L-866, L-885
	ICAO Annex 14 6th edition Medium Intensity types A and B
	Transport Canada CAR 621 2nd edition CL-864/ CL-865
	DGAC L-864/L/865
	CSA
	CE
Input Voltage	100-240 VAC ±24 VDC (optional) ±48 VDC (optional)
Frequency	50-60 Hz
FH Dimensions	15.8 dia. x 7.3" (400 dia. x 190.5 mm)
FH Weight	26.3 lbs (11.92 kg)
FH Aerodynamic Wind Area	99.1 in^2 (0.06 m^2)
Marker Power Consumption*	2.1w (3.4w with IR)
Marker Dimensions	9 x 2.8 x 2.1" (228.6 x 69.9 x 54.1 mm)
Marker Weight	1.6 lbs. (0.7 kg)
Controller Dimensions	23 x 17.1 x 6.4" (584.2 x 434.3 x 162.6 mm)
Controller Weight	44 lbs (20 kg)
Protection Rating	IP66, NEMA 4X

POWER CONSUMPTION

		Wattage (IR)	Flash Rate**	Flash Intensity
L-864/ L-865	Day (white)	80w (70w)	40 fpm	20,000 ±25%ECD
	Night (red)	40w (40w)	20/30/40 fpm	2,000 ±25%ECD
	Night (white)	40w (40w)	40 fpm	2,000 ±25%ECD
L-866/ L-885	Day (white)	110w (100w)	60 fpm	20,000 ±25%ECD
	Night (red)	50w (50w)	60 fpm	2,000 ±25%ECD
	Night (white)	50w (50w)	60 fpm	2,000 ±25%ECD

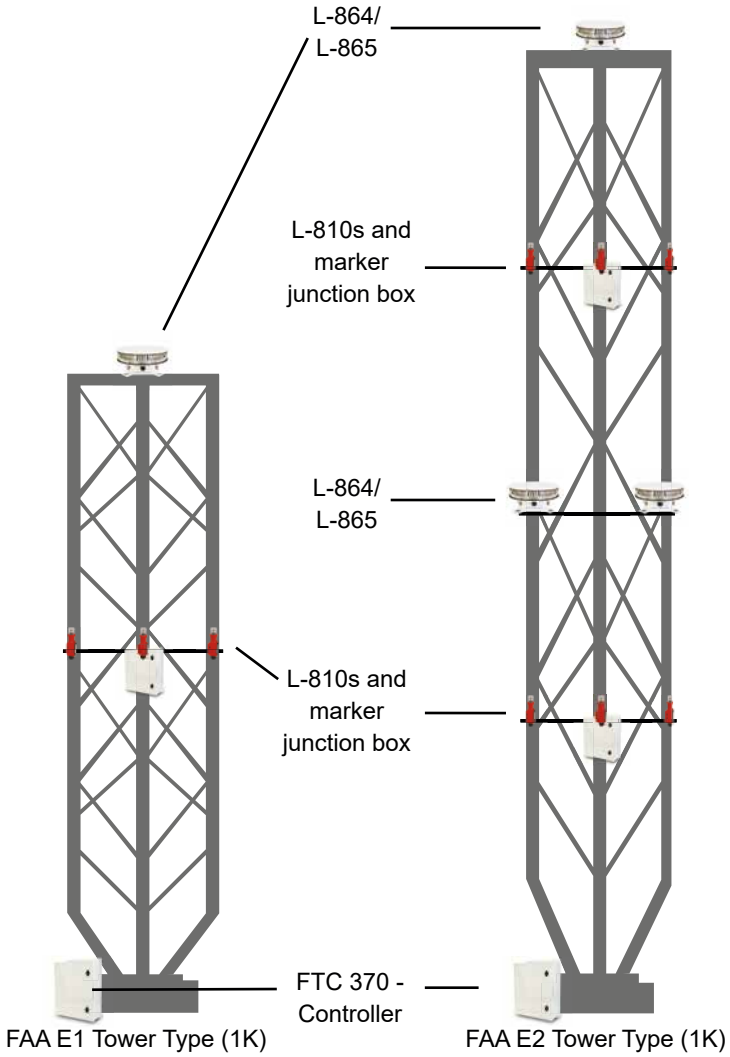
FAA METEOROLOGICAL EVALUATION TOWER LIGHTING

Voluntary marking of METs less than 200' feet (61 m) AGL:

- METs should be painted with alternate bands of aviation orange and white paint.
- High-visibility sleeves be installed on the MET's outer guy wires. One sleeve on each guy wire as close to the anchor point as possible, but well above the crop or vegetation canopy.
- A second high-visiblity sleeve should be installed on the same outer guy wires midway between the location of the lower sleeve and the upper attachment point of the guy wire to the MET.

Light dual METs taller than 200' (61 m) AGL as E-type towers:

- **FAA AC 70/7460-1L Tower Type E1:** 200-350' including any appurtenances with 1 dual medium intensity L-864/L-865 beacon and 2 or more L-810 marker lights flashing in sync with the L-864 at 30 fpm
- **FAA AC 70/7460-1L Tower Type E2:** 350-500' including any appurtenances with 3 dual medium intensity L-864/L-865 beacons
- **FAA AC 70/7460-1K Tower Type E1:** 200-350' including any appurtenances with 1 dual medium intensity L-864/L-865 beacon and 2 or more steady-burn L-810 marker lights
- **FAA AC 70/7460-1K Tower Type E2:** 350-500' including any appurtenances with 3 dual medium intensity L-864/L-865 beacons and 6 steady-burn L-810 marker lights (8 markers if square)



*Not included in system power consumption.

***Only 30 fpm is applicable for FAA-certified applications files under AC 70/7460-1L, and requires the use of L-810(f) depending on the height of the structure.*

Vanguard® High FTS 270 LED Obstruction System

The Vanguard High FTS 270 is an L-856/L-864 high intensity LED lighting system that flashes white lights for day and twilight and either red or white lights at night. It is designed for structures FAA towers B3-B6, C3-C6, F3-F6 and G3-G6, such as broadcast communications towers, smokestacks, chimneys and bridges.

Engineered for maximum LED life, the feature-rich Vanguard High provides ultimate serviceability, easing troubleshooting and minimizing downtime if maintenance is required.

Request a Quote
flashtechnology.com/270RFQ

Key Features

- Single panel integrating white, red and infrared LEDs that complies with FAA Engineering Brief 98 and eliminates the need for additional red beacons
- Standard integrated GPS provides mode change backup using sunrise/sunset data to change mode in case of photodiode failure
- Barometric pressure sensors detect errors in a beacon's tier location, eliminating installation errors and pinpointing the location of the beacon on the tower in case maintenance is required
- Industry-leading 25 kA surge suppression rating, protecting against 99% of lightning strikes when properly installed and grounded

Monitoring

- SMART Card - Monitor and control the system remotely and receive full diagnostic information through LTE modem or Ethernet-based connectivity; SNMP, Modbus or Eagle protocols may be used; included on all system
- Graphic annotated tower on webpage interface provides clear status of modes and alarms and facilitates deeper monitoring and analysis of individual lighting elements
- 7 standard alarm dry contacts
- Optional Wi-Fi Interface offers command and control capabilities on mobile devices local to the site
- Optional Relay Expansion allows up to 28 additional dry contact alarm points for greater insight into cause of alarm

Installation & Maintenance

- Pre-terminated quick connect cables with twist-lock plugs reduce installation error and enable troubleshooting flexibility
- Remote firmware upgrades can update boards on the tower as well as the ground, reducing the need for truck rolls and tower climbs
- Local mode override at each light unit speeds up troubleshooting

Regulatory Compliance

- FAA L-856, L-864, L-865 and L-810 per AC 150/5345-43J and Engineering Brief 98 (infrared)
- FAA AC 70/7460-1L tower types B3-B6, C3-C6, F3-F6 and G3-G6
- FAA AC 70/7460-1K tower types B2-B6, C2-C6, F2-F6 and G2-G6
- ICAO Annex 14 7th edition, high intensity types A and B, medium intensity types A and B and low intensity type B
- Transport Canada CAR 621 types CL-856, CL-864, CL-865 and CL-810

Vanguard® High FTS 270

FH 372 AOL BEACON	
Input Voltage	100-240 VAC, 277 VAC
Dimensions	15.75 dia. x 7.3” (400 dia. x 185.7 mm)
Weight	26.3 lbs. (11.9 kg)
Aerodynamic Wind Area	0.7 ft² (0.065 m²)

FH 270 FLASHHEAD ASSEMBLY	
Input Voltage	100-277 VAC at 50/60Hz
Dimensions	20.7 x 37.1 x 12.4” (525.8 x 942.3 x 315 mm)
Weight	105.2 lbs. (47.7 kg)
Aerodynamic Wind Area	5 ft² (1.5 m²)

FH POWER CONSUMPTION*

	Mode	Wattage	Flash Rate	Flash Intensity
FH 270 L-856	Day (white)	299	40 fpm	270,000 +/- 25%
	Twilight (white)	52	40 fpm	20,000 +/- 25%
	Night (white)	38	40 fpm	2,000 +/- 25%
FH 270 L-864	Night (red)	37	20/**30**/40/60 fpm	2,000 +/- 25%
	Night (infrared)	40	20/**30**/40/60 fpm	2,000 +/- 25%
FH 372 L-865	Day (white)	66	40 fpm	20,000 +/- 25%
	Twilight (white)	66	40 fpm	20,000 +/- 25%
	Night (white)	21.5	40 fpm	2,000 +/- 25%
FH 372 L-864	Night (red)	24.2	20/**30**/40/60 fpm	2,000 +/- 25%
	Night (infrared)	21.5	20/**30**/40/60 fpm	2,000 +/- 25%

MKR 372 INTERFACE & MKR 371 LIGHTS		
Interface Input Voltage	100-240 VAC, 50/60 Hz	
Interface Dimensions	16.1 x 10.5 x 4.9″ (408.9 x 266.7 x 124.8 mm)	
Interface Weight	10.1 lbs (4.6 kg)	
Interface Aerodynamic Wind Area	1.08 ft² (0.1 m²)	
Interface Power Consumption	With Markers 19.6 W steady 4.2 W flashing	Without Markers 4 W steady
Marker Input Voltage	12-48 VDC (24 VDC is used)	
Marker Dimensions	9.0 x 2.75 x 2.13″ (228.6 x 69.9 x 54.1 mm)	
Marker Weight	1.6 lbs (0.7 kg)	
Marker Aerodynamic Wind Area	0.16 ft² (0.05 m²)	
Marker Power Consumption (steady)	2.5 W	
	3.9 W IR	
Protection Rating	IP66	

FTC 270 CONTROLLER	
Input Voltage	120/240 VAC at 50/60 Hz
Dimensions	23.8 x 17.5 x 8.5” (605 x 444.5 x 216.2 mm)
Weight	Base System – 25.1 lbs. (11.4 kg)
	Fully Loaded System – 35.5 lbs. (16.1 kg)
Protection Rating	IP66
Power Conumption	Base System – 7.2 W
	Fully Loaded System – 19.4 W

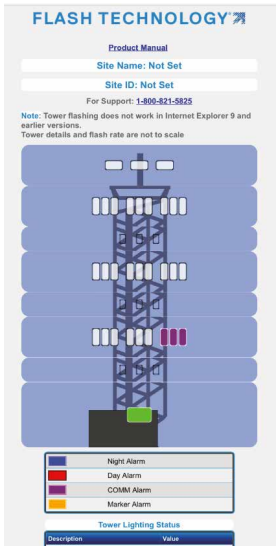
** Only 30 fpm for red night is applicable for FAA-certified applications filed under AC 70/7460-1L. Example tower graphic reflects an F3 tower filed under FAA AC 70/7460-1K.*

FH 372 AOL Beacon - required for tower with appurtenances greater than 40’

FH 270 Assembly - FH assembly consists of 3 LED panels, bracket and PC 270. Minimum of 3 FHs per tier to provide 360-degree visibility

PC 270 - 1 per FH 270, attached to FH using **quick connect cables**

MKR 372 Interface & MKR 371 Lights - 3 markers and 1 marker interface per tier



FTC 270 - system controller mounted near base of tower offers a suite of monitoring options