

FA-250LED

250mm SIGNAL LANTERN

Featuring a highly efficient fresnel-type acrylic drum lens and clear lens cover, the FA-250 is a rugged, compact, and lightweight marine signal lantern. It is particularly suited for structures, fixed platforms, and large buoys.

With the advent of LED light sources, Automatic Power has adapted the FA-250 marine lantern for use as an **LED lantern** due to its widespread use and excellent reputation as a signaling lantern. It provides the lighthouse authority the advantages of a proven lantern design with the flexibility to use the same housing and lens system for both LED and lampchanger systems and to retrofit LEDs into existing installations.

Designed to withstand the mechanical stresses of extended life in the marine environment, the FA-250 lantern features a heavy duty copper-free cast aluminum base and a cast aluminum lens ring with a stainless steel retainer for the lens cover.

The cast aluminum base houses the flasher and/or other mechanisms. Captive stainless steel screws fully compress the lens gasket and provides strong positive closure of the lantern. A bracket on which the flasher/lampchanger/LED are mounted is secured to the inside of the base section. Fittings in the base provide outlets for electrical connection. The lamp/LED array projects into the upper section which supports the 360° acrylic lens. The lantern is hinged at the middle to facilitate access to control electronics, lamp replacement and servicing. The large base of the lantern is used to house flash control electronics, including remote monitoring radios or Uniflash^{II} GPS synchronizing system.

LED PHOTOMETRICS (CANDELA)

LED CURRENT	RED	LED CURRENT	GREEN
0.250	43	0.300	20
0.500	86	0.600	40
0.750	130	0.900	80

Vertical divergence is 12 degrees to 50% and 25 degrees to 10%. Maximum LED power dissipation for flashing lanterns for full output is 6 watts. Red LED/Red Lens, Yellow LED/Yellow Lens and Green LED/Green Lens filter factors are 0.85.

TECHNICAL DATA

LENS:

250mm 360 degree visibility smooth, self-cleaning lens cover.

STABRITE® LED Array:

Extremely high flux, compact Red/Green LEDs mounted on a heavy duty heat sink and encapsulated inside a sealed housing. The STABRITE® system is designed to maximize the life of the LED array. The system provides a secondary environmental enclosure independent of the lantern housing to assure that moisture does not reduce the life of the LED. Additionally, the heavy duty heat sink maximizes the life of the LED array by keeping the maximum temperature of the array to less than 50°C. The LED array/diffuser system approximates a marine signal lamp located at the focal point of the lens to maximize the output of the lantern in the horizontal plane with horizontal uniformity of the beam.



FA-250 LED LANTERN

ACCESSORIES:

Spirit Level, Focusing Marks, Reflex Mirror, Condensing Panels, Screen Printed Azimuth Ring.

MOUNTING:

Four each 5/8-inch by 1-inch slots on a 7 7/8 inch bolt circle--90° apart.

DIMENSIONS:

19.5 pounds
15in. X 17in. X 28in.

SHIPPING DATA:

35 pounds
18in X 20in X 30in.

AM-6 LED FLASH CONTROL BOARD

AM-6 highly-efficient 4-channel LED Programmable Flasher is specifically designed for LED applications. It represents the next generation of LED lighting control with state of the art features designed to optimize the performance of the most advanced LED available on the market.

Special Features:

- High battery efficiency: Between 80%-90% over the full operating voltage range. AM-6 is first in the world to implement TracSwitcher technology, which dynamically controls voltage regulation according to load condition to optimize efficiency.
- Low-heat dissipation: TracSwitcher greatly reduces heat dissipation in the LED driver transistors, making it possible to use smaller surface mount parts and boost reliability. Heat sink is not required for rated operation.
- High stability over the full operating temperature range: Flash timing drift is a maximum of 250 μ sec. Current regulation drift is less than 2% over the range -20°C to 50°C. 5% over the full temperature range.
- Independent, positive control of every parallel LED channel assures current sharing among channels. AM-6 has 4 independently regulated LED channels. This feature assures that maximum life is gained from every LED and optical output is uniform in the horizontal plane.
- The AM-6 is fitted with a communications port which may be connected to a Windows based PC running API Calibrator-II software. These features give the user the ability to configure the performance of the AM-6 to his exact requirements. Features which may be programmed are flash rhythm, intensity level, photocell control, solar charge control voltage, synchronization delay, and low voltage disconnect.
- The AM-6 stores data in non-volatile memory which maintains the data in both a powered up and non-powered mode.

Programmable Flasher Features:

1. 255+1 Flashing Characters: Two HEX-switches are provided to allow user to select any one of the 255 factory pre-programmed flash codes. One switch position is for user entered a customized flashing code. With API's software, user can enter a code with up to 10 pairs of ON/OFF cycles, with each ON or OFF being from 0.1s to 250s in steps of 0.05s.
2. Levels of Lighting Intensity: Unit is supplied

with 15 pre-programmed levels of lighting intensity that are selectable by hex switch. One switch position allows the user to program any LED current value from 100mA to 1000mA via the communications port.

3. Programmable Photocell Control: AM-6 is supplied with the photocell programmed to user specifications. User can also program the Day/Night intensity thresholds to suit his special needs.
4. Programmable Solar Charger Control: AM-6 comes with a 7A solar charger controller. The charging cut off voltage is set to 14.6V at factory to prevent over-charge to the battery. The charging restore voltage is set to 13V to give hysteresis to prevent charging circuitry from oscillation around cut-off point. These thresholds can also be user programmed to suit user's needs.
5. Programmable LED and LED Driver overpower protection ^(Note 1): AM-6 will fall back to a lower output level to protect the LED light source (LEDs on all four channels) or driver transistor (channel 1 only) when the preset maximum ratings of the LEDs or transistor are reached. Internal monitoring of these parameters automatically takes account for the effect of flashing duty cycle. An on-board LED indicator will flash and Fault output will be asserted when AM-6 enters protection mode. System also provided short circuit protection.
6. Industrial standard RS485/232 communication port enables customer programming and monitoring of the units from a remote location. Synchronization is also conducted on this bus. Sophisticated collision detect and data – resending scheme is built-in the flasher software to ensure error-free data transfer.
7. Reverse Polarity and Transient Protection: Reverse Polarity and Transient Protection devices are embedded throughout the power and communication circuitry to provide required ESD/EMI immunity set forth by EN 61000-4-2 and EN 61000-4-5 standard.
8. An external faraday shield and four-layer PCB with separate ground and supply layer further enhance ESD/EMI immunity.
9. Operating Voltage: 10V-30VDC, reverse polarity protected.
10. Quiescent Current Consumption: 5.9mA to 6.3mA (put). Daytime and between flashes.
11. Load Current Rating (standard version): 1A per channel, 3A for 6 channels.
12. Flash Timing Accuracy: Better than 1 mS.
13. Synchronization Accuracy: Better than 2mS .