

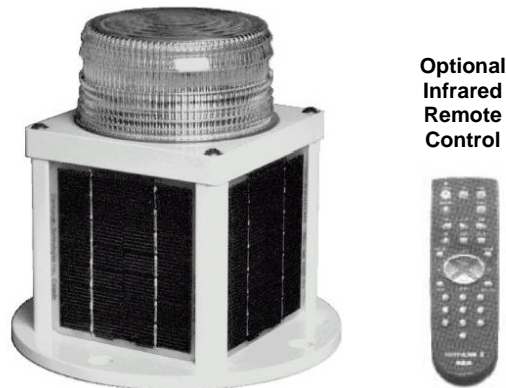
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# Solar-Powered Navigation Light

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## SOLAR-POWERED NAVIGATION LIGHT – MODEL 701 ITEM NO. 12-XX

### Typical Applications:

- 3 Nm Aids to Navigation
- Private Aids to Navigation
- Port and Marina Entrances
- Offshore Structures
- Research Buoys

### Features and Benefits:

- Range of 3 nautical miles (5.4 km)
- Extremely rugged, vandal resistant and waterproof
- Provides 5 years of maintenance free operation
- Replaces traditional T155 0.25 amp navigation lights
- Autonomy: runs for 15 days without any solar charging at 12.5% duty cycle
- User selection of 194 flash patterns with IR remote control
- Adjustable light intensity and on/off light levels
- Electronics are hermetically sealed in a unitized housing
- Battery compartment can be accessed for servicing if required
- Designed for U.S. Coast Guard
- Manufactured under ISO 9001 quality controls
- Three year pro-rated warranty
- Microprocessor provides intelligent charging of battery to extend life span
- Solar panels face in all directions collecting maximum solar energy
- Conforms to USCG regulations (88.15, 22 and 24)

The Model 701 is the world's most advanced, fully integrated solar-powered LED three-nautical-mile (5.4km) navigation light. It installs in minutes, is completely self-contained and requires no maintenance or servicing for the life of its power storage pack (up to 5 years). The 701 is the smaller and lighter version of the two models available in the 700 Series; it is intended for use in regions where solar illumination is greater than 1.5 hours of winter sunlight.

Originally designed and built under contract with the U.S. Coast Guard, the 700 Series are the first lanterns using light emitting diodes (LEDs) as the light source to enter the U.S. Navigational Aid System. Solar-powered, self-contained and completely sealed, the Model 701 has been used around the world for marking navigation buoys, port and harbor entrances, breakwaters -- any marine application requiring a marker light of three nautical miles of visibility.

### The Technology:

Utilizing an innovative combination of solar and LED technology, the 701 charges during the day, even under cloudy conditions, and turns on automatically at night. Instead of traditional incandescent bulbs, the 701 uses an array of durable, high-intensity light emitting diodes (LEDs), which last approximately 100,000 hours. Other than replacing the 701's battery pack approximately every five years, the unit is designed to will operate flawlessly with no additional servicing or maintenance.

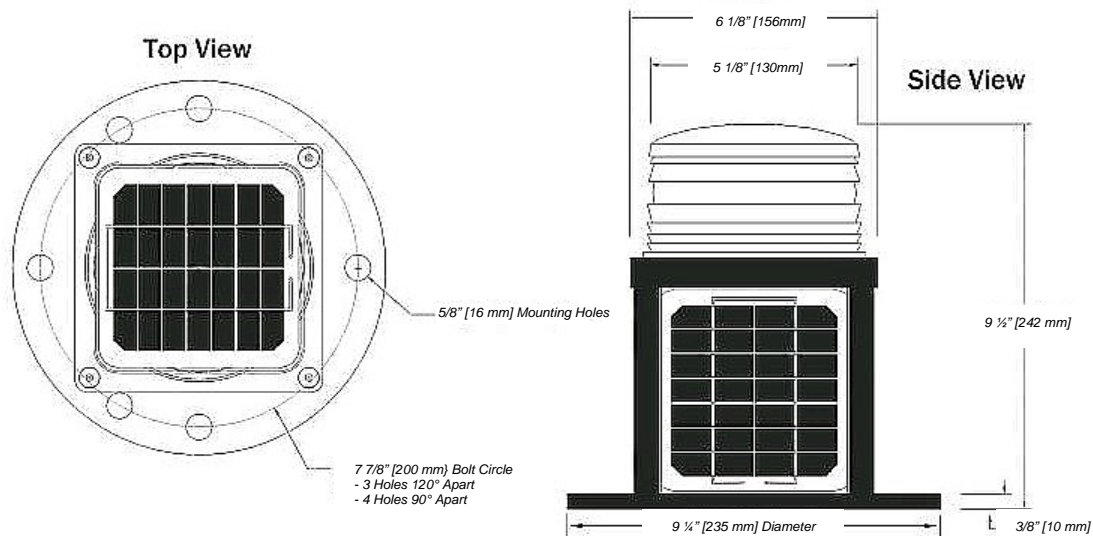
Due to its proprietary, unitized design, the 701 will withstand many years of harsh environmental conditions including submersion, vibration and intense sunlight.

The 701 is available in five colors that meet international chromaticity requirements for marine lighting: green, red, amber, white and blue. The unit can be ordered with any flash pattern required in the world today.

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# Solar-Powered Navigation Light



## Specifications:

| Specification                              | Parameter  | Value   |
|--|--|---|
| Range                                      |  | 3 Nautical Miles                              |
| Light Source                               | 16 to 24 LEDs, depending on color  | 100,000 Hours of Life                         |
| Equivalent Peak Intensity                  | Green, Max. Intensity Setting  | 30 Candela                                    |
| Battery Capacity                           |  | 15 amp-hour                                   |
| Uniformity of Output                       | Horizontal Plane, 360°   | +/- 15%                                       |
| Vertical Divergence                        | Vertical Plane, FWHM   | 7.5 degrees                                   |
| Signal Color                               | Green, Red, Amber, White, Blue   | Meets IALA Standards                          |
| Daylight Control                           | On/Off (adjustable)  | 70/120 Lux                                    |
| Autonomy                                   | 100% Intensity<br>25% Intensity  | 150 Hours<br>600 Hours                        |
| Flash Timing Accuracy                      | Over Full Temperature Range  | +/- 5%  |
| Life Expectancy                            | 4800 Hours/Year Operation, 12.5% Duty Cycle                                    | >5 years                                      |
| Ambient Temperature Range                  |  | -22° to 122° F (-30° to +50° C)               |
| Waterproof                                 |  | NEMA 6  |
| EMI Immunity                               | VHF, Radar, and Static Discharge Protection                                    | CE Approved                                   |
| Mass                                       |  | 17.5 lbs. (6 kg.)                             |
| Solar Panel                                | 4 Solar Panels   | 4.8 Watts                                     |
| Latitude                                   | Recommended Range of Latitudes for Effective Winter Performance                | 55° South to 55° North                        |
| Min. Daily Hrs of Winter Sunlight Required | 100% Intensity<br>25% Intensity  | 3.0 Hours<br>0.75 Hours                       |
| Patents                                    | U.S. Patents: 5,782,552 & 6,013,985<br>European Patent Application: 96925627.0 | U.S. Patent Approved<br>Other Patents Pending |
| Testing and Certification                  | Quality Assurance<br>Electrical Certification                                  | ISO 9001<br>CE Approved                       |

