



DTE Energy Parade of Lights Illumination Tips

Lighting comes in both line (120v) and low voltage (12v). Line voltage sources are generally designed to operate on AC (alternating current) and will require an inverter (changes 12v DC battery power to 120v AC) or a generator (produces 120v AC).

Linear lighting: Linear lighting can be used to outline elements of the boat, including handrails, masts, shrouds, windshields and biminis. Linear lighting comes in both line (120v) and low voltage (12v). Examples can include “rope” light, Christmas lights, or LED strips.

Spot lighting: Spot lighting is focused lighting that can be aimed to highlight a specific element aboard a boat such as a mast or flag. Many lamp sources contain an integral reflector (such as household PAR or MR lamps) and can be purchased in a variety of beam spreads and some primary colors. Most fixtures and lamps are designed to operate on 120v AC power but some marine or automotive lamps operate on 12v AC or DC.

Wash (or flood) lighting: Wash lighting is general illumination that is used to distribute light over a larger area. Sometimes integral reflector sources are used in wide (45-60 degree distribution) patterns. Other times, conventional household A lamps are used or halogen floodlights. Color may be added by using colored glass filters or polyester gels. Most fixtures and lamps are designed to operate on 120v AC power but some marine or automotive lamps operate on 12v AC or DC.

Projected effects: Projected effects are patterns or templates made of stainless steel or glass that are placed over special light fixtures designed to hold and focus the pattern and vary the diameter of the projection. Other projected effects are possible through the use of slide projectors or video LCD projectors connected in conjunction with a laptop computer or Ipad. Most of these light sources or projectors require 120v AC power.

Important points:

1. Electricity and Water don't mix! Fatal shocks are possible when using equipment not designed for use in wet or damp locations. Look for UL Wet Location or UL Damp Location labels on equipment.
2. Always follow safe wiring practices to avoid dangerous shocks or the risk of fire. If you do not know how to wire a device properly, consult a professional.
3. Lamps, particularly incandescent lamps, are hot and can burn wood or melt lines and sails.
4. Be careful not to overload wiring or the electrical supply you are using. Know the amount of wattage or amps the supply can produce and plan on not using more than 80% of it. This will avoid blown fuses or tripped breakers. For example, if your generator produces 2000 watts at 120v, plan on only attaching 1600 watts of lighting to it.
5. If you are running from an inverter, know how many amp-hours your batteries that power the inverter produce, leaving an allowance for operation of the vessel electric devices or for engine starting if you do not have a dedicated starting battery. Many 12v

batteries are rated between 50 and 100 amp-hours. This means they produce up to 100 amps at 12v for one hour. If no charging takes place, that means a 100 amp continuous load at 12v would completely deplete the battery in one hour (actually far less). So if planning to operate 120v lighting from an inverter, divide total wattage by 12v to see how much battery capacity is required, factoring in an addition 25% for inverter losses. Example: Six 100w, 120v lamps = 600w / 12v (battery power) = 50amps. You could not sustain a load like this from a single 100Ah battery for more than about an hour when using an inverter (the inverter alone will draw up to 25 amps).

6. If using a portable generator onboard, use caution when filling with gasoline and consider where dangerous exhaust will be expelled or collect. Never run a portable generator below decks.

Obtaining lighting:

Many lights suitable for this application may be found around the home or at a home supply store. Christmas lights, incandescent rope lights, etc are relatively inexpensive and can be obtained in various colors.

Low wattage (under 250w) theatrical equipment will be more than adequate for most vessel lighting applications. True theatrical fixtures are available for rental from various theatrical supply houses nearby.

Landscape lighting fixtures available in both line and low voltage are available from home or electrical supply store and suitable for use in wet locations.

Color filters of the polyester gel variety can also be obtained at theatrical supply shops.

Sources for rental equipment:

Pegasus Lighting – Southfield
20570 W. Eight Mile Rd.
Southfield, MI 48075
(248) 353-6130

Gand-Vincent Detroit
417 E. Elmwood Ave., Troy, MI 48083
(248) 307-4095

Fantasee Lighting – Ypsilanti
734-699-7200

Use your imagination, be safe and have fun!