

How to use this catalog

Finishes

Most of our light fixtures are offered in a variety of high quality finishes. Throughout the catalog, available finishes are listed with each product description.

Water-resistant models are offered in white lacquered or polished stainless steel finish. For interior applications, most fixtures are available in chrome-plated brass, satin nickel, gold-plated brass, as well as white and stainless finishes. Other finishes are available for specific lights as noted in this catalog.



Guide to Finishes & Trim Rings

The fold-in panel at the end of this catalog shows each of the finishes we offer, as well as the trim ring profiles available for fixtures and spots. Use this handy reference tool as you view the products in the catalog.

Features Icons

To indicate the availability of specific features, we use the following symbols throughout the catalog:

- | | |
|---|--------------------------------|
| Water-resistant (IP55 or IP65) | Multi-directional |
| Available with switch | Impact-resistant housing |
| Dimmer option available | Backlit illuminable switch |
| Multi-bulb version available | Available with or without base |
| Line voltage only | |
| AC or DC versions available | |
| Features LED technology | |
| Colored lens available | |
| Dual-color output (white/blue or white/red) | |

Ratings and Symbols

Technical specifications are indicated throughout the catalog with the following symbols:

IP The resistance offered by the fixture to the penetration of solids and liquids is indicated by the prefix "IP" (International Protection) followed by two numbers. The first number identifies the degree of protection against solids; the second number signifies the degree of protection against liquids.

IP 20 Protected against solids larger than 12mm; not protected against liquids.

IP 40 Protected against solids larger than 1mm; not protected against liquids.

IP 55 Protected against dust and protected against jets of water from all directions.

IP 65 Completely protected against dust and protected against jets of water from all directions.

Indicates that fixture is suitable for installing on "normally flammable" surfaces.

Indicates that fixture is suitable for installing on "non-flammable" surfaces.

Binding mark of conformity with harmonized norms and European Directives; for electrical equipment at nominal tension between 50VAC and 1000VAC.

Class I: With functional insulation in every part and with earth terminal.

Class III: Electric shock protected at very low voltage (50V max). Do not connect to earth.

Certified by Underwriters Laboratories, Inc.

Product is certified by the Canadian Standards Association (CSA) and compliant to all applicable standards.

If one or more bulbs burns out, there is no effect on remaining bulbs in the circuit.




TECHNOLOGY GUIDE

Imtra uses a variety of lighting technologies to create the best possible lighting system for your yacht. To help you get started, we offer this useful introductory guide.



LED Technology

Advancements in LEDs, optics technology, power drivers and specialized circuitry have opened up the door for LEDs to take the next step into general illumination. Imtra offers a wide range of LED fixtures (noted with this symbol  throughout the catalog).

What are LEDs?

Light Emitting Diodes, commonly called LEDs, are tiny light bulbs that fit easily into an electrical circuit. Since they do not have a filament that will burn out, they do not get as hot as incandescent bulbs. They are illuminated solely by the movement of electrons in a material and will last as long as any standard transistor.

The result is a highly efficient and concentrated directional light source. Reflectors, lenses, and diffusers are then incorporated in order to achieve the desired characteristics for each fixture.

Today, LEDs are by far the superior choice for color-specific and power-critical applications such as automobile brake lights, street traffic signals, and various industrial controls.

LEDs in Marine Lighting

At one time LED technology was simply too expensive and limited for general use. However, as semiconductor materials and production methods have improved, LEDs have become a more practical and cost-effective lighting option.

We quickly realized their superiority for marine applications such as navigation, courtesy lights, accent lights, and task lighting. In addition, LED fixtures have gained acceptance for utility lighting in closets, holds, and compartments.

Today, LED lighting is a rapidly growing segment of the marine lighting industry, and LED options are continuing to expand. Both cool-white and warm-white LEDs are now available, along with a wide range of sizes from familiar 5mm LEDs to larger PowerLEDs with specialized built-in optics.



ADVANTAGES OF LED

Longer Life	Most LEDs can be guaranteed up to 50,000 hours. Bulbs are typically built into the light fixture and never need to be changed. Most LED fixtures will have a life span of 20+ years under normal conditions!
Ultra-Low Power Consumption	A single 5mm LED consumes only 10mA of power; on average, the power consumption of an LED fixture is 10-15% of a comparable incandescent light source.
Low Heat	Unlike incandescents, LEDs do not waste heat energy trying to achieve a particular color. 80-90% of incandescent energy is wasted in the generation of heat needed to achieve light wavelength (color).
Shock & Vibration Protection	Because LEDs do not have a filament, they are naturally resistant to shock and vibration.
Superior Light Color Characteristic	LEDs are monochromatic (light color specific) and do not need a lens or filter to produce light of a specific color. White LED more accurately illuminates the true color of objects, and is recommended for objects of art – even over halogen light.

Basics of Marine Lighting

Bulb Types

Different types of fixtures have different requirements for light output, physical size, power supply and other factors. To help you select the best bulb type for your lighting needs, we offer this reference guide to the basic light types and the bulbs that apply. For Imtra's complete selection of high quality bulbs, please see our Bulbs section, page 58-59.

Halogen

Halogen bulbs are usually quite small, allowing for reduced fixture size (particularly the depth required for recessed fixtures). They provide greater lumens per watt and better color rendering than incandescents.

Like incandescents, halogens can be easily dimmed. Halogens are available in different voltages and wattages to suit your individual requirements.

Types of halogen bulbs are detailed below:

G4 Halogen

A low-cost bulb that works with any fixture marked with a G4 bulb icon in this catalog. Available in 12V, 14V, 24V, 28V or 32VDC versions with standard outputs from 5-20 watts.

G9 Halogen

Bulb filament arrangement similar to the G4, but for line voltage only. The unique pin structure clearly distinguishes this bulb from its low voltage cousin.

GU4 Halogen Reflector Lamp

Halogen reflector bulb available in 12V and 24V.

GU5.3 Halogen Reflector Lamp

A popular MR-16 reflector lamp. Available with or without lens. Available with different beam angles for spot or flood light applications.

GU10/GZ10 Aluminum Reflector Lamp

Line voltage aluminum reflector bulb is used in many of today's line-voltage spots. Locking socket pins resist vibration.

R7s Double-Ended

High intensity linear halogen bulb used for flood light applications. AC only.

Xenon

Xenon bulbs tend to be more resistant to voltage fluctuations and offer more flexible handling characteristics.

G4 Xenon

Lasts up to five times longer than standard G4 bulb, with only slight reduction in light output. Available with red or clear light.

Fluorescent

Fluorescent bulbs offer excellent light output with minimal power consumption. Available in different sizes and shapes. Ideal where larger lighted surfaces are required.

PL 2-Pin

Compact and highly-efficient. Available in PL9 (9W) and PL13 (13W) versions for our Utility Light and small Engine Room Light, respectively. Fits G23 socket.

PL 4-Pin

Available in 18W, 24W, 36W and 48W sizes. Different color outputs (cool white/41K, warm white/27K). Used in larger Resolux 750 Series fixtures. Usually fits 2G11 socket.

T5/T8 Tubular

Straight tube lamp in sub-miniature (T5) or standard (T8) diameters from 4W-35W. Color levels from 27K-33K.

Incandescent

Incandescent bulbs are available in a wide range of styles and shapes to fit different sockets.

B15d-S8 Bayonet

Double contact bayonet bulb, popular in reading lights, wall lights and some fixtures. Available in different wattages and voltages for both DC and AC applications.

E14 Tubular or Spherical

"Candelabra" screw-based bulb available for DC or AC systems in tubular or round shape. Mostly used in wall lights and fixtures.

E26/E27 Spherical

Medium screw-based bulb is available in AC or DC versions. Used in larger wall lights.

W2 Wedge

Tiny wedge bulbs used in small courtesy lights. DC only.

SV7 Festoon

Low voltage / low wattage bulbs used in small and medium sized courtesy lights. DC only.