

# QtLED QTS-100 White

- \*The **QTS-100** underwater light fixture uses a high impact borosilicate glass with a flat lens for a 140 degree wide beam angle. The fixture also allows for an increase in Led power for extra light output.
- \*Never feel trapped by this fixture as the LED projector is designed for Blue and White or RGB+W and can be easily removed for servicing and upgrades without the hassle of hauling your boat.
- \*The cool white LED has a minimum output of 14,000 lumens. With its 140 degree beam angle, the flush fixture provides a perfect illumination.
- \*The **QTS-100** is recommended for GRP, Carbon Fibre and Wooden hull yachts of 20m +.
- \*Distance between lights on the transom can vary from 1 to 1.5m and from 1 to 3m for port and Starboard.
- \*The **QTS- 100** has Lloyd's Register Approval and ABS Design Appraisal on all components. Using the latest technology allows our underwater lights to perform well in the harshest environment.
- \*The **QTS- 100** is made from anodized aluminium and titanium front face.



AVAILABLE

YES



**Maintenance**  
Inside the hull



**Control Option**  
On/Off Switched



**Driver**  
Integral



**Growth Resistant Lens**  
Borosilicate Glass-



**Power**  
24 vdc



**Installation**  
Thru Hull

**Hull Material**

GRP/Carbon Fibre



**Boat Size**

20m+



**Lumens**

14,000



**Kelvin**

6,500K



**Beam Angle**

140 Deg



**IPX8**  
Underwater

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THE QT-LED RANGE IS DESIGNED AND MANUFACTURED BY UNDERWATER LIGHTS LTD IN THE U.K.



# QTS-100

## Thru-Hull - Led serviced From inside

### Mounting

|                     |                               |
|---------------------|-------------------------------|
| Hull Material       | GRP / Fiberglass/Carbon Fibre |
| Boat size           | 20meters+ (65ft+)             |
| Spacing             | 1-1.5M /1-3M port & Starboard |
| Beam Angle          | 140°                          |
| Installation Angles | Flush                         |

### Technical

|                             |                 |
|-----------------------------|-----------------|
| Lumens                      | 14,000          |
| Kelvin                      | 6,500           |
| Typical LED Life Expectancy | 40,000 hrs      |
| Min-Max Operating Voltage   | 24 VDC          |
| Current / Amp draw          | 4 amp           |
| Driver Type                 | Integral        |
| Driver Output               | 55VDC-1.5A      |
| Control Options             | On / Off Switch |
| Bonding                     | Locking Ring    |

### Physical

|                                   |                         |
|-----------------------------------|-------------------------|
| Length of fixture                 | 140mm (5.5")            |
| Diameter of fixture               | 100 mm (4")             |
| Profile (height) of fixture       | 5 mm (7/16")            |
| Removal Space Required            | 170 mm (6 11/16")       |
| Total weight                      | 1.7KG (3.74lbs)         |
| DMX Driver Dimensions (L x W x H) | N.A                     |
| Cable Length                      | 2 meters (6.5ft)        |
| Hole Cut-out                      | 74mm (2.91")            |
| Material                          | Titanium face +5083 Alu |
| Growth Resistant Lens             | Borosilicate Glass      |
| Maximum Hull Thickness            | 80mm (3 1/4")           |

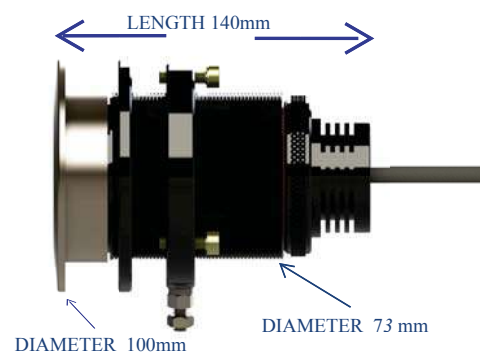
### Color

White



### Part Number

QTS-100-W-LP1-V5-Ti



Your Local Dealer



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The Great Dunton Forge, London Road  
Dunton Green, Sevenoaks, Kent TN13 2TD UK  
T: +44 (0) 1732 455753 @F: +44 (0) 1732 743233  
E: uwl@underwaterlights.com

[www.underwaterlights.com](http://www.underwaterlights.com)

VAT NO: 556 4425 31

Registered in England No: 2348038

# QtLED QTS-100 INSTALL

**\*QTS LED 100 Installation (Maximum hull thickness 80mm) and Operation instructions.**

The QTS100 is a “through- hull” submersible marine light and is delivered ready for installation. Maintenance of the LED is carried out from inside the hull. The light is suitable for installation into GRP-fiberglass and wooden hulls. The led is driven by an integral DC driver (24vdc). The white LED produces 14,000 lumens.

**\*Qualified/Approved personnel must be used to carry out installation**

Before cutting a 74mm hole in the hull, check the hull wall thickness is not greater than 80mm. The location of the holes must be below the waterline. After finishing the hole surface, check the Body (1) can be inserted.

**\*Note for cored hulls** - After cutting, the exposed surfaces of the hole must be finished to form a solid surface through it. Thus protecting the internal core of the hull. The wall thickness of the hole should not to less than 5mm-0.25inch. Apply 3M-4200FC sealant to the ‘Body’ (1) flange. Slide the body into the hole and from inside the hull put the ‘compensating ring’ (3) on and screw the securing ring’ (4) up hand tight. Gently tighten the adjustment screws (7) so the compensating ring is flush to the hull and the sealant has flowed completely around the flange and hull.

**\*Do NOT overtighten the bolts** as this will squeeze the sealant from the surfaces. Allow the sealant to solidify and remove surplus. Finally tighten the bolts to 4Nm. / 3ft. lbs.

\*It is not necessary to remove the heat sink (2) when carrying out installation.

\*To remove the heat sink (2) unscrew the clamp ring (5). There are two M5 tapped holes to use if the heat sink is difficult to remove. Please see pictures below.

\*Before fitting the new LED heat sink (2) ensure the barrel part of the body (1) and the lens is clean.

Use silicone grease to lightly coat the heat sink (2), clamp ring (5) and sealing ‘O’ rings (6). Slide the heat sink (2) into the barrel and tighten the knurled securing clamp ring (5) to secure the heat sink (2) into the body. When the heat sink (2) cannot be rotated the clamp ring (5) has secured all in place. If this is not done it will cause overheating of the LED and the LED could fail.

**\*Caution:** do not operate lights unless totally submerged.

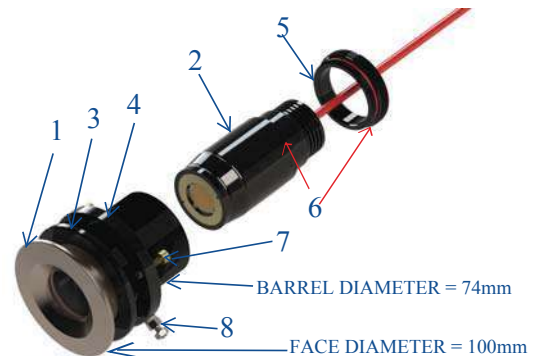
After completing the installation procedure it is highly recommended to coat the BODY (1) face with antifouling and bond the lights to the anodes or a cathodic protection system as shown below.

**\*EARTHING LIGHT FOR CATHODIC PROTECTION**-tighten the earth screw (8) on the securing ring (4) so that it bites into the screwed barrel. Check there is continuity to the front face. This prevents galvanic corrosion. Connect the earth cable supplied to the earth screw(8) and make sure the cable to your fuse/hub/junction box is connected to the cathodic protection system.

**\*The light must be installed onto a flat (not curved) surface. Mount on transom or side hull only.**

**\*The light is supplied with the LED heatsink (2) done up tight. You must check this is still done up hand tight with the clamp ring (5) after install whether you remove the insert or not**

| QT 100 Description   | Qty. |
|----------------------|------|
| 1; BODY              | 1    |
| 2; LED HEAT SINK     | 1    |
| 3; COMPENSATING RING | 1    |
| 4; SECURING RING     | 1    |
| 5; CLAMP RING        | 1    |
| 6; 'O' RINGS         | 2    |
| 7; ADJUSTMENT SCREWS | 3    |
| 8; EARTH SCREW       | 1    |



**TECHNICAL SPECIFICATION**

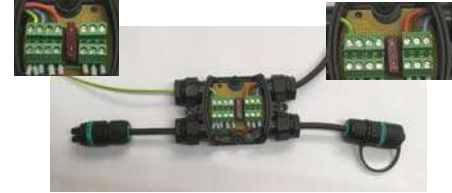
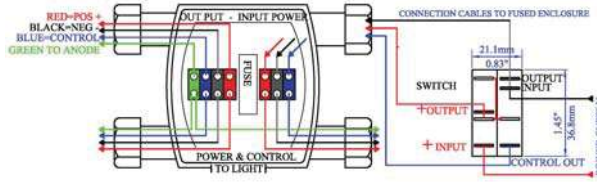
Supply Voltage: 24dc.  
 Maximum current: 4 amps  
 LED Driver: Integral  
 BODY Materials: Titanium + 5083 Aluminium





# DC POWER CONNECTIONS

POWER AND CONNECTION INFORMATION FOR -  
QT-80-Ti, QTS-100, QTS-100 DUAL, AND QTS-100-RGB+W

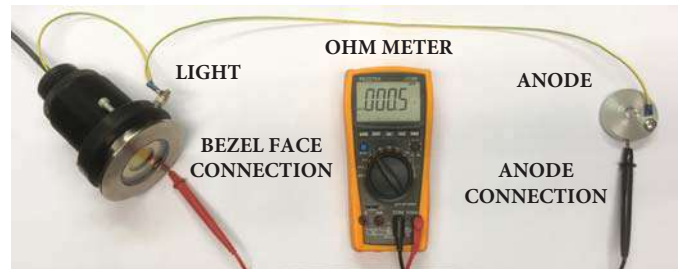


BLUE CONNECTIONS FOR DUAL LIGHTS ONLY DO NOT USE THE BLUE FOR SINGLE COLOUR OR RGB+W LIGHTS

TWO WAY FUSED ENCLOSURE POWER FROM EITHER SIDE - EARTH CONNECTED TO ANODE

FOUR WAY FUSED AND SURGED PROTECTED PLUG AND PLAY ENCLOSURE

- \*The picture opposite shows a very important procedure in checking that the light is connected to the insert.
- \*Using an ohm meter connect the light bezel to the anode. The ohm value should be less than 1 ohm.



- \*The four way fused/surged protected and the two way fused only enclosure protects the power cable to the lights only. The lights are supplied with cable and plug for easy connection. The earth cable has to be connected to the anode. **You are responsible to fuse the power supply cable.**
- \*Lights supplied with no plug will require connection inside the two way connector as shown in the diagram above.
- \*The table below shows the lumen, power, current draw for each light at 12 and 24 volts and the fuse rating for each light when not using our enclosures It also shows the supply amperage for each enclosure with the maximum amount of lights connected.
- \* We do not supply the input power cable. Please use the cable size list to select the correct cable. This supply cable must be fused for protection and the recommended **SUPPLY CABLE FUSE** is in the list below.

| MODEL NUMBER  | LUMEN OUTPUT | 11 VDC SUPPLY POWER, DRAW CURRENT & FUSE RATING | 24 VDC SUPPLY POWER, DRAW CURRENT & FUSE RATING | TWO WAY ENCLOSURE WITH TWO LIGHTS DRAW AMPS 12 - 24VDC - SUPPLY CABLE FUSE | FOUR WAY ENCLOSURE WITH FOUR LIGHTS DRAW AMPS 12 - 24VDC - SUPPLY CABLE FUSE |
|---------------|--------------|---|---|--|--|
| QT-80-Ti-40   | 7,000        | 40 WATTS - 4.0 AMPS - 10 AMP                    | 40 WATTS - 2.0 AMPS - 10 AMP                    | 8.0 A - 4.0 AMPS - 10 AMP  | 16.0 AMP - 8.0 AMPS - 20 AMP   |
| QT-80-Ti-20   | 3,500        | 20 WATTS - 2.0 AMPS - 10 AMP                    | 20 WATTS - 1.0 AMPS - 10 AMP                    | 4.0 A - 2.0 AMPS - 10 AMP  | 8.0 AMP - 4.0 AMPS - 20 AMP  |
| QTS-100       | 14,000       | N/A   | 96 WATTS - 4 AMPS - 10 AMP                      | N/A - 8.0 AMPS - 10 AMP  | N/A - 16.0 AMPS - 20 AMP   |
| QTS-100 RGB+W | ALL ON       | N.A   | 144 WATTS - 6 AMPS - 10 AMP                     | N/A -  | 24VDC - 24 AMPS - 30 AMP   |

| Standard and Metric Wire Comparison Table | CIRCUIT TYPE                  |            |                          |            | CURRENT FLOW IN AMPS |        |        |        |       |       |       |       |       |       |       |  |
|---|-------------------------------|------------|--------------------------|------------|----------------------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|--|
|   | 10% VOLTAGE DROP Non Critical |            | 3% VOLTAGE DROP Critical |            | 5A                   | 10A    | 15A    | 20A    | 25A   | 30A   | 40A   | 50A   | 60A   | 70A   | 80A   |  |
|   | 0 to 20 ft.                   | 0 to 6.1 M | 0 to 6 ft.               | 0 to 1.8 M |                      |        |        |        |       |       |       |       |       |       |       |  |
| Available Wire Size AWG                   | 16                            | 14         | 12                       | 10         | 16 AWG               | 14 AWG | 12 AWG | 10 AWG | 8 AWG | 6 AWG | 4 AWG | 2 AWG | 1 AWG | 0 AWG | 0 AWG |  |
| Available Wire Size Metric                | 1.5                           | 2.5        | 4                        | 6          | 10                   | 12     | 16     | 20     | 25    | 35    | 50    | 70    | 100   | 150   | 200   |  |
| LENGTH                                    | 30 ft.                        | 9.1 M      | 10 ft.                   | 3.0 M      | 16 AWG               | 14 AWG | 12 AWG | 10 AWG | 8 AWG | 6 AWG | 4 AWG | 2 AWG | 1 AWG | 0 AWG | 0 AWG |  |
|   | 50 ft.                        | 15.2 M     | 15 ft.                   | 4.6 M      | 14 AWG               | 12 AWG | 10 AWG | 8 AWG  | 6 AWG | 4 AWG | 2 AWG | 1 AWG | 0 AWG | 0 AWG | 0 AWG |  |
|   | 65 ft.                        | 19.8 M     | 20 ft.                   | 6.1 M      | 14 AWG               | 10 AWG | 8 AWG  | 6 AWG  | 4 AWG | 2 AWG | 1 AWG | 0 AWG | 0 AWG | 0 AWG | 0 AWG |  |
|   | 80 ft.                        | 24.4 M     | 25 ft.                   | 7.6 M      | 12 AWG               | 10 AWG | 8 AWG  | 6 AWG  | 4 AWG | 2 AWG | 1 AWG | 0 AWG | 0 AWG | 0 AWG | 0 AWG |  |
|   | 100 ft.                       | 30.5 M     | 30 ft.                   | 9.1 M      | 12 AWG               | 8 AWG  | 6 AWG  | 4 AWG  | 2 AWG | 1 AWG | 0 AWG | 0 AWG | 0 AWG | 0 AWG | 0 AWG |  |
|   | 130 ft.                       | 39.6 M     | 40 ft.                   | 12.2 M     | 10 AWG               | 8 AWG  | 6 AWG  | 4 AWG  | 2 AWG | 1 AWG | 0 AWG | 0 AWG | 0 AWG | 0 AWG | 0 AWG |  |

\* If a second Hub is requested for installing more lights, please make sure you are using the correct cable suitable for the Amps drawn