QUICK GUIDE FOR INSTALLATION OF NORBIT AQUA FCL600 UNDERWATER LIGHTS

December 2022

This guide covers the required steps to mount and start NORBIT's underwater light, the FCL600. For detailed instructions and technical specifications, refer to the FCL600 manual and product sheet at https://norbit.com/aqua/products-solutions/

Delivery contents (may vary)

1. A standard pallet contains lights andcontrol cabinets and must contain the following:
    - 4 control cabinets with 2x5 meter cable, hereafter referred to as PDC (Power Distribution Cabinet)
    - 8 FCL600 underwater lights with 30-meter cable
    - 4 power plugs for connection to the 220V input on the PDC
    - 8 blue velcro straps for fastening the PDC
    - 4 eyebolts with disc and nut for screwing into each PDC, as secondary security

Preparations before mounting on the pen.

Before bringing the light and PDC out to the pens (sites), it is recommended to review this guide and ensure the equipment is prepared for setup and installation. A recommended light setup when using the NORBIT FCL600 is typically 4 lights in each pen (assuming 157 meters in circumference) that are powered and controlled from the two PDCs. Each PDC operates a pair of lights (Figure 1). Typically, the PDCs sit directly opposite each other in the pen. (Figure 2)

Figure 1. One PDC controls two 600-watt lights

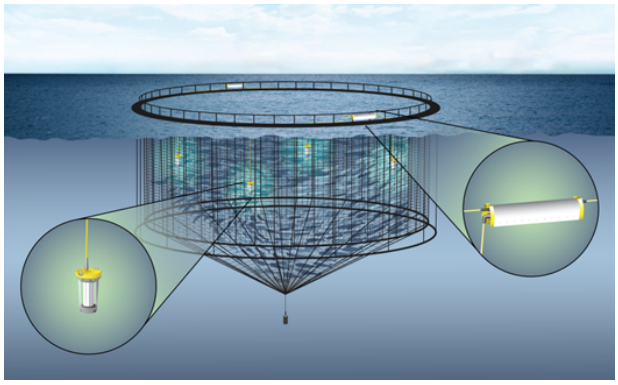

Figure 2. Standard setup on a 157-meter pen

It is recommended to measure the distance from the electrical cabinet on the pen to the PDCs and then adapt the length of the power cable based on this measurement. Both cables should then be fitted using the supplied power connectors. The current-carrying wires are connected to socket nr 1 and 2 in the connector and ground cable to the socket mar l with the symbol.

The delivery includes stainless eyebolts which will act as secondary protection. Primarily, to prevent the PDC from moving horizontally on the handrail and to reduce pendulum movement that can occur in stormy

weather. The eyebolt is screwed into the PDC and secured using the included washer and nut before it is installed on the handrail (Figure 3). The bolt is mounted in a horizontal position as shown in Figure 3. It is also recommended to prepare the safety ropes in advance, from the bolt out to the handstand. (Figure 4)

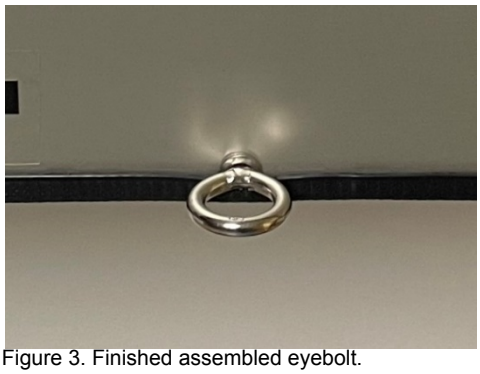
Figure 3. Finished assembled eyebolt.


Figure 4. PDC mounted on the handrail with secondary protection.

Installation

Start by attaching the two blue Velcro straps around the handrail. Make sure the loop is large enough to fit the PDC. (Figure 5) Then thread the PDC through the loops and tighten firmly. The cables from the PDC are then attached to the handrail in each direction, preferably using insulating tape. Laying the cable out from the PDC in an arc is recommended to avoid jerks in the cable. (Figure 6). Always attach the fixed lamp cables in first order at the handrail, then the power cable. This is because they are more robust compared to the power cable and therefore can withstand future pendulum movements better.

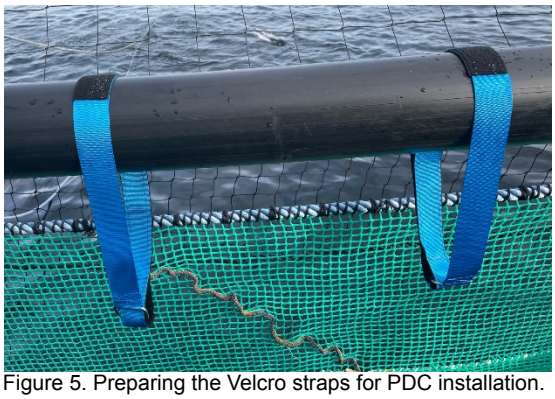
Figure 5. Preparing the Velcro straps for PDC installation.

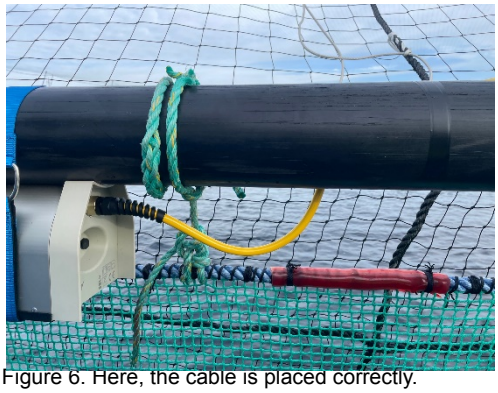
Figure 6. Here, the cable is placed correctly.

The cables from the light are then connected with the connector from the cables from the PDC. (Figure 7) Remember to take care of the protection caps. Attach the connector to the handrail and secure it with insulating tape

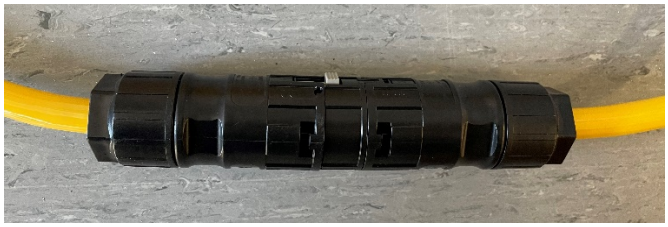
Figure 7. The connector between the lights and the PDC.

Placement of the lights in the pen

When placing out four lights, it is recommended to stretch two 16mm ropes directly over the pen, so the lights can hang in a square orientation. This is recommended based on NORBIT Aqua's field experience.

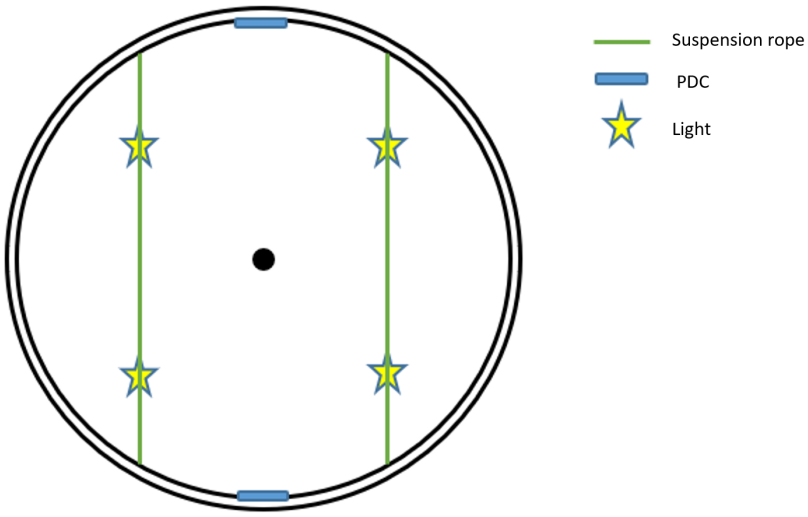

Figure 8. Suggestions for placing lights in cages

The lights are hung by using a rope attached to the two eyebolts at the top of the lamp. NOTE! Ensure the opening of the lamp is not blocked, as it is important for the cooling of the lamp.

Figure 9. Correct suspension of the FCL600

When the lights have been securely hung and connected to the PDCs, the 220-volt cable is then connected. The connector is screwed into the end of the PDC. (Figure 11)
NOTE! Remember to take care of the protective cover that came whit the connector.


d to PDC

The lights are switched on by pressing the silver push button at the end of the PDC. A glowing blue ring around the button indicates that the lights are on. To avoid stress for the fish, the lights use 10 minutes to achieve full effect. When switching off, press the switch once more and the lights will slowly dim down to zero.

Figure 12. On/off button (silver coloured). The black "nut" is for pressure equalization and should not be touched.