### **Philips CoralCare FAQ**

#### What is the input power of the CoralCare fixture?

The CoralCare fixture requires a 220-240V AC input voltage (European mains) and will consume 190 W when cold (this falls to 183 W during operation). The LEDs are driven by two high-efficiency LED current sources (93% efficiency).

#### In what environment can I install the CoralCare fixture?

The CoralCare fixture should be installed in an area with a maximum ambient temperature of 35°C to ensure the lifetime of 25,000 hours at 100% light output. Any reduction in the light output or ambient temperature will help to prolong the lifetime. The fixture can be installed in an enclosed (or partly enclosed) canopy as long as there is some air circulation and the ambient temperature does not exceed 35°C.

#### Are there currently any accessories available for the CoralCare fixture?

A professional suspension kit and UK adapter are supplied with the CoralCare fixture. Additional ceiling mounting rings are not included (because these vary according to the type of ceiling material).

#### How is the CoralCare fixture cooled?

The CoralCare fixture is passively cooled (no active or moving parts), and no further cooling is required.

#### Is the CoralCare fixture protected against overheating?

The fixture is protected against overheating and will shut down if the safety threshold is reached. This will happen if the ambient temperature exceeds ~50°C.

## What kind of maintenance is required to ensure the long lifetime (25,000+ hours) of the CoralCare fixture?

Only limited maintenance is required. We recommend salt and dust spots are removed from the fixture every 2 weeks. This can be done with a wet cloth (thanks to the IP65 rating).

#### Is there any servicing available for the CoralCare fixture?

The CoralCare fixture is designed not to need servicing. There are no exchangeable parts or additional accessories available.

#### Are any additional 3<sup>rd</sup> party parts (cables, etc.) required to install the CoralCare system?

The following 3<sup>rd</sup> party parts are required to enable the CoralCare fixture to function:

- Ceiling mounting rings to attach the suspension kit
- Power outlet (socket) with earth leakage protection
- Optional: 1-10V interface cable if the 1-10V interface from a 3<sup>rd</sup> party computer is used.

#### How is the CoralCare system controlled, and with what interface?

The CoralCare controller is programmed via a standard PC USB port.

The driver for the controller is installed automatically when the software package is installed. The software application is compatible with Windows OS (no MAC compatibility yet).

#### What interfaces can I use?

The CoralCare controller is compatible with 3<sup>rd</sup> party interfaces such as Profilux and Apex (proven by user tests).

#### Where should I position the CoralCare controller?

The controller should be positioned in a well ventilated area and not directly above the aquarium. Too high a humidity level could potentially result in corrosion of the controller hardware.

#### Is a permanent connection to the PC required?

A permanent connection to the PC is not required. The PC application programs the light settings in the controller. After that, the controller can run stand-alone (with USB power supply included).

#### Is a permanent connection between the controller and fixtures required during programming?

No, the controller can be programmed without any fixtures attached. However, it is helpful to connect the fixture so that the light settings can be checked on the spot.

#### What happens if there is a power failure?

During a power cut the lamps and controller will shut down.

The light schedule for the controller will be saved in the internal memory and will not be affected by the power failure. The controller clock (time) will continue to run during a power cut because it has an internal backup battery. The backup battery lasts up to 48 hours.

If the power is restored within this period, the entire system will resume normal function (light settings will be rebooted within 5 seconds).

#### What are the limitations of the controller backup battery?

The controller backup battery can maintain the power supply for up to 48 hours. However, this is only possible if the battery is fully charged. The battery is not fully charged when the product comes out of the box. The battery charges automatically when it is connected to the PC or power supply; it takes about 15 minutes to charge fully.

#### What if the power failure lasts for longer than the backup battery's capability?

The internal time of the controller will be lost. The controller will go into a default state and will not execute its daily schedule. Once the clock has been reset (using the PC application), the controller will function again. The light schedule will not be lost because it will have been saved in the internal memory of the controller.

#### What is the ideal fixture installation height?

The fixture should be suspended at least 15 cm and no more than 35 cm above the surface of the water in the tank. The best optical light distribution is achieved (depending on tank size) at a height of between 15 cm and 35 cm.

#### What is the weight of the CoralCare fixture?

The total weight of the fixture is approx. 10 kg.

#### What are the fixture dimensions?

The dimensions are 450 x 350 x 130 mm (L x W x H)

#### What if I want to control each fixture independently?

The CoralCare controller can control up to 4 fixtures.

However, each fixture will execute the same daily schedule (as programmed in the controller by the PC). In order to control the light settings of each fixture individually (or multiple groups of fixtures), multiple controllers are required.

#### Where can I buy CoralCare?

The CoralCare products (fixture and controller) can be bought via the Best2Serve online webshop: <a href="http://www.coralcare.best2serve.com">www.coralcare.best2serve.com</a>

The products are also available from selected retail stores.

If your store does not yet sell CoralCare, they can easily register at <u>www.coralcare.best2serve.com</u> to receive a login to enable them to buy the products online.

#### What is the lifetime of the CoralCare fixture?

The CoralCare fixture should be suspended in a ventilated area with a maximum ambient temperature of 35°C to ensure the lifetime of 25,000 hours at 100% light output. Any reduction in the light output or ambient temperature will help to prolong the lifetime. After 25,000 hours 90% of all fixtures still deliver more than 80% of their original light output.

#### Is there anything in the CoralCare system that could get damaged?

The CoralCare fixture is designed to be very robust and should have a long lifetime if it is handled correctly.

Potential problems include:

- If the paint becomes damaged (due to incorrect handling) the fixtures could start to show signs of corrosion in these areas.
- If the fixture is fitted in an ambient environment that is too hot, this could shorten the lifetime of the fixture.

#### Can the open communication cables of the CoralCare fixture represent a safety risk?

The communication cable that is attached to the fixture is protected against short circuit and reverse polarity. The communication bus is isolated and is a low-voltage bus.

#### Will the CoralCare fixture be available in different colors?

No, CoralCare is available in gray only.

#### Are CoralCare fixtures available in a range of types and colors?

No, we currently only supply a 190-watt fixture with the following dimensions:  $450 \times 350 \times 130$  mm (L x W x H)

#### Can I cut the mains (or communication) cables to extend or reduce the cable length?

Yes, the length of the mains and communication cables can be extended or reduced. Please leave at least 50 cm of cable between the fixture and the power plug. The warranty will be invalid if water enters the fixture because the cable has been cut.

#### What is the benefit of having the CoralCare fixture above my aquarium?

The Coralcare system will light your tank with high-quality lighting that is good for your corals. It will also enhance the color of the corals and fish so you can enjoy watching your reef. The solution has a long lifetime, which ensures the overall stability of the light conditions in your tank.

#### Will replacing my current reef lighting with CoralCare harm my reefs or anything else in my aquarium?

The CoralCare system can harm your corals if it is not installed/set up correctly. See also the <u>installation</u> <u>video</u>.

Please refer to our detailed installation video that can be found on the CoralCare webpage. Due to the high efficiency of the fixture, it is important to keep the irradiance of the light to an acceptable level for the corals. If this level is exceeded, coral necrosis can occur. Be cautious when introducing the LED fixture above an existing tank. Start with low light intensities and allow the tank to adjust to the new light gradually.

#### What is the recommended surface coverage of a CoralCare fixture?

The recommended maximum spread (depending on the installation height) is  $100 \times 80 \text{ cm}^*$  for a normal reef tank and  $80 \times 60^*$  for a very advanced reef tank. The fixture is suitable for tank heights of up to 100 cm.

\*Area depends on reefscape and coral population.

#### How long is the warranty for the CoralCare fixture?

The CoralCare system comes with a two-year warranty.

#### What is the maximum heatsink temperature and is there a risk of burning your fingers?

At an ambient temperature of 35°C the fixture's heatsink temperature will not exceed 60°C. Always turn off the fixture before handling it (during installation or cleaning) to prevent any potential risk to users with sensitive skin.

#### Why does the CoralCare fixture make a ticking noise when it is cooling down or heating up?

The CoralCare fixture uses light-guide technology to deliver a unique light distribution. The light guide (positioned on top of the Metal-Core LED PCB) is fixed on the heatsink together with the PCB. Due to the difference in thermal expansion coefficients, the optics expand more than the PCB. The ticking noise is produced when the optics expand and glide under the mounting screws. The optics are designed to cope with this expansion, and performance will not be affected.

#### How many CoralCare fixtures can I control with a single CoralCare controller?

One controller can control up to 4 fixtures.

#### Can I receive support to promote the product on my website?

Yes, please send a mail to <u>coralcare@philips.com</u> and state your requirements.

#### How many LEDs are used in the CoralCare fixture?

The CoralCare fixture contains 104 high-power LEDs from the Lumileds brand.

#### What types and colors of LEDs are used in the CoralCare fixture?

The CoralCare fixture uses the following LEDs: 40 x Luxeon TX 6500K/70 32 x Luxeon T Royal Blue 16 x Luxeon UV 420 nm 8 x Luxeon Rebel Cyan 8 x Luxeon Rebel Phosphor Converted Amber The LED engine has a customized kitting and binning process to ensure color consistency and a wide spectral distribution.

#### How much energy will I save compared to conventional T5 lighting if I switch to CoralCare lighting?

Measurements and the results of field-test experiments have shown that the CoralCare system is 30-50% more efficient than conventional T5 lighting, with no reduction in the quality of light or in coral growth. This experiment and the corresponding results are published on our <u>website</u>. The results are also summarized in this short <u>video</u>.

#### Do I need to pay for shipping if I buy the CoralCare fixture online?

No, shipping is free of charge.

### **Retail specific information**

Is VAT included? Yes. Retailers can recover the VAT afterwards.

## I am a retailer based outside the Netherlands and the webshop origin is Dutch. I cannot buy including VAT in another country. What is the solution to this?

Best2Serve – the entity selling the CoralCare products – has a legal entity in the UK and in all other European countries. You are, therefore, not buying from the Netherlands but from your own country. This means you can recover the VAT via the authorities in your country.

# If you cannot find the answer to your question here, please contact: <u>coralcare@philips.com</u>

www.philips.com/coralcare