



REYDOCTO

...Your Technology Partner for Aquaculture



OxyBLU

What is OxyBLU?

An IoT Device powered with Machine Learning, Cloud Connect and Process Automation. It monitors, controls and gives up-to-date Information about the health of the Aquaculture pond.

Every OxyBLU is precisely designed and developed to withstand all the demanding conditions of Aquaculture farming, and are Custom-built to suit the specific needs of the Customer's farm.

OxyBLU periodically senses the Water parameters of the pond, and uses Intelligent algorithms to predict the demands for Dissolved Oxygen in the pond. These Self learning algorithms take into account the Contributors and Consumers of DO in the pond and automatically controls the Aerators to maintain the optimum levels of DO.

With the OxyBLU mobile-app, Customers could now monitor their Pond health and status from Anywhere, Anytime on their Mobiles. It is available for both Android and IOS platforms.



What makes OxyBLU different?

Supports the measurement of wide variety of Water parameters - Dissolved Oxygen (DO), pH, Water Temperature, and DO Saturation. And has the scope to add more parameters in the future.

The device comes with the latest OPTOD Sensors. The OPTOD (Optical Dissolved Oxygen technology) sensor based on luminescent optical technology allows you an accurate measurement in all situations and especially in very low oxygen concentrations.

We even provide a Customization option to choose the kind of DO Sensors – Optical or Polarographic, with the product.



SENSE & ANALYZE



**AERATOR
MANAGEMENT**

This is not just an Automatic ON/OFF Switch based on DO level. OxyBLU is equipped with Intelligent algorithms that could even predict the DO demand for the next few hours, and automatically control the Aerators to maintain the desired Oxygen levels.

OxyBLU could support up-to a total Aerator(s) Power capacity of 40HP. The device is custom made to ensure least or No changes to the existing pond set-up.

OxyBLU is Future ready. With the growing Seed densities, the need for blowers to maintain DO levels is also growing. The device is already equipped to support Automatic Blower Control.

OxyBLU is designed for a wide Operating Voltage ranging from 90V to 300V AC.

With built-in Under Voltage or Over Voltage protection, damage to Aerators is avoided. All Aerator Faults including a specific Aerator drawing over-current or a total Aerator failure will be detected and immediate alerts will be given to the User.

The device has a Power back-up of up-to 12hrs, and is also capable of switching ON or OFF the generator automatically when there is a demand for aeration.



POWER MANAGEMENT



UPDATES & ALERTS

OxyBLU uses Mobile's EDGE data technology, connects to the Server and updates all the Pond data – Water Parameters, Aerator Runtime. Every Connection to the server is secured with In-house developed Two-level Security Protocols.

SMS mode of connectivity for Alerts and Updates to the User is built-in for every device as a fail-safe solution.

Latest Pond information can be viewed in the On-field integrated LCD display in the device. And the Device's Alert System provides Instant alerts for all detected faults both on the field (using a Buzzer lamp) and Mobile App.

There are other Special features in every OxyBLU device for enhancing User Experience and Convenience.

The Bypass feature lets the User to bypass the OxyBLU system in case of any unforeseen condition, and manually control the Aerators. During the Manual mode also, OxyBLU intelligently detects the Aerator run and updates the Runtime. Even total Aerator faults are still detected in this mode.

Every device is custom designed that if a user has two Ponds with shared resources, they could still be independently controlled for each Pond when required

OxyBLU already has the provision for Auto Feeder Support

Every device gets all latest updates hassle free with the in-built "Over the air, Self-programming" feature without any User intervention.



**ADDITIONAL
FEATURES**



MOBILE APP

OxyBLU Mobile App provides the users with features which enable them to have an up-to-date information about their ponds.

- ❖ *Monitor key parameters of all your ponds at one glance, and with an intelligent ordering based on the Days of Culture and criticality of the Pond*
- ❖ *View all measured Water parameters, Device power status, Feed status, Alarm conditions, Aerator status and Runtimes of the chosen Pond*
- ❖ *One-click access to view last 3-day Water parameters and Aerator report. Also have a provision to download Historical reports of a specific pond*
- ❖ *Configure your desired DO limits and Feed time duration for individual ponds. Also, input shrimp weight at desired intervals of the crop, and view the crop growth chart*
- ❖ *24/7 User support is now just a click away. Users could raise Service requests for their OxyBLU device through the App*
- ❖ *Alerts and Notifications keep the user alert and updated to any unwanted issues with the pond or device for quick turn-around time*

Meeting the current trends and needs is very important. So, we already have a list of upgrades to the product in the pipeline,

- ❖ *3G/4G Connectivity*
- ❖ *Wireless / LORAWAN Connectivity with a Gateway*
- ❖ *Independent Powering system for the device using Solar*
- ❖ *Additional Water Parameter monitoring – Ammonia, Nitrates, Turbidity*
- ❖ *Protection for Ponds from common viruses (WSSV, EHP) using UV systems*



FEATURES IN PIPE-LINE

What are the Benefits?



Currently in shrimp farming in India, most decisions are taken based on the intuition of the farmer or based on results from lab which might not give the correct values due to the way the samples are taken for tests. These have led to certain practices like the continuous running of Aerators irrespective of DO, Usage of Oxygen tablets every night after certain Days of Culture of the crop, limiting the density to minimize the risk etc.

With OxyBLU, these methods, practices and decisions are now more efficient, precise and well-informed. And benefits have already been perceived during the field tests of OxyBLU,

- ❖ *The average seed densities in India are 35-45 per Sqm. With OxyBLU, Users could go for a Higher density with no worries about DO. Higher Density implies Higher Yields and Higher Profits*
- ❖ *Based on studies done by Reyocto, the average Power-bill per crop is about Rs.50k-60k. And with OxyBLU there is a saving of 20-30% in Power-bill per crop*
- ❖ *Oxygen tablets are used regularly after 70-75 days of culture, and the average cost for these till the end of the crop sums up-to Rs.1,00,000 per crop. And based on results of field test with OxyBLU it is observed that there is a saving of 35%*