



DO5052

USER GUIDE



This manual provides a comprehensive guide to the DO5052 dissolved oxygen monitor and controller, developed by Aquaculture Innovations Limited.

It covers system operation, configuration of control parameters, and data logging functionality.

The manufacturer has designed this product to be safe when installed and operated correctly.

Installation of Device

1. Installation

Please take care to read any safety instructions as these have been designed to protect the user from personal injury and the equipment from damage.

2. Electrical Safety

The system should be installed by a qualified electrician familiar with IEEE ed. 18th regulations or VDE. Users should be fully trained in safe operational conditions of mains-based equipment.

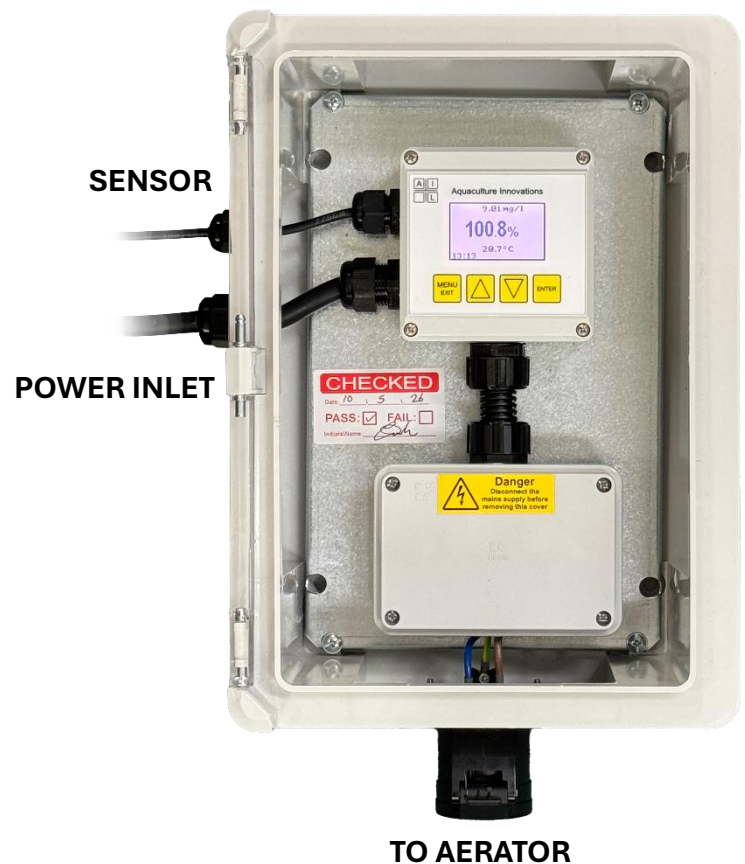
Ensure the system is connected to a suitable RCD/MCB protected outlet rated for the power of the equipment connected.

12/24VDC versions can be installed with minimal electrical training.

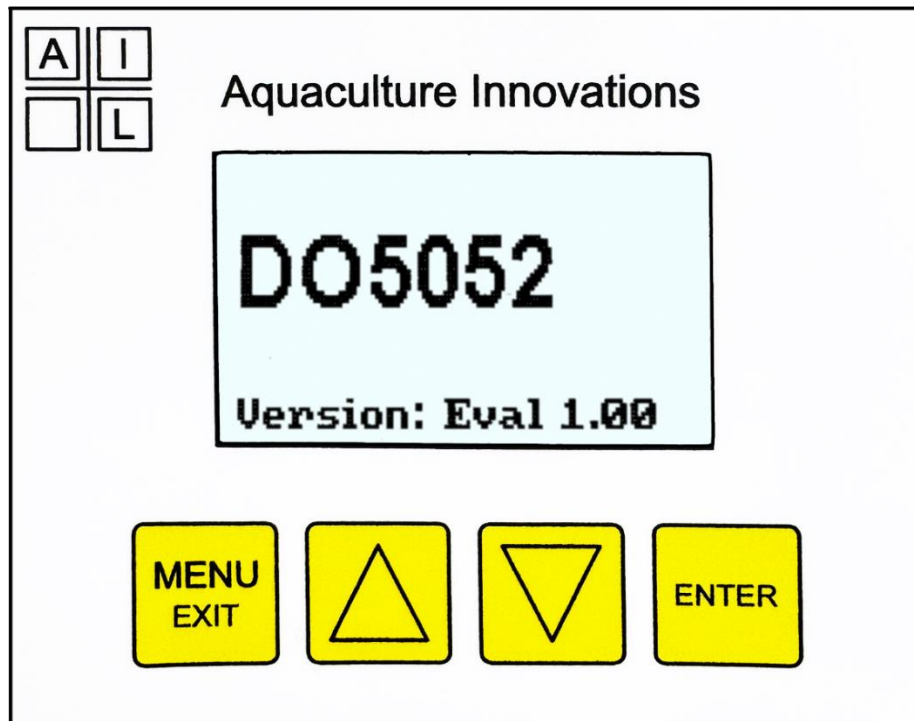
3. Mounting

The units can be used as a standalone system and installed both indoors or outdoors using customer preferred mountings. 4 x mounting brackets are provided with the system for wall mounting.

Note that all IP integrity ratings quoted are when the door is closed and all mating seals are compressed. O&H Designs accepts no responsibility for personal injury or equipment failure due to water ingress as a result of poor installation



Aquaculture Innovations Ltd are not responsible for errors in usage or connection and accept no responsibility for consequential losses.



Device Overview

The device is a dissolved oxygen monitor and controller designed to measure and manage oxygen levels in water systems such as tanks, ponds, and lakes.

The display provides real-time readings of:

- **Dissolved Oxygen (mg/L)**
- **Oxygen Saturation (%)**
- **Water Temperature (°C)**

The unit can automatically control connected aeration equipment based on user-defined thresholds, timed operation, or manual settings.

Navigation and operation are carried out using four front-panel buttons located below the display.

Controls

The device is operated using four buttons:

MENU / EXIT

- Opens the Settings Menu from the Home Screen
- Returns to the previous screen when navigating menus



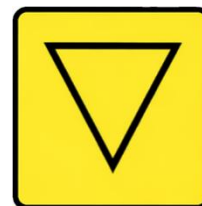
▲ (Up Arrow)

- Scrolls up through menu options
- Increases values when adjusting settings



▼ (Down Arrow)

- Scrolls down through menu options
- Decreases values when adjusting settings



ENTER

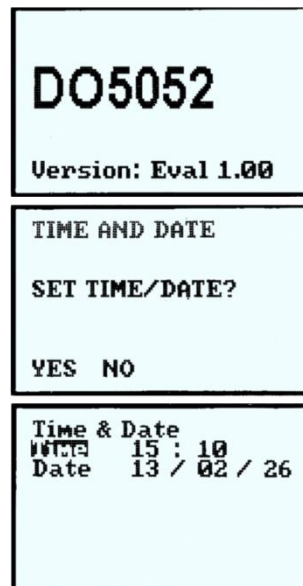
- Confirms selections
- Opens highlighted menu options
- Saves adjusted values



1. Power On and Initial Setup

When the device is powered on:

- You will be prompted to set the **date and time**
- Use the **arrow keys** to select:
 - **YES** → Set date and time
 - **NO** → Skip setup and proceed to the Home Screen

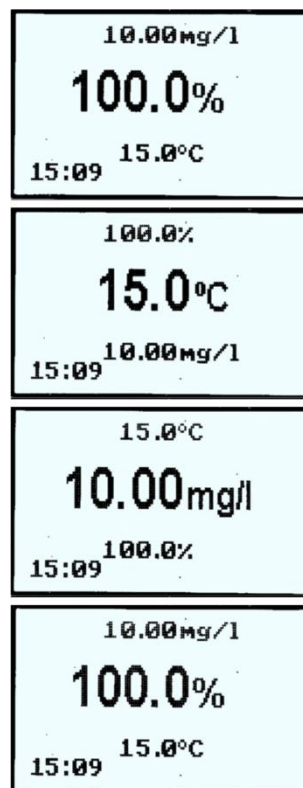


2. Home Screen

The Home Screen displays real-time readings.

Use the **arrow keys** to navigate between:

- Dissolved Oxygen Saturation (%)
- Water Temperature (°C)
- Dissolved Oxygen (mg/L)



3. Settings Menu

- Press **EXIT** from the Home Screen to access the Settings Menu
- Use the **arrow keys** to scroll through:
 - Low Threshold
 - High Threshold
 - Min/Max
 - Time/Date
 - Timed Output
 - Calibrate
 - Data (Only available via the datalog pack)
- Press **ENTER** to select
- Press **EXIT** to return

```
Low Threshold
High Threshold
Min/Max
Time/Date
Timed Output
Calibrate
Data
```

```
Low Threshold
High Threshold
Min/Max
Time/Date
Timed Output
Calibrate
Data
```

```
Low Threshold
High Threshold
Min/Max
Time/Date
Timed Output
Calibrate
Data
```

```
Low Threshold
High Threshold
Min/Max
Time/Date
Timed Output
Calibrate
Data
```

```
Low Threshold
High Threshold
Min/Max
Time/Date
Timed Output
Calibrate
Data
```

```
Low Threshold
High Threshold
Min/Max
Time/Date
Timed Output
Calibrate
Data
```

```
Low Threshold
High Threshold
Min/Max
Time/Date
Timed Output
Calibrate
Data
```

4. Low Threshold

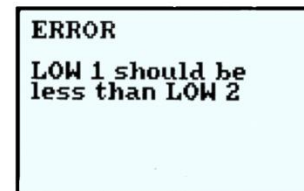
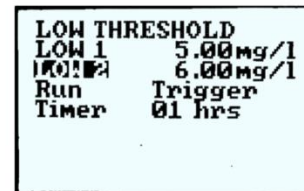
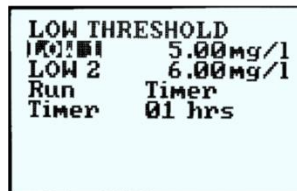
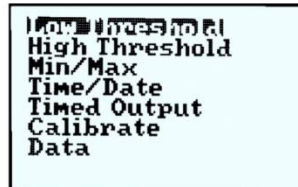
Defines when the device activates based on low oxygen levels.

Operation Logic

- When **LOW 1** is reached → Device **RUNS**
- When **LOW 2** is reached → Device **STOPS**

Configuration Rule

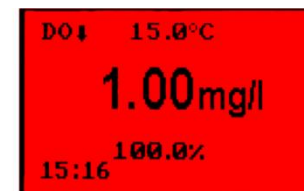
- **LOW 1** must be **LESS** than **LOW 2**
- If **LOW 1** ≥ **LOW 2**, an error message will be displayed



Modes

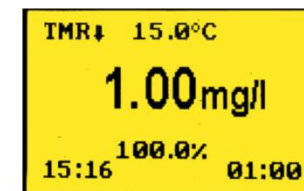
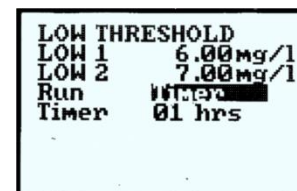
Trigger Mode

- Device runs continuously until **LOW 2** is reached
- Screen displays **RED (LOW SATURATION)** while active



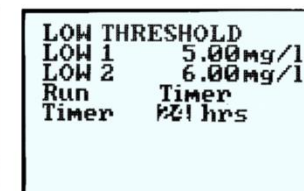
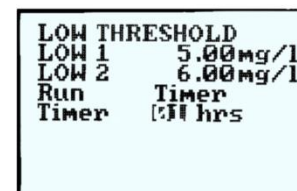
Timer Mode

- Device runs for a preset duration as determined by the Timer (**1–24 hours**)
- Screen displays **YELLOW** during operation



Contact support for guidance on appropriate timer settings.

- Press **EXIT** to return



5. High Threshold

Defines when the device activates based on **high oxygen levels (supersaturation)**.

Operation Logic

- When **HIGH 1** is reached → Device **RUNS**
- When **HIGH 2** is reached → Device **STOPS**

Configuration Rule

- **HIGH 1** must be **GREATER** than **HIGH 2**
- If **HIGH 1** ≤ **HIGH 2**, an error message will be displayed

```

Low Threshold
HIGH 1 18.00mg/l
HIGH 2 15.00mg/l
Min/Max
Time/Date
Timed Output
Calibrate
Data
    
```

```

HIGH THRESHOLD
HIGH 1 18.00mg/l
HIGH 2 15.00mg/l
Run Trigger
Timer 02 hrs
    
```

```

HIGH THRESHOLD
HIGH 1 18.00mg/l
HIGH 2 15.00mg/l
Run Trigger
Timer 02 hrs
    
```

```

HIGH THRESHOLD
HIGH 1 17.00mg/l
HIGH 2 18.00mg/l
Run Timer
Timer 01 hrs
    
```

```

ERROR
HIGH 1 should be
more than HIGH 2
    
```

Modes

Trigger Mode

- Device runs until **HIGH 2** is reached
- Screen displays **BLUE (SUPER SATURATION)** while active

```

HIGH THRESHOLD
HIGH 1 18.00mg/l
HIGH 2 16.00mg/l
Run Trigger
Timer 01 hrs
    
```

```

DO↑ 15.0°C
19.00mg/l
100.0%
15:15
    
```

Timer Mode

- Device runs for a preset duration as determined by the Timer (**1–24 hours**)
- Screen displays **YELLOW** during operation

```

HIGH THRESHOLD
HIGH 1 18.00mg/l
HIGH 2 16.00mg/l
Run Timer
Timer 01 hrs
    
```

```

TMR↑ 15.0°C
20.00mg/l
100.0%
15:16 01:00
    
```

Contact support for guidance on appropriate timer settings.

- Press **EXIT** to return

```

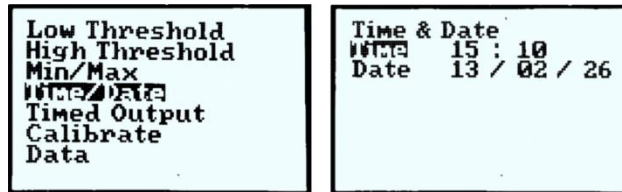
HIGH THRESHOLD
HIGH 1 18.00mg/l
HIGH 2 15.00mg/l
Run Timer
Timer 01 hrs
    
```

```

HIGH THRESHOLD
HIGH 1 18.00mg/l
HIGH 2 15.00mg/l
Run Timer
Timer 02 hrs
    
```

6. Time and Date

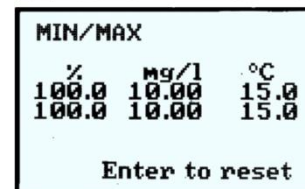
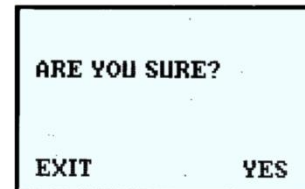
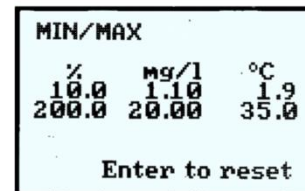
- Adjust system **time and date** as required
- Press **EXIT** to return



7. Min/Max Values

Displays recorded extremes since last reset:

- Minimum values
- Maximum values
- Press **ENTER** to reset values
- Press **EXIT** to return



8. Timed Output

Defines how the device behaves during scheduled operating hours.

Modes

- **OFF**
 - Aeration is **OFF**
- **LOW**
 - Aeration runs to increase oxygen levels, Adds oxygen into the water
- **HIGH**
 - Used when water is supersaturated, Circulates oxygenated water

<pre>TIMED OUTPUT Function ON On 02:00 Off 08:00</pre>	<pre>TIMED OUTPUT Function 0000 On 02:00 Off 08:00</pre>	<pre>TIMED OUTPUT Function 1000 On 02:00 Off 08:00</pre>	<pre>TIMED OUTPUT Function 1100 On 02:00 Off 08:00</pre>
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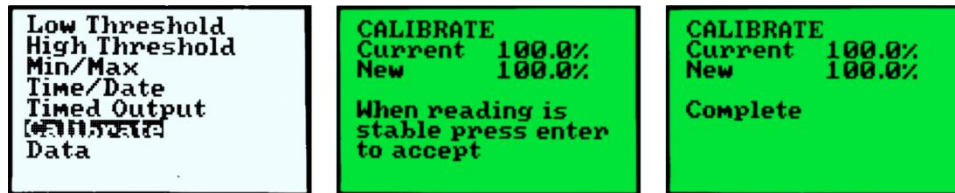
Operation

- The device runs between user-defined **ON and OFF times (24-hour clock)**
- While active, the screen displays **PURPLE**
- **Timed Output overrides all Trigger and Timer settings**
- Press **EXIT** to return

<pre>TIMED OUTPUT Function 0000 On 14:20 Off 15:50</pre>	<pre>TIMED OUTPUT Function 1000 On 14:20 Off 15:50</pre>	<pre>TIMED OUTPUT Function 1100 On 14:20 Off 15:50</pre>	<pre>TO 8.71mg/l 101.3% 22.7°C 14:20</pre>
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9. Calibration

- Follow on-screen prompts to calibrate the device



Only recalibrate:

- If the device has been moved
- If instructed by support
- Press **EXIT** to return

11. Data Retrieval (PC)

If you have purchased the data log pack you will have been sent a PIN for accessing the data section.

Please download and follow the **Datalogging (PC) User Guide** from our website.