



WIRELESS CONTROL OPERATION GUIDE

July 2019



2

GENERAL

The **FAB Dock** with **Radio Remote Controller** has five main elements:

1. **Aft gate:** – exit/entry gate
2. **Forward main inflated perimeter** – 2 separate air chambers
3. **Floor** – shaped to accommodate hull and stern drives
4. **Pumps** – to evacuate water from the dock
5. **Controller** – smart controller with high speed inflator and wireless remote to automate all functions



Gate UP
(Button A)

Gate

Gate Down
(Button B)

Remote closed

Pumps
(Button C)

STOP
(Button D)



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THE CONTROLLER

The **controller** is a sealed box fixed to the jetty close to the nearest FAB Dock gate hinge. It contains a dedicated computer to monitor and action all aspects of the FAB Dock gate and water pumps and is 230v or 120v mains powered.



The controller is **connected to the electrical mains** and powered at all times. There is a backup battery to keep the computer live during short outages for about 15 hours. The battery is sufficient to power the gate-down air exhaust valve, but aside from that will not run the inflator nor the bilge pumps.



The controller is **attached to the FAB Dock** with an

- air hose, and
- 12v electrical pump connection.

These must remain connected securely at all times against air pressure loss and entry of seawater.

The **functions** of the controller are

- **Lower and raise** the FAB Dock entry gate
- **Pump out** water
- **Monitor and maintain**
 - pump out casual water
 - sponson air pressure

SETUP

Caution. Do not set up in the rain or in wet conditions.

Compatibility

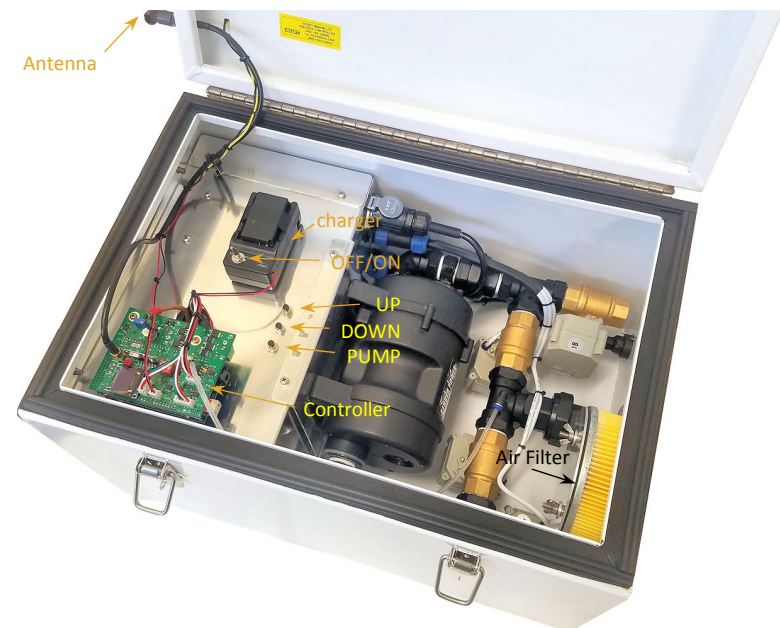
Check that the FAB Dock Controller Mains Power electrical cable is fitted with the correct connector to be compliant with regulations pertaining to your marina or environment.

If the connector as supplied is not compliant it should be changed out and certified by your local registered electrician.

Important - Charging

The internal lithium battery pack which powers the computer must be on charge for **at least an hour** before turning on the controller.

Connect the controller to the mains power and switch on at the mains. Check inside the controller, the red charging light on the battery pack should be lit.



Accessories pack

- Remove the accessories pack from inside the controller.
- Take the **female pipe union** and screw into the air outlet of the controller at the right hand end of the box. It will have been prepared with thread sealing tape. Screw home as hard as possible by hand. A wrench is probably not needed but if you are in doubt, a pair of mole-grip (slip-joint) pliers can be used to get the last turn or so.



- Take the **stainless air screen** and screw up into the air intake. Hand tight is sufficient.
- Fit the **wireless antenna** to the antenna connection at the left hand end of the box lid. Screw in carefully by hand only, then with the box lid closed, bend and rotate the antenna into the upright position.
- There are two copies of 4-button **wireless remote**. Keep one as a back-up spare. Note these are **not** waterproof. More copies coded to your serial number can be supplied.

Connect the Air Hose

The **air hose** is 25mm (1") internal diameter which should not be longer than 5m (16').

If the controller needs to be situated further away from the dock connection, protection of the inflator from overloading requires the hose diameter to **increase to 32mm (1 ¼")**. Matching fittings (unions and ball valve) are BSP-thread NZ Hansen fittings and can be supplied.

- With the blue valve in the air hose in the **CLOSED** position, connect the far (female) union to the **FAB Dock gate**. This should be tightened by hand as hard as possible, but do not use a wrench.
- Connect the near (male) end to the **air outlet of the controller**. This should be tightened by hand as hard as possible, but do not use a wrench.
- **Open the blue valve** in the gate air hose.

Connect the Bilge Pump Cable

Attach the heavy black **12V electrical cable** to the controller (right end) and to the connector on the dock at the gate hinge point. Be sure the retaining rings are not cross threaded but screw easily until secure. **Do not over-tighten.**

The Pump Cable length supplied is 5m (16 ft). Extensions are available.

Start Up

Once the controller has been on charge for at least an hour, **turn ON** the **small toggle switch** on the internal battery pack and check the controller going through its diagnostic setup routine, finishing in a few seconds with confirmation "2 pumps found" (or "4" for a 4-pump system), and followed by 3 blue flashes of confirmation then "idle" coming up on the computer display.

Congratulations. Controller is set up and operational.

Close the box lid, and fasten it down securely.

OPERATION

Pressing any of the Wireless Remote buttons will be indicated by the box-top beacon lighting for the length of time the button is held. If a button is held for more than 5 seconds the response will be cancelled.



Button A: Close Dock / Raise Gate:

- Press Button A once and observe the box-top beacon flash twice. The inflator will switch in.
- Once the operation is initiated the gate will inflate and the dock will be closed. When the gate is to pressure the inflator switches out and pumping is possible.
- If the dock is not otherwise used in meantime, the controller monitors sponson pressure and if ever needed will maintain pressure.

Button B: Open Dock / Lower Gate

- Press Button B once and observe the box-top beacon flash four times (4x). The inflator will switch in but in evacuation mode.
- The Gate is emptied of air and the weighted gate will drop. As water enters the dock, the floor is pushed down and falls away from the client vessel.

Button C: Pumps

Note: the drain pumps cannot be operated unless there is air pressure in the gate (indicating it is up).

- Press Button C once and observe the box-top beacon flash three times (3x). Pumping of the water is initiated and so long as this operation is not cancelled, presence of water is monitored and the dock will be kept dry.

Button D: Stop



Press Button D once and observe the box-top beacon flash once. Any operation in progress will be cancelled.

This can be useful if for example a wrong button is pressed, or you wish to partially but not completely empty out the water.

Leaving the dock

With the boat leaving the dock, close the gate on departure but **DO NOT** pump out. In the event of storm conditions while the dock is vacant, retained water will anchor the dock against uplift and prevent consequent damage.

OPERATING NOTES

The dock is operated by **wireless remote** as follows:

Whenever a remote button is pressed the controller box-top beacon will light giving feedback to receipt of radio commands. When the button is released the beacon goes out momentarily and then flashes the stage sequence number 1, 2, 3, or 4.

Gate – Buttons A and B
Pumps – Button C
Stop – Button D

Stage 1 **Idle** (Beacon 1-flash).

The controller reverts to null (idle) when:

- The controller is reset (rebooted) by switching Off-On
- Button D is pressed and any actions are cancelled
- The Gate-Up or Gate-down sequence completes.

Stage 2 **Gate-Up** sequence (Beacon 2-flash).

- When Button A is pressed the Gate-up sequence is initiated.

Stage 3 **Pumps-On** sequence (Beacon 3-flash).

Stage 4 **Gate-Down** sequence (Beacon 4-flash).

- When Button B is pressed the Gate-down sequence is initiated

Pump operation – Button C

Button C switches the bilge pumps on after a Button-A Gate-up operation has been completed and the gate is up to pressure. Once the gate is up and the controller gate flag is set, **Button C** will start the pumps (**Beacon 3-flash**).

You should leave the controller in this state. So long as nothing else is done to cancel this state and the 230v power is connected, the controller will pump out all water, checking every 2 hours after initial evacuation; and will check air pressure every 24 hours, topping up if pressure ever goes below 50% nominal pressure.

If you wish to not fully pump out for some reason after initiating pumping, pressing Button C again will stop the pumps (**Beacon 1-flash**). The Gate-up flag will remain set, air pressure monitoring remains active, and Button C can restart the pumps at any time.

In the case that there is a minimum pressure of 7 kPa (1 psi) in the Gate, a *long-press* (3-sec) Button C will by-pass the Gate-Up process and start the bilge pumps regardless. Hold Button C until the box-top beacon goes out (3 sec) then release it.

Controller Valves

The controller contains motor valves which direct air to or from the gate. These valves take 5 seconds to open or close. Combined with other programming time delays and depending on the rapidity or sequence of button presses, it can take up to 10 seconds before a button press results in obvious action. 10 seconds can seem a long time. If you make sudden changes of action please be patient.

Auxilliary Control

Inside the Controller drybox are 3 black pushbuttons marked **UP**, **DOWN**, **PUMP**. These may be used in emergency to command the Controller in lieu of the Radio Remote (buttons A, B, C). Since there is no fourth button, each of the box buttons have a toggle action. A second press will cancel the operation.

Operating this way is not the norm and is to be discouraged, so that the exposed electronics are not subjected to mechanical damage or dirt or salt or water.

The Box

The box contains **230V Mains-powered components and electronics** which will fail if subjected to water.

- You may wish to keep your controller **locked**.
- Extreme care should be taken if the box needs to be opened in inclement weather. **Any water-related damage is not covered by warranty.**

Wireless Remotes

The wireless remote controls are electronic devices and are **not** waterproof. There are duplicate remotes supplied and they should be deployed to allow for possibilities of loss, damage or dead battery. Battery required is # 27A (12V alkaline). The remote controls are 433 MHz but if replaced must be set up to the required security code.

The range of the remote depends on line-of-site factors, but in any case there are advantages in being within sight of the dock to ensure correct wireless commands have been received.

The remote should be kept closed when not in use, and be sure in opening the cover that a button is not inadvertently pressed within range of the dock.

Leaving the Dock

After exiting your FAB Dock, **close the Gate but do not pump out**. Leaving the dock with water in it safeguards the dock from wind and / or wave damage and speeds re-entry. It also prevents air blowing under the floor which gives unwanted buoyancy holding the Gate from opening.

About:

Mains Powered Remote Controller for FAB Dock

This is an after-market product, made by Incept Marine. It is developed for but not yet taken up by FAB Dock Inc as a promoted item.

The controller replaces the FAB Dock manual operation which requires regular connections / disconnections to the boat's 12V system and the handling of an

inflator which requires connection / disconnection to the dock inflation point each time the boat enters or leaves the dock. The inflator is permanently connected and is a high output unit which inflates / deflates for very fast gate operation.

Entirely automated, operation is by radio remote. The controller speeds up gate operation, and enables the gate to be closed after leaving the dock, and opened on approach.

Specifications:

- 2 / 4-button radio remotes - with buttons each for
 - Gate Up
 - Gate Down
 - Pumps On/Off, and
 - Stop All
- Typical gate inflation - deflation time 30s - 90s (depends on size of dock)
- 433 MHz Radio Remote Range 100m line-of-sight
- Box-top operations beacon flashes acknowledgement of commands
- Monitors state of dock inflation and tops up (if ever needed)
- 4-channel bilge pump controller powers up to 4 Johnson L2200 pumps
- Monitors bilge pumps. Pumps out any water present (rainfall etc)
- Does not need to be disconnected from dock in normal service.
- 12m mains supply cable
- 230v supply, 5A, 1200W - or 120v supply, 10A, 1200W
- 28 kPa / 4 psi inflator, 2300 L/min (80 c.f/min)
- 12V 1000W power supply for bilge pumps
- checks for, acts on, and reports
 - water leaks (hole in floor)
 - various abnormal conditions in any of the pumps
 - over temperature conditions
 - operations running over time
 - mains power interruption
- Lockable, marine-grade aluminium dry-box 500 x 350 x 300 mm
- Modular construction enables easy servicing and upgrades
- Additional coded radio remote key-fobs available
- Warranty 12 months and free software upgrades for 36 months

OPERATION

Button A: Close Dock / Raise Gate:

- Press Button A once and observe the box-top beacon flash twice. The inflator will switch in. The gate will inflate and the dock will be closed.

Button B: Open Dock / Lower Gate

- Press Button B once and observe the box-top beacon flash four times (4x). The inflator will switch in but in evacuation mode.

Button C: Pumps

Note: the drain pumps cannot be operated unless there is air pressure in the gate (indicating it is up).

- Press Button C once and observe the box-top beacon flash three times (3x). Pumps will switch in and so long as this operation is not cancelled, presence of water is monitored and the dock will be kept dry.

Button D: Stop

- Press Button D once and observe the box-top beacon flash once. Any operation in progress will be cancelled.

