



Digital Air-On-Demand Controller Operations Manual

PURPOSE:

The purpose of this document is to show you how to use our Digital (Red Lion) fan speed controller

RESPONSIBILITY:

It is the owner / and or ship repairer's responsibility to correctly install the MAFI products. Any alterations or deviations should be carefully considered.

MAFI would appreciate all deviations to be referenced, made aware & noted for future reference.

FUNCTIONS OF THE RED LION SYSTEM:

- Easily change between automatic mode, manual extract mode, manual supply mode and OFF (note - we STRONGLY recommend supply air as it is far more efficient)
- Ability to quickly adjust speed of fans manually in the engine room
- Control screens display live data regarding engine room temperature, frequency output and power usage
- Status of the system is visually displayed (Alarm/Warning/Running) allowing for easy identification when errors occur
- Ability to control multiple VSD's on a single control panel
- Readouts screen shows live analog current draw, motor voltage, heat sink temperature and DC link voltage
- Ability to perform diagnostics on system for optimisation Option to be programmed into a ship management system (via Modbus Addressing)
- Real-time data logging
- Ability to control multiple VSD's on a single control panel

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OPERATION PROCEDURES FOR RED LION

The Void Ventilation System is quick and easy to install. The following instructions are for how to install the Void Ventilation system using the mounting flanges, therefore, the procedure is not the same if you intend to weld the system into place.



Fig 1 Home Screen on Red Lion CR1000 HMI Module

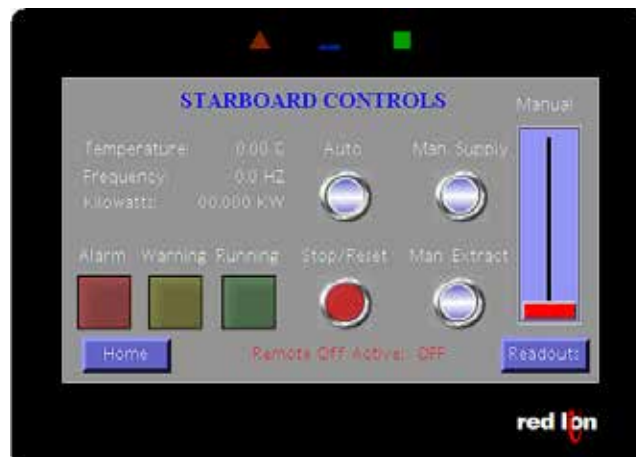


Fig. 2 Starboard Control Screen on Red Lion CR1000 HMI Module

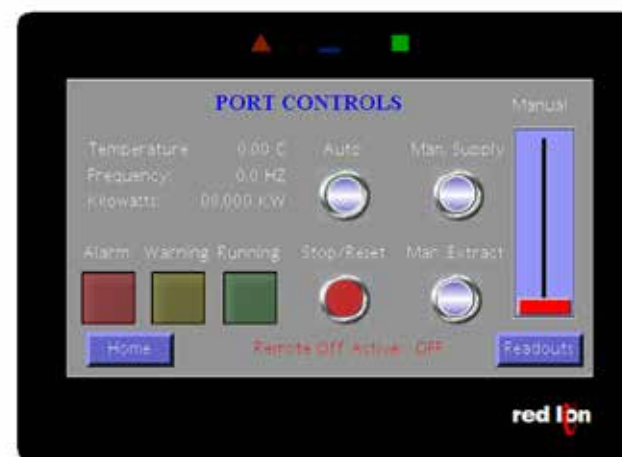


Fig. 3 Port Control Screen on Red Lion CR1000 HMI Module

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Opening Port Control Screen

1. Press 'Controls' under the 'Port' section of the home screen (Fig. 1)

Opening Starboard Control Screen

1. Press 'Controls' under the 'Starboard' section of the home screen (Fig. 1)

Remote Control Button Operation*

1. If optional Modbus monitoring and control system is used, pressing the button enables engineer to restrict access to the system
2. If optional Modbus monitoring is not used, pressing the button does nothing and 'Remote Control Disabled' text will continue to be displayed

*Note that this is an optional operation; only able to be used with optional Modbus Monitoring and Control

Returning to Home Screen

When on the 'Port Controls' or 'Starboard Controls' screen, press the 'Home' button to return to home screen (Fig. 2/3)

Switching to Auto Mode

1. Ensure display is on either the 'Port Controls' or 'Starboard Controls' screen (Fig. 2/3)
2. Ensure the fan is stopped (if the fan is currently running, press the 'Stop' button and wait a few seconds). The buttons will go from grey to green when the fan has stopped
3. Press 'Auto' button
4. The button will light up when the fans are in auto supply mode

Switching to Manual Supply

1. Ensure display is on either the 'Port Controls' or 'Starboard Controls' screen (Fig. 2/3)
2. Ensure that the fan is stopped (if the fan is currently running, press the 'Stop' button and wait a few seconds). The buttons will go from grey to green when the fan has stopped
3. Press 'Man Supply'
4. The button will light up when the fans are in manual supply mode

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Switching to Manual Extract

1. Ensure display is on either the 'Port Controls' or 'Starboard Controls' screen (Fig. 2/3)
2. Ensure the fan is stopped (if the fan is currently running, press the 'Stop' button and wait a few seconds). The buttons will go from grey to green when the fan has stopped
3. Press 'Man Extract'
4. The button will light up when the fans are in manual extract mode

Adjusting Speed Manually

1. Ensure display is on either the 'Port Controls' or 'Starboard Controls' screen (Fig. 2/3)
2. Ensure that the system is set to either manual extract or manual supply mode
3. Move the slider on the right hand side of the screen up to increase the fan speed and move the slider down to decrease the fan speed

Opening Readouts Screen

1. When on the Port/Starboard Control screen (Fig. 2/3), press the 'Readouts' button in the bottom right corner
2. The appropriate readout screen will then open. If on the Port Control screen, the Port Readouts screen will open, likewise, if on the Starboard Control screen, the Starboard Readouts screen will open (see Fig. 4 below)
3. Note that the Readouts screen is read only – it does not take any user input other than to open the status screen (see next item) or return to the Control screen

Opening Port/Starboard Drive Status

1. When on appropriate Port/Starboard Readout screen, press the 'Status' button in the bottom right corner (Fig. 4)
2. Red Lion display will change to Port/Starboard Drive Status screen

Returning to Port/Starboard Readout from Port/Starboard Drive Status Screen

1. When on Port/Starboard Drive Status screen, press 'Previous' button in bottom left corner (Fig. 5)
2. Red Lion display will change to Port/Starboard Readout screen

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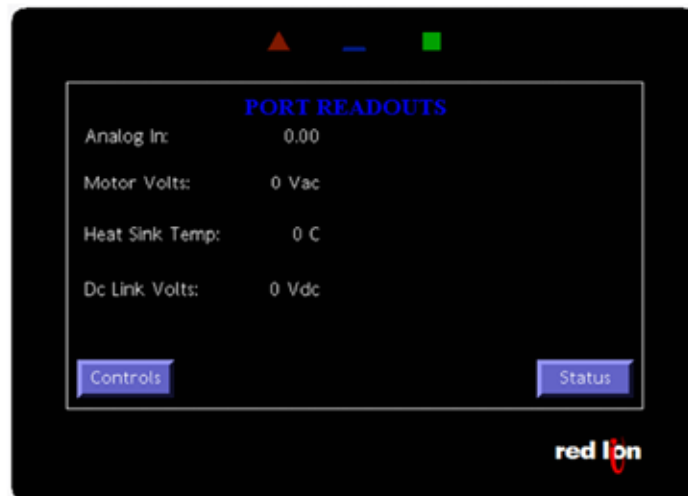


Fig 4. Port Readout Screen on Red Lion CR1000 HMI Module

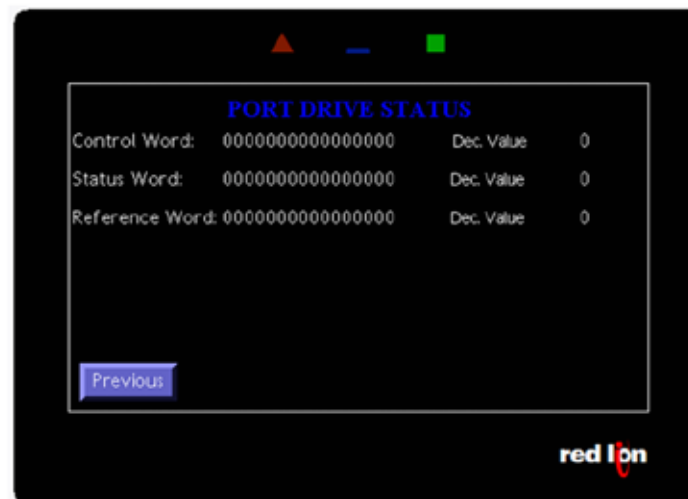


Fig 4. Port Drive Status Screen on Red Lion CR1000 HMI Module

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Example of Interfacing System Diagram

