

System Won't Power Up - No Display on FCI

1. Touch the screen to make sure it is not in screensaver mode. The screen will go into a sleep mode if inactive to extend screen life.
2. Ensure all main power breakers supplying power to the system are on.
3. Locate the Main Control Enclosure (MCE). It is a square white control enclosure 17.5" x 16" (45 x 40 Cm). Open the MCE and locate the DC power supply. There should be a small green LED on the power supply (Photo 3) in the upper right-hand corner that is lit. It is labeled "DC ON". If this light is not on, go on to step 4, if the light is on, refer to step 5.
4. Check the two incoming power fuses located on the bottom left of the MCE, below the alarm indicator. These are 5-amp fuses, and there are spares located inside the fuse holder. If the fuses are good, use a volt meter to ensure there is voltage present at the input terminals L and N. If proper voltage is present and there is no DC ON indicator, the 24VDC power supply may be defective.
5. Check to see if the power indicators are lit on the PLC (the small cards next to the power supply). There should be 3 green indicators lit that say PWR and a RUN indicator lit on the CN1 card. If any of these are not lit, email info@centekmarine.com for further assistance.
6. If everything in the MCE is functioning properly but the FCI is not working, it will be necessary to check the incoming power on the back of the FCI. (Photo 4) On the left-hand side of the FCI there are terminals marked + and -. There should be 24VDC across these terminals. If no voltage is present, check the wiring between the FCI and MCE, as these share a common power supply. The power to the FCI is supplied from the connector marked Display Power on the MCE printed circuit board. If there is power but no display, it is likely the FCI has failed. Email info@centekmarine.com to troubleshoot further.

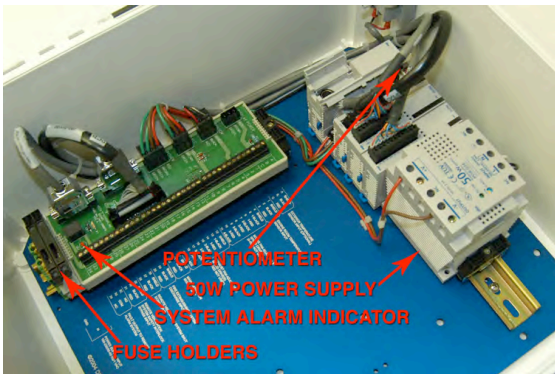


Photo 1 - MCE Layout

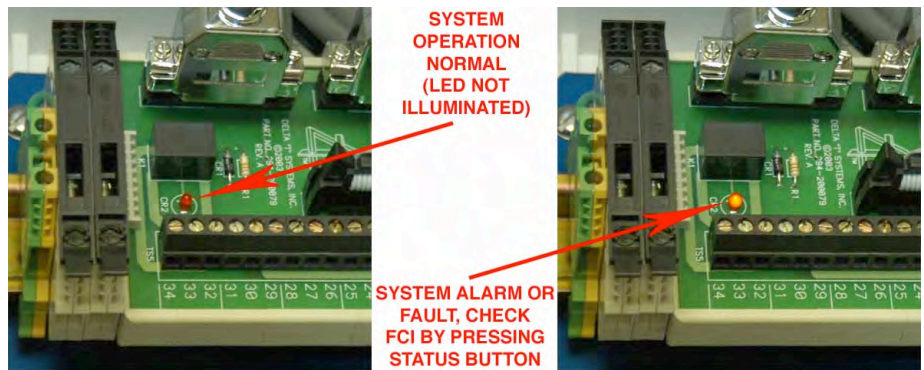


Photo 2 - Alarm Indicator



Photo 3 - DC Power Supply

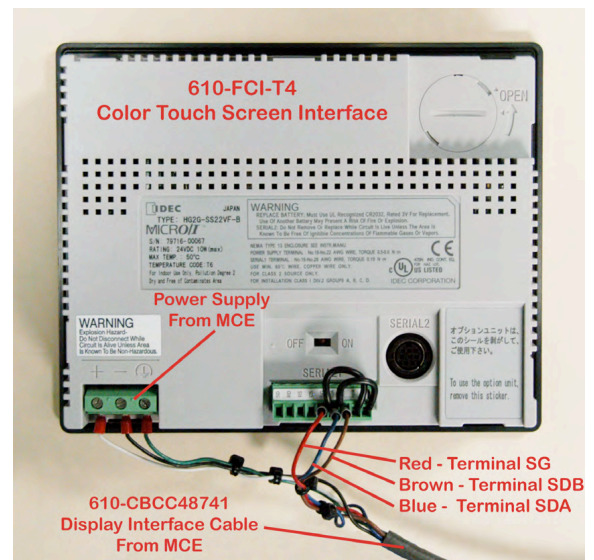


Photo 4 - Typical Primary FCI Wiring

Operational Test

If the system is not performing as expected, conduct an operational test to determine if all components are correctly installed and performing properly. This will require the system to be operated in the manual mode and should be done with the main engines shut down, if possible. The space should be opened to allow excess air to escape to the exterior while checking the operation of the intake fan(s). If a fan is operating in the wrong direction, it is important to determine whether the fan is physically installed backwards or simply rotating in the wrong direction. If the fan is physically installed backwards, changing the rotation will not correct the problem, as an axial flow fan is only capable of about 65% of its rated airflow when running in reverse. If this is the case, the fan will not be able to keep up with exhaust and combustion demands, and a low pressure situation will occur with the engines at high RPM. If the fan is installed correctly but rotating backwards, the direction can be changed by switching any two of the wires going from the ASD output to the fan motor.

1. Put the system in the Manual Mode. Set exhaust fan(s) speed to zero percent (0%) by repeatedly pressing the Down arrow.
2. Raise the intake fan(s) speed to 100% in the Forward direction by repeatedly pressing the Up arrow. Check to make sure the air is blowing into (pressurizing) the space, and that all the intake fan(s) ASD displays reads 50.00 or 60.00 Hz (The maximum output depending on your application). Lower the fan speed to 50% on the FCI Touch Screen Display and the red ASD displays should now read half of that maximum value previously observed.
3. Turn off the intake fan(s) by lowering the speed by repeatedly pressing the Down arrow to zero percent (0%) and repeat step 2 with the exhaust fan(s). In the Forward direction the fan should be removing air (exhausting) from the space.
4. Set the fan speeds for all fans (Intake and Exhaust) to 50% and press each REV button. All fans should slow to a stop and then ramp back up rotating the opposite direction.
5. Press Stop button and switch the system back to the Home page. Close all hatches and openings to seal the space. Press the Auto button to start the system in the automatic mode. Important Note: The space must be completely sealed for this test!
6. Press the Status button to display the temperature sensor value. Use a heat gun or other heat source to apply heat to the temperature sensor probe and watch the temperature display on the Status screen. The exhaust fan(s) should ramp up to 100% and the intake fan(s) should speed up slightly to maintain constant pressure. The increase in intake fan(s) speed may be relatively small with the main engines off. The intake fan(s) speed reading on the Status screen should be used to ensure there actually is an increase. Note: If too much heat is applied the High Temp Alarm warning screen will appear.
7. With the exhaust fan(s) still running at 100% in the Auto Mode, open a hatch to allow additional air into the space to equalize the pressure and the intake fan(s) speed should decrease to 20% on the Status screen. If the intake fan(s) do not react properly, follow the steps in "Troubleshooting a Low Pressure Alarm."
8. All of the installed input switches should also be checked by looking at the Safety Status screen and operating the switch. You should see the status indicators change from green to red on the screen. Verify that all switches are operational.