

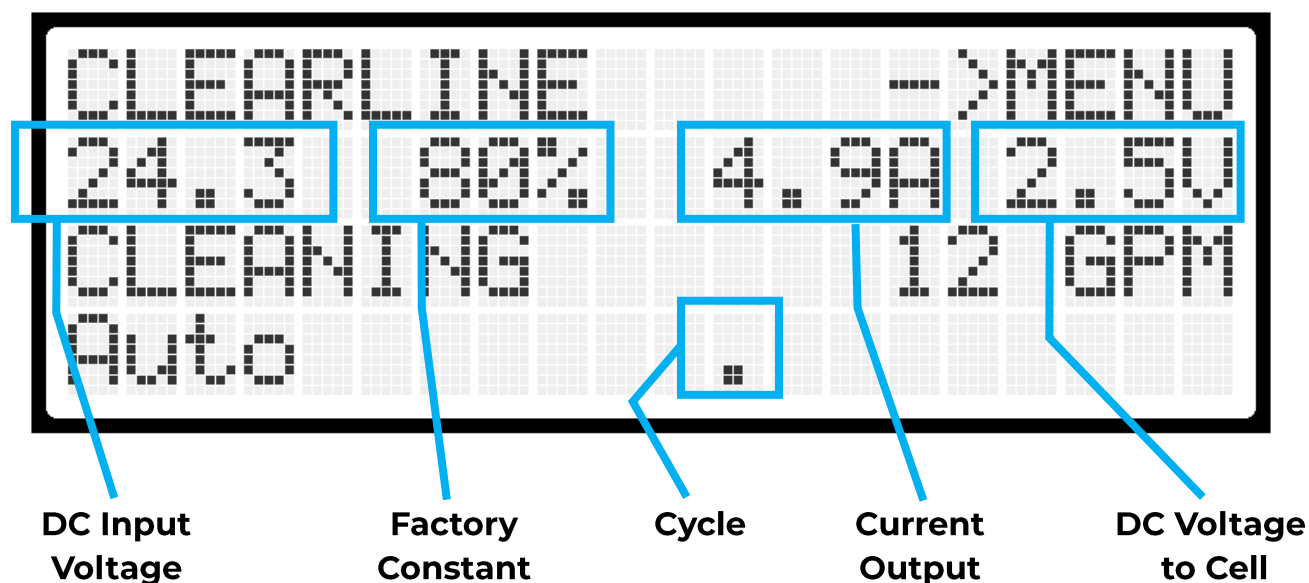
Understanding the Logging/Diagnostics Menu

ElectroStrainer and ClearLine

Enabling the Logging/Diagnostics Menu

To access the Logging/Diagnostics (LOG/DIAG) Menu, press and hold the Up and Right arrows simultaneously until the LOG/DIAG Menu appears (approximately 10 seconds). Scroll up/down so that ENABLED is seen, then press OK.

Once the LOG/DIAG Menu has been enabled, the Control Unit will return to the main screen, and a new row of numbers will appear along the middle of the screen as shown:



1. DC Input Voltage

The first number indicates the DC voltage of the connected battery. For most installations, this is the house battery bank with circuit protection. The 1" and 1.25" ElectroStrainer®/ClearLine® systems can be connected to a 12- or 24-VDC supply, and the larger 1.5" and 2" systems can only be connected to 24-VDC supply.

2. Factory Constant

The second number is a factory-constant percentage. This number will typically be 80-85%.

3. Cycle

The system runs in cycles, each lasting several minutes. During each cycle, the current and voltage will slowly increase, level out, and then decrease. The Cycle indicator is at the bottom of the display. Cycle 1 is indicated by one dot (.), and Cycle 2 is indicated by two dots (:). A dash (-) is shown when the system is switching cycles or when the power drops out. If you watch the display for 10 minutes, you should see at least one complete cycle.

After observing a full cycle, indicated by the sequence “Cycle 1 (.), switch (-), then Cycle 2 (:),” the current and voltage readings for Cycle 1 and Cycle 2 should be about the same. Significant differences in voltage or amperage between the two cycles suggest that one cycle is nearing the end of its lifespan more rapidly than the other. Refer to the Operation Manual for removal and inspection of the Cell. If calcium buildup is observed, refer to the Cell “End of Life” document to troubleshoot further.

4. Current Output

The third number is the real-time current output to the Cell, which is measured in amps. This number will change continuously when the system is in use. As the flow rates increase, the current level will also increase. For example, if the flow rate is around 20 gpm on a 1.5” system, then the current may be around 5-6 A. As the flow rate increases to 30-40 gpm, the current will increase and may be around 9-10 A.

What’s important to know is that the current level is directly related to chlorine production. If at any time the current is 1.2 A or less and the flow rate is steady, then no chlorine is being produced at that time.

5. DC Voltage to the Cell

The last number displayed in the LOG/DIAG Menu is the DC voltage transferred from the Control Unit to the Cell. Understanding the voltage is critical when troubleshooting ElectroStrainer/ClearLine. Like the current, the voltage will also increase and decrease as the system cycles. The maximum voltage on all ElectroStrainer/ClearLine systems is 4.0 V. During normal use with the system 100% operational, the voltage can vary but will likely be in the low 2- to mid-3-V range.

The higher the voltage, the harder the controller is working to send current to the Cell. If the system is running at the maximum voltage of 4.0 V, then there could be an issue.

Issues

If voltage is high (4.0 V) and current is low (< 1.2 A), then the Control Unit is trying to send current but can’t. This could be due to one of the following conditions:

- **Open Connection:** Typically accompanied by no current. Check the Cell cable connections for corrosion, loose connections, plug issues, etc., ensuring that the ring terminals on the top of the Cell are clean and connected securely. Use a multimeter to measure the DC voltage across the terminals on top of the Cell. If the meter shows no voltage, but the LOG/DIAG Menu says there is, there might be a wiring or connection issue between the Control Unit and the Cell.
- **Cell Depletion or End of Life:** Lower-than-normal current and voltage increases to 4 V during each cycle or during alternating cycles. Typically, calcium buildup will be found on the Cell Plates.

- **Low Salinity:** Ensure water salinity is above the threshold value of 20 ppt.
- **High Flow Rate:** The flow rate is higher than the maximum allowed for that unit.

If voltage is low (< 1.2 V), then one of the following conditions is possible:

- **Cell Short:** Typically accompanied by high current. Refer to the Operation Manual for removal and inspection of the Cell to check for any obstruction between the Cell Plates.
- **Internal Issue:** If no voltage is shown when the flow is consistent, the controller may have an internal issue.

If the issue persists, please contact ElectroSea Service at support@electrosea.com or (561) 257-5739.

Disabling the Logging/Diagnostics Menu

To disable the Logging/Diagnostics (LOG/DIAG) Menu, press and hold the Up and Right arrows simultaneously until the LOG/DIAG Menu appears (approximately 10 seconds). Scroll up/down so that DISABLED is seen, then press OK.

IMPORTANT: The above information is not applicable to ElectroStrainer Pro or Sport models.



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ElectroSea's products are designed, assembled and quality-control tested at our headquarters in Minneapolis, Minnesota, USA.

U.S. Patent No. 11,027,991; 11,345,621; 11,718,542; 11,498,855; 11,866,351; 12,168,620; 12,384,702
R.O.C. Patent No. I782112; I848048 | P.R.C. Patent No. ZL202080034495.3
Other U.S. and Foreign Patents Pending

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