PROTEUS®

SYSTEM OPERATING MANUAL

Part No. OEL8000III-B, OEL8000III-K, & OEL8000III-X

Software Release 8.0
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1. Main Menu

Sleep Screen: This screen will display after the controller has been idle for the set time within miscellaneous settings of the Setup Menu. Press anywhere on this screen to return to the previously viewed screen. (See Figure 1.1)

System Status Menu: The “Main” Menu will allow you to navigate to the following submenus: Inventory, Reports, Alarms, Compliance, Sensor Status, and Utilities. You will also be able to acknowledge alarms, open the print menu and perform a system test. (See Figure 1.2)
2. Inventory

The Inventory screen will show up to 4 tanks on each page. It will display the Tank Number, Product Type, Gallon Amount, and Gross Volume Percentage. Pressing will allow the user to display the next set of 4 tanks.* (See Figure 2.1)

*More than 4 tanks only available with 8 channel probe card or Proteus X series Controllers.

Detailed View: By pressing a specific tank, the controller will show you more information. Here you will be able to view Gross Volume and Percentage, Product and Water Height, Product and Water Volume, Temperature Compensated Volume (T.C.), and Temperature. By pressing and , you can scroll between available tanks. The total capacity of the tank will also be listed. (See Figure 2.2)

Zoomed View: If you press the controller will display Gross Volume and Percentage, Gross Height, and Ullage. Ullage is how many gallons to reach the set percentage. The ullage percentage can be changed between 80-100% in the Setup Menu. (See Figure 2.3)
3. Reports

3. Reports

Used to view different logs that the system stores. (See Figure 3.1)

a) **Alarm Log**: Displays the alarm history. Stores 200 results.

b) **Delivery Log**: Displays the past 5 delivery results for each tank.

c) **Shift Log**: Displays shift report data for each tank. Stores 150 shifts.

d) **VLD Log**: Displays VLD (Volumetric Leak Detection) results for each tank. Stores 50 results per tank.

e) **System Test**: Displays the current system test results without printing or checking relays.

f) **CITLD Log**: Displays CITLD (Continuous In-Tank Leak Detection) results for each tank. Stores 27 results per tank.*

*CITLD only available with controllers that have CITLD upgrade.
3.1 Alarm Log

Brings you to the following page to select which probes and sensors you can view past alarms.
(See Figure 3.1.1)

a) Used to toggle between different probes and sensors.

b) Used to display the current alarm history report for the selected probes and sensors.

c) After pressing, the following screen will appear and show alarm reports. (See Figure 3.1.2)
3.2 Delivery Log

Brings you to the following page to select which tank to view delivery data. (See Figure 3.2.1)

- **a)** Toggles between available tanks to view delivery data.
- **b)** Displays the current delivery data for the selected tank.
- **c)** After pressing the following screen will appear and show logs for the selected tank. Select a report to show more detailed information. (See Figure 3.2.2)
d) Selecting a specific report will bring up more detailed information about each delivery. (See Figure 3.2.3)

### 3.3 Shift Log

Brings you to the following screen to show reports. A shift report will generate current inventory and show any deliveries between the programmed shift times. (See Figure 3.3.1)

- **a)** Toggles between available tanks to view shift data.
- **b)** Displays the current shift data for the selected tank.
- **c)** After pressing the following screen will appear and show logs for the selected tank. Select a report to show more detailed information. (See Figure 3.3.2)
d) Selecting a specific report will bring up more detailed information about each shift. (See Figure 3.3.3)

3.4 VLD (Volumetric Leak Detection) Log

Brings you to the following screen to show VLD results. VLD is a 4 hour test that cannot be disrupted to test leaks in underground storage tanks. (See Figure 3.4.1)

a) Toggles between available tanks to view VLD results.

b) Displays the current VLD results for the selected tank.

c) After pressing the following screen will appear and show logs for the selected tank. Select a report to show more detailed information. (See Figure 3.4.2)
d) Selecting a specific report will bring up more detailed information about each VLD test. (See Figure 3.4.3)

3.5 System Test

Allows you to view the current status of each board in the controller, probe, and sensor. It will not test relays or give a print out. (See Figure 3.5.1)
3.6 CITLD (Continuous In-Tank Leak Detection) Log

Brings you to the following screen to show CITLD results. CITLD is a monthly test to check leaks in underground storage tanks for sites that cannot shut down for a VLD test. (See Figure 3.6.1)

a) Toggles between available tanks to view CITLD results.
b) Displays the current CITLD results for the selected tank.
c) After pressing the following screen will appear and show logs for the selected tank. Select a report to show more detailed information. (See Figure 3.6.2)
d) Selecting a specific report will bring up more detailed information about each CITLD test. (See Figure 3.6.3)
4. Alarms

Alarms: A current alarm will be displayed on the screen with a red flashing box with a description of the alarm within the box. The controller will also sound an audible horn when there is an alarm condition. (See Figure 4.1 & 4.2)

To acknowledge an alarm press

The controller will now bring you to the current alarms log. (See Figure 4.3)

Brings you directly to the current alarms log. (See Figure 4.3)
5. Compliance

From this menu you can view VLD and CITLD results, perform a system test, and view sensors. (See Figure 5.1)

As mentioned in sections 3.4 and 3.6, used to view VLD and CITLD results. (See Figure 5.2)

As mentioned in section 3.5, used to perform a system test. (See Figure 5.2)

Used to view the current status of all sensors. (See Figure 5.3)
6. Sensor Status

- **SENSOR STATUS**: Used to choose between viewing all sensors or just temperature sensors. (See Figure 6.1)

- **VIEW ALL SENSORS**: Used to view all sensors and their current status. Does not show actual temperature for temperature sensors. (See Figure 6.2)

- **TEMPERATURE SENSORS**: Used to view temperature sensors and their current status. Also shows actual temperature for each sensor. (See Figure 6.3)
7. Utilities

Used to access Time & Date, Diagnostics, Help Menu, System Boards, and Setup. (See Figure 7.1)

a) **Time & Date**: Used to change time, date, and time zone.
b) **Diagnostics**: Opens a diagnostics input screen for OMNTEC Technical Support.
c) **Help Menu**: Has wiring diagrams and helpful information about the controller.
d) **System Boards**: Shows the system boards and current status.
e) **Setup Menu**: Enter password to enter setup. (See Programming Manual)

7.1 Time & Date

Used to change the time, date, and time zone. (See Figure 7.1.1)
Using \( \text{+} \) or \( - \), you can advance or set back the time. Press [SET] to save any changes. (See Figure 7.1.2)

Using \( \text{+} \) or \( - \), you can change the date. Press [SET] to save any changes. (See Figure 7.1.3)

Use \( \uparrow \) and \( \downarrow \) to scroll through different time zones. Select your time zone and press [SAVE] to finish. (See Figure 7.1.4)
7.2 Diagnostics

Will allow the user to perform various tests. For full use of Diagnostics, see Programming Manual. (See Figure 7.2.1)

 Allows the Diagnostic Keypad to be pulled up, this should only be used if instructed by OMNTEC Technical Support. (See Figure 7.2.2)
7.3 Help Menu

Help Menu

Used to view Probe & Sensor Info, Probe & Sensor Wiring Diagrams, Alarm Info Remote Settings, Version Numbers, System Status, Remote Display Info, and System Bus Alarms Info. (See Figure 7.3.1)

Probe Info

Shows user the proper assembly order of a MTG probe and gives the operating specifications. (See Figure 7.3.2)

Sensor Info

Shows user how to add and delete sensors from the system. It also gives a list of compatible sensors and where they would be placed in the tank field. (See Figure 7.3.3)
**PROBE/SENSOR WIRING**

Allows user to see how to properly wire probes and sensors in the intrinsically safe area. (See Figure 7.3.4)

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**ALARM INFO**

Shows user where the alarm points are located in the tank. Only the enabled alarm points will be used. (See Figure 7.3.5)

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**REMOTE SETTINGS**

Shows user current settings for the RS-232 port, IP address, and Modbus Address. These can be configured in setup. (See Figure 7.3.6)
Lists the system boards and the current firmware version installed on each board. (See Figure 7.3.7)

Describes what each of the Status Icons mean on the top of the screen. (See Figure 7.3.8)

Shows any active system bus alarms and instructs the user what do to when these alarms are present. (See Figure 7.3.9)
Shows information about the Mini-Me remote display for Proteus series controllers. The Mini-Me can also be connected to any industry standard ATG. This is an optional remote and may be added after initial installation. (See Figure 7.3.10)

Shows information about how to use the two demo mode features for testing probe and sensor alarms (See Figure 7.3.11).

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**REMOTE DISPLAY (Option)**

**TESTING IN DEMO MODE**

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**DEMO MODE (ALARM) TESTING**

Demo Mode allows the user to move the tank volumes to trip the high and low alarm points and to set the sensor alarms. This is an easy way to test the unit before installing.

**TANK** -

To turn on the DEMO MODE, go to the "Settings" > "Diagnostics" Menu.

Press the DEMO MODE (LEVEL CHANGE) button to start the DEMO mode and take you to the "INVENTORY" (Single Tank) page.

The TANK demo mode page has a bar with 4 buttons:

- DEMO MODE OFF
- LEVEL ARROW LEFT
- LEVEL ARROW RIGHT
- TEMPERATURE ARROW LEFT
- TEMPERATURE ARROW RIGHT

**SENSORS** -

Press the DEMO MODE (SENSOR ALARM TEST) button to start the DEMO mode and take you to the "SENSORS" page. Press "SENSOR ALARM 1" or "NO HELP" button to set the alarm. (Alarms go off in 15 seconds.)

**Note:** Selecting other tank or sensor buttons will turn on the modes for both tank and sensor testing.

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**Figure 7.3.10**

**Figure 7.3.11**
7.4 System Boards

Shows the system boards and lists their serial numbers, current status, and current slot number. (See Figure 7.4.1)

```
<table>
<thead>
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<th>Board Type</th>
<th>SN</th>
<th>ID#</th>
<th>SLOT</th>
<th>#P</th>
<th>#S</th>
<th>Status</th>
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<td>12345</td>
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<td>--</td>
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<tr>
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<td>01</td>
<td>--</td>
<td>00</td>
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<td>XB-416</td>
<td>00001</td>
<td>01</td>
<td>01</td>
<td>04</td>
<td>03</td>
<td>OK</td>
</tr>
</tbody>
</table>
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Figure 7.4.1

7.5 Setup

Used to enter the setup menu. Only to be used by Authorized Service Contractors or if instructed by OMNTEC Technical Support. (See Figure 7.5.1)

Figure 7.5.1
8. Print (Proteus K & X only)

Brings up a submenu with different items to print. From here you can print Inventory, System Test, Current Alarms, Interstitial Report, Compliance Setup, Alarm Log, Delivery Log, Shift Log, VLD Log, and CITLD Log. You may also print individual logs or logs by date. (See Figure 8.1)

9. Test

Performs a system test that checks RAM, EPROM, LCD Display, all Internal Boards, LED’S, Horn, MTG Probes, Sensors, and Relays. Prints results (Protues K & X only) so the user may keep for their records. (See Figure 9.1)
10. Installing Paper (Proteus K & X only)

Installing Paper:

- Lift the flap on the front of the door and pull the door open towards you.
- Insert paper with leading edge rolling away from you and allow excess paper to extend beyond the top of the door.
- Close the door and press the feed advance button to ensure roller is engaged.
- Gently tear any excess paper at an upward 45-degree angle. (See Figures 10.1-5)
11. Troubleshooting

(*Always turn power off before removing or adding connections*)

Probes Timeout:
- Check probe wiring and make sure all connections are snug and there are no breaks in the wire.
- The proper number of floats should be installed on the probe.
- If there are more than one probe, swap probe inputs and see if problem stays with probe. (See Figure 11.1)

Sensor No Reply:
- Check sensor wiring and make sure all the connections are snug and there are no breaks in the wire.
- Check the voltage between the red and the black wires at the sensor input. There should be 9-12 volts DC.
- If one sensor has no reply, try wiring directly at the controller. (See Figure 11.2)

System Bus Alarm:
- Make sure all internal connections are snug.
- Try powering down the controller and reseating gray communication cables.
- Press the reset button on the MCU (MCU card in Proteus K & X only) and 416 boards. (See Figure 11.3)
RAS Remotes (Proteus K & X only):

- An RAS remote is used to alert the tank operator of a high-level condition. A red light will come on for a warning condition and the horn will sound for an alarm condition. These can be programmed in setup (See Programming Manual).
- To silence the horn, press the “Horn Silence Switch”.
- You can also test this remote by pressing the “Horn Silence Button” for 5 seconds. (See Figure 11.4)

Mini-Me:

- The Mini-Me is a remote monitor that can be connected to any industry standard ATG to view current inventory and alarms.
- If you get a no response alarm, check that the baud rate matches the baud rate of the controller. (See Figure 11.5)