



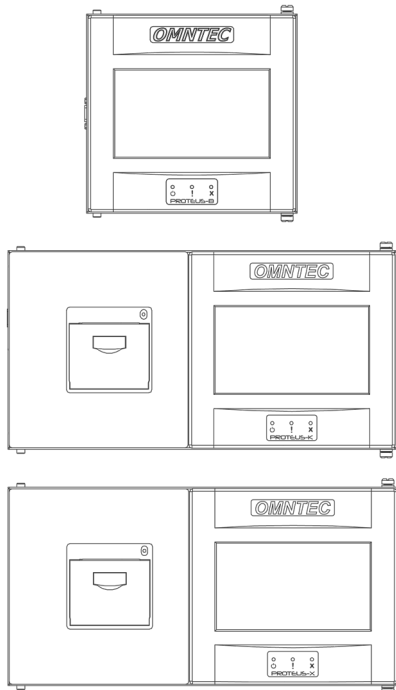
**OMNTEC**  
Advanced Tank Monitoring & Leak Detection



1. Open the camera app
2. Focus the camera on the QR code by gently tapping the code
3. Follow the instructions on the screen to view PDF file

# SYSTEM OPERATING MANUAL

PART NO. OEL8000III-B, OEL8000III-K, & OEL8000III-X  
SOFTWARE RELEASE 9.0 / 9.1



## PROTEUS® Series TANK GAUGING SYSTEM

Revision 2150

Document No. DI00014 DI00015 DI00018 DI00020 DI00026 rev2150

OMNTEC Mfg., Inc. has been certified  
by DQS Inc. to ISO 9001:2015

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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.

(Figure 1.1)



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.

(Figure 1.2)

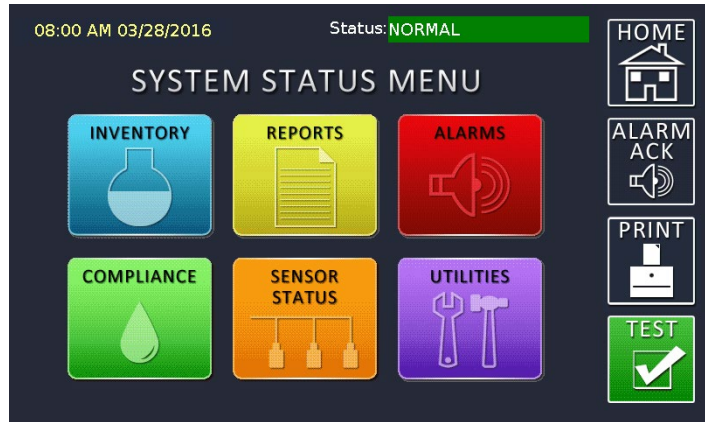



Figure 1.2

## 2. Inventory



The Inventory screen will show 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\*.

(Figure 2.1)

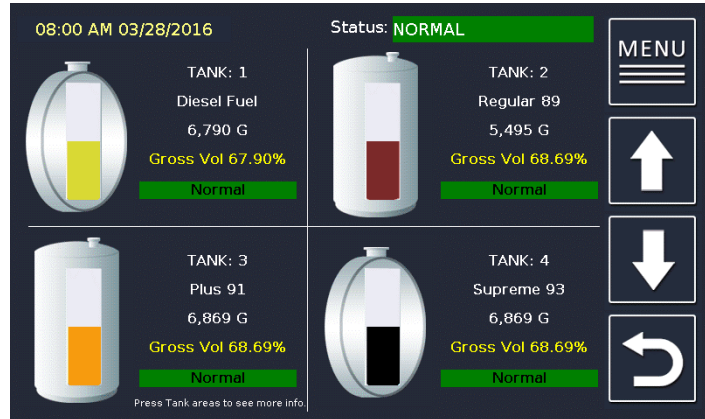




Figure 2.1

\*A greater than 4-tank system requires an 8-channel probe card or PROTEUS® X-series controller.

**Detailed View:** By pressing a specific tank, the controller will show you more information. Here you can 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 your available tanks. The total capacity of the tank is also listed. (Figure 2.2)

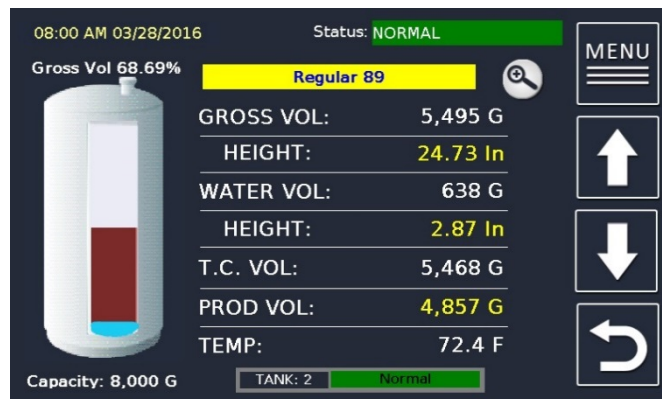



Figure 2.2

**Zoomed View:** If you press  the controller will display Gross Volume and Percentage, Gross Height, and Ullage. The ullage percentage can be changed between 80-100% in the Setup Menu. (Figure 2.3)

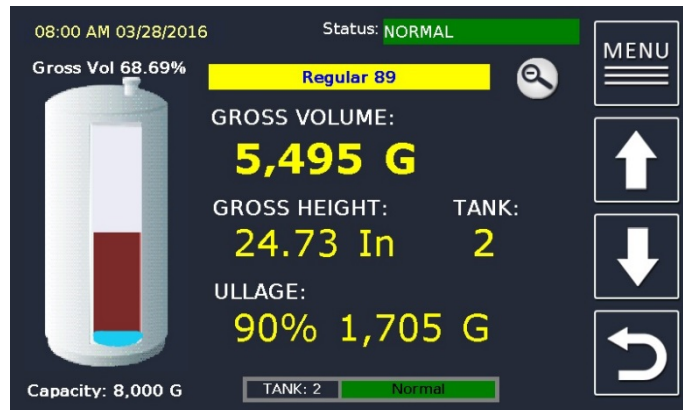




Figure 2.3

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**Delivery In Progress:** A delivery in progress will display a small  icon next to the corresponding tank.

**VLD Test In Progress:** A VLD test in progress will display a small  icon next to the corresponding tank. (Figure 2.4)

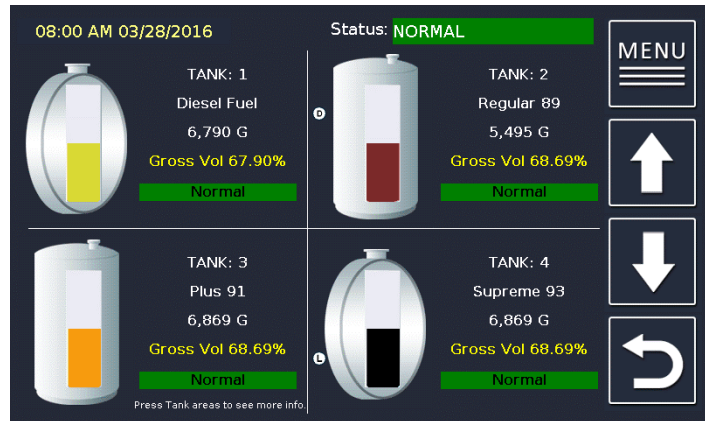


Figure 2.4

### 3. Reports



Used to view different logs that are stored in the system. (Figure 3.1)

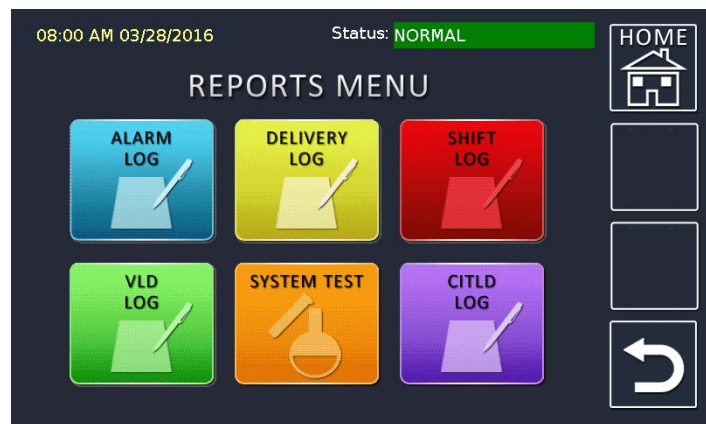


Figure 3.1

- Alarm Log:** Displays the alarm history. Stores 200 results.
- Delivery Log:** Displays the past 5 delivery results for each tank.
- Shift Log:** Displays shift report data for each tank. Stores 150 shifts.
- VLD Log:** Displays VLD (Volumetric Leak Detection) results for each tank. Stores 50 results per tank.
- System Test:** Displays the current system test results without printing or checking relays.
- CITLD Log:** Displays CITLD (Continuous In-Tank Leak Detection) results for each tank. Stores 27 results per tank \*.

\*CITLD is only available with controllers that have been upgraded with an optional CITLD enable code.

### 3.1 Alarm Log



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

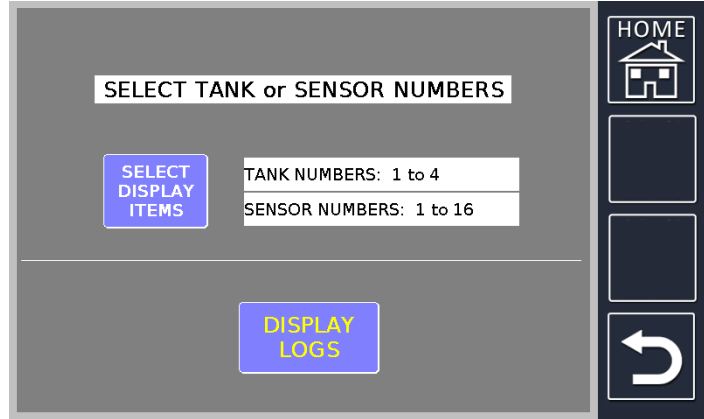





Figure 3.1.1

- 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. (Figure 3.1.2)

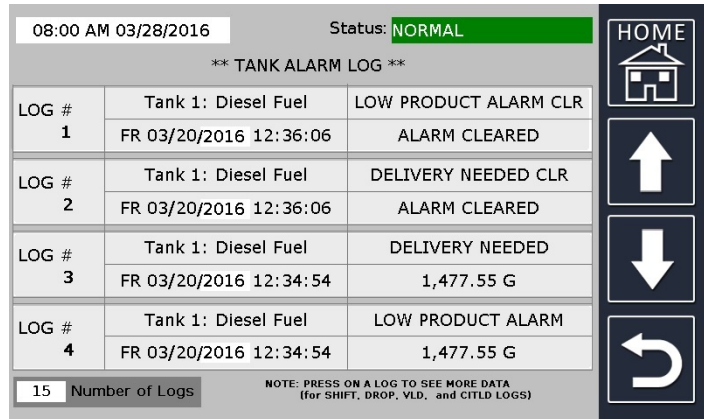


Figure 3.1.2

## 3.2 Delivery Log



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

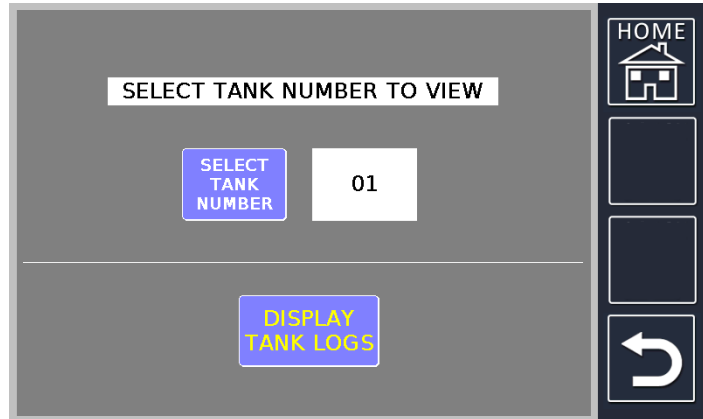


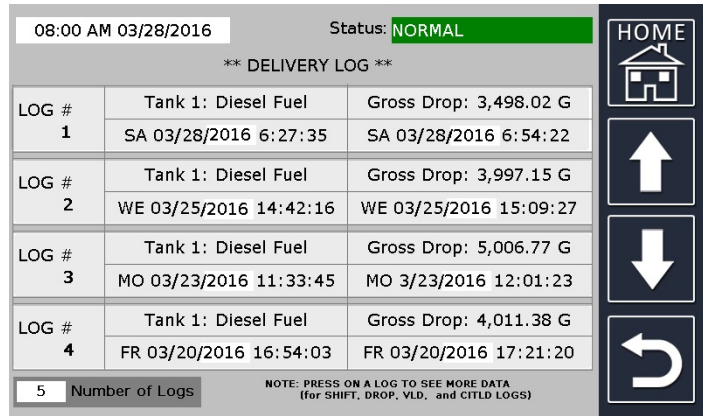


Figure 3.2.1

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. By pressing a specific log, you can display more detailed information. (Figure 3.2.2)



LOG #	Tank 1: Diesel Fuel	Gross Drop: 3,498.02 G
1	SA 03/28/2016 6:27:35	SA 03/28/2016 6:54:22
LOG #	Tank 1: Diesel Fuel	Gross Drop: 3,997.15 G
2	WE 03/25/2016 14:42:16	WE 03/25/2016 15:09:27
LOG #	Tank 1: Diesel Fuel	Gross Drop: 5,006.77 G
3	MO 03/23/2016 11:33:45	MO 3/23/2016 12:01:23
LOG #	Tank 1: Diesel Fuel	Gross Drop: 4,011.38 G
4	FR 03/20/2016 16:54:03	FR 03/20/2016 17:21:20

5 Number of Logs

NOTE: PRESS ON A LOG TO SEE MORE DATA (for SHIFT, DROP, VLD, and CITLD LOGS)

Figure 3.2.2

- d) Extended detailed information page. (Figure 3.2.3)

08:00 AM 03/28/2016		Status: NORMAL
** DELIVERY LOG **		
LOG #	START DATA	END DATA
Tank 01:	Diesel Fuel	3,498.02 G
TIME:	SA 03/28/2016 6:27:35	SA 03/28/2016 6:54:22
PRODUCT:	1,532.98 G	5,031.00 G
PRODUCT:	12.59 In	64.69 In
WATER:	27.34 G	27.42 G
WATER:	0.65 In	0.67 In
TC VOL:	1,503.77 G	4,996.88 G
TEMPERATURE:	62.33 F	65.13 F
5	Number of Logs	

Figure 3.2.3

### 3.3 Shift Log



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

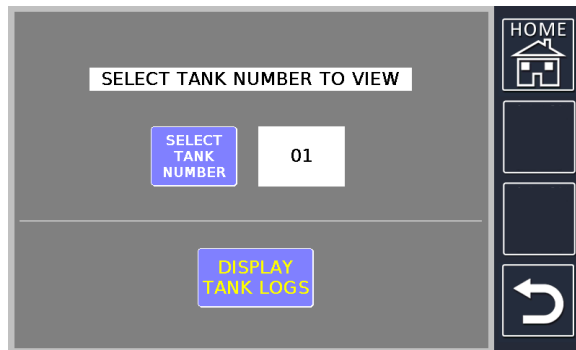


Figure 3.3.1

- 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. By pressing a specific log, you can display more detailed information. (Figure 3.3.2)

08:00 AM 03/28/2016		Status: NORMAL
** SHIFT LOG **		
LOG #	Tank 1: Diesel Fuel	SA 03/28/2016 06:00:01
1	Start Vol: 1,532.98 G	End Vol: 1,532.98 G
LOG #	Tank 1: Diesel Fuel	SA 03/28/2016 00:00:01
2	Start Vol: 1,857.87 G	End Vol: 1,532.98 G
LOG #	Tank 1: Diesel Fuel	FR 03/27/2016 18:00:01
3	Start Vol: 2,466.79 G	End Vol: 1,857.87 G
LOG #	Tank 1: Diesel Fuel	FR 03/27/2016 12:00:01
4	Start Vol: 3,125.44 G	End Vol: 2,466.79 G
23	Number of Logs	

NOTE: PRESS ON A LOG TO SEE MORE DATA (for SHIFT, DROP, VLD, and CITLD LOGS)

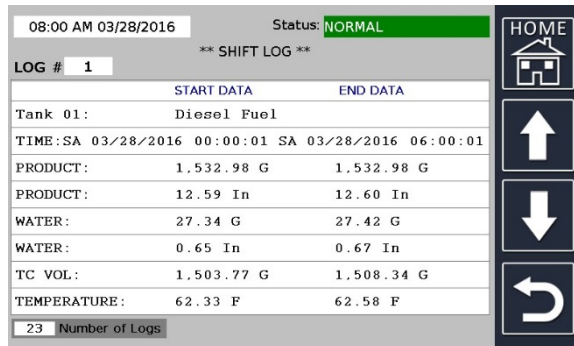
Figure 3.3.2



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- d) Extended detailed information page. (Figure 3.3.3)



08:00 AM 03/28/2016		Status: <b>NORMAL</b>
** SHIFT LOG **		
LOG #	1	
	START DATA	END DATA
Tank 01:	Diesel Fuel	
TIME:SA	03/28/2016 00:00:01	SA 03/28/2016 06:00:01
PRODUCT:	1,532.98 G	1,532.98 G
PRODUCT:	12.59 In	12.60 In
WATER:	27.34 G	27.42 G
WATER:	0.65 In	0.67 In
TC VOL:	1,503.77 G	1,508.34 G
TEMPERATURE:	62.33 F	62.58 F
23 Number of Logs		

Figure 3.3.3

### 3.4 VLD (Volumetric Leak Detection) Log



Brings you to the following screen which will allow you to view VLD results. VLD is a 4-hour test that cannot be disrupted and tests for leaks in underground storage tanks. (Figure 3.4.1)

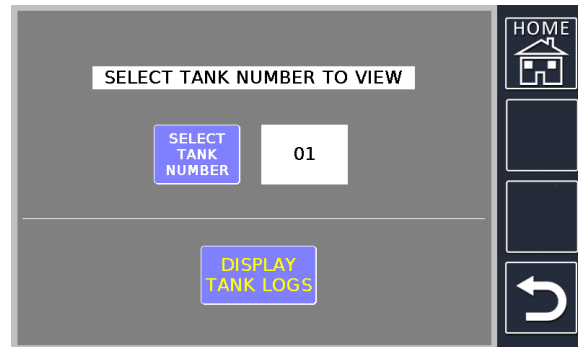



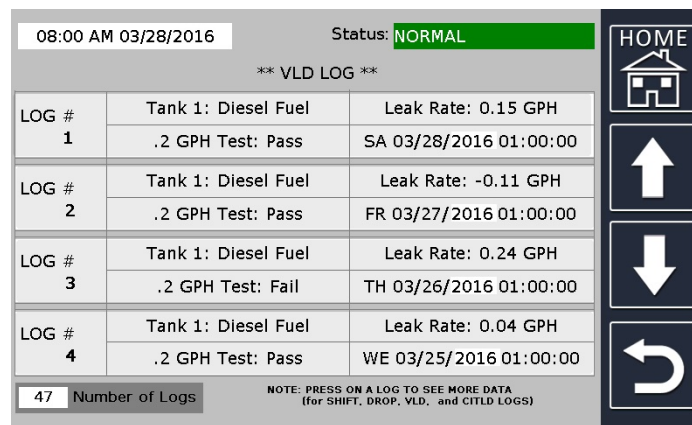


Figure 3.4.1

- 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. By pressing a specific log, you can display more detailed information. (Figure 3.4.2)



08:00 AM 03/28/2016		Status: <b>NORMAL</b>
** VLD LOG **		
LOG #	Tank 1: Diesel Fuel	Leak Rate: 0.15 GPH
1	.2 GPH Test: Pass	SA 03/28/2016 01:00:00
LOG #	Tank 1: Diesel Fuel	Leak Rate: -0.11 GPH
2	.2 GPH Test: Pass	FR 03/27/2016 01:00:00
LOG #	Tank 1: Diesel Fuel	Leak Rate: 0.24 GPH
3	.2 GPH Test: Fail	TH 03/26/2016 01:00:00
LOG #	Tank 1: Diesel Fuel	Leak Rate: 0.04 GPH
4	.2 GPH Test: Pass	WE 03/25/2016 01:00:00
47 Number of Logs		
NOTE: PRESS ON A LOG TO SEE MORE DATA (for SHIFT, DROP, VLD, and CITLD LOGS)		

Figure 3.4.2

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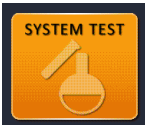
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- d) Extended detailed information page. (Figure 3.4.3)

08:00 AM 03/28/2016		Status: <b>NORMAL</b>	HOME
** VLD LOG **			
LOG #	1		
	START DATA	END DATA	
Tank 01:	Diesel Fuel		
LEAK TEST:	.2 GPH Test: Pass		
Leak Rate:	0.15 GPH		
TIME:	SA 03/28/2016 01:00:00		
PRODUCT:	12.59 In	12.60 In	
WATER:	0.65 In	0.67 In	
TC VOL:	1,503.77 G	1,508.34 G	
TEMPERATURE:	62.33 F	62.58 F	
47	Number of Logs		

Figure 3.4.3

## 3.5 System Test



Allows you to run a test without a printout of each board in the controller, probe, and sensor. It will not test relays. (Figure 3.5.1)

SYSTEM TEST							Status: <b>NORMAL</b>	HOME
BOARD TYPE	SN	ID#	SL#	T#	S#	Test		
MCU	00001	01	--	00	00	PASS		
DISPLAY	00001	01	--	00	00	PASS		
XB-416	00002	01	01	04	02	PASS		
TANK #						Test		
Tank 01:	Diesel Fuel					PASS		
Tank 02:	Regular 89					PASS		
Tank 03:	Plus 91					PASS		
Tank 04:	Supreme 93					PASS		
S#			T#	S/N	Test			
01	BXLS	Dispenser	01	01	000113231	PASS		
02	BXPDS	Sump	01	01	200124641	PASS		

Figure 3.5.1

## 3.6 CITLD (Continuous In-Tank Leak Detection) Log



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

SELECT TANK NUMBER TO VIEW		HOME
SELECT TANK NUMBER	01	
DISPLAY TANK LOGS		

Figure 3.6.1

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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 display more detailed information. (Figure 3.6.2)

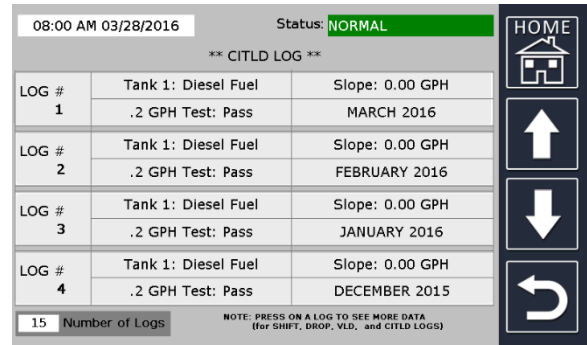


Figure 3.6.2

d) Selecting a specific report will display more detailed information about each CITLD test. (Figure 3.6.3)

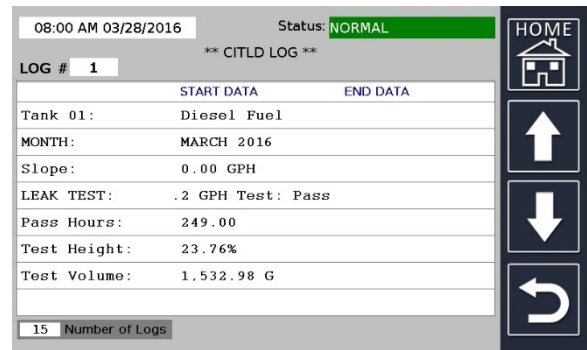


Figure 3.6.3

## 4. Alarms

**Alarms:** A current alarm will be displayed on the screen with a red flashing box and a description of the alarm within the box. The controller will also sound an audible horn when there is an alarm condition.

(Figure 4.1 and 4.2)

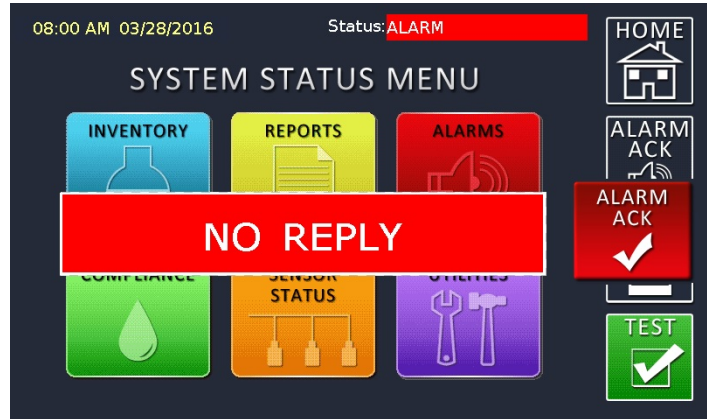


Figure 4.1



This will acknowledge an alarm and bring you to the current alarms log. (Figure 4.3)

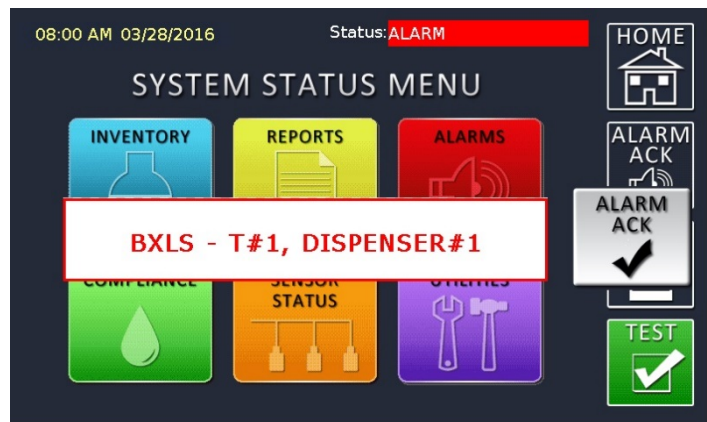


Figure 4.2



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

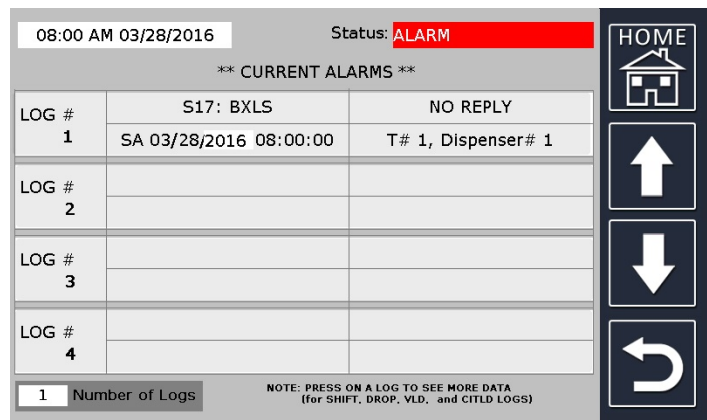


Figure 4.3

## 5. Compliance



From this menu, you can view Compliance Reports (VLD and CITLD results, perform a system test, and view leak sensor status). (Figure 5.1)

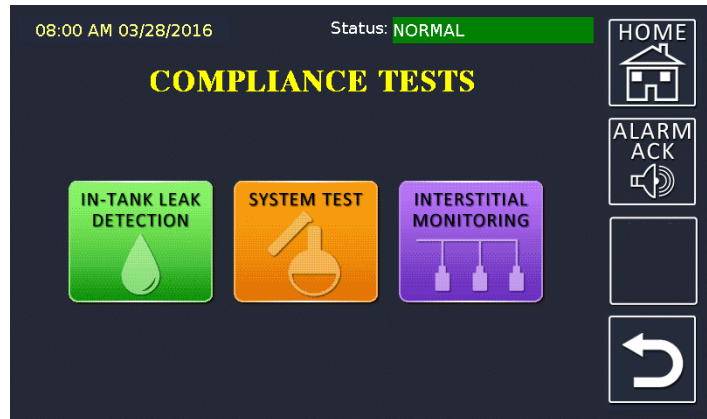


Figure 5.1



As mentioned in sections 3.4 and 3.6, this allows you to view **VLD** and **CITLD** results. (Figure 5.2)

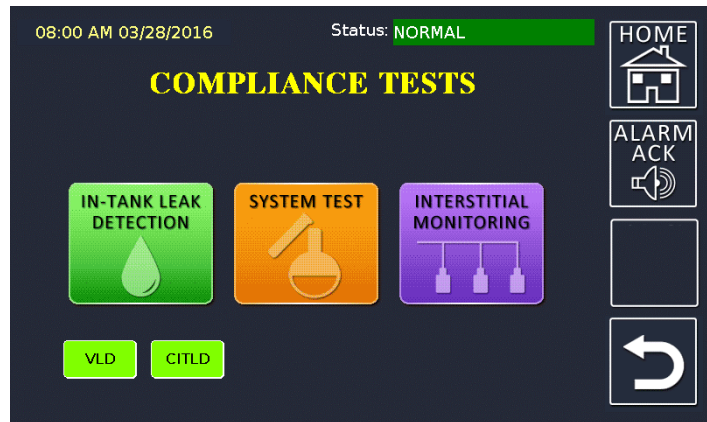
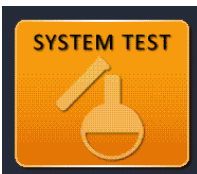
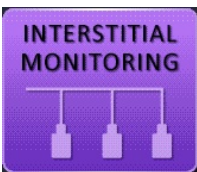


Figure 5.2



As mentioned in section 3.5, this will perform a system test. (Figure 5.2)



Used to view the current status of all interstitial sensors. (Figure 5.3)

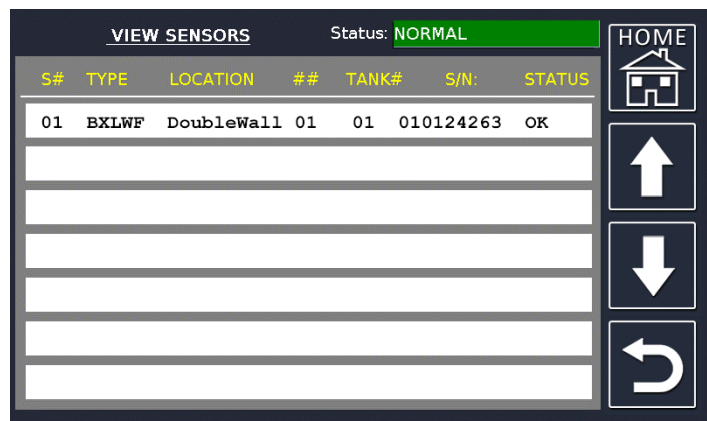
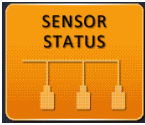


Figure 5.3

## 6. Sensor Status



View leak sensor status, choose between viewing all sensors, just temperature sensors, or viewing Fillcheck sensor diagnostics. (Figure 6.1)

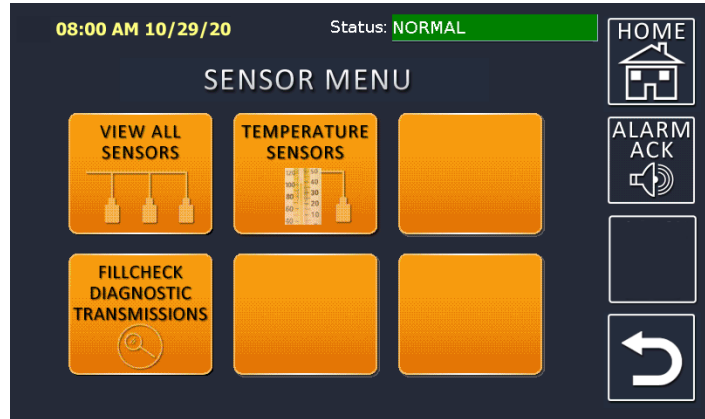


Figure 6.1



Used to view all sensors and their current status. Does not show the actual temperature for temperature sensors. (Figure 6.2)

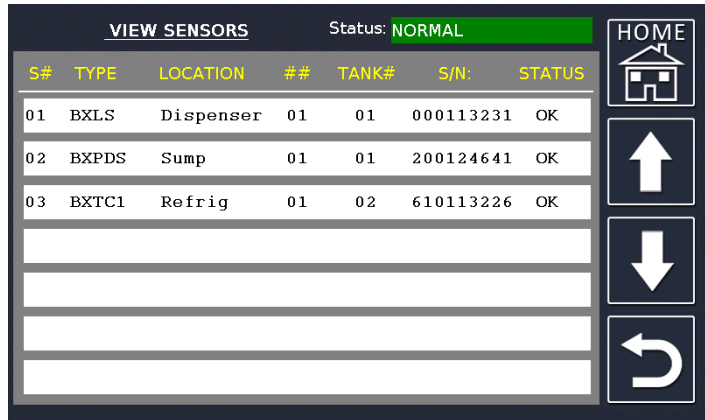
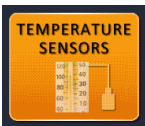


Figure 6.2



Used to view temperature sensors and their current status. Also shows the actual temperature for each temperature sensor. (Figure 6.3)

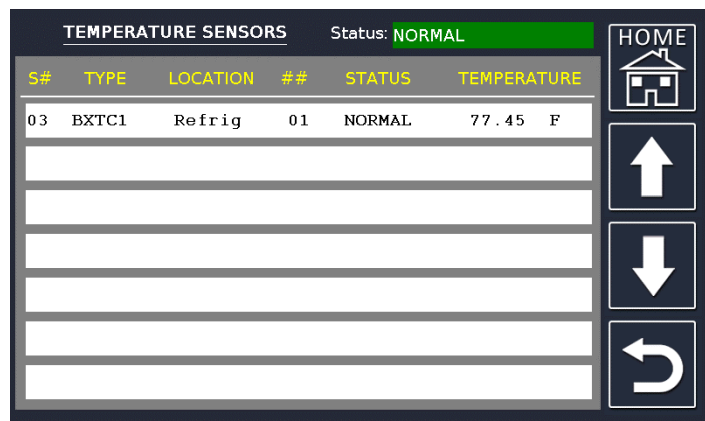


Figure 6.3

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Used to display wireless transmissions on Fillcheck sensors associated with this system. (Figure 6.4)

VIEW SENSORS						Status: <b>NORMAL</b>	HOME
S#	DATE	TIME	TFLT(sec)	COUNTS	D1	D2	
S01	2019-11-11	16:02:08	00000000	00000261	00	00	↑
S02	2019-11-11	16:02:05	00000002	00000260	00	00	↓
S03	2019-11-11	16:02:06	00000001	00000259	00	00	↶

Figure 6.4

## 7. Utilities



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

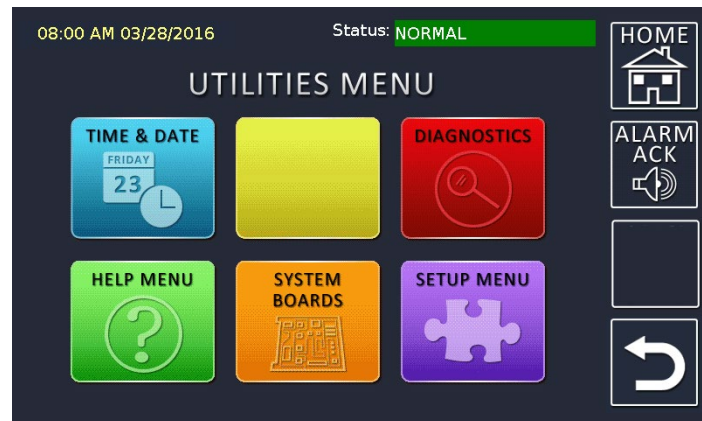


Figure 7.1

- Time & Date:** Used to change time, date, and time zone.
- Diagnostics:** Opens a diagnostic input screen, helpful for troubleshooting with OMNTEC Technical Support.
- Help Menu:** Offers wiring diagrams and helpful information about the controller.
- System Boards:** Shows the system boards and the current status.
- Setup Menu:** Enter password to enter setup (see Programming Manual document **DP00014 DP00015 DP00018 DP00020 DP00026** for more details on Setup Menu features).

## 7.1 Time & Date



Used to change the time, date, and time zone. (Figure 7.1.1)

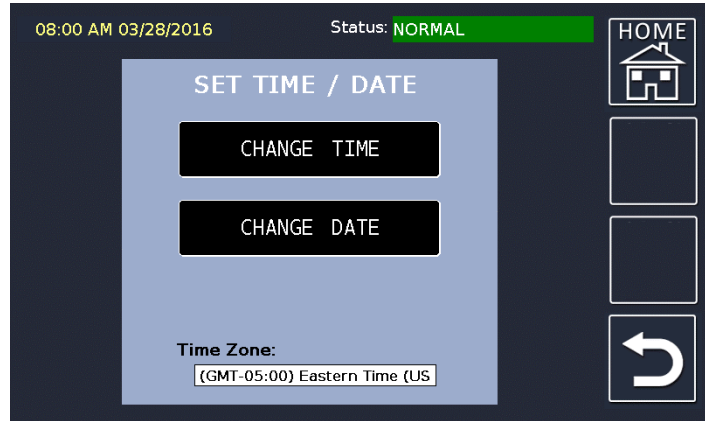


Figure 7.1.1

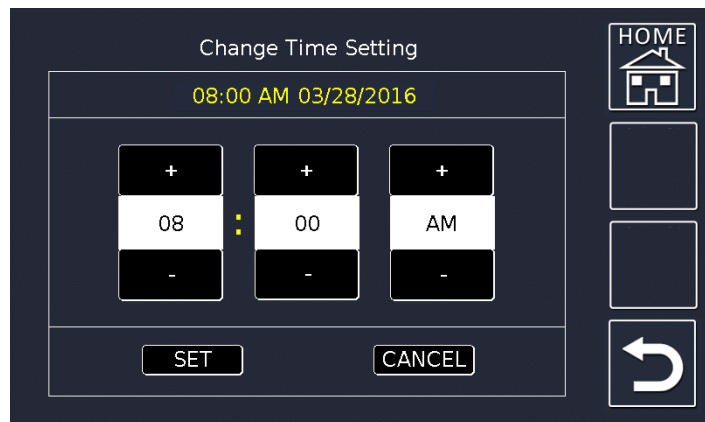
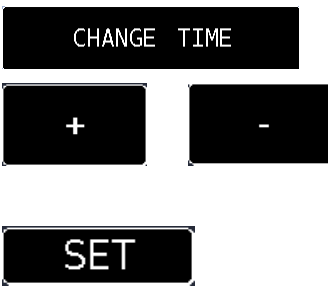


Figure 7.1.2

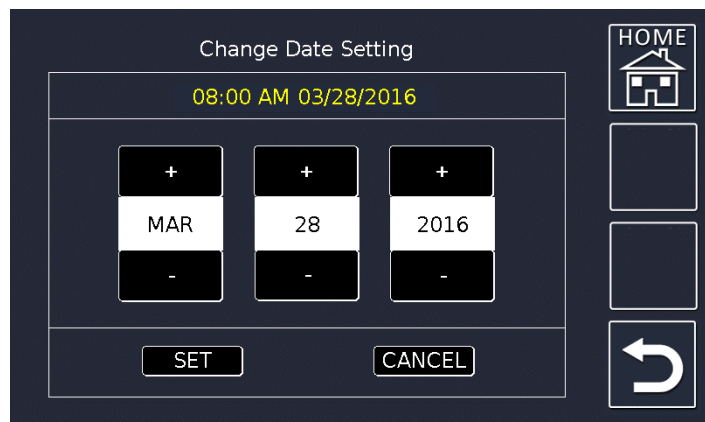
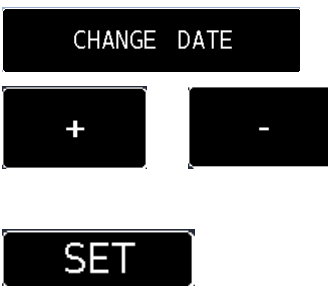


Figure 7.1.3



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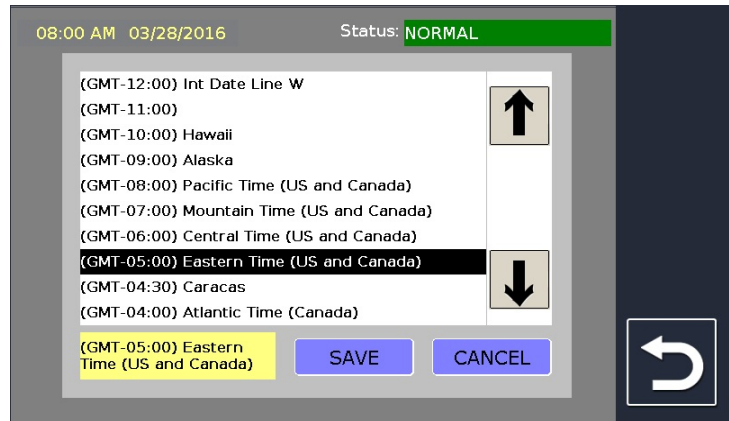


Figure 7.1.4

**7.2 Diagnostics**



This will allow the user to perform various tests. For full use of Diagnostics, see Programming Manual document **DP00014 DP00015 DP00018 DP00020 DP00026** for more details. (Figure 7.2.1)

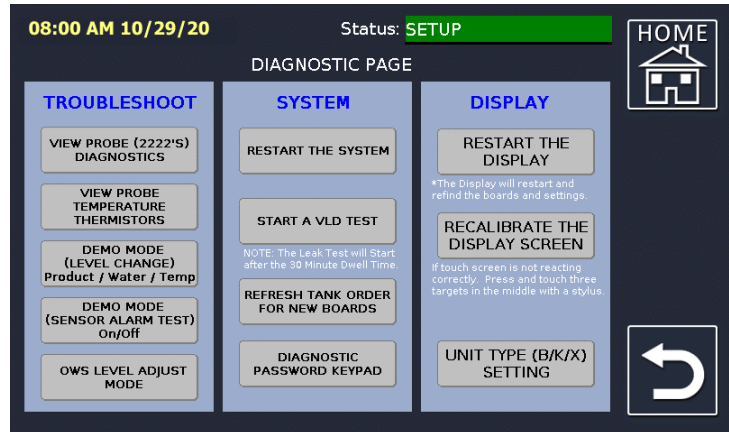


Figure 7.2.1

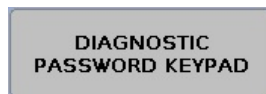


Figure 7.2.2

## 7.3 Help Menu



Used to view Probe and Sensor Info, Probe and Sensor Wiring Diagrams, Alarm Info Remote Settings, Version Numbers, System Status, Remote Display Info, System Bus Alarms Info, Modbus, CITLD, SD card status, and unit serial (EL) number. (Figure 7.3.1)

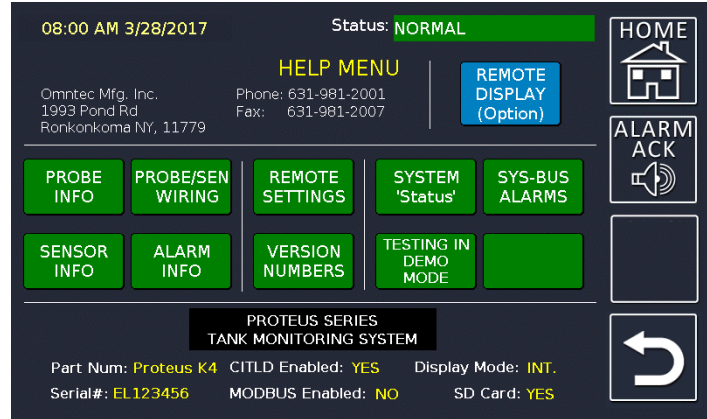


Figure 7.3.1



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

CAT# on the probe head defines the following:

- R# = # of thermistors
- F# = # of floats
- L### = length of probe (inches)

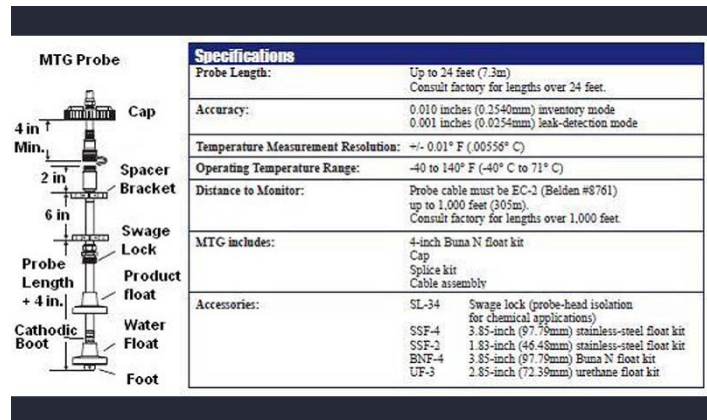


Figure 7.3.2



Displays how to add and delete sensors from the system (see

Programming Manual document **DP00014 DP00015 DP00018 DP00020 DP00026** for more details). It also gives a list of compatible sensors and where they would be placed in the tank field. (Figure 7.3.3)



Figure 7.3.3

**OEL8000III Series**

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**PROBE/SEN WIRING**

Displays how to properly wire probes and sensors in the intrinsically safe area. See Installation Manual documents *DI00020 (X-series)*, *DI00014 DI00015 (K-series)*, or *DI00018 DI00026 (B-series)* for more details. (Figure 7.3.4)

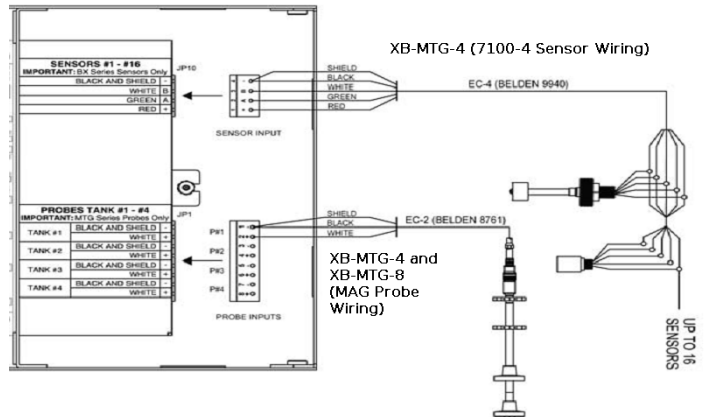


Figure 7.3.4

**ALARM INFO**

Displays where the alarm points are in the tank. Only the enabled alarm points will be used. (Figure 7.3.5)

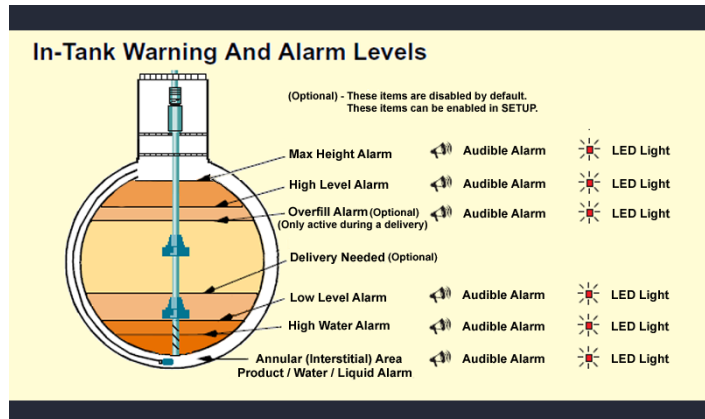


Figure 7.3.5

**REMOTE SETTINGS**

Displays the current settings for the RS-232 port, IP address, and Modbus address. These can be configured in setup. (Figure 7.3.6)

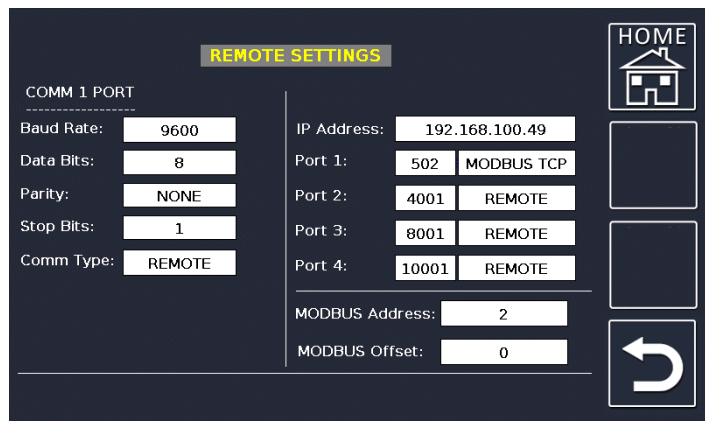


Figure 7.3.6

**OEL8000III Series**

**Operating Manual**

**VERSION NUMBERS**

Lists the system boards and the current firmware version installed on each board. (Figure 7.3.7)

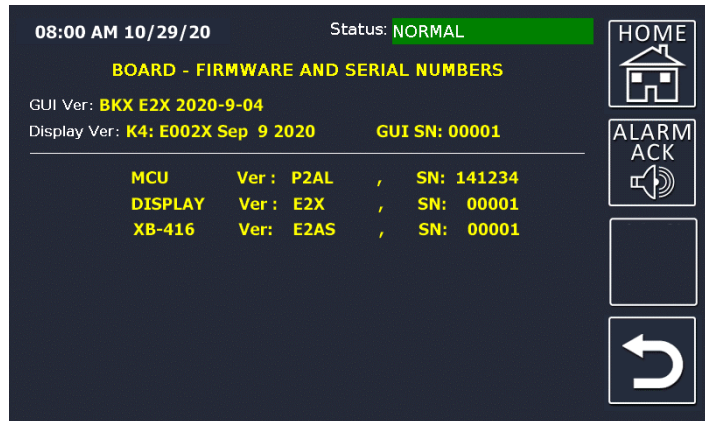


Figure 7.3.7

**SYSTEM 'Status'**

Describes what each of the status icons mean on the top of the screen. (Figure 7.3.8)

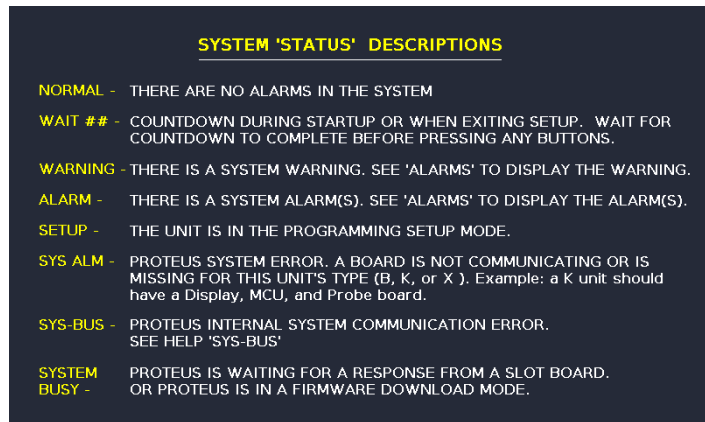


Figure 7.3.8

**SYS-BUS ALARMS**

Shows any active system bus alarms and instructs the user what do to when these alarms are present. (Figure 7.3.9)

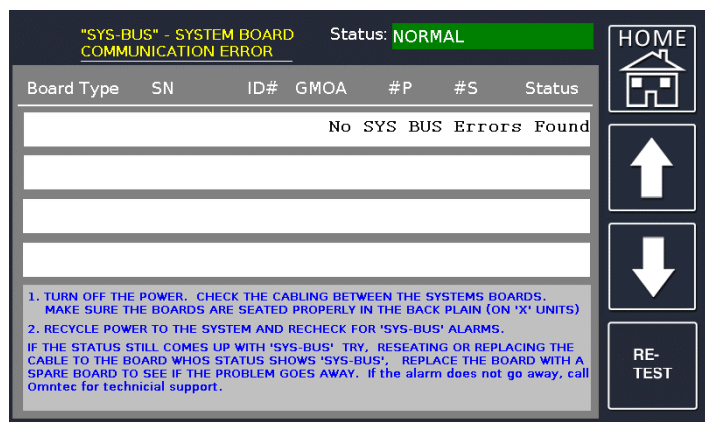


Figure 7.3.9

**OEL8000III Series**

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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. (Figure 7.3.10)

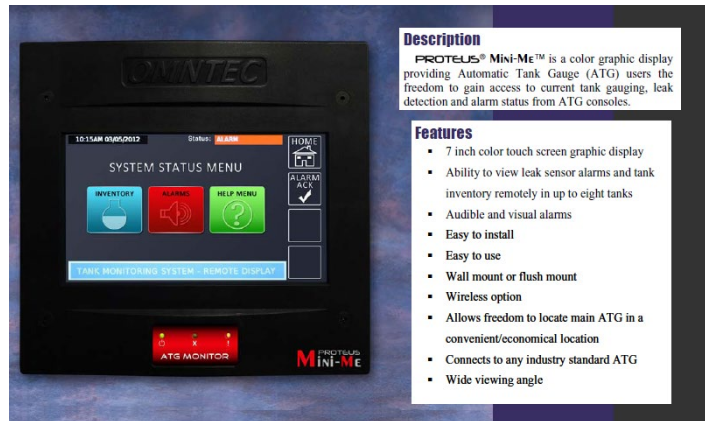


Figure 7.3.10



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

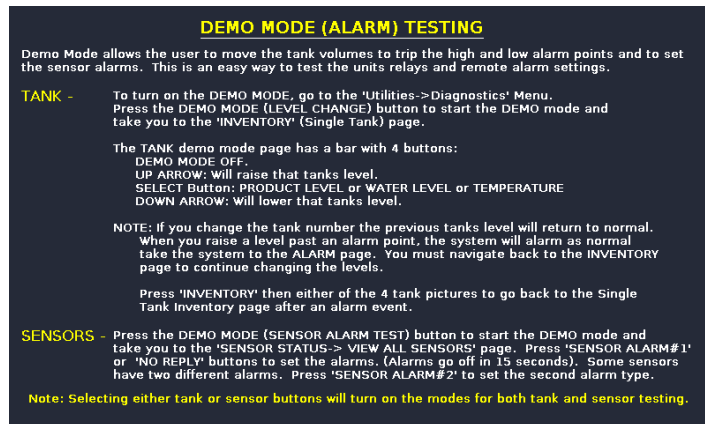


Figure 7.3.11

## 7.4 System Boards



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

UNIT BOARDS						Status: NORMAL	HOME
Board Type	SN	ID#	SLOT	#P	#S	Status	
MCU	12345	01	--	00	00	OK	↑
DISPLAY	00001	01	--	00	00	OK	↓
XB-416	00001	01	01	04	03	OK	↶

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. (Figure 7.5.1)

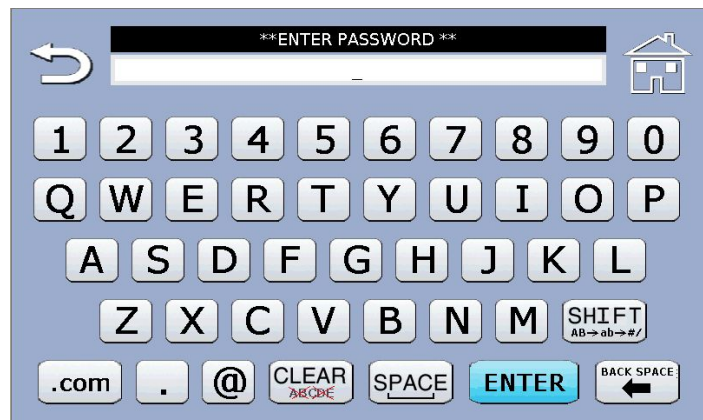


Figure 7.5.1

## 8. Print (PROTEUS® K and 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 by selecting the appropriate radio button.

(Figure 8.1)

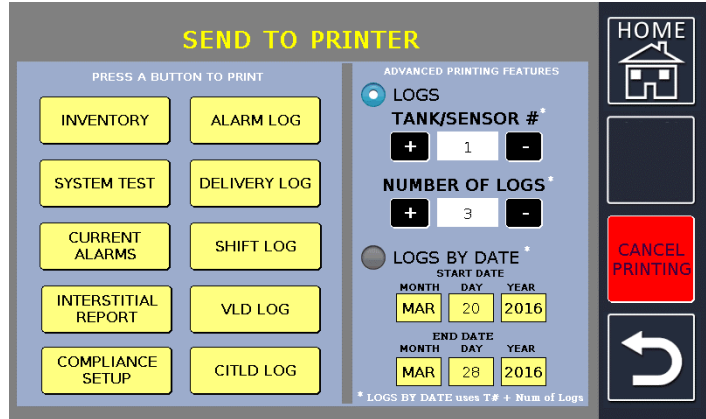


Figure 8.1

## 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 (PROTEUS® K and X only) so the user may keep for their records. Running a test will also show the system ID and monthly leak test results for CITLD (if enabled).

(Figure 9.1)

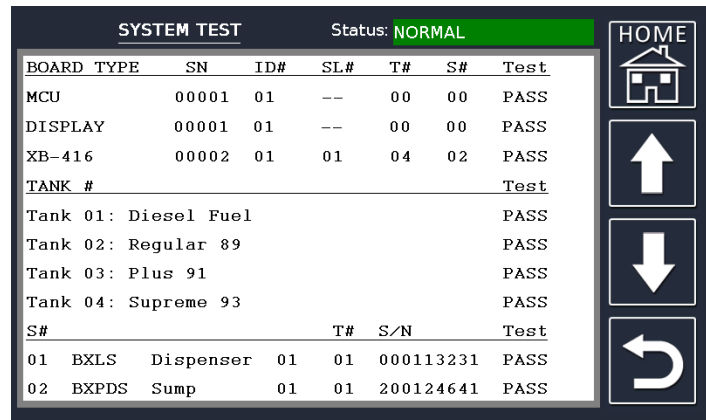


Figure 9.1

## 10. Installing Paper (PROTEUS® K and X only)

### Installing Paper:

- Lift the flap on the front of the door and pull the door open towards you.
- Insert paper with the 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.  
(Figures 10.1-5)



Figure 10.1



Figure 10.2



Figure 10.3



Figure 10.4



Figure 10.5



# 11. Troubleshooting

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

## Probe 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. Refer to the CAT# on the probe head; the F defines the number of floats on the probe (F1 or F2).
- If there is more than one probe, swap probe inputs and see if problem stays with probe. (Figure 11.1)

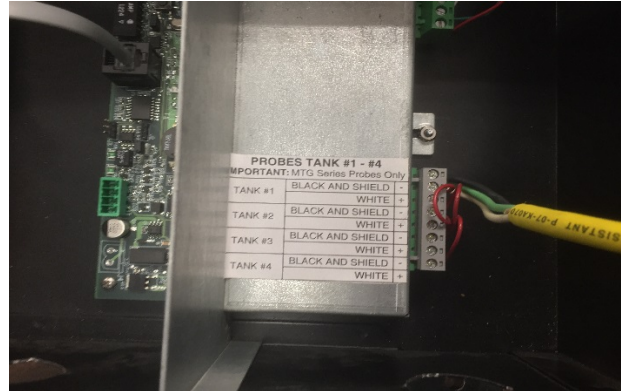


Figure 11.1

## 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. (Figure 11.2)

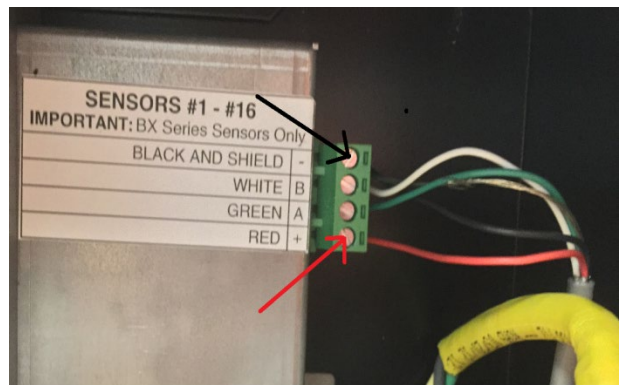


Figure 11.2

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### 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 and X only) and 416 boards. (Figure 11.3)

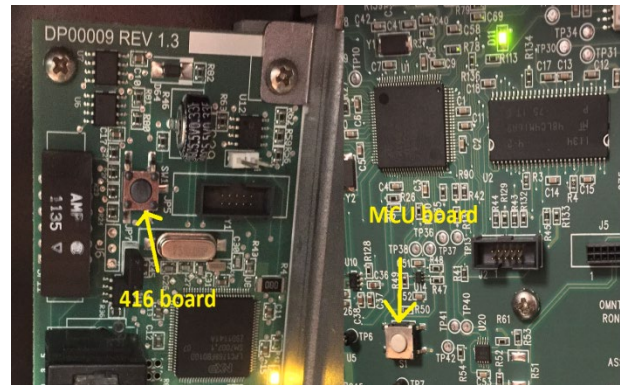


Figure 11.3

### RAS Remotes (PROTEUS® K and 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 document **DP00014 DP00015 DP00018 DP00020 DP00026**).
- To silence the horn, press the “ACK/TEST”.
- You can also test this remote by pressing the “ACK/TEST” for 5 seconds. (See Figure 11.4)

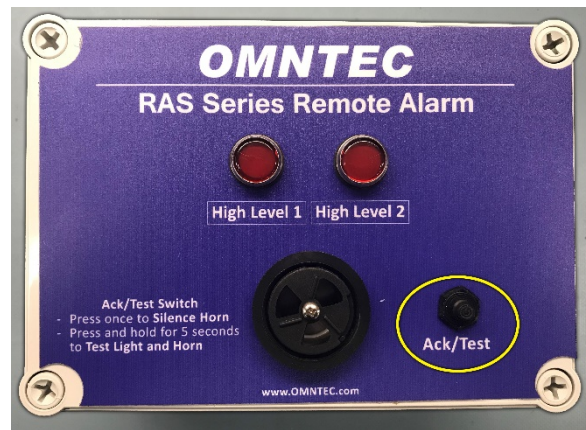


Figure 11.4

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### 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. (Figure 11.5)
- A null modem connector may be required on the transmission wire.



Figure 11.5