

# TLS2 Console

## Quick Help

# Notice

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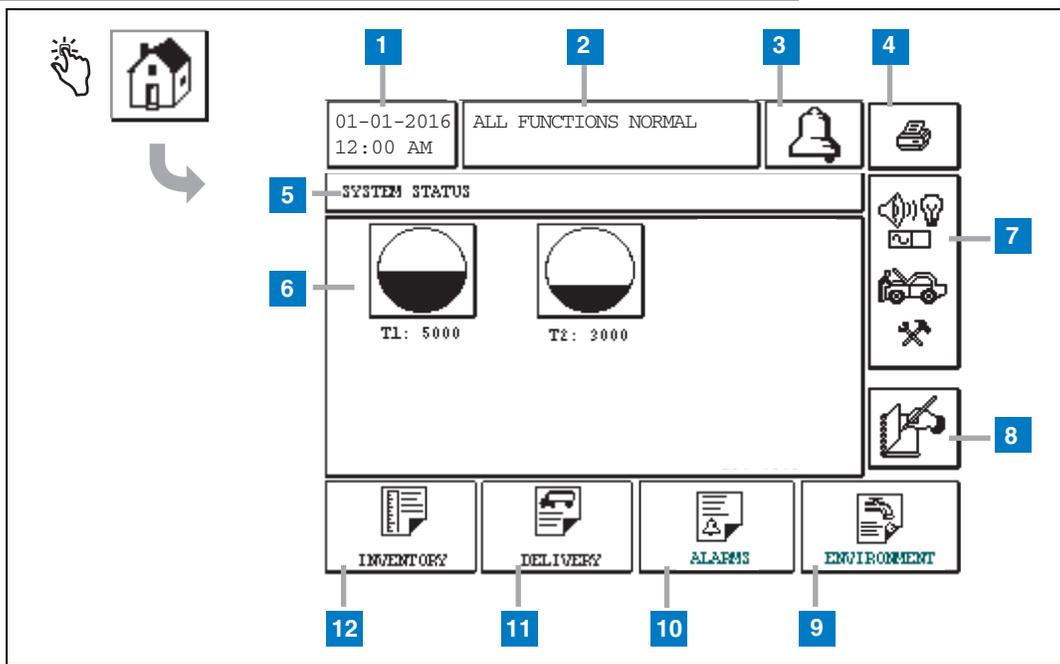
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# System Setup Screens

This section describes all of the TLS2 System Setup Screens along with setup choices and explanations that you will need for data entry. Because the TLS2 Setup Displays have only English labels, Screen Label codes have been placed in brackets beneath every English label to let you quickly find a translation of the label and the page number(s) of the Screen in which the label is used.

Entering data, confirming selections, etc. is done through one of several Data Entry Screens which display when you touch any button to the right of a data entry window.

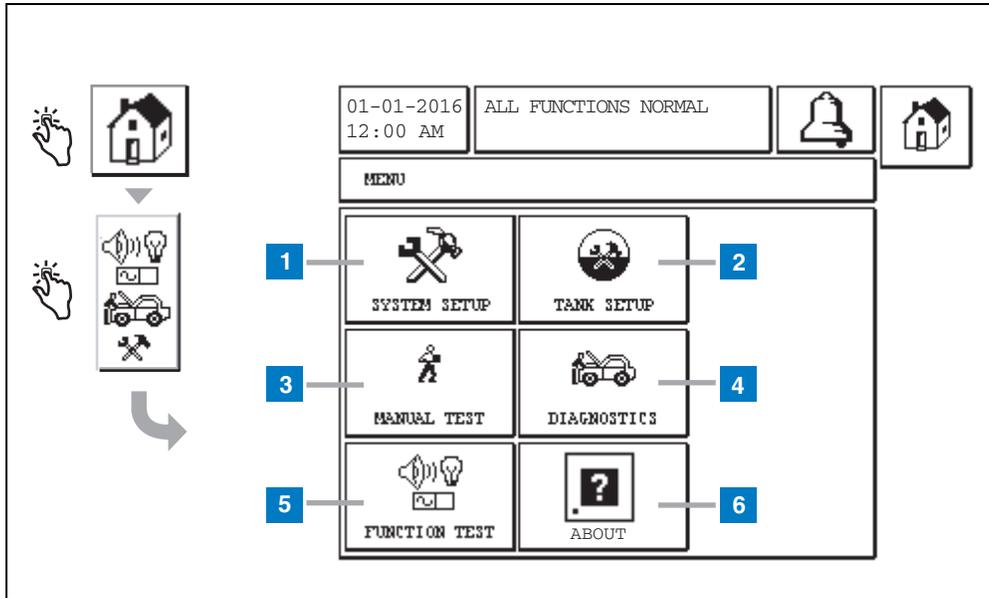
## System Status (Home) Screen



### Legend For Numbered Boxes

- 1 Date/time window - displays current date and time
- 2 Message window - displays All Functions Normal or active alarms.
- 3 Alarm button - touch to acknowledge alarm and silence alarm beeper. Note: touching this button does not clear the alarm - the problem that caused the alarm must be repaired.
- 4 Print button - For menu screens, touch this button and all items available through the menu are printed to a connected printer. For non-menu screens only, a print dialog box appears when the print button is touched. The user also has the option to cancel the print.
- 5 Screen title window.
- 6 Tank buttons - this section of the home screen displays all tanks monitored by the TLS2. Touch any tank button to display the current inventory report for that tank.
- 7 Main Menu button - touch to display the Main Menu Screen (page 2) for access to system/tank setup and manual tank testing.
- 8 Manual Shift Close button - touch to manually close the shift. (visible only if Snapshot is selected in Shift Time (System Setup) as the Shift Close Method.
- 9 Environmental Report button - touch to display tank leak test results.
- 10 Alarm Report button - touch to display the Active Alarm Status (and History) Screen (page 7).
- 11 Delivery Report button - touch to display the Delivery Report Screen.
- 12 Inventory Report button - touch to display the Inventory Report Screen.

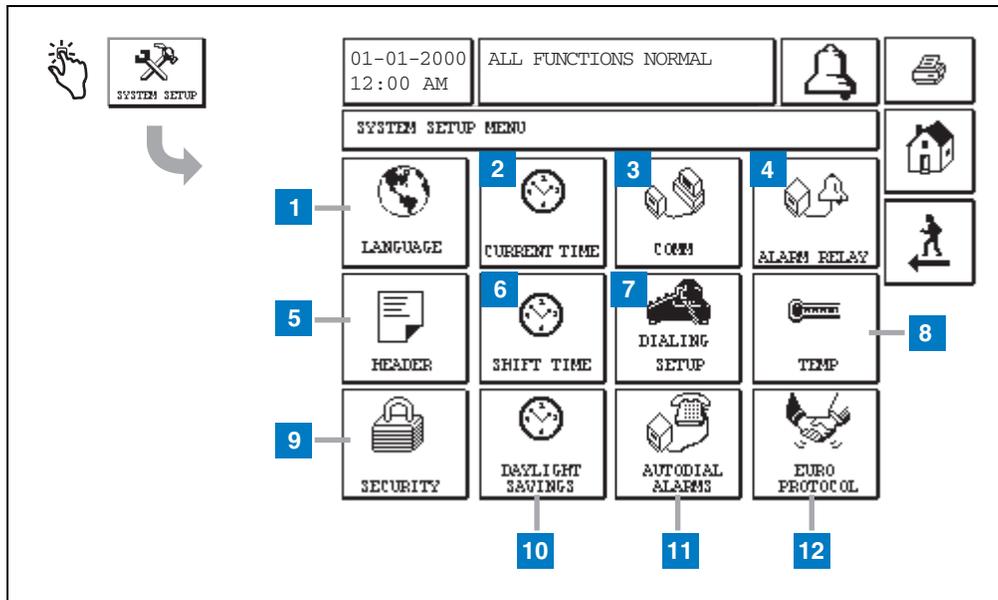
## Main Menu Screen



### Legend For Numbered Boxes

- 1 System Setup button - touch to display the System Setup Screen (page 3). If a System Security Setup - Setup Password has been entered, the System Setup - Enter Password screen will display and you must enter the password to continue.
- 2 Tank Setup button - touch to display the Tank Setup Menu Screen.
- 3 Manual Test button - touch to display the Manual Tank Test Start/Stop Screen.
- 4 Diagnostics button - touch to display the Probe Diagnostic Screen.
- 5 Function Test button - touch to display the Function Test Menu Screen.
- 6 About button - touch to display the About Screen (page 5) for information about the TLS2 Console's software and installed features.

## System Setup Screen



### Legend For Numbered Boxes

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>1</b> Language button - touch to display the System Language and Units Setup Screen (page 4)</p> <p><b>2</b> Current Time button - touch to display the System Time/Date Setup Screen .</p> <p><b>3</b> Comm button - touch to display the Comm Setup Screen.</p> <p><b>4</b> Alarm Relay button - touch to display the Alarm Relay Setup Screen.</p> <p><b>5</b> Header button - touch to display the Station Header Setup Screen.</p> <p><b>6</b> Shift Time button - touch to select the Setup Shift Times Screen or Manual Shift Close.</p> <p><b>7</b> Dialing Setup button - touch to display the Auto Dialout Setup Screen.</p> | <p><b>8</b> Temp button - touch to display the Temperature Setup Screen.</p> <p><b>9</b> Security button - touch to display the System Security Setup Screen.</p> <p><b>10</b> Daylight Savings button - touch to display the Daylight Savings Setup Screen.</p> <p><b>11</b> Autodial Alarms button - touch to display the Autodial Alarms Setup Screen.</p> <p><b>12</b> EuroProtocol button - touch to display the EuroProtocol and Stick Offset Setup Screen. This screen also lets you select a leak test report format.</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## [201-203, 240] System Language and Units Setup Screen

01-01-2016 12:00 AM ALL FUNCTIONS NORMAL

**SYSTEM SETUP LANGUAGE AND UNITS**

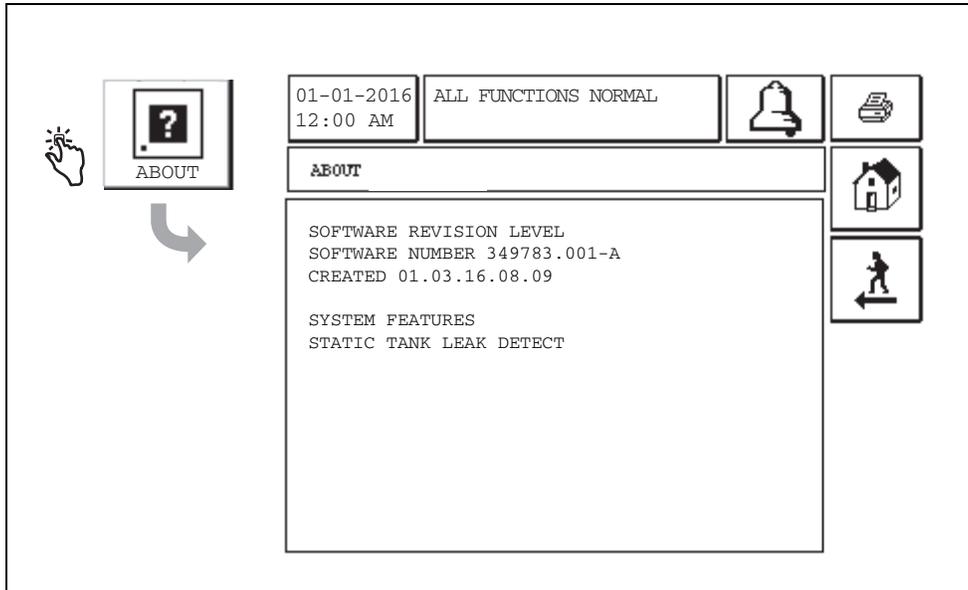
1	SYSTEM LANGUAGE [201]	ENGLISH	▼
2	UNITS [202]	US	▼
3	SERIAL LANGUAGE [203]	ENGLISH	▼
4	ISO 3166 COUNTRY [240]		RS X

### Legend For Numbered Boxes

- 1 System Language [201] - Choose from English (default), Chinese (Mandarin), Finnish, French, German, Italian, Polish, Portuguese, Russian, Spanish and Swedish.
- 2 Units [202] - Choose Metric (default) or U.S.
- 3 Serial Language [203] - Choose from English (default), Finnish, French, German, Italian, Polish, Portuguese, Russian, Spanish and Swedish.
- 4 ISO Country Code [240] - This feature is an international option. Enter the three alpha-character country code. Default is blank.

## About TLS2 Screen

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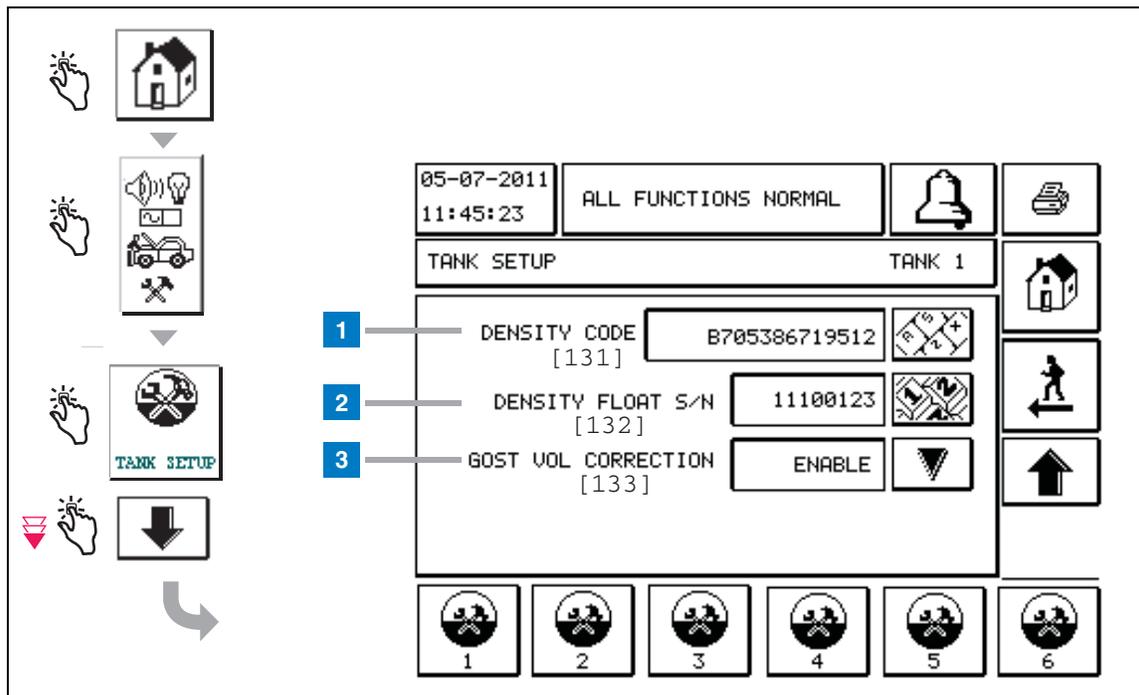


This screen lists information about the TLS2 Console's installed software and features:

- System Software Revision Level
- Software Part Number
- Software Creation Date
- System Features: Static Tank Leak Detect

## Density Probe Setup Screens

### [131-133] Tank Setup Screen 4



#### Legend For Numbered Boxes

Density Probe enters - from the home screen, touch the buttons in the left panel until the Tank Setup above displays.

- 1** Density Code [131] - The density float is etched along one side of the device with a unique Density Code which must be entered in this screen to enable the console to accurately compute the density of the fuel in the tank. This code is assigned at the factory during calibration of the magnets used in the float. As the density float can be shipped separately from the probe, the user will need to record the Density Code on each density float and the tank in which the float is installed. The user will then need to program the console in the above screen with the selected tank's float Density Code. The Density Code is exactly 14 characters (e.g., B7053686719512) and the first letter indicates the float product type – A is for gasoline, B is for diesel.

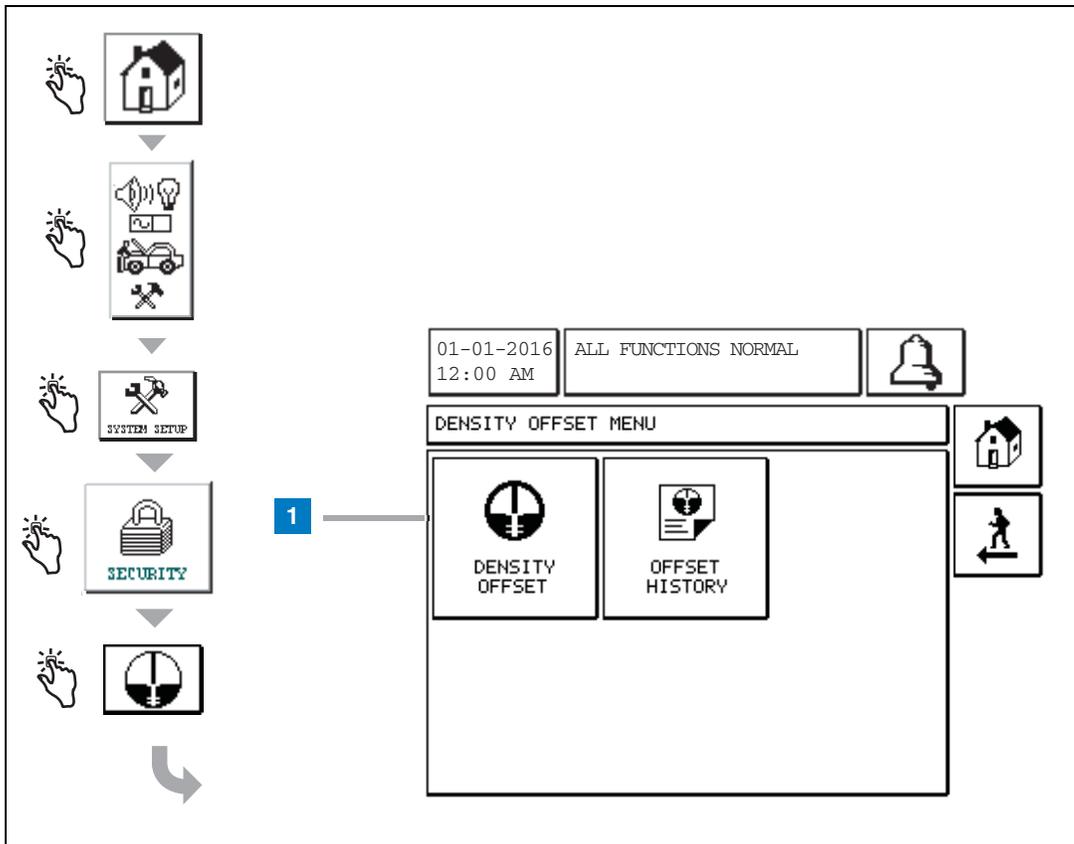
If the Density Code is modified, the Total TC Density Offset value is set to 0.

- 2** Density Float S/N [132] - The density float is etched along one side of the device with a unique Density Float S/N which must be entered in this screen. As the density float can be shipped separately from the probe, the user will need to record the Density Float S/N on each density float and the tank in which the float is installed. The user will then need to program the console in the above screen with the selected tank's float Density Float S/N. The Density Float S/N is exactly 8 characters (e.g., 11452122).

If the Density Float S/N is modified, the Total TC Density Offset value is set to 0 .

- 3** GOST Vol Correction [133] - The GOST Volume Correction feature adjusts the volume calculation of fuel in the tank using the GOST R 8.595 correction factor. Enable this field to automatically adjust all volume calculations for this tank based on the temperature of the fuel. Allowable selections: Enabled or Disabled. Default: Disabled

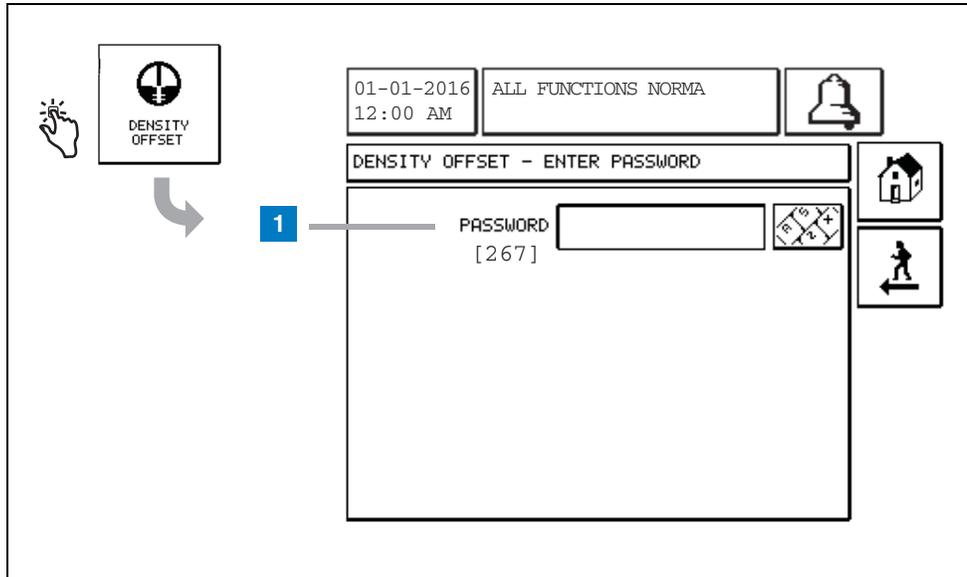
## Density Offset Menu Screen



### Legend For Numbered Boxes

- 1 Density Offset button - touch to display the Density Offset - Enter Password Screen [267].

## [267] Density Offset - Enter Password Screen



### Legend For Numbered Boxes

- 1 Password [267] - If the Density Password has not been setup on the System Setup Security – Density Password screen then the Density Offset – Enter Password screen will display “NEED TO SET UP A DENSITY PASSWORD” and the user will not be able to enter the Density Password.

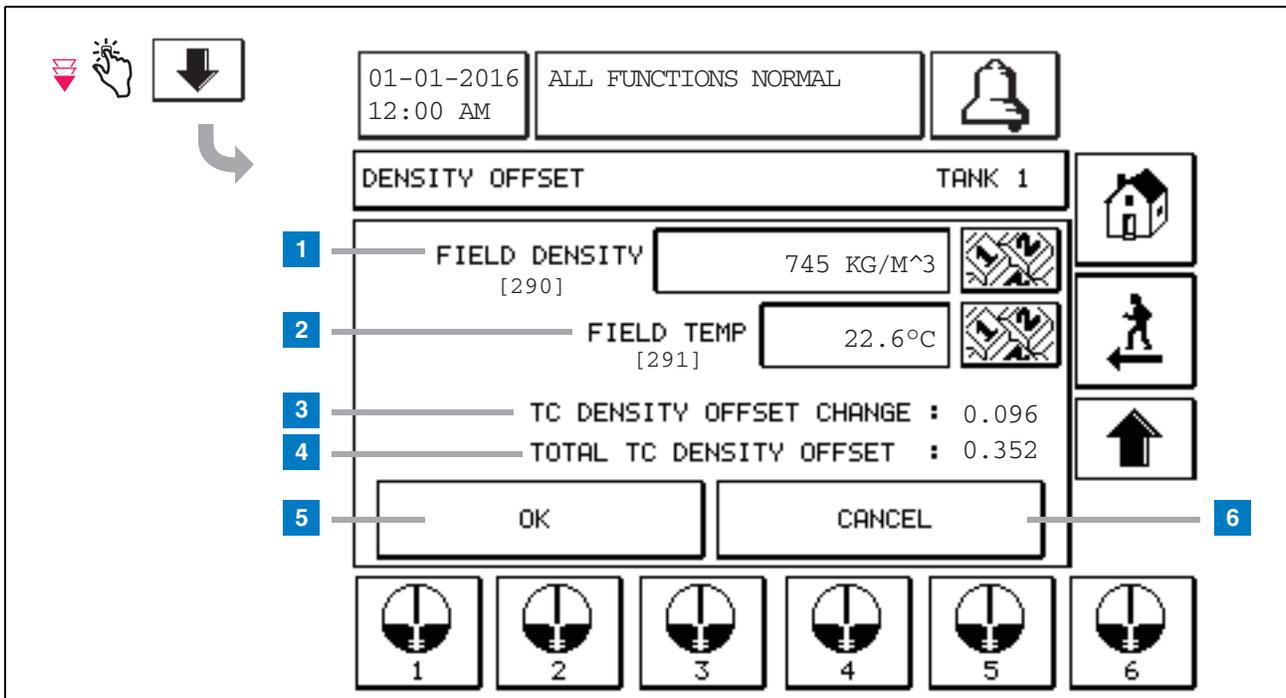
When the user enters the password, each character will be displayed as an asterisk on this screen and on the keypad screens. If the entered password is correct, the Density Offset screen will be displayed. If the entered password is incorrect then the message “PASSWORD IS INCORRECT, RE-ENTER” will be displayed.

After a user enters the Density Password, it doesn't have to be re-entered if the user stays on the following screens:

- Density Offset Menu screen
- Density Offset screens
- Density Offset History screen

## [290, 291] Density Offset Screen 2

After entering the Density Offset password, touch the down arrow twice to display the Density Offset screen.



### Legend For Numbered Boxes

The second Density Offset screen allows you to enter field measured density [290] and temperature [291]. When you first enter this screen, Field Density (1) and Field Temp (2) will be blank, and TC Density Offset Change (3) and Total TC Density Offset (4) will display a '-' which indicates they have yet to be calculated.

After entering a Field Density and Field Temp, a value will display for both the TC Density Offset Change and the Total TC Density Offset. If you press the OK button (and the Total TC Density Offset is in range +/-1.001Kg/m<sup>3</sup>) a new Density Offset will be created and the values on this screen will be cleared. You can view this new density offset record in the Density Offset History screen.

After you enter a Field Density and/or a Field Temp you can press the Up Arrow button to go to the first Density Offset screen and keep the entered field data. If you leave these two Density Offset screens or you switch tanks then the entered field data will be cleared.

Note: If you have not entered a Density Float Serial Number (see page 6) then the TC Density Offset Change and the Total TC Density Offset will not be calculated when the Field Density and Field Temp are entered.

Touch the OK button (5) to accept Field Density/Field Temp entries or the Cancel button (6) to cancel your entries.

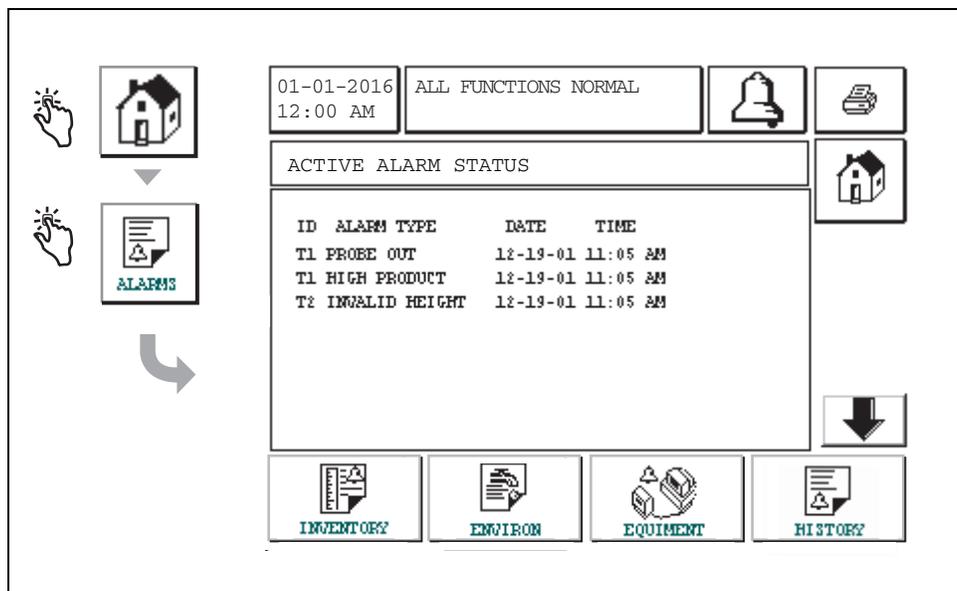
# Alarms

## Alarm Message Quick Reference Index

Table 1: Alarm Message Table

Alarm	Type	Cause	Action
Annual Test Fail	Tank	In-tank annual leak test failed	Rerun in-tank leak test. If second test fails, call for service.
Autodial Fail	Comm	System failed to connect to a remote receiver after programmed number of tries.	Check remote receiver.
Delivery Needed	Tank	Product level dropped below preset limit.	Call for delivery.
Gross Test Fail	Tank	In-tank leak test failed.	Rerun in-tank leak test. If second test fails, call for service.
High Water	Tank	Water detected in tank exceeds preset limit.	Remove water from the tank.
Invalid Fuel Height	Tank	Fuel level dropped to a point below the minimum detectable level or only one float is present.	Call for delivery.
Low Product	Tank	Tank level dropped below preset limit.	Call for delivery.
Low Temperature	Tank	Probe temperature dropped below -4°F (-20°C). For Low Temperature probes, below -40°F (-40°C).	Probe returns to normal operation after probe temperature rises above 0°F (-17.7°C). For Low Temperature probes, above -36°F (-38°C)
Max Product	Tank	Product level rose above preset limit.	Stop delivery.
Overfill	Tank	Potential overflow of tank may occur.	Stop delivery. Check for spillage.
Periodic Test Fail	Tank	In-tank leak test failed.	Rerun in-tank leak test. If second test fails, call for service.
Probe Out	Tank	Hardware failure - probe or interconnecting wiring to console.	Call for service.

## Active Alarm Status Screen



## Alarm Reports

Alarm reports are accessed from the Active Alarm Reports Screen above by touching the report buttons across the bottom of the screen. Table 2 describes the available reports.

**Table 2: Alarm Reports**

Button	Report	Report Parameters
	Touch to display the Inventory Alarm Report. Touch the Down/Up arrow buttons to scroll through all alarms. Touch the Print button on the display to print the report to a connected printer.	<b>INVENTORY ALARM REPORT</b> Date/Time of the following last 3 inventory alarms: Max Product, Overfill Limit, Invalid Fuel Level, High Water, Delivery Needed, Low Product, and Low Temperature.
	Touch to display the Environmental Alarm Report. Touch the Down/Up arrow buttons to scroll through all alarms. Touch the Print button on the display to print the report to a connected printer.	<b>ENVIRONMENTAL ALARM REPORT</b> Date/Time of last 3 Gross, Periodic, and Annual Test Fails
	Touch to display the Equipment Alarm Reports Screen. From this screen you can choose to view Tank Equipment Alarm Reports	<b>TANK EQUIPMENT ALARM REPORT</b> Date/Time of last 3 Probe Out alarms for each tank.

Table 2: Alarm Reports

Button	Report	Report Parameters
<p style="text-align: center;">4</p>  <p>Touch to display the Alarm Reports - Alarm History Screen. From this screen you can choose to view history of High or Low Priority Alarms.</p>	 <p>Touch to display the High Priority Alarm Report. Touch the Print button on the display to print the report to a connected printer</p>	<p><b>HIGH PRIORITY ALARM REPORT</b></p> <p>Displays Device (T = Tank, C = Comm) number, Alarm Type, Date, Time, and status of last 50 High Priority alarms: Max Product, Overfill, Low Product, High Water, Gross Test Fail, Periodic Test Fail, Annual Test Fail, Probe Out, and Auto-dial Failure. For Probe Outs only, The printed version also includes a Count column which lists the number of times the alarm had repeated since the Start Date.</p>
	 <p>Touch to display the Low Priority Alarm Report. Touch the Print button on the display to print the report to a connected printer.</p>	<p><b>LOW PRIORITY ALARM REPORT</b></p> <p>Displays Device (T = Tank, C = Comm) number, Alarm Type, Date, Time and status of last 50 Low Priority alarms: Delivery Needed, Invalid Fuel Height, and Low Temperature,</p>

### Important Alarm Notes

Touching the Alarm Ack button turns off the beeper even if the alarm is still active. The Alarm Status Screen displays the alarm until it is cleared. When an alarm condition returns to the normal state, the alarm will be removed from the list of active alarms.

When no alarms are active, the front panel LED is in the Normal state (continuous green) and the System Status (Home) Screen Message Window reads All Functions Normal.

An active Probe Out or Low Temperature Warning will inhibit all level alarms (Max Product, Overfill, Low Product, Delivery Needed, and High Water).

### Information on Alarm States

#### Active Alarm

When an alarm goes active, the console's internal beeper activates, the alarm relay activates (if enabled), the front panel LED flashes red, and the Screen's Message Window (item 2 on page 1) displays an alarm message. In the case of multiple alarms, the Message Window will automatically scroll through the active alarms. In the case of an alarm assigned to autodial, the console dials out and establishes a connection with the remote host. The host can then send requests to the console to determine the reason for the call.

#### Acknowledging an Active Alarm

When an alarm is active, the user can turn the beeper off and deactivate the alarm relay by touching the ALARM Button (Item 3 on page 1). The front panel LED will stay in the ALARM state and the alarm will remain in the active alarm list until the alarm returns to normal state. If the alarm is inactive but not acknowledged, it will remain in the alarm list and the beeper and alarm relay (if enabled) will remain active until it is acknowledged.

#### Returning to Normal State

With any alarm when an out-of-limit condition(s) is corrected, or a faulty device is replaced with a properly operating one, the alarm is automatically cleared. To clear a failed leak test alarm, a passing leak test must be run.

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## In-Tank Alarm Information

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### Max Product Alarm

If the product level volume exceeds the Max Product value, the Max Product Alarm will activate. If the alarm is active and the product level volume is lower than the Max Product value by at least 0.005 times the full volume capacity or 10 gallons [37.8 L] (whichever is greater), the alarm will deactivate. The Max Product value is entered as a volume with the default value equal to 0. If the Max Product value is equal to 0 or the full tank volume capacity, the alarm is disabled. An active Probe Low Temperature Warning will disable the alarm.

### Overfill Alarm

If the product level volume exceeds the Overfill Alarm threshold and there is a delivery in progress, the Overfill Alarm will activate. When the delivery stops, the alarm will deactivate. The Overfill alarm value is entered as a percentage with the default value equal to 0%. An overfill threshold value of 0% disables the alarm. The overfill alarm threshold is referenced to the Max Product value. If the Max Product value is 0, the overfill value is referenced to the Full volume capacity. An active Probe Low Temperature Warning will disable the alarm.

### Low Product Alarm

If the product level volume is less than the Low Product threshold, the Low Product Alarm will activate. If the alarm is active and the product level volume is higher than the threshold by at least 0.005 times the full volume capacity or 10 gallons [37.8 L] (whichever is greater), the alarm will deactivate. The Low Product value is entered as a volume with the default value equal to 0. If the value is equal to 0, the alarm is disabled. An active Probe Low Temperature Warning will disable the alarm.

### High Water Alarm

If the water level height continuously exceeds the High Water threshold for a period exceeding 3 minutes, the High Water Warning will activate. The high water alarm will not activate if there is a delivery in progress. If the alarm is active and the water level height is lower than the threshold by at least 0.2 inches (5 mm), the alarm will deactivate. The High Water value is entered as a height with the default value equal to 0. If the value is equal to 0, the alarm is disabled. An active Probe Low Temperature Warning will disable the alarm.

### Probe Out Alarm

If the console is not reliably communicating with the probe, the Probe Out alarm will activate.

### Invalid Fuel Height

If the water float and the product float are too close together to provide reliable height data, the Invalid Fuel Height alarm will activate.

### Probe Low Temperature Warning

**Standard Probe:** If the Probe is reporting a temperature lower than -4°F (-20°C), the Low Temperature warning will activate. If the alarm is active and the temperature rises above 0°F (-17.7°C) the alarm will deactivate.

**Low Temperature Probe:** Alarm -40°F (-40°C), Clear -36°F (-37.7°). When the low temperature warning is active the High Water, Low Product, Max Product, Delivery Needed, and Overfill alarms are disabled.

### Delivery Needed Alarm

When the tank's product level drops below the preset limit, the Delivery Needed alarm will activate.

### Leak Test Alarm

When a Gross, Periodic, or Annual leak test fails a Gross, Periodic, or Annual Leak Test Alarm will activate. To clear a failed leak test alarm, a passing leak test must be run.

# Reports

## System Reports

System reports are accessed from the System Status (Home) Screen (see page 1) by touching one of the four report buttons at the bottom of the screen. Table 2 describes the available System reports.

**Table 2: System Reports**

Report Button	Report	Report Parameters
	<p>Touch to display Inventory and Shift Inventory Reports for each tank. You can touch the Print button on the display to print the report to a connected printer.</p>	<p>INVENTORY REPORT (Non-Density Probe) Fuel Volume, TC Fuel Volume, Ullage, Fuel height, Water Height and Fuel Temperature.</p> <p>INVENTORY REPORT (Density Probe) Fuel Volume, Mass, Density, Fuel height, Water Height and Fuel Temperature.</p>
	<div style="text-align: center;">  </div> <p>Touch the down arrow inside the Inventory Screen to display the Full Inventory Report for the selected tank.</p>	<p>FULL INVENTORY REPORT (Non-Density Probe) Fuel Volume, TC Fuel Volume, Volume, TC Net Volume, Ullage, Fuel Temp, Fuel height, Water Height, Water Volume and Net Volume</p> <p>FULL INVENTORY REPORT (Density Probe) Fuel Volume, TC Fuel Volume, Volume, TC Net Volume, Ullage, Fuel Temp, Fuel height, Mass, Water Height, Density, Water Volume, TC Density and Net Volume</p>
	<div style="text-align: center;">  </div> <p>Touch to display the Hourly Inventory Report for a selected tank. Touch the Print button to print the report to a connected printer.</p>	<p>HOURLY INVENTORY REPORT Date, Hour, Volume, Height, Water and Temp</p>

**Table 2: System Reports**

Report Button	Report	Report Parameters
	<p>Touch to display Delivery Reports for each tank. Includes last delivery and up to previous 9 deliveries. You can touch the Print button on the display to print the report to a connected printer.</p>	<p>DELIVERY REPORT (Non-Density Probe)                      Start Date, Time, Volume, TC Volume, Water Height, Fuel Temp and Fuel Height                      End Date, Time, Volume, TC Volume, Water Height, Fuel Temp and Fuel Height                      Increase Volume Amount and TC Volume Amount</p> <p>DELIVERY REPORT (Density Probe)                      Start Date, Time, Volume, Mass, Density, Water Height, Fuel Temp and Fuel Height                      End Date, Time, Volume, Mass, Density, Water Height, Fuel Temp and Fuel Height                      Increase Volume Amount and Mass Amount.</p>
	 <p>Touch the Power Outage Delivery Report button to display deliveries to the selected tank that occurred when the TLS2P was powered down. It will contain up to 5 power outage deliveries per tank.</p>	<p>POWER OUTAGE DELIVERY REPORT                      Start Date, Time, Volume;                      End Date, Time, Volume                      Amount</p>
	 <p>Touch the Last Results button to display the results of the last passed Annual, Periodic, and Gross tests. You can touch the Print button on the display to print the report to a connected printer.</p>	<p>CURRENT TEST RESULTS                      Test Type, Start Date/Time, Test Result, Hours Run, %Volume in Tank at Time of Test</p>
<p>Touch to display the Environmental Reports Screen. When this screen displays you can select one of two test reports.</p>	 <p>Touch the Fullest Pass button to display the results of the last 12 Periodic (1 for each month) tests and Last Annual test in which the tank had the most volume. You can touch the Print button on the display to print the report to a connected printer.</p>	<p>FULLEST LAST PASS REPORT                      Test Type, Start Date/Time, Hours Run, %Volume in Tank at Time of Test</p>
	<p>Touch to display the Active Alarm Reports Screen. You can touch the Print button on the display to print the report to a connected printer.</p>	<p>ACTIVE ALARM REPORT                      Device (T = Tank, C = Comm), Alarm Type, Date, Time                      See example on page 7.</p>

## Label Code Index

The Label Code Index below is included to help non-English speaking users find translations of all English labels used in the TLS2 Setup screens. Beneath each label is a unique code in brackets, e.g., [101]. All label codes used in the TLS2 are defined in this table.

Label Code	Label	Label Code	Label
101	Max Product	129	Test Method
102	Overfill	130	Test Control
103	Delivery Needed	131	Density Code
104	Low Product	132	Density Float S/N
105	High Water	133	GOST Vol Correction
106	Delivery Delay		
107	Ann Leak Test Min	201	System Language
108	Per Leak Test Min	202	Units
109	Gross Test Fail	203	Serial Language
110	Periodic Test Fail	204	Header 1
111	Annual Test Fail	205	Header 2
112	Test Rate	206	Header 3
113	Quick Mode	207	Header 4
114	Test Duration	208	Comm 1 Password Enable
115	Confirm	209	Comm 1 Password
116	Frequency	210	Comm 2 Password Enable
117	Date/Day	211	Comm 2 Password
118	Time	212	Date
119	Configure	213	Time
120	Prod Label	214	Time/Date Format
121	Manifold Status	215	Shift 1
122	Diameter	216	Shift 2
123	Full Volume	217	Shift 3
124	Tank Profile	218	Shift 4
125	Thermal Coeff	219	Daylight Savings
126	Tank Tilt	220	Start Date
127	Float Size	221	Start Time
128	Stick Offset	222	End Date

Label Code	Label	Label Code	Label
223	End Time	259	H-Protocol Format
224	Phone Number	260	Euro Protocol Prefix
225	Retries	261	Stick Height Offset
226	Retry Delay	262	Leak Test Format
227	Max Product	263	Old Password
228	Overfill Limit	264	New Password
229	Delivery Needed	265	Confirm New
230	Low Product	266	Password
231	High Water	267	Password
232	Gross Test Fail	270	Dial Type
233	Periodic Test Fail	271	Remote IP
234	Annual Test Fail	272	Remote Port
235	Invalid Fuel Height	273	Recipient 1
236	Probe Out	274	Recipient 2
237	Low Temperature	275	From
238	Comm Type	276	Mail Server
240	ISO 3166 Country	277	Push Site ID
239	Handshaking	278	Site ID
241	Page Eject	280	Host IP
244	Modem Type	281	Subnet Mask
245	Dial Type	282	Gateway IP
246	Answer On	283	Host Port
247	Dial In	290	Field Density
248	Dial Out	291	Field Temp
249	Baud Rate	320	Delivery Completed
250	Parity	500	Shift Close Method
251	Data Length	501	Shift Close Timeout
252	Stop Bits	502	Inventory Log Time
253	Printer Lang	503	Inventory Log Interval
254	TC Density	550	Shift Close Event
256	Alarm Relay	551	Density Warning
257	TC Reference	552	Density High Limit
258	Print TC Volume	553	Density Low Limit

