Manual No: **577013-960** ● Revision: **D**

Software Version **5**

TLS2P Console

Setup and Operation Manual

Ethernet, USB, 3 COMS

VEEDER-ROOT

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Introduction

This manual describes setup and operating procedures for the Veeder-Root TLS2P Touch-Screen console. It assumes that your system has already been set up by a Certified Contractor. This manual assumes that the console is installed and has successfully completed the Cold Boot procedure. You should begin the setup procedure with the System Setup Screens and finish with the Tank Setup Screens.

After entering the System and Tank Setup parameters the console should be operational. Consult the Reports Section for instructions on viewing system and alarm reports. The Diagnostic Section contains some simple console test procedures and access to Probe Diagnostic data.

Contractor Certification Requirements

Veeder-Root requires the following minimum training certifications for contractors who will install and setup the equipment discussed in this manual:

Installer (Level 1) Certification: Contractors holding valid Installer Certification are approved to perform wiring and conduit routing; equipment mounting; probe, sensor and carbon canister vapor polisher installation; wireless equipment installation; tank and line preparation; and line leak detector installation.

ATG Technician (Level 2/3 or 4) Certification: Contractors holding valid ATG Technician Certifications are approved to perform installation checkout, startup, programming and operations training, system tests, troubleshooting and servicing for all Veeder-Root Series Tank Monitoring Systems, including Line Leak Detection.

Warranty Registrations may only be submitted by selected Distributors.

Related Manuals

577013-959 TLS2P Ethernet, USB, 3 COMS Site Prep Manual

577013-767 RS-232 Serial Interface Manual for TLS2 UST Monitoring Systems

Safety Symbols

The following safety symbols are used in this manual to alert you to important safety hazards and precautions.

	**EXPLOSIVE** Fuels and their vapors are extremely explosive if ignited.
	**FLAMMABLE** Fuels and their vapors are extremely flammable.
	**ELECTRICITY** High voltage exists in, and is supplied to, the device. A potential shock hazard exists.
	**READ ALL RELATED MANUALS** Knowledge of all related procedures before you begin work is important. Read and understand all manuals thoroughly. If you do not understand a procedure, ask someone who does.
	**WARNING** Heed the adjacent instructions to avoid damage to equipment, property, environment or personal injury.

Safety Warnings

⚠ WARNING

This system operates near highly combustible fuel storage tanks.

FAILURE TO COMPLY WITH THE FOLLOWING WARNINGS AND SAFETY PRECAUTIONS COULD CAUSE DAMAGE TO PROPERTY, ENVIRONMENT, RESULTING IN SERIOUS INJURY OR DEATH.

Leaking tanks can create serious environmental and health hazards. Improper programming and operation may also result in equipment self-test failures and submersible pump shutdowns.

To ensure proper installation, operation, and continued safe use of this product:

1. **Read and follow all instructions in this manual, including all safety warnings.**
2. **Have equipment installed by a contractor trained in its proper installation and in compliance with all applicable codes including: the National Electrical Code; federal, state, and local codes; and other applicable safety codes.**
3. **Ensure that this equipment is properly programmed.**
4. **Operate this equipment in accordance with the instructions in this manual.**
5. **Promptly investigate any alarm conditions.**
6. **Substitution of components may impair intrinsic safety.**

Regulatory Compliance and Approvals

Plan your leak detection program to comply with local, state, and federal regulations governing underground storage tanks. Save all inventory and leak test records provided by the system as part of a regulatory compliance program.

The system, when equipped with 0.2 gallon-per-hour (gph) (0.76 lph) (Mag 2) probes, is classified as an Automatic Tank Gauge System and has been third-party tested by Midwest Research Institute. This system can detect a 0.2 gph leak exceeding a 95% probability of detection [P(D)] and less than a 5% probability of false alarm [P(FA)]. It meets federal U.S. E.P.A. performance standards (0.2 gph at [P(D)] of 95% and [P(FA)] of 5%) and the federal performance standard of measuring water in the bottom of a tank to the nearest 1/8 inch (3.2 mm).

The system, when equipped with 0.1 gph (0.38 lph) (Mag 1) probes, meets Volumetric Tank Tightness Testing Method standards and has been third-party tested by Midwest Research Institute. This system can detect a 0.1 gph leak exceeding a 95% probability of detection [P(D)] and less than a 1% probability of false alarm [P(FA)]. This system meet U.S. E.P.A. federal performance standards (0.1 gph at [P(D)] of 95% and [P(FA)] of 5%).

Console

The TLS2P Console features a front panel touch screen display, a dual-purpose Alarm/Normal LED, and an audible beeper for alarm and warning notification. A serial communication port is available for output to a remote printer. The TLS2P Console can monitor up to six magnetostrictive probes.

MONITORING FUNCTIONS

Depending on installed equipment, the console can provide:

- Inventory status for up to six tanks
- In-tank leak detection.

OUTPUT RELAY

An output relay is provided that can trigger external alarm devices when an alarm condition is sensed by the system.

COMMUNICATIONS FUNCTIONS

Several communications options are available for the TLS2P Console:

- RS-232
- RS-422
- RS-485 2-wire or 4-wire
- External modem support
- Serial remote printer interface
- USB (DEVICE ONLY)
- TCP/IP

Alarm Message Quick Reference Index

Table 1: Alarm Message Table

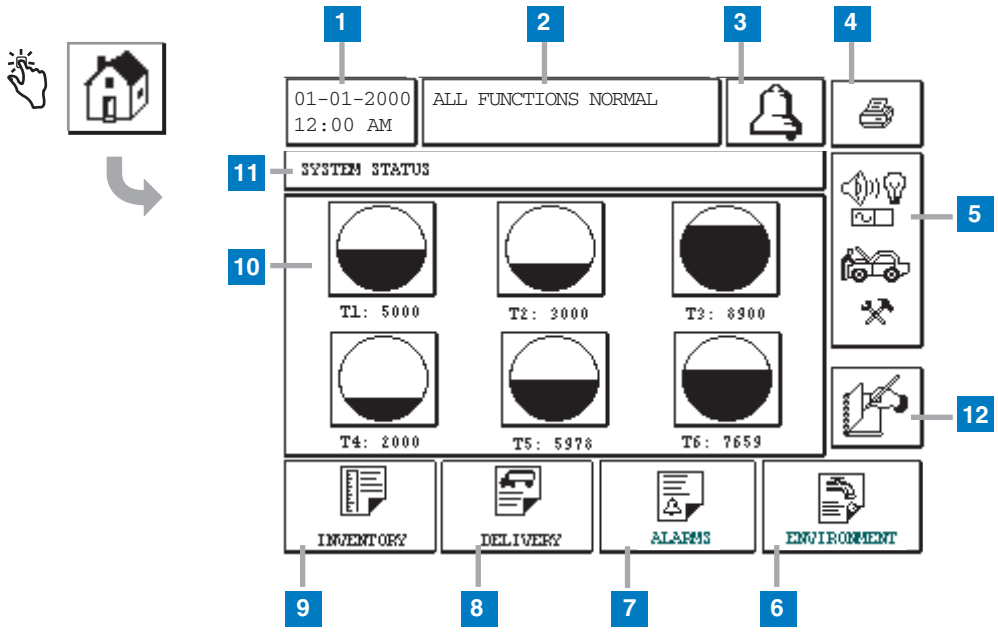
Alarm	Type	Cause	Action
Annual Test Fail	Tank	In-tank annual leak test failed	Rerun in-tank leak test. If second test fails, call for service.
Autodial Fail	Comm	System failed to connect to a remote receiver after programmed number of tries.	Check remote receiver.
Delivery Needed	Tank	Product level dropped 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.

System Setup Screens

This section describes all of the TLS2P System Setup Screens along with setup choices and explanations that you will need for data entry. Because the TLS2P 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. Tank Setup Screens are covered in a separate section.

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. These screens are described where they are first discussed in this section.

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 Main Menu button - touch to display the Main Menu Screen (page 6) for access to system/tank setup and manual tank testing.

6 Environmental Report button - touch to display tank leak test results (page 63).

7 Alarm Report button - touch to display the Active Alarm Status (and History) Screen (page 69).

8 Delivery Report button - touch to display the Delivery Report Screen (page 63).

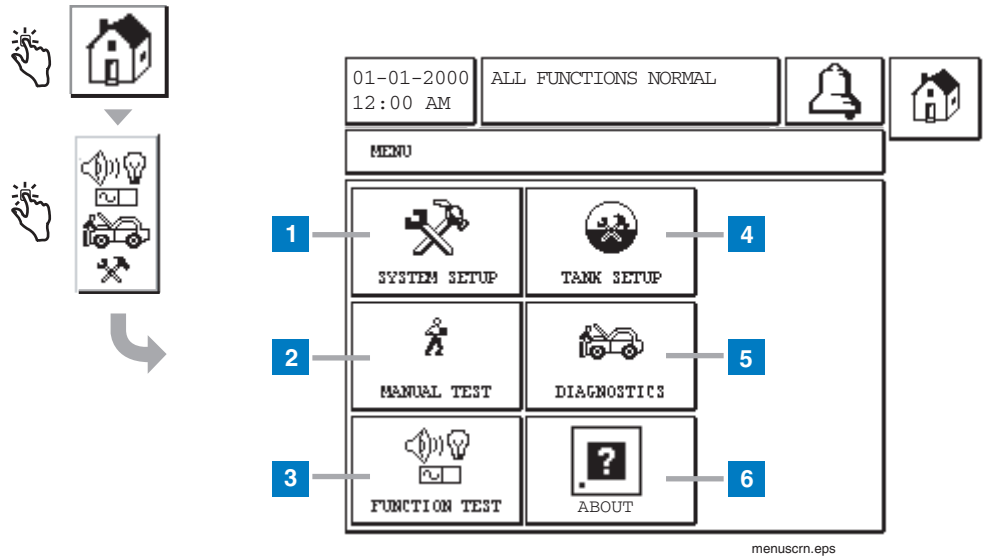
9 Inventory Report button - touch to display the Inventory Report Screen (page 65).

10 Tank buttons - touch any tank button to display the current inventory report for that tank.

11 Screen title window.

12 Manual Shift Close button - touch to manually close the shift (page 61). (visible only if Snapshot is selected in Shift Time (System Setup as the Shift Close Method) .

Main Menu Screen



Legend for numbered boxes

1 System Setup button - touch to display the System Setup menu (page 8).

2 Manual Test button - touch to display the Manual Tank Test Start/Stop Screen (page 62).

3 Function Test button - touch to display the Function Test Menu Screen (page 72).

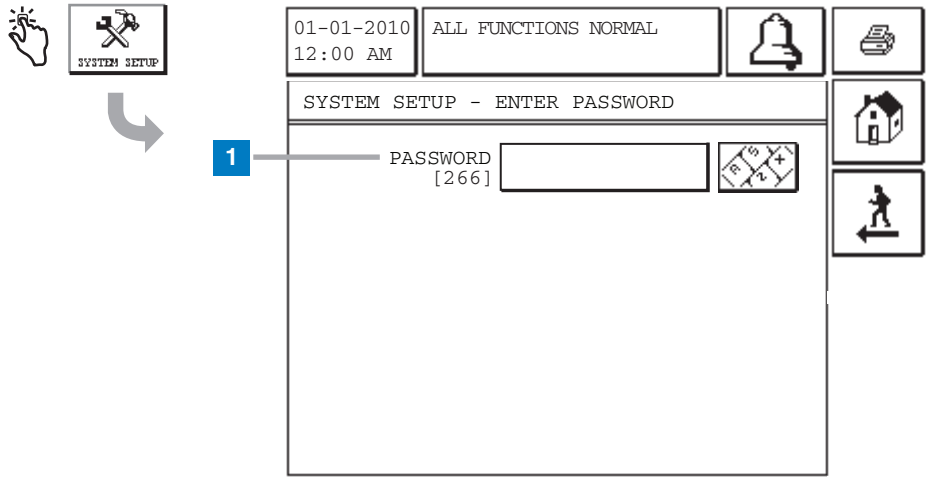
4 Tank Setup button - touch to display the Tank Setup Menu Screen (page 47).

5 Diagnostics button - touch to display the Probe Diagnostic Screen (page 73).

6 About button - touch to display the About Screen (page 45) for information about the TLS2P Console's software and installed features.

[266] System Setup - Enter Password Screen

If the System Security Setup - Setup Password (page 14) is enabled, you will be required to enter that password before accessing the System Setup Screen (page 8). If the Setup Password is disabled, the System Setup - Enter Password Screen will not display.



Legend for numbered boxes

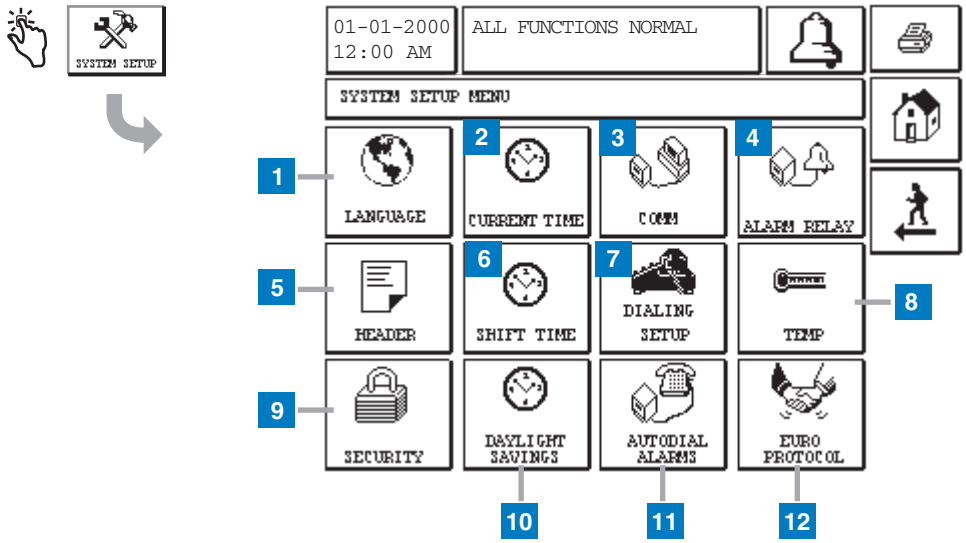
1 Password [266] - To access the System Setup Screen (page 8), you must enter the 6 to 16 character alphanumeric System Security Setup - Setup Password.

As you enter the password, asterisks (*) will display in place of the entered characters.

If the entered password is correct, the System Setup Screen will display.

If the entered password is incorrect, you will be asked to re-enter the password.

System Setup Screen



Legend for numbered boxes

1 Language button - touch to display the Language and Units Setup Screen (page 9)

2 Current Time button - touch to display the Time/Date Setup Screen (page 15).

3 Comm button - touch to display the Comm Setup Screen (page 21).

4 Alarm Relay button - touch to display the Alarm Relay Setup Screen (page 42).

5 Header button - touch to display the Station Header Setup Screen (page 10).

6 Shift Time button - touch to display the Setup Shift Times Screen (page 19).

7 Dialing Setup button - touch to display the System Setup Dial Out Setup Screen (page 33).

8 Temp button - touch to display the Temperature Setup Screen (page 43).

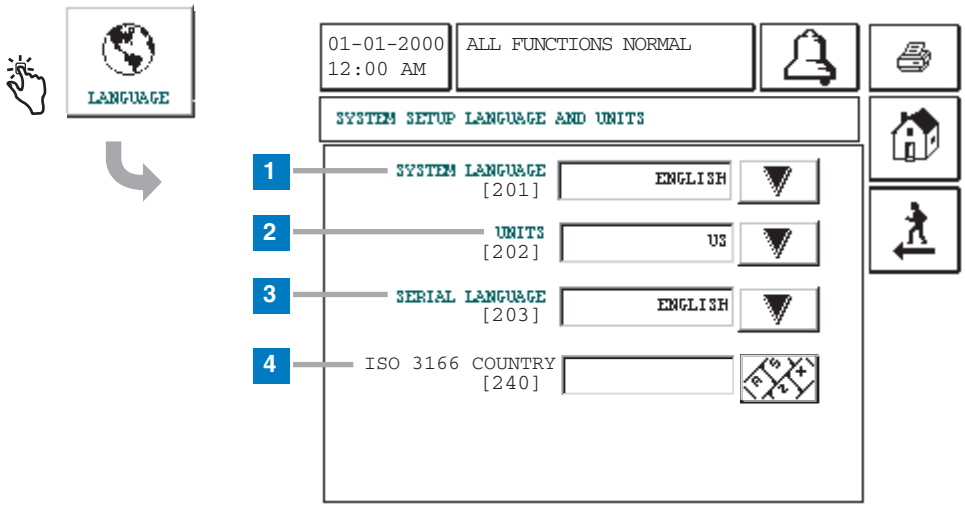
9 Security button - touch to display the System Security Setup Screen (page 13).

10 Daylight Savings button - touch to display the Daylight Savings Setup Screen (page 20).

11 Autodial Alarms button - touch to display the Autodial Alarms Setup Screen (page 38).

12 EuroProtocol button - touch to display the EuroProtocol and Stick Offset Setup Screen (page 44). This screen also lets you select a leak test report format.

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



Legend for numbered boxes

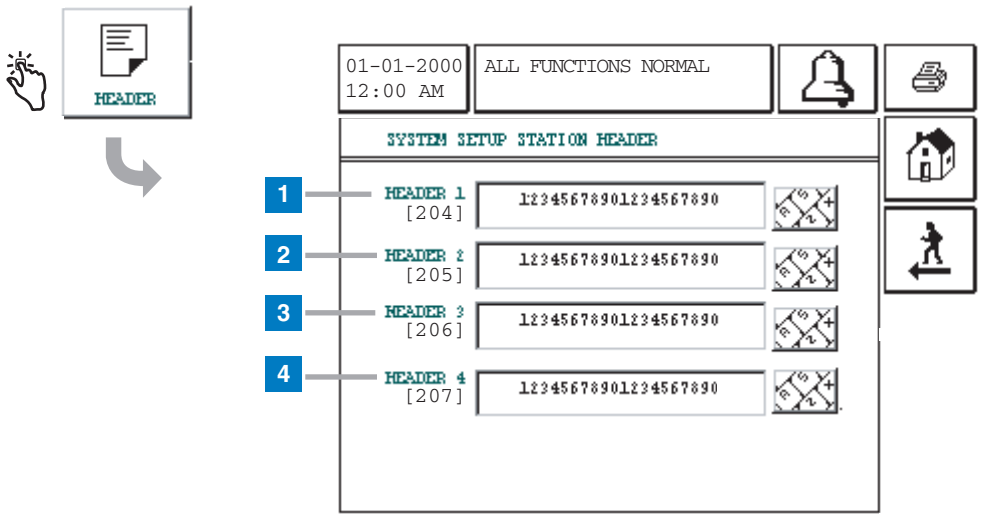
1 System Language [201] - Choose from English, (default), French, Spanish, German, Portuguese, Polish, Swedish, Finnish, Russian or Chinese (Mandarin).

2 Units [202] - Choose Metric (default) or U.S.

3 Serial Language [203] -Choose from English (default), French, Spanish, German, Portuguese, Polish, Swedish, Finnish or Russian.

4 ISO Country Code [240] - This feature is an international option. Enter the three alpha-character country code. Default is blank.

[204 - 207] Station Header Setup Screen



Legend for numbered boxes

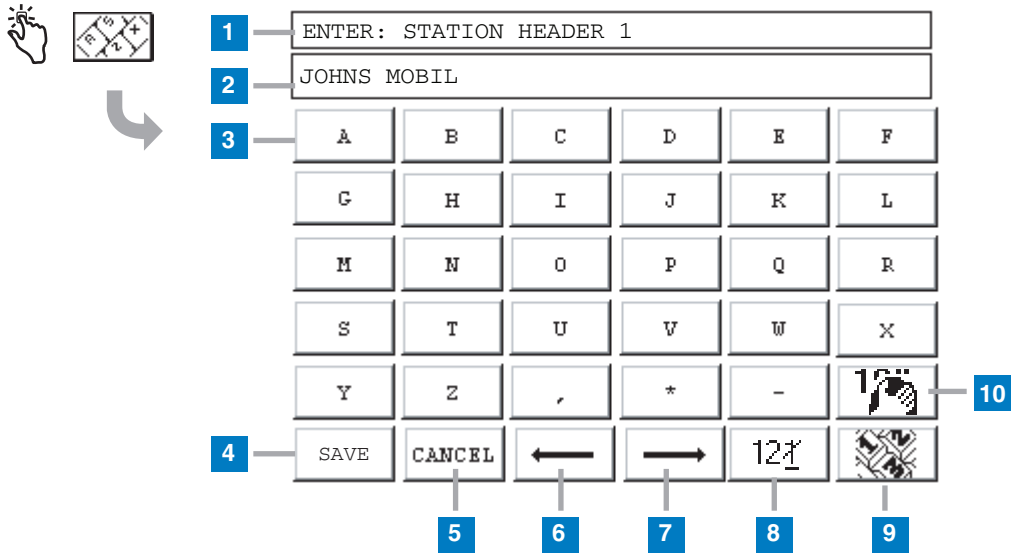
1 Header Line 1 [204] - Enter first line of Report header. The entry can be alphanumeric and up to 20 characters. Only numbers and the Roman alphabet are supported.

2 Header Line 2 [205] - Enter second line of Report header. The entry can be alphanumeric and up to 20 characters. Only numbers and the Roman alphabet are supported.

3 Header Line 3 [206] - Enter third line of Report header. The entry can be alphanumeric and up to 20 characters.Only numbers and the Roman alphabet are supported.

4 Header Line 4 [207] - Enter fourth line of Report header. The entry can be alphanumeric and up to 20 characters. Only numbers and the Roman alphabet are supported.

Alpha Keypad Screen



Legend for numbered boxes

1 Displays Title of data to be entered.

2 Data Entered Window displays data entered.

3 Alpha keypad buttons - touch a character button to place that character in the data entered window (2).

4 Save button - touch to accept entered data and close Screen.

5 Cancel button - touch to cancel any entry and close Screen.

6 Cursor left button - touch to move the cursor one position left in the Data Entered Window (2).

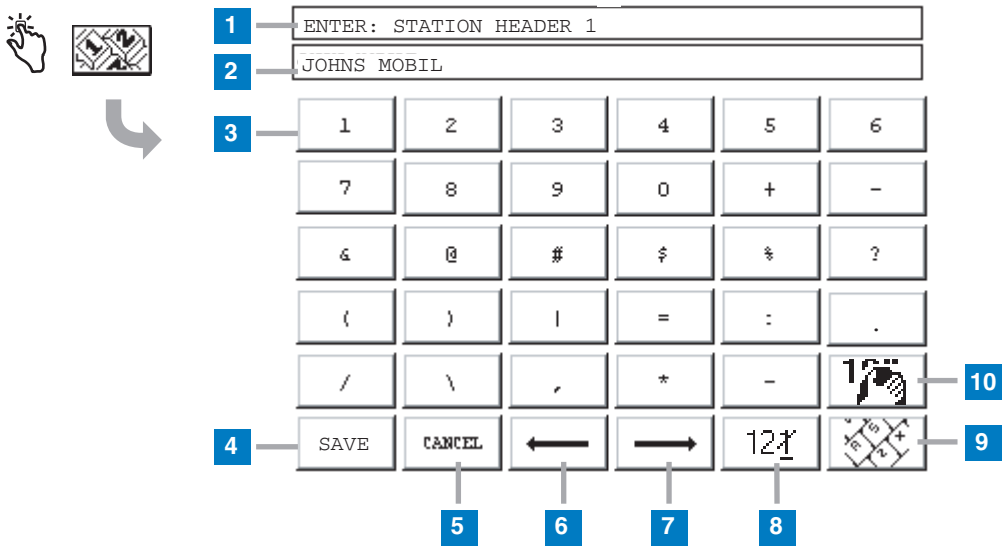
7 Cursor right button - touch to move the cursor one position right in the Data Entered Window (2).

8 Backspace delete button - touch to delete character in cursor.

9 Number keypad button - touch to display the Numeric Keypad Screen.

10 Clear button - touch to clear contents of Data Entered Window (2).

Numeric Keypad Screen



Legend for numbered boxes

1 Displays title of data to be entered.

2 Data Entered Window displays data entered.

3 Numeric Keypad buttons - touch a character button to place that character in the Data Entered Window (2).

4 Save button - touch to accept entered data and close Screen.

5 Cancel button - touch to cancel any entry and close Screen.

6 Cursor left button - touch to move the cursor one position left in the Data Entered Window (2).

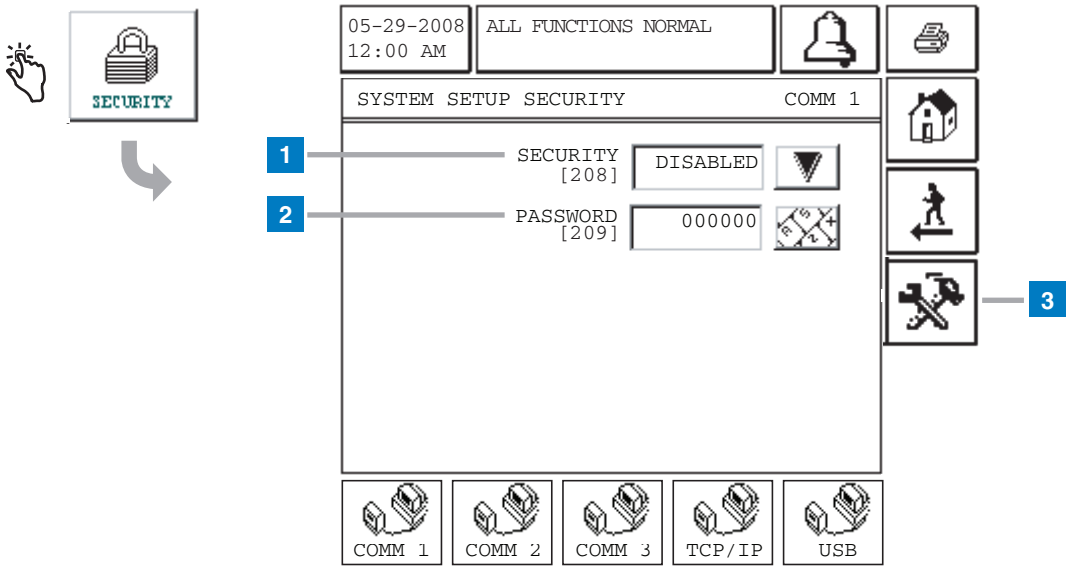
7 Cursor right button - touch to move the cursor one position right in the Data Entered Window (2).

8 Backspace delete button - touch to delete character above cursor.

9 Alpha keypad button - touch to display the Alpha Keypad Screen.

10 Clear button - touch to clear contents of Data Entered Window (2).

[208-209] System Security Setup Screen



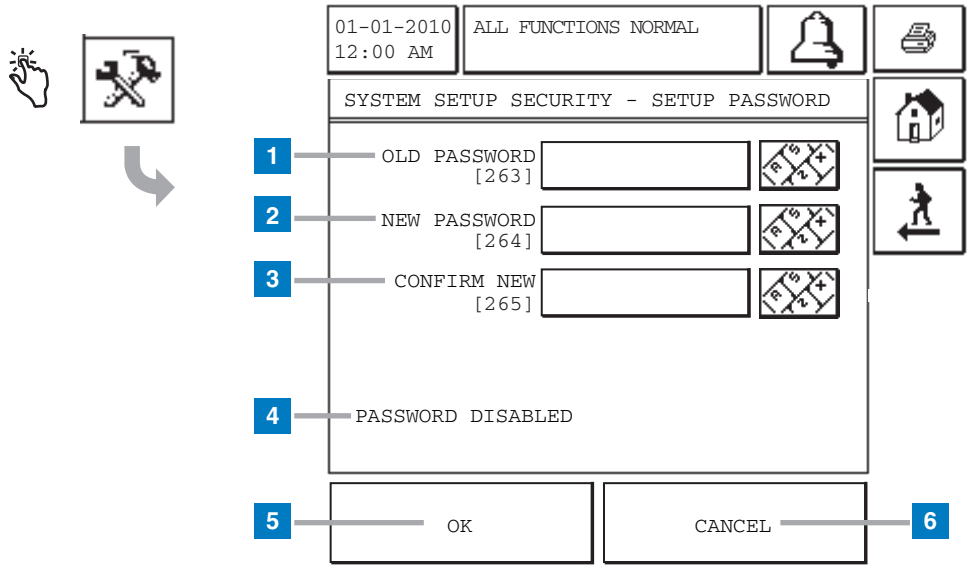
Legend for numbered boxes

1 Security [208] - Select Security Enabled or Disabled for the selected COMM port (default is Disabled). If COMM port 1 is setup for a printer, the security code requirement is ignored.

2 Password [209 - Enter a six-digit alphanumeric password for the selected COMM port (default is 000000).

3 Touch to open the System Setup Security - Setup Password Screen (see page 14). Entering a Setup Password will require that you enter this password prior to accessing System Setup (page 7) and Tank Setup (page 46) screens .

[263-265] System Setup Security - Setup Password Screen



Legend for numbered boxes

A current (old) password will display as all asterisks (*). Also, as you enter a new password, each character will display as an asterisk.

Passwords are not case sensitive.

Once you OK the Setup Password, you will be required to enter this password before accessing System Setups (page 7) and Tank Setups (page 46).

1 Old Password [263] - If you want to change the current password, enter that 6 to 16 character alphanumeric password.

2 New Password [264] - Enter your new 6 to 16 character alphanumeric password.

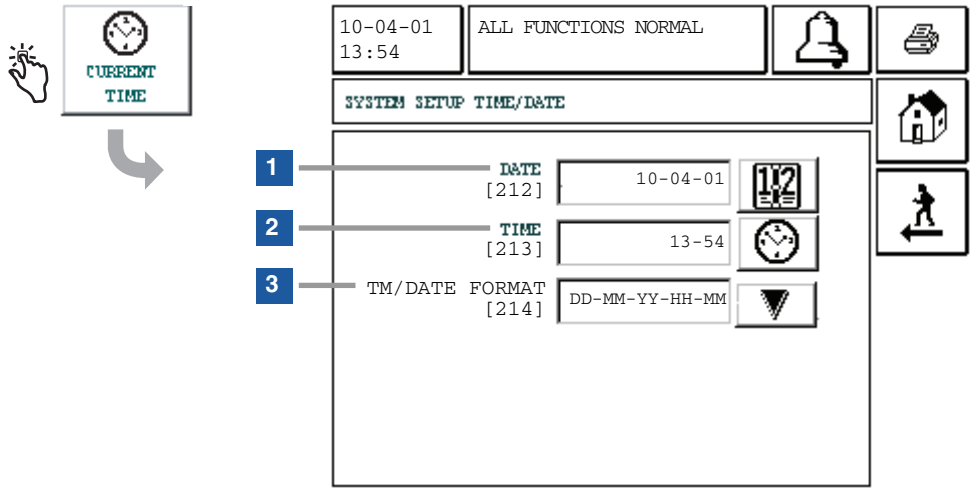
3 Confirm New [265] - You must re-enter the new 6 to 16 character alphanumeric password.

4 PASSWORD DISABLED - This message displays when the system setup password is disabled.

5 OK button - touch the OK button to accept the new password and close the screen

6 Cancel button - touch the Cancel button to abort and close the screen.

[212-214] System Time/Date Setup Screen



Legend for numbered boxes

1 Date [212] - Enter current date.

2 Time [213 - Enter current time.

3 TM/Date Format [214] - Select one of 3 formats:

DD-MM-YY-HH[1]-MM (default)

YY-MM-DD-HH[1]-MM

MM-DD-YY-HH[2]-MM-xM

where:

DD = 01 - 31,

MM = 01 - 12,

YY = last 2 digits of year, i.e., 01,

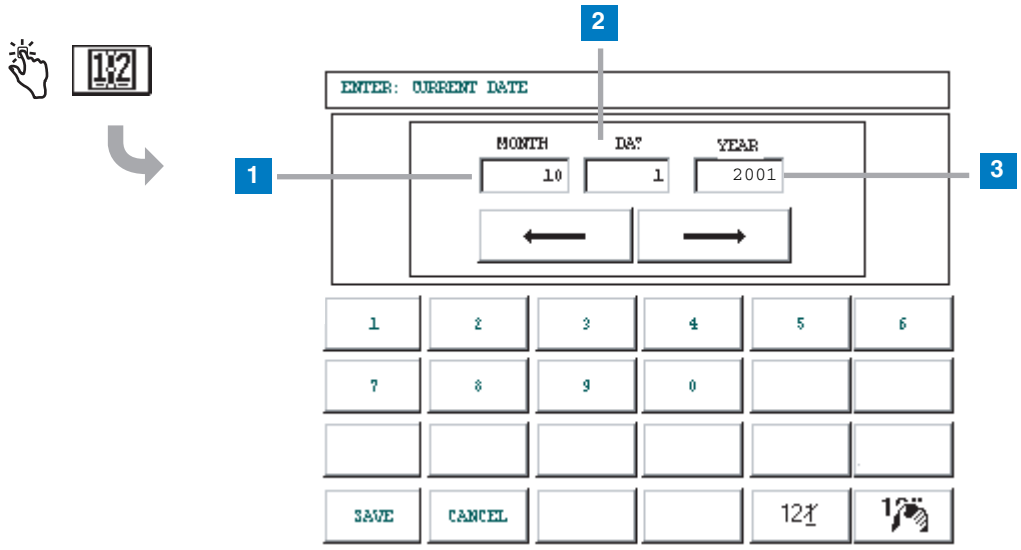
HH[1] = 01 - 24

HH[2] = 01 - 12,

MM = 00 - 59, and

xM = AM or PM (used only with 3rd format choice above).

Current Date Entry Screen



Legend for numbered boxes

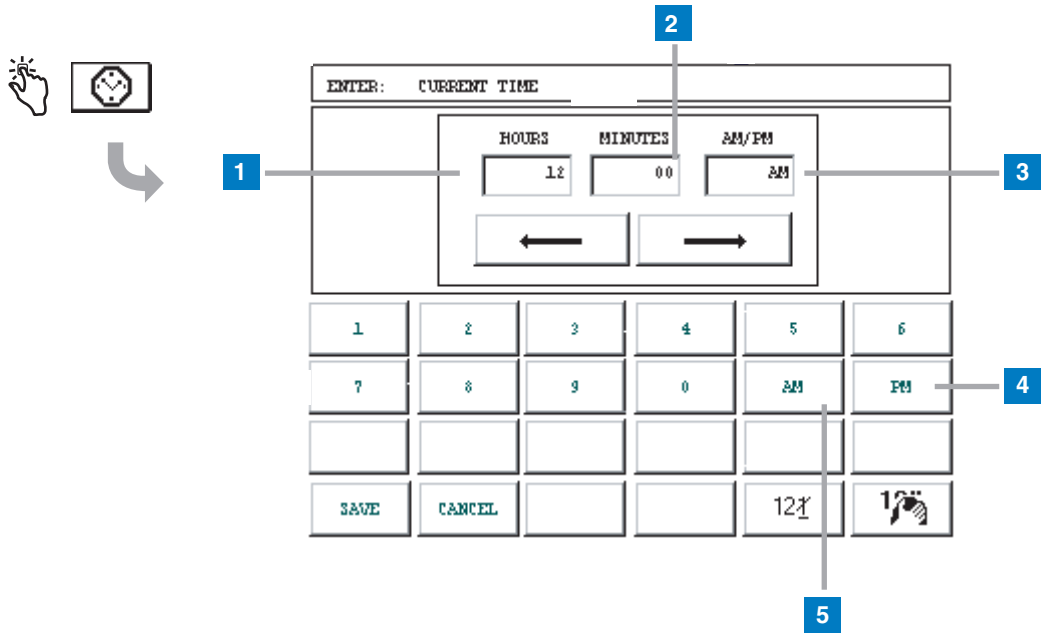
1 Month entry window - enter 01 - 12

2 Day entry window - enter 01 - 31

3 Year entry window - enter year, e.g. 2001.

The remaining buttons function as described on page 12.

Current Time Entry Screen



Legend for numbered boxes

1 Hours entry window - enter 00 - 23, or 01 - 12[1]

2 Minutes entry window - enter 01 - 59

3 AM/PM entry window[1] - enter AM or PM

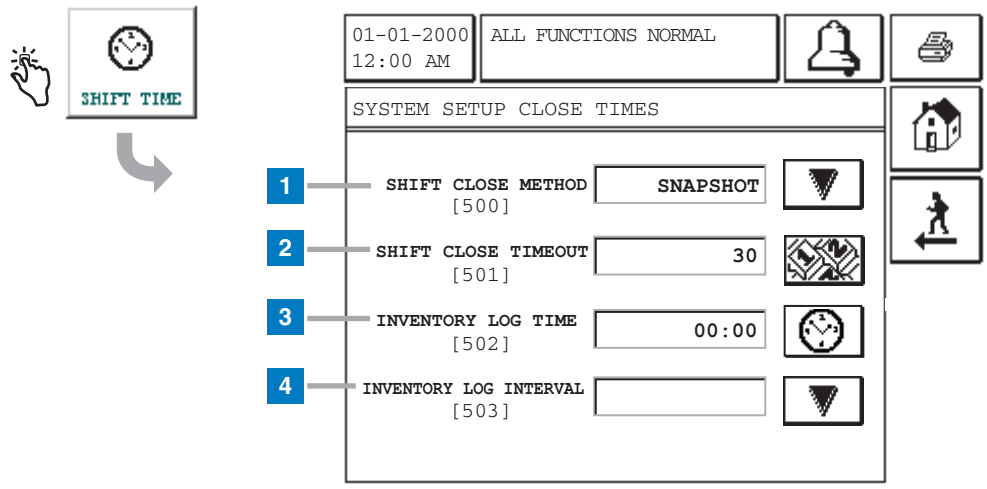
4 Touch PM if after noon[1].

5 Touch AM if before noon[1].

The remaining buttons function as described on page 12.

[1](select only if the MM-DD-YY-HH-MM-xM time/date format was selected in the System Time/Date Setup Screen (page 15).

[500-503] System Setup Close Times Screen



Legend for numbered boxes

This screen allows you to select Auto (Timed) or Manual (Snapshot) Shift Close times. The default setting is Timed (close by time).

1 Shift Close Method [500] - touch the Select button to the right of the window and select Timed (Auto) or Snapshot (Manual) shift close method. Default is Timed.

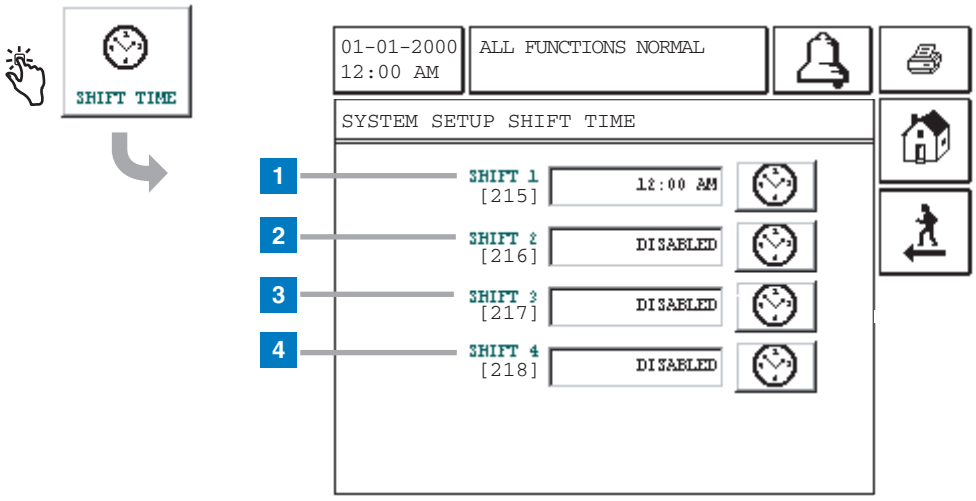
2 Shift Close Timeout [501] - Enabled only if the Snapshot shift close method is chosen. Touch the number button to the right of the window and enter the Timeout.
When the timeout period starting from the last closed tank shift expires, any unopened tank shifts will automatically be closed.
For example, Shift Close Timeout is set to 30. You select manual shift close on tank 3. 30 minutes later the shift is closed for the remaining tanks, the shift number increments and a shift report is created. If the system is setup to autodial on Shift Close Event, the autodial assigned receiver will be sent the notification.
Allowable Timeout selections: 30 to 60 minutes.
Default is 30 minutes.

3 Inventory Log Time [502] - Touch the clock button to select the start time in a 24-hour period you want to record the first inventory that will be placed in the Inventory Log.
Default is 00:00 (midnight).

4 Inventory Log Interval [503] - Inventory Log records will be recorded by the system automatically at the intervals you select in this field. Touch the down arrow button to the right of the window and select the interval.
Allowable intervals: 1 hour, 2 hours, 3 hours, 4 hours, 6 hours, 8 hours, 12 hours, 24 hours, 5 minutes, 10 minutes, 15 minutes, 20 minutes or 30 minutes.
Default is 1 hour.

For example, you select an Inventory Log Time (item 3) of 00:00 (midnight) and you select a 30 minute Inventory log interval (item 4), then the system will record inventory snapshots at 00:00 (midnight), 12:30 am, 1:00 am, 1:30 am, etc.. The maximum number or records in the Inventory Log is 72. The Inventory Log is a rolling (first in, first out) log of 72 maximum records.

[215-218] Shift Times Setup Screen



Legend for numbered boxes

At each shift start time selected below, the system automatically saves a complete inventory report in memory. The default setting is disabled for all shifts.

NOTE: At least one shift start time must be entered to activate the “Last Shift Inventory” feature.

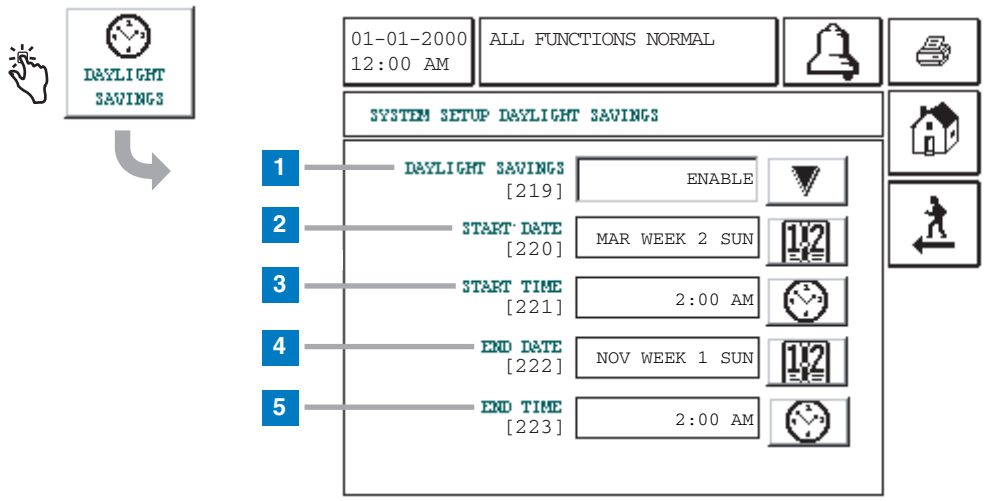
1 Shift 1 [215] - touch the time button to the right of the window and enter the Shift 1 start time and AM or PM.

2 Shift 2 [216] - touch the time button to the right of the window and enter the Shift 2 start time and AM or PM.

3 Shift 3 [217] - touch the time button to the right of the window and enter the Shift 3 start time and AM or PM.

4 Shift 4 [218] - touch the time button to the right of the window and enter the Shift 4 start time and AM or PM.

[219-223] Daylight Savings Time Setup Screen



Legend for numbered boxes

This feature allows you to enter Daylight Savings Start and End Dates/Times. Once enabled, the system will automatically adjust for daylight savings time at the dates and times you enter.

1 Daylight Savings [219] - touch the Arrow button to the right of the window and select Enable or Disable (default is Disable).

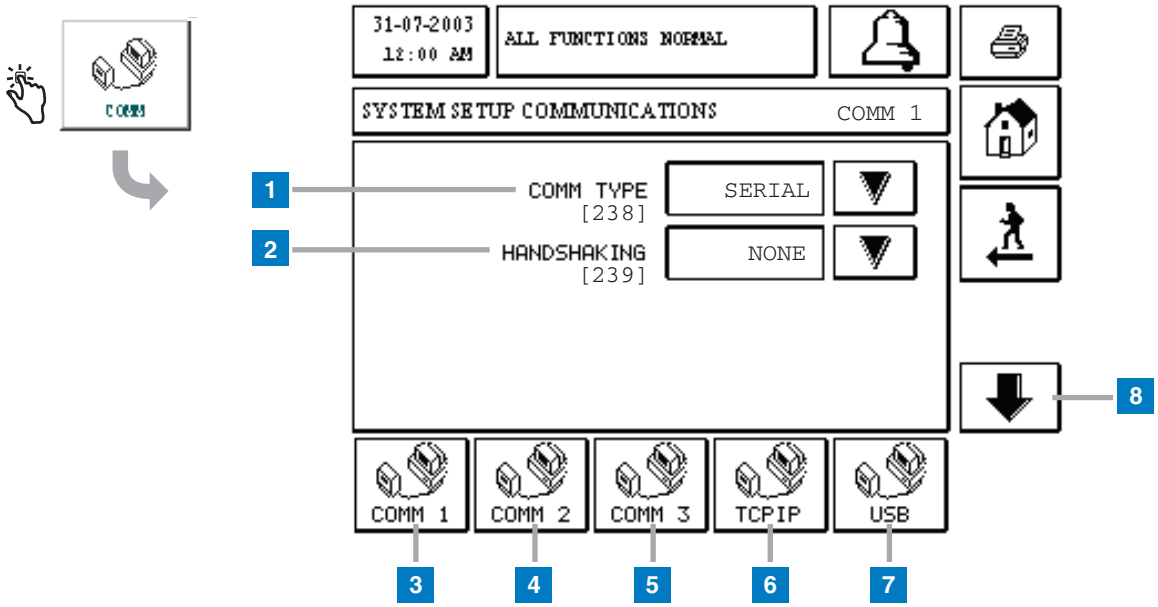
2 Start Date [220] - touch the Date button to the right of the window and enter the start date (default is MAR WEEK 2 SUN).

3 Start Time [221] - touch the Time button to the right of the window and enter the start time [and AM or PM] (default is 02:00 AM).

4 End Date [222] - touch the Date button to the right of the window and enter the enter the end date (default is NOV WEEK 1 SUN).

5 End Time [223] - touch the Time button to the right of the window and enter the end time [and AM or PM] (default is 02:00 AM).

[238-239] COMM Ports 1, 2, 3 Serial Setup Screen - Page 1



Legend for numbered boxes

This screen displays page 1 of the COMM 1, 2 and 3 Serial setup.

1 Comm Type [238] - touch the Down Arrow button to the right of the window and to select a different Comm Type for the following Comm Ports (see page 22):

- COMM 1 selections - None, Serial, Modem, Printer
- COMM 2 selections - None, Serial
- COMM 3 selections - None, Serial

2 Handshaking [239] - touch the Down Arrow button to the right of the window and select :

- COMM 1 -Hardware, XON/XOFF, None
- COMM 2 and 3 - XON/XOFF, None

3 COMM 1 button - touch to display page 1 of the COMM 1 Setup screen (shown above).

4 COMM 2 button - touch to display page 1 of the COMM 2 Setup screen.

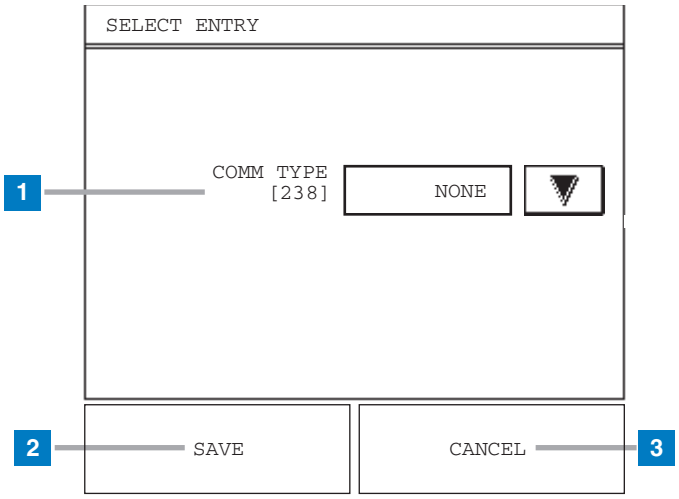
5 COMM 3 button - touch to display page 1 of the COMM 3 Setup screen.).

6 TCPIP button - touch to display the TCPIP Setup screen (page 28).

7 USB button - touch to display the USB parameter data (read only) screen (page 32).

8 Down button - touch to display selected Comm Port's Setup Screen 2 - if necessary .

[238] Comm Type Selection Dialog



Legend for numbered boxes

Data Entry screens are similar and display when you touch the arrow next to a setup parameter. In this example, Comm Type offers multiple options, so you touch the arrow button to select an option.

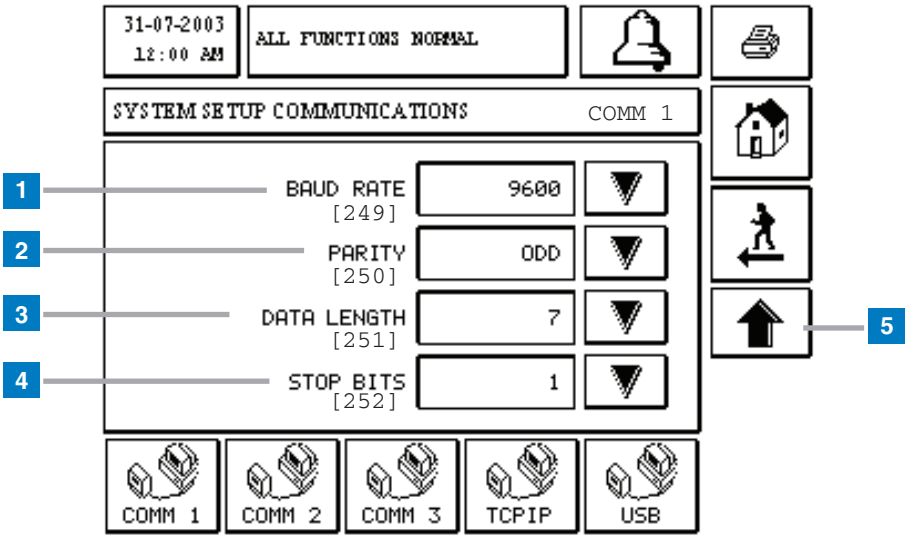
1 Comm Type [238] - touch the Down Arrow button to the right of the window and to select a different Comm Type for the following COMM Ports:

- COMM 1 selections - None, Serial, Modem, Printer
- COMM 2 selections - None, Serial
- COMM 3 selections - None, Serial

2 Save button - touch to save your Comm Type selection and return to the appropriate Comm Setup page.

3 Cancel button - touch to cancel your change and return to the appropriate Comm Setup page.

[249-252] COMM Ports 1, 2, 3 Setup Screen - Page 2



Legend for numbered boxes

The screen above contains page 2 of the setups for COMM 1 Serial, Printer and Modem Comm Types, and for COMM 2 and 3 Serial Comm Types.

1 Baud Rate [249]- touch the Down Arrow button to the right of the window and select a desired baud rate: 300, 600, 1200, 2400, 4800, or 9600 (default).

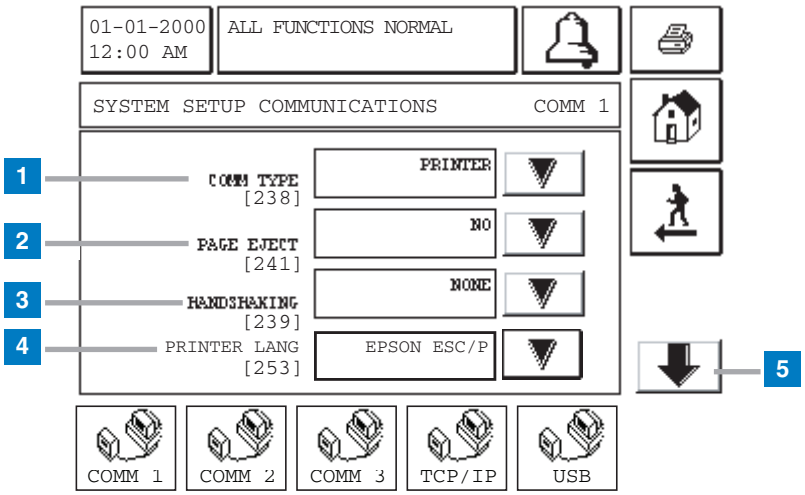
2 Parity [250] - touch the Down Arrow button to the right of the window and select a parity: None, Odd (default), or Even.

3 Data Length [251] - touch the Down Arrow button to the right of the window and select a data length: 7 (default) or 8 .

4 Stop Bits [252] - touch the Down Arrow button to the right of the window and select the number of stop bits: 1 (default) or 2.

5 Up Arrow - touch to return to Page 1 of the selected Comm port's setup.

[238, 239, 241, 253] COMM Port 1 - Printer Setup Screen



Legend for numbered boxes

This screen displays if you selected Printer as the Comm Type for COMM 1.

1 Comm Type [238] Printer selected

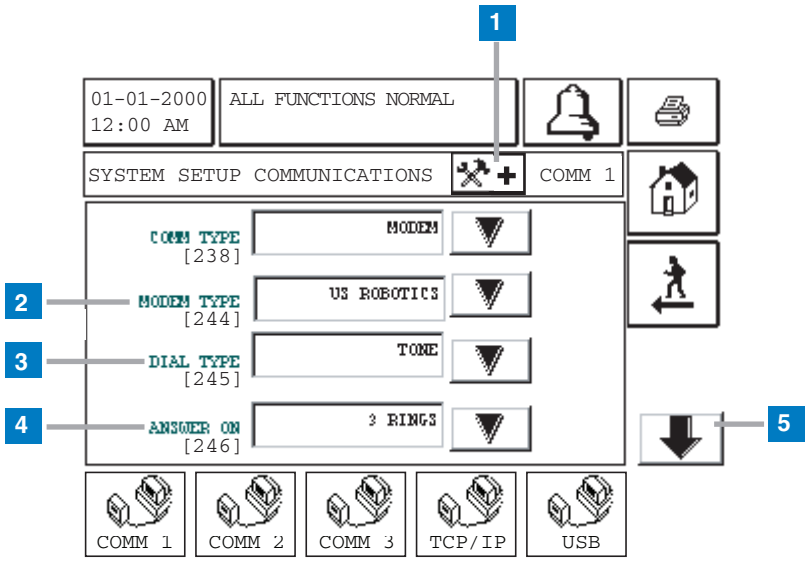
2 Page Eject [241] - touch the Down Arrow button to the right of the window and select Yes or No (default). If the page eject is set to Yes, a page feed command will be sent to the printer at the conclusion of the report, or when a report exceeds the length of the current page. A page length is defined as 50 lines for languages that have single height characters and 25 lines for languages that have double height characters.

3 Handshaking [239] - touch to select one of three options: None (default), XON/XOFF or Hardware.

4 Printer Lang [253] - touch to select one of three printer language options: Epson ESC/P (default), IBM Emulation, and DPU-414.

5 Down button - touch this Down Arrow button to display page 2 of the Printer Setup (page 23).

[238, 244-246] COMM 1 Modem Setup - Page 1



Legend for numbered boxes

This screen displays if you selected Modem as the Comm Type for COMM 1.

1 Advanced Setup button - touch the Advanced Setup button and go to the Advanced Communications Setup Screen (page 26)

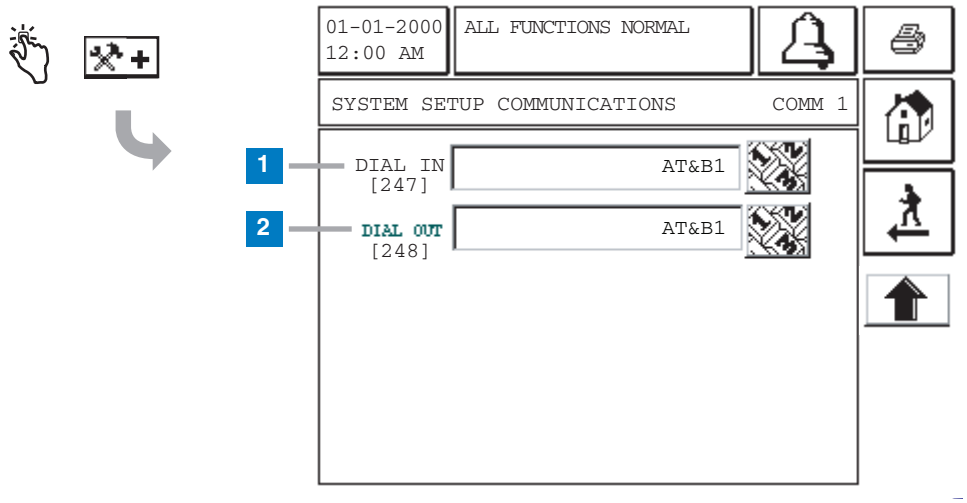
2 Modem Type [244] - touch the Down Arrow button to the right of the window and select your external modem type.

3 Dial Type [245] - touch the Down Arrow button to the right of the window and select dial type: Pulse or Tone (default).

4 Answer On [246] - touch the Down Arrow button to the right of the window and select number of rings to wait before answering: 0-9 (default 1).

5 Down button - touch this Down Arrow button to go to page 2 of the Modem setup (page 23).

[247-248] Modem Advanced Communications Setup Screen



Legend for numbered boxes

CAUTION!

Entering the wrong number strings in this screen may disable the modem.

1 Dial In [247] - touch the Numeric Keypad button and enter the auto-answer user configuration string (default is empty).

2 Dial Out [248] - touch the Down Arrow button to the right of the window and enter the autodial user configuration string (default is empty).

TCPIP Setup Guidelines

It is recommended that you set up the console with a **Static IP address** that you obtain from your IT department. You will need the following pieces of information to setup the network connection on your TLS2P console:

1. **MAC** address of the XPort device, this can be found right on the device itself inside the console 00-20-4A-___-___-___
2. **Host IP** address which will be a static IP address assigned to the TLS2P console at this location ___.___.___.___
3. **Subnet Mask** for your network. The subnet mask can be one of the following choices:

255.255.255.254	255.255.255.252	255.255.255.248	255.255.255.240	255.255.255.224
255.255.255.192	255.255.255.128	255.255.255.0	255.255.254.0	255.255.252.0
255.255.248.0	255.255.240.0	255.255.224.0	255.255.192.0	255.255.128.0
255.255.0.0	255.254.0.0	255.252.0.0	255.248.0.0	255.240.0.0
255.224.0.0	255.192.0.0	255.128.0.0	255.0.0.0	254.0.0.0
252.0.0.0	248.0.0.0	240.0.0.0	224.0.0.0	192.0.0.0
128.0.0.0				

4. **Gateway IP** address for the network on which the console is installed on ___.___.___.___
5. **Host Port** which will be assigned for TLS2P console at this location _____, which has to fall within the following table:
   a. Anything in the range from 1 to 65,35
      - **Except 1 to 1,024 – reserved**
      - **Except 9999 – reserved**
      - **Except 14,000 to 14,009 – reserved**
      - **Except 30,704 – reserved**
      - **Except 30,178 – reserved**
   - **The use of the reserved ports can cause the console to stop functioning**.
   - **Host Port should be set from 10001 to 10010 in order for the Web Interface to work**
6. **Remote IP** address which is the address that the console will connect to if it is setup to Auto-dial using the TCP/IP option on the console ___.___.___.___
7. **Remote Port** which is the port number on the remote PC that the console will be connecting to when it is setup to Auto-dial using the TCP/IP option
8. **Email address** which will be the email recipient that will get the emails form the TLS2 console when it is setup to Auto-dial using the Email option _____@_____.com
9. **From** which will be a unique identification of this specific console _____
10. **Mail Server IP Address** which is the IP address of the SMTP server that the recipients email resides on ___.___.___.___

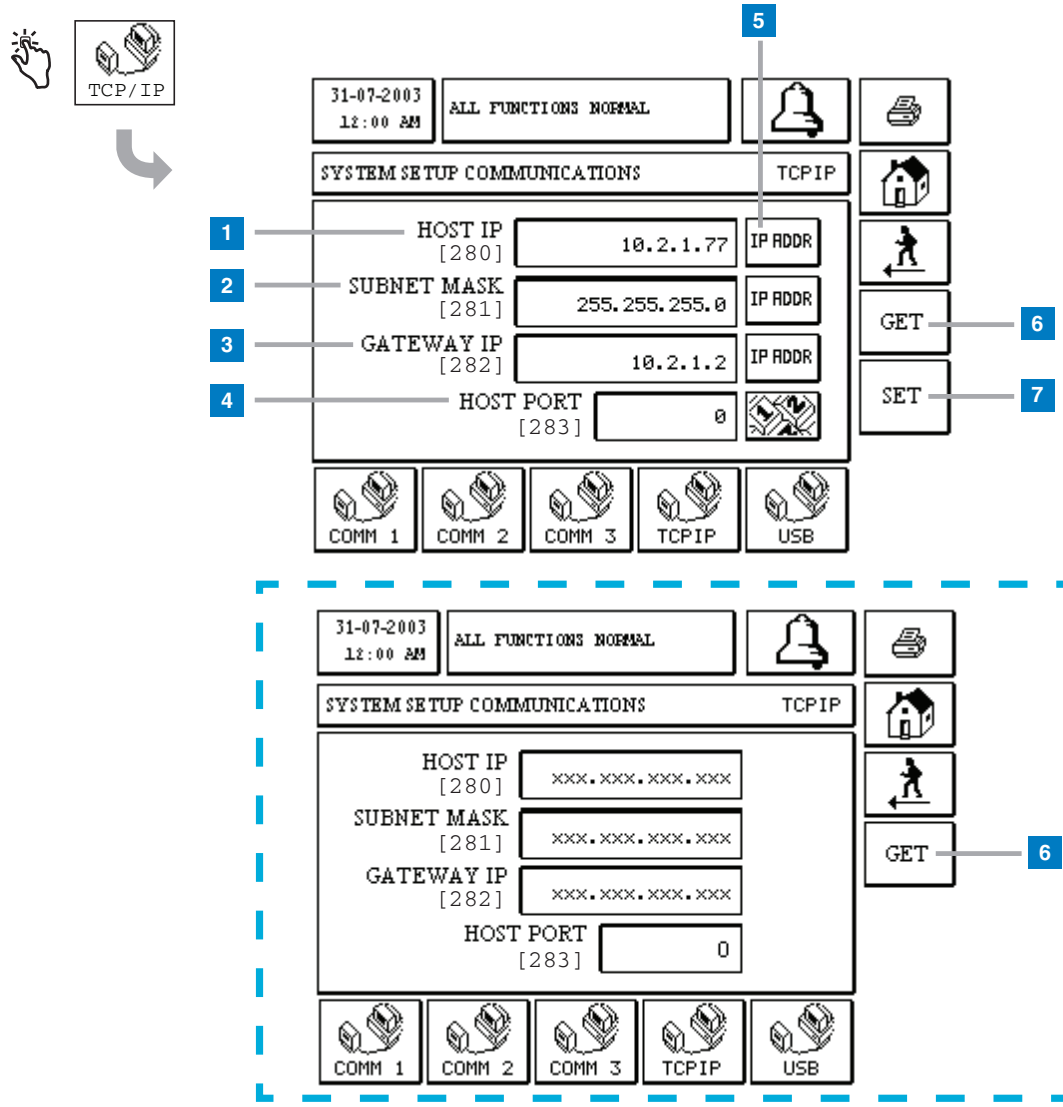
If you choose to put the device in DHCP mode you will still need to know numbers 1, 5,6,7,8,9,and 10 from your IT department. You will have to set the **Host IP** address to 0.0.0.0, **Subnet Mask** to 255.255.255.0, and **Gateway** to 0.0.0.0.

In DHCP mode the console will default to the following DHCP name:

- Cxxxxxx where xxxxxx is the last 6 digits of the MAC address shown on the XPort deice inside the console. If the MAC address is 00-20-4A-A3-85-BF then the DHCP name for that console will be CA385BF and you can find out the IP address by pinging the DHCP name from the C:\ prompt.
  Example: C:\Ping CA385BF

When the DHCP server assigns the IP address and network settings to the TLS2P console, you can discover the unit by using the Lantronix DeviceInstaller tool which can be downloaded from the www.lantronix.com website.

[280-283] TCPIP Setup



Legend for numbered boxes

Only for 15 minutes after powerup, or after the GET button (item 6) is touched, will the TLS2P display the actual TCPIP parameters (280 - 283) saved in the Lantronix server (see upper screen). Thereafter, the TLS2P substitutes xxx in place of the actual 280-283 parameter data, indicating the screen's data is no longer valid (see screen in dotted box). This substitution frees the TLS2P from having to be in continual commuication with the Lantronix server.

1 Current Host IP [280] Address in Lantronix server.

2 Current Subnet Mask Address [281] in Lantronix server.

3 Current Gateway IP Address [282] in Lantronix server.

4 Current Host Port [283] in Lantronix server.

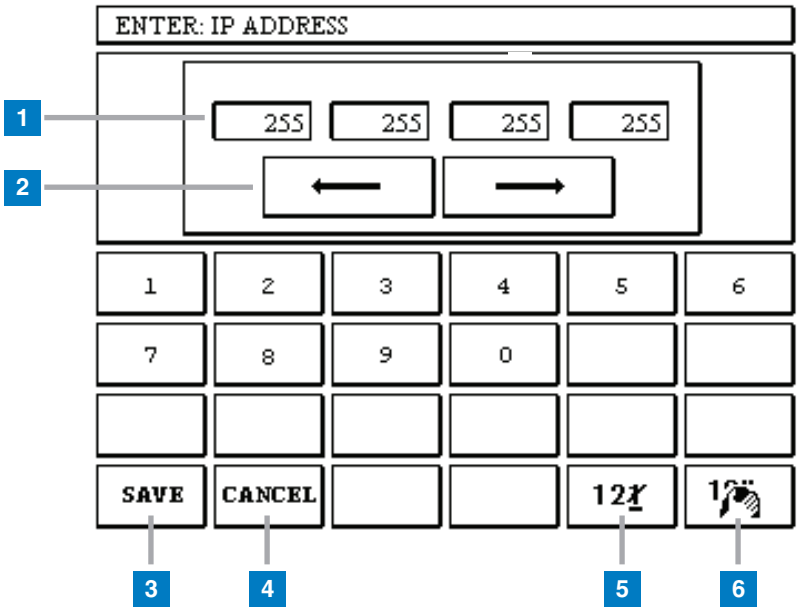
5 IP ADDR button - touch to enter the the associated TCPIP parameter.

6 Get button - touch this button to have the TLS2P update the display with the actual TCPIP parameters saved in the Lantronix server.

7 Set button - Touch to save entered TCPIP parameters in the Lantronix server.

NOTE: If any parameters have been changed but the SET button was not touched to save them, the TLS2P will automatically save them after 5 minutes.

IP Address Entry Dialog



Legend for numbered boxes

The IP Address Entry dialog screen is displayed above.

1 Values for these fields must fall within the range of 0 - 255 to be accepted.

2 Right/Left arrows - touch to select the desired field.

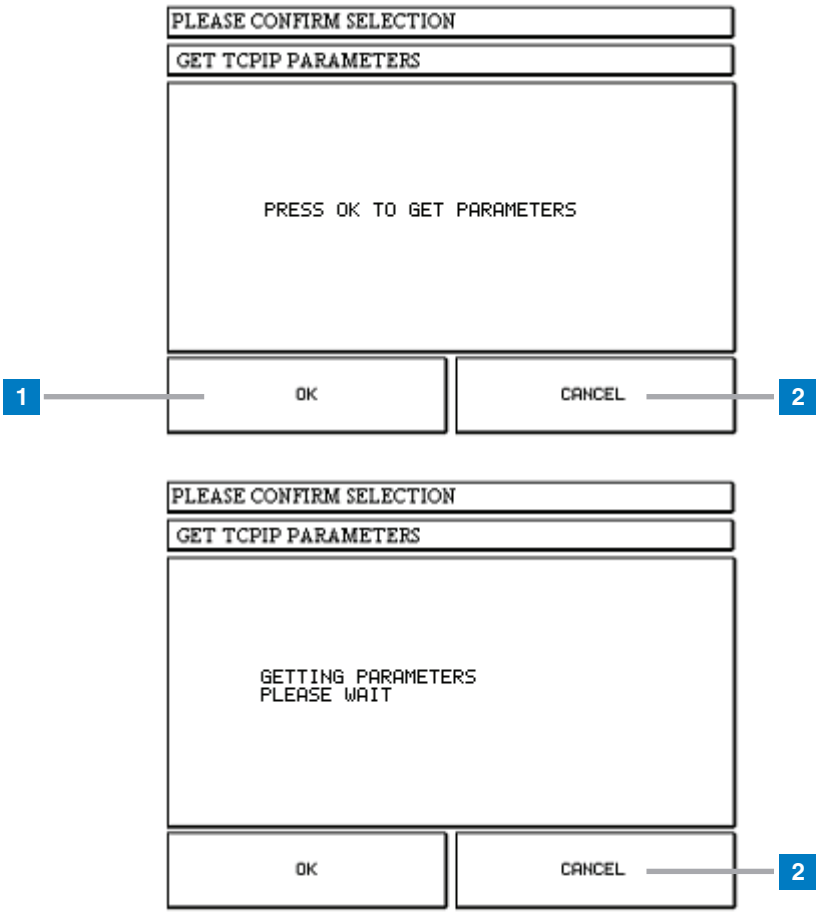
3 Save button - touch to accept entered data and close screen.

4 Cancel button - touch to cancel all entries and close screen.

5 Back delete button - touch to delete character above cursor.

6 Clear button - touch to clear contents entered in a field's window.

Get TCPIP Parameters Confirmation Dialog



Legend for numbered boxes

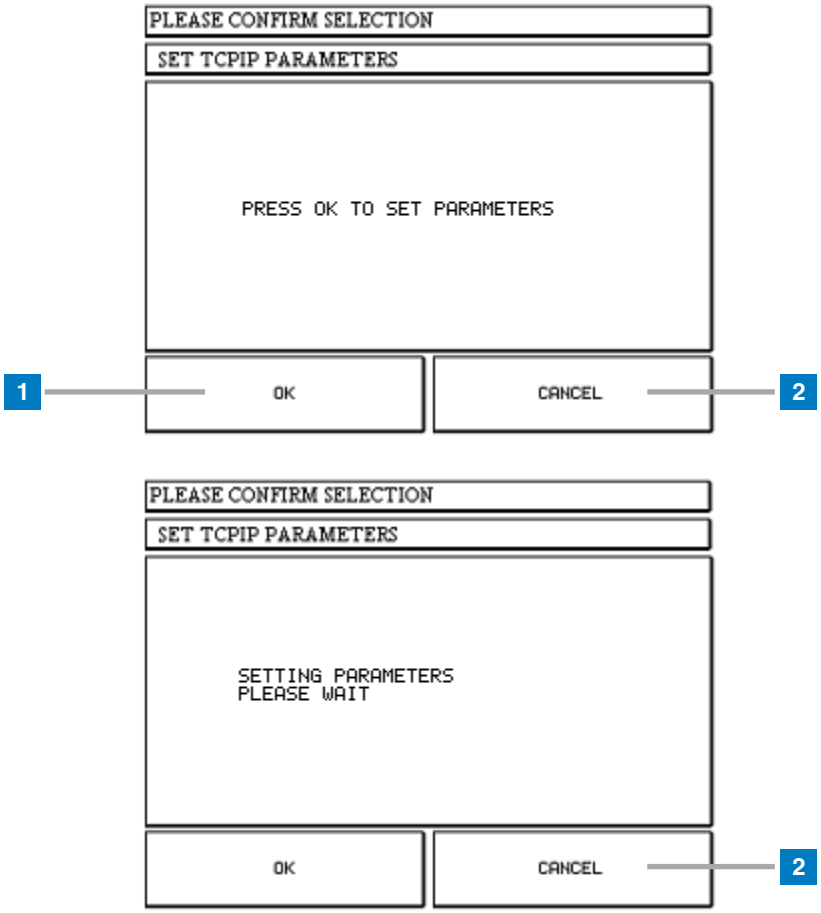
The Get TCPIP Parameters dialog box (upper screen) displays when you touch the GET button on the TCPIP setup screen (see page 28).

1 OK button - touch to have the TLS2P get the TCPIP parameters (280 - 283) saved in the Lantronix server.

The lower screen displays while the TLS2P is updating the TCPIP.

2 Cancel button - touch to cancel the TCPIP Get parameters request and return to the TCPIP setup screen.

Set TCPIP Parameters Confirmation Dialog



Legend for numbered boxes

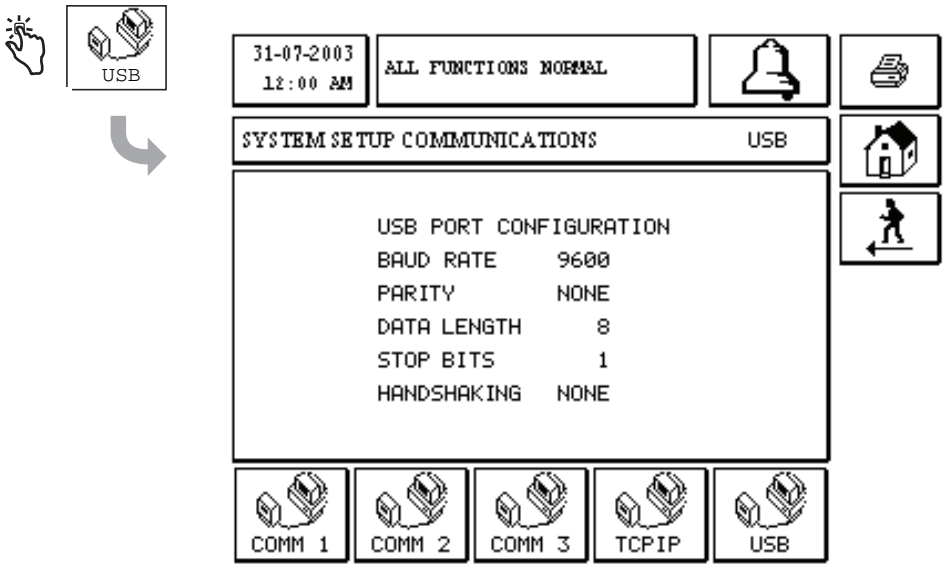
The Set TCPIP Parameters dialog box (upper screen) displays when you touch the SET button on the TCPIP setup screen (see page 28).

1 OK button - touch to have the TLS2P save the TCPIP parameters (280 - 283) to the Lantronix server.

The lower screen displays while the TLS2P is updating the TCPIP parameters to the Lanotronix server. The updated values will appear in the TCPIP setup screen.

2 Cancel button - touch to cancel the TCPIP Set parameters request and return to the TCPIP setup screen.

USB Port Parameter Screen

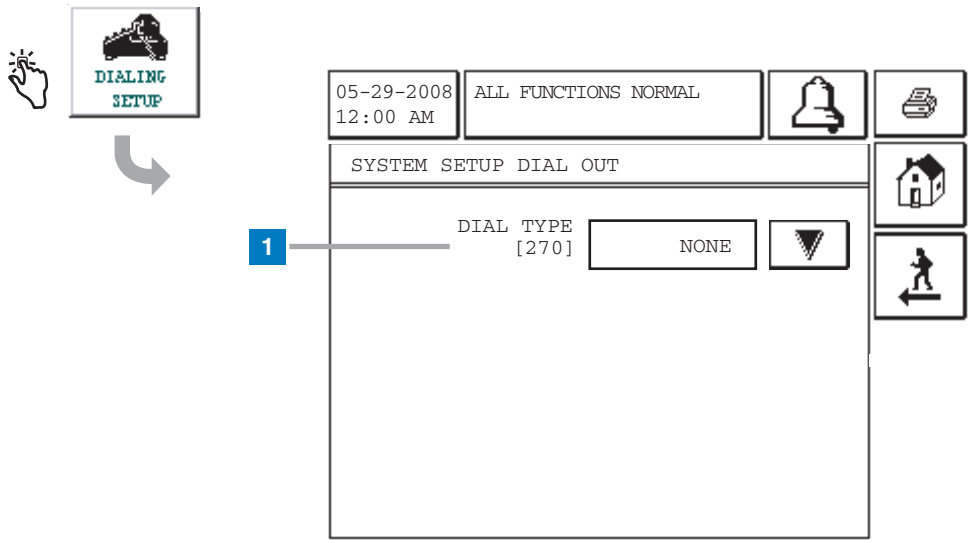


Legend for numbered boxes

Touching the USB comm button displays the USB port parameter data. The parameters in this display are read only and are not programmable.

To communicate through the USB port on the console you will need a standard USB printer cable as well as a USB driver for your computer or laptop for the interface to the console. The driver that is needed on your PC is the VCP (Virtual COMM Port) driver for the CP210X and it can be downloaded from the *www.silabs.com* web site. Right after downloading the file, double click on the file and follow the instructions as they appear.

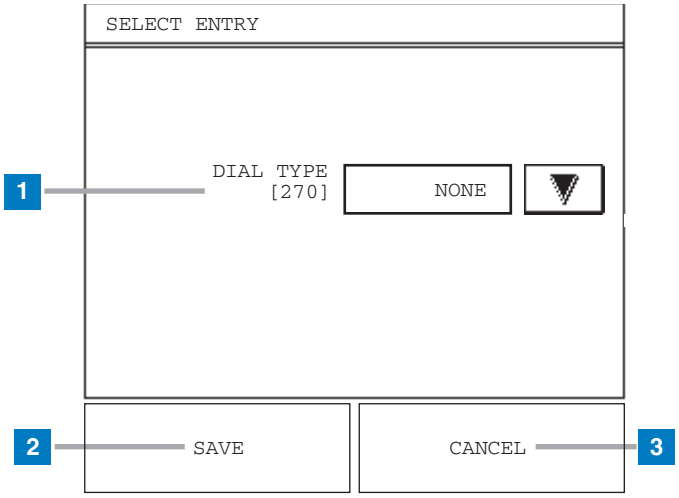
[270] Auto-Dialout System Setup Dial Out Screen



Legend for numbered boxes

1 Dial Type [270] - touch the Arrow button to display the Dial Type Select Entry Diaglog and select a dial out, dial type (see page 34).

Select Dial Out Type Dialog



Legend for numbered boxes

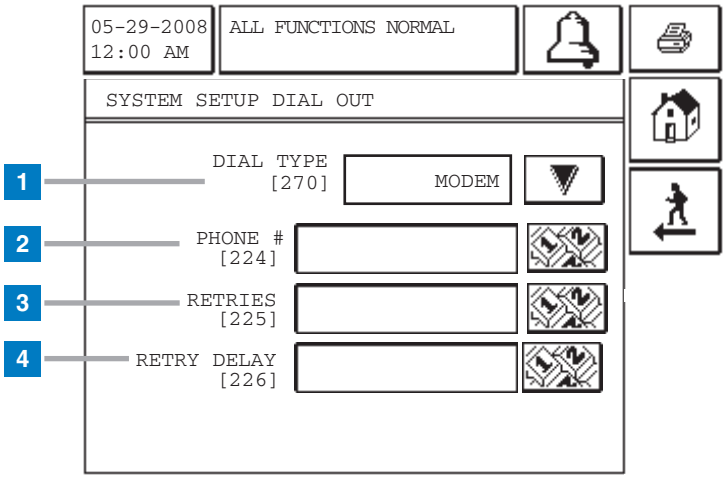
1 Dial Type [270] - touch the Arrow button to display the Dial Type Select Entry Diaglog and select a Dial Type:

- None (default)
- Modem
- TCPIP
- EMail

2 Save button - touch to accept Dial Type selection.

3 Cancel Button - touch to cancel selection and close dialog.

[224-226, 270] Auto-Dial Setup - Modem



Legend for numbered boxes

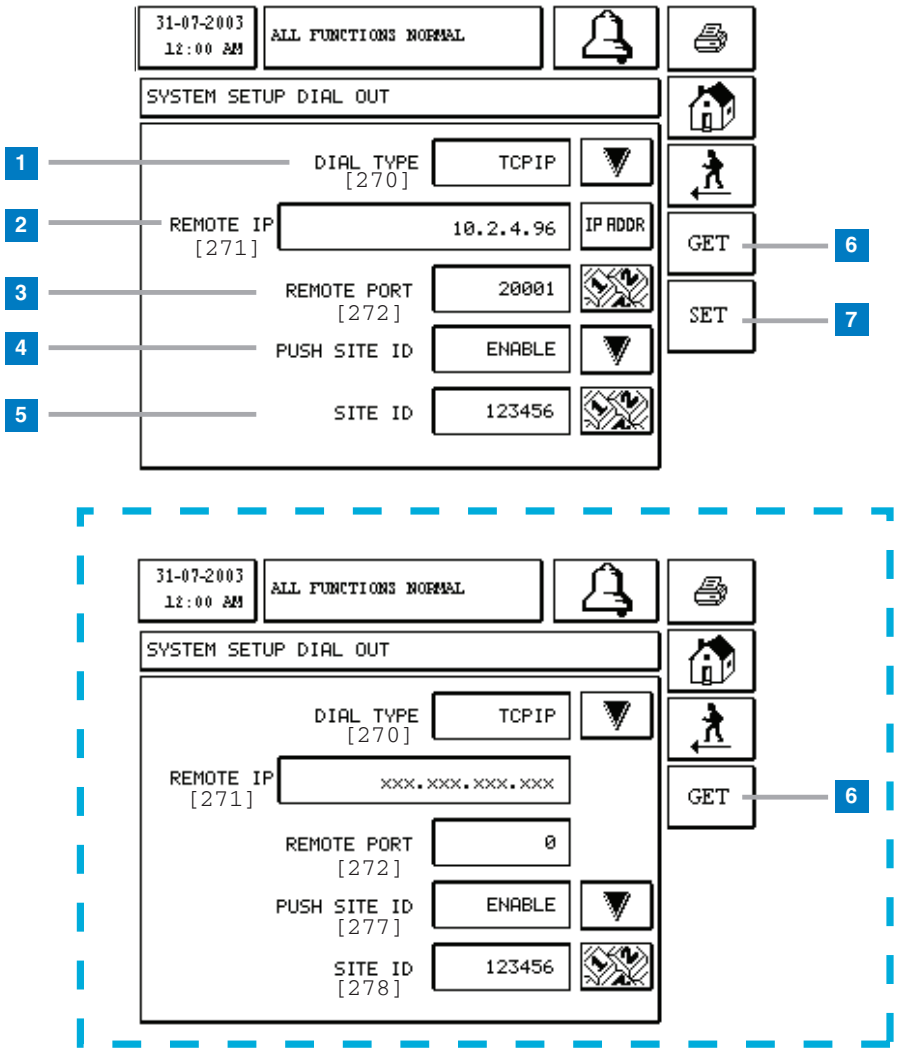
1 Dial Type [270] - Modem

2 Phone [224] - touch the Numeric button to the right of the window and enter one phone number to which you want the system to dial.

3 Retries [225] - touch the Numeric button to the right of the window and enter the number of times (1-99) you want the system to redial the phone number if there is a busy signal, no answer or an incomplete connection (default is 3 retries).

4 Retry Delay [225] - touch the Numeric button to the right of the window and enter the number of minutes (1-99) you want the console to delay before redialing the phone number if there is a busy signal, no answer or an incomplete connection (default is 3 minutes).

[270-272, 277-278] Auto-Dial Setup - TCPIP



Legend for numbered boxes

Only for 15 minutes after powerup, or after the GET button (item 4) is touched, will the TLS2P display the actual TCPIP parameters (271 and 272) saved in the Lantronix server (see upper screen). Thereafter, the TLS2P substitutes xxx in place of the actual 271/272 parameter data, indicating the screen's data is no longer valid (see screen in dotted box). This substitution frees the TLS2P from having to be in continual commuication with the Lantronix server.

1 Dial Type [270] TCPIP

2 Current Remote IP Address [271] in Lantronix server.

3 Current Remote port [272] in Lantronix server.

4 Push Site ID [277] - This feature will allow the TLS2P to automatically establish a TCPIP connection to a Polling Server. Select Enable or Disable. Default is Disable.

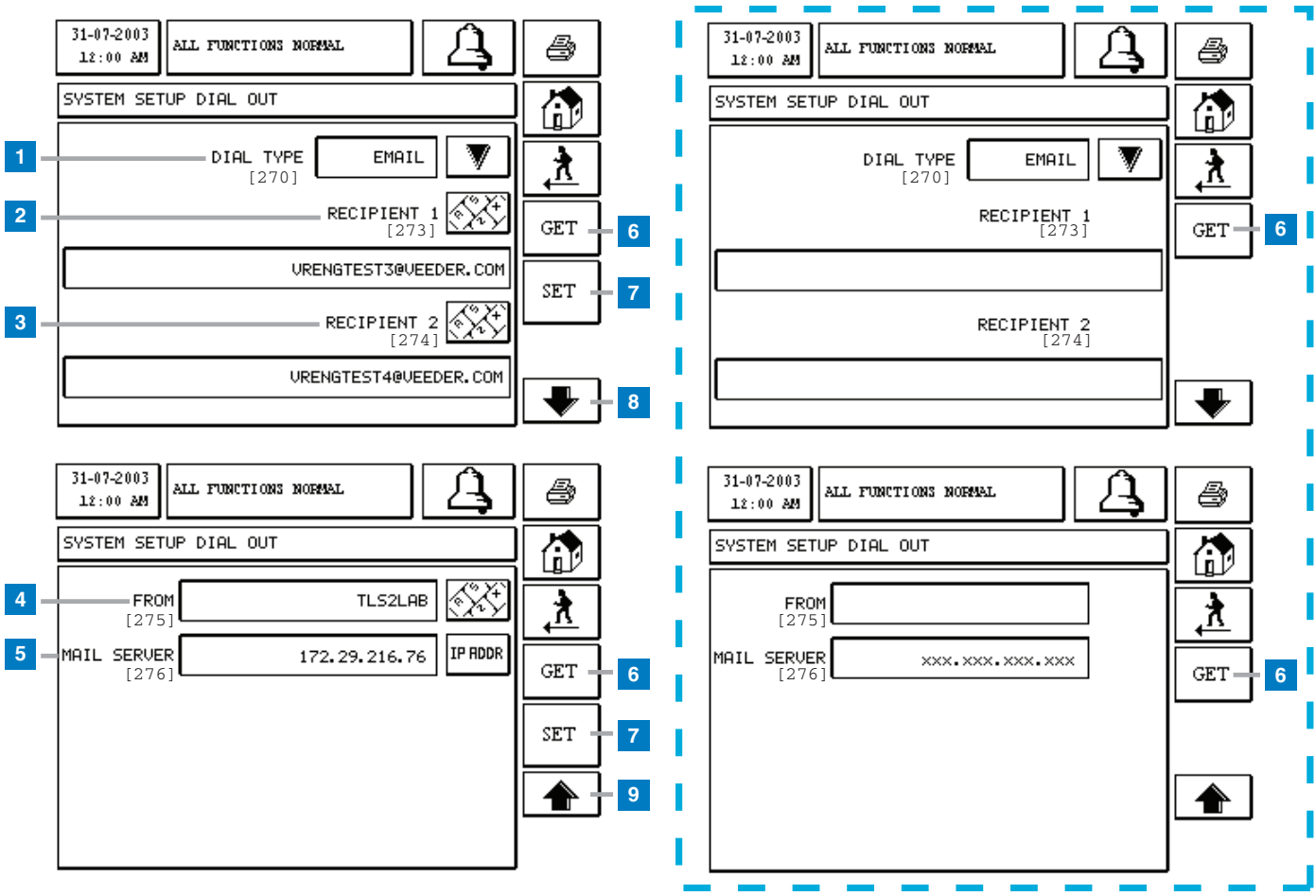
5 Site ID [278] - The Site ID is used to uniquely identify the site for the Polling Server. Allowable selections: 1 to 999999. Default is 1.

6 Get button - touch this button to have the TLS2P update the display with the actual TCPIP parameters saved in the Lantronix server. Explanation of the Get confirmation dialog is shown on page 30.

7 Set button - Touch to save entered TCPIP parameters in the Lantronix server. Explanation of the Set confirmation dialog is shown on page 31.

NOTE: If any parameters have been changed but the SET button was not touched to save them, the TLS2P will automatically save them after 5 minutes.

[270, 273-276] Auto-Dial Setup - Email



Legend for numbered boxes

Only for 15 minutes after powerup, or after the GET button (item 6) is touched, will the TLS2P display the actual EMAIL parameters (273 - 276) saved in the Lantronix server (see left two screens - page 1 upper/page 2 lower). Thereafter, the TLS2P substitutes xxx in place of the actual 274 and blanks out other parameter data, indicating the screen's data is no longer valid (see right two screens in dotted box - page 1 upper/page 2 lower). This substitution frees the TLS2P from having to be in continual commuication with the Lantronix server.

1 Dial Type [270] EMAIL

2 Recipient 1 Email Address [273] in Lantronix server, 41 characters max. Touch alfpha key button to enter/edit email address.

3 Recipient 2 Email Address [274] in Lantronix server, 41 characters max. Touch alfpha key button to enter/edit email address.

4 From [275] - Name (label) for the TLS2P. touch the alfpha key button to enter label (23 characters max.)

5 Mail Server IP address [276] in Lantronix server - touch IP ADDR key to enter TLS2P Mail Server IP Address.

6 Get button - touch this button to have the TLS2P update the display with the actual TCPIP parameters saved in the Lantronix server. Explanation of the Get confirmation dialog is shown on page 30.

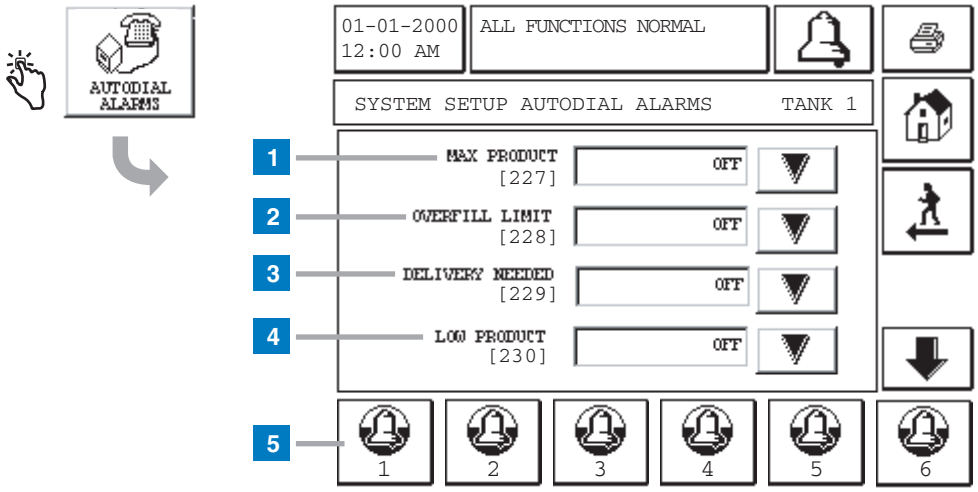
7 Set button - Touch to save entered TCPIP parameters in the Lantronix server. Explanation of the Set confirmation dialog is shown on page 31.

NOTE: If any parameters have been changed but the SET button was not touched to save them, the TLS2P will automatically save them after 5 minutes.

8 Page down button - touch to view page 2 of Email setup.

9 Page up button - touch to view page 1 of Email setup.

[227-230] Autodial Alarm Setup Screen 1



Legend for numbered boxes

This feature lets you program the system to dial out on the following alarm conditions.

Note: Autodial alarms continue on next two pages.

1 Max Product [227] - touch the Down Arrow button to select On (dial out) or Off (do not dial out).

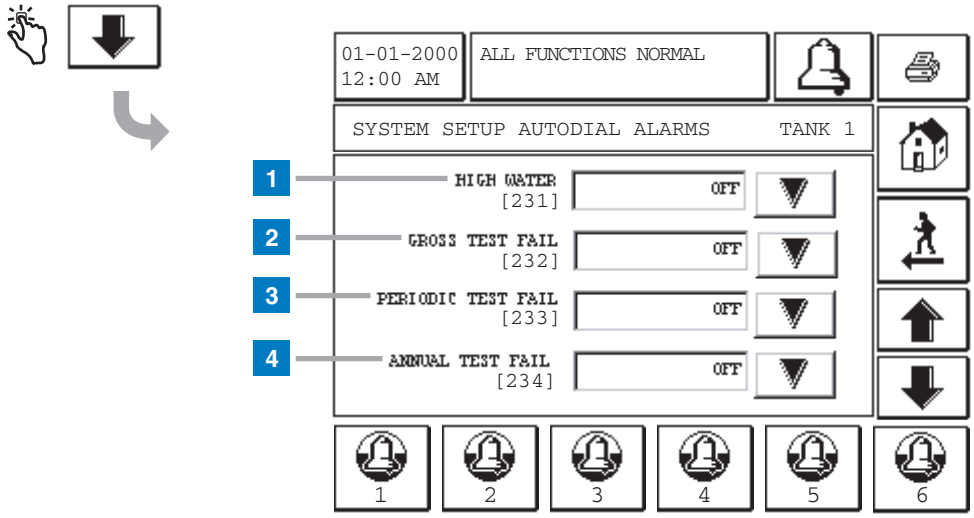
2 Overfill Limit [228] - touch the Down Arrow button to select On or Off.

3 Delivery Needed [229] - touch the Down Arrow button to select On or Off.

4 Low Product [230] - touch the Down Arrow button to select On or Off.

5 Touch the Autodial Alarm button for the tank you wish to setup and select the desired alarms in Autodial Alarms screens 1-3. You must repeat this process for each tank.

[231-234] Autodial Alarm Setup Screen 2



Legend for numbered boxes

This screen continues Autodial Alarms setup.

Note: Autodial alarms continue on next page.

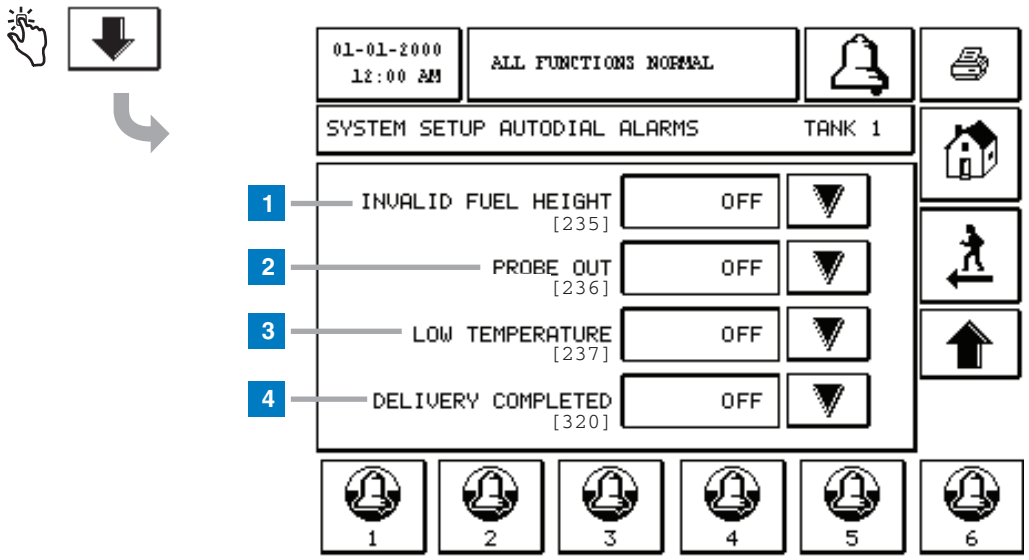
1 High Water [231] - touch the Down Arrow button to select On (dial out) or Off (do not dial out).

2 Gross Test Fail [232] - touch the Down Arrow button to select On or Off.

3 Periodic Test Fail [233] - touch the Down Arrow button to select On or Off.

4 Annual Test Fail [234] - touch the Down Arrow button to select On or Off.

[235-237, 320] Autodial Alarm Setup Screen 3



Legend for numbered boxes

This screen continues Autodial Alarms Setup.

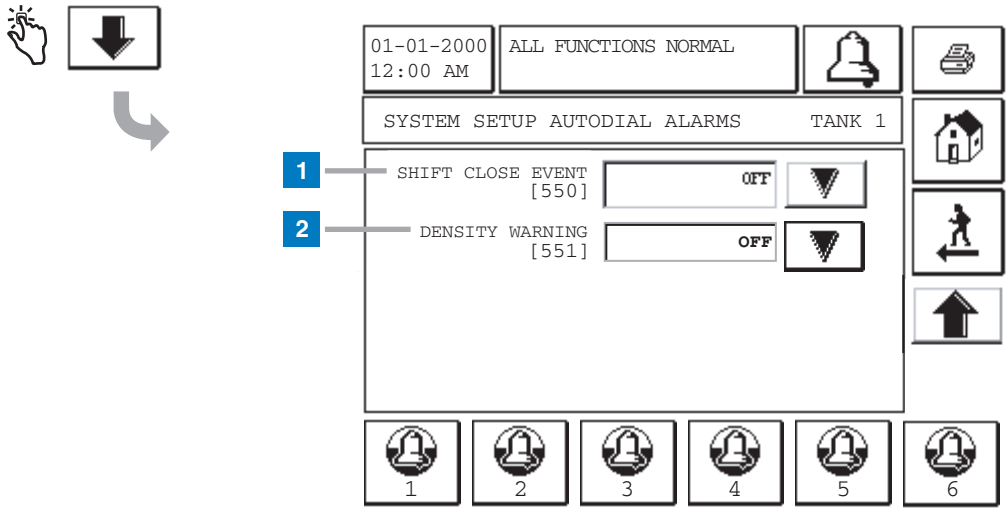
1 Invalid Fuel Height [235] - touch the Down Arrow button to select On (dial out) or Off (do not dial out).

2 Probe Out [236] - touch the Down Arrow button to select On or Off.

3 Low Temperature [237] - touch the Down Arrow button to select On or Off.

4 Delivery Completed [320] - touch the Down Arrow button to select On or Off. Note, this event will only be used to dial out/email on the completion of a delivery. This event is not an alarm and will not display or go into alarm histories.

[550-551] Autodial Alarm Setup Screen 4



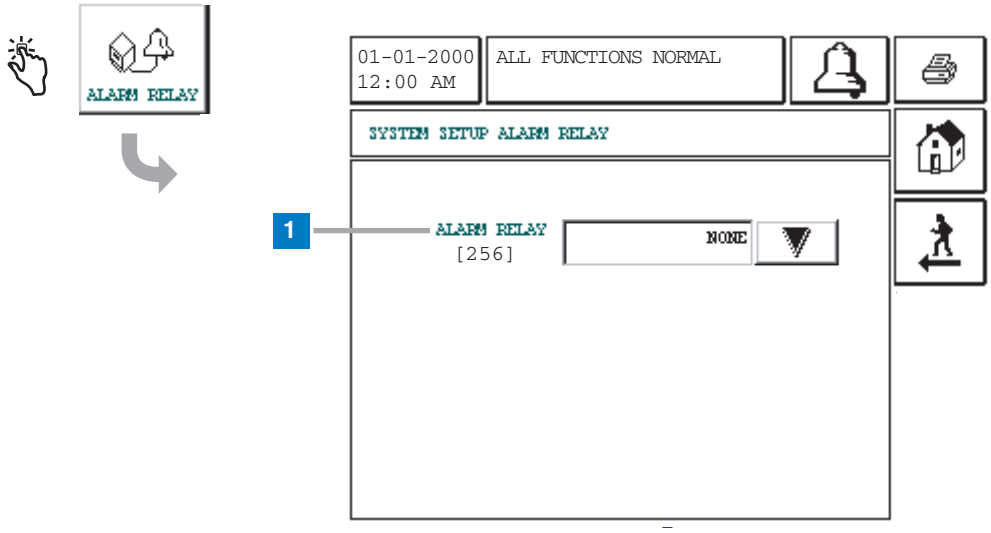
Legend for numbered boxes

This screen concludes Autodial Alarms Setup.

1 Shift Close Event [550] - touch the Down Arrow button to select On or Off .

2 Density Warning [551] - touch the Down Arrow button to select On or Off . When set to On, you will be able set up a tank density low limit and tank density high limit from the touch panel as well as from RS-232 commands. If the tank density is less than the tank density low limit or greater than the tank density high limit then a DENSITY WARNING will be posted for that tank.

[256] Alarm Relay Setup Screen



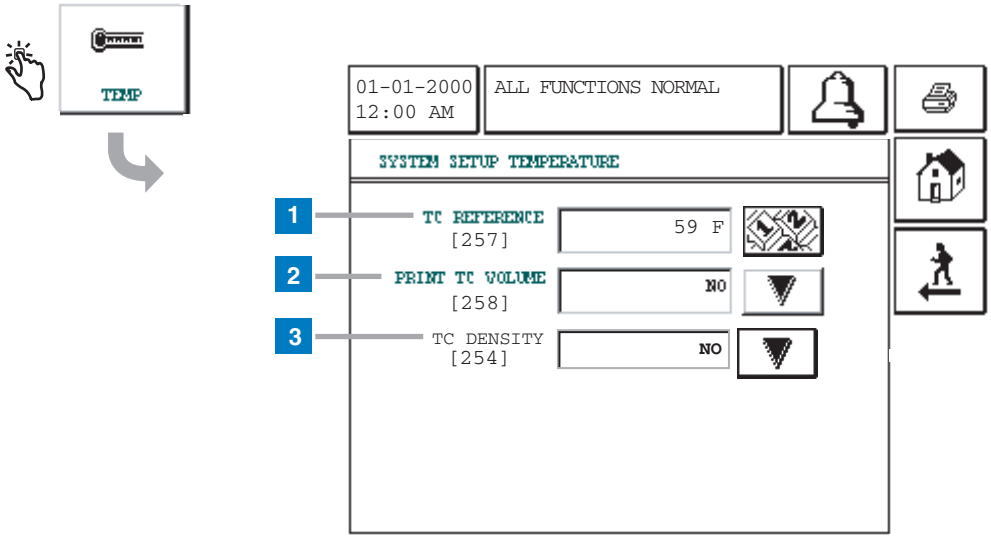
Legend for numbered boxes

This screen allows you to select the mode of activation for the remote beeper relay.

1 Alarm Relay [256] - touch the Down Arrow button to the right of the window and select: None (default), Overfill, or All Alarms.

- If Overfill is selected, an overfill condition on any tank will activate the Alarm Relay.
- If All Alarms is selected, any alarm going active will activate the Alarm Relay.
- If None is selected, the relay will not be activated.
- Touching the Alarm Acknowledgement button will deenergize the Alarm Relay.

[254, 257-258] Temperature Setup Screen



Legend for numbered boxes

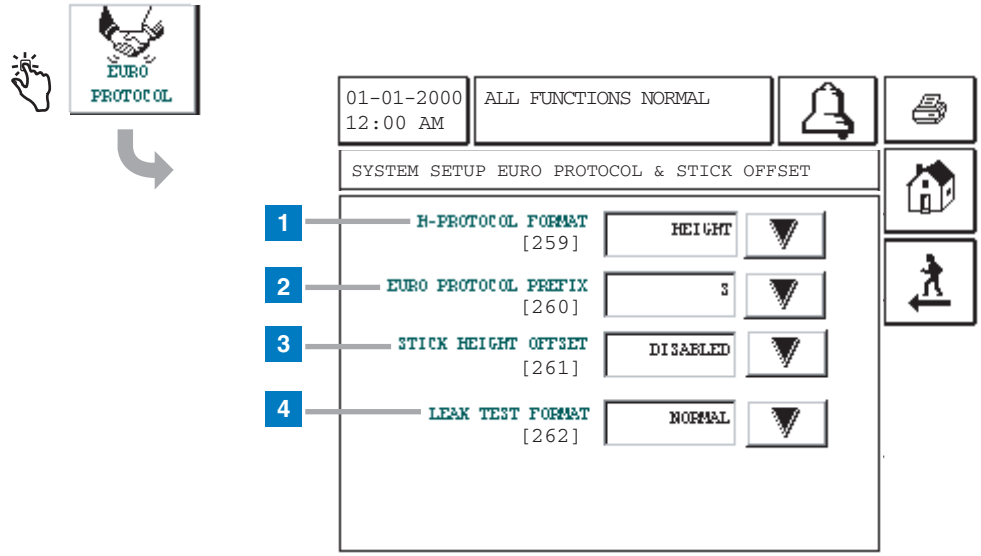
This screen displays the Temperature Compensation Setup Screen.

1 TC Reference [257]- touch the Down Arrow button to the right of the window and enter a desired Temperature Compensation reference temperature. The allowable range is -49 to +120°F (-45 to +48.9°C). The default is 59°F (15°C).

2 Print TC Volume [258] - touch the Down Arrow button to the right of the window and select: Yes or No (default). When set to NO, TC Volumes are not reported in displays, printouts, and serial reports.

3 TC Density [254] - touch the Down Arrow button to the right of the window and select: Yes or No (default). When set to Yes, all the inventory/delivery screens, printout and RS-232 commands will display density values as temperature compensated and this will be indicated by “TC”.

[259-262] EuroProtocol and Stick Offset Setup Screen

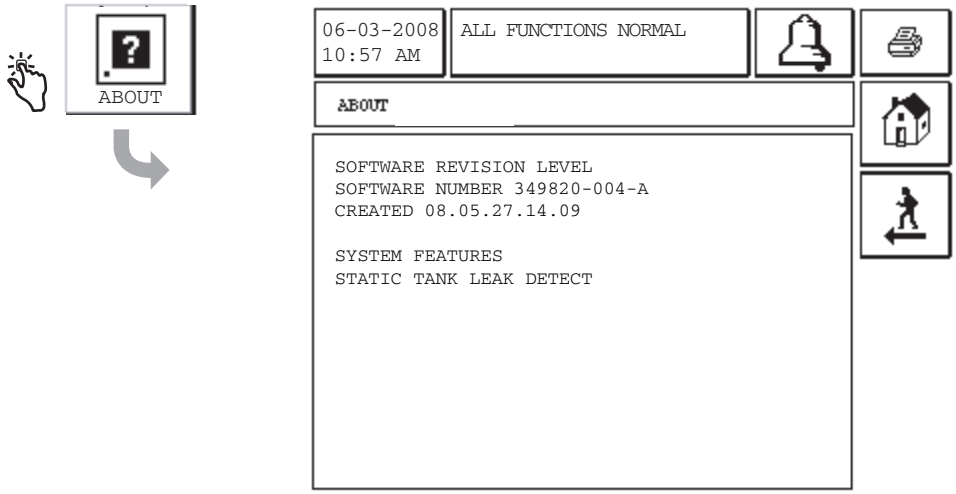


Legend for numbered boxes

This screen contains international format options and leak test format setup.

1. H-Protocol Format [259] - Touch the Down Arrow button to the right of the window and select: Height (default) or Volume for H-Protocol.
2. Euro Protocol Prefix [260] - Touch the Down Arrow button to the right of the window and select: S (default) or 'd'.
3. Stick Height Offset [261] - Touch the Down Arrow button to the right of the window and select: Enabled or Disabled (default).
4. Leak Test Format [262] - The leak test report format can be set to Enhanced to comply with the California Code of Regulations. The enhanced report will have height, water, temperature, percent volume, rate and threshold values in addition to the normal report format. Touch the Down Arrow button to the right of the window and select: Normal (default) or Enhanced.

About TLS2P Screen



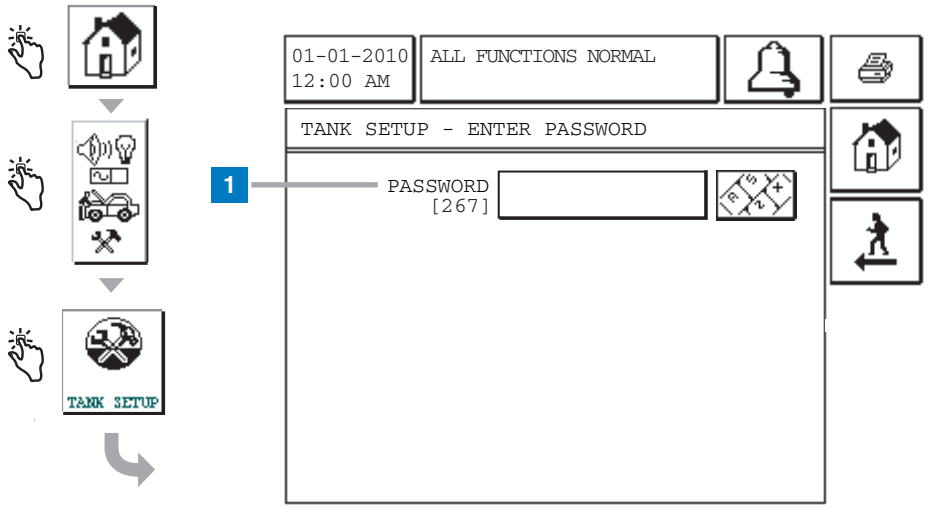
This screen lists information about the TLS2P Console's installed software and features:

- System Software Revision Level
- Software Part Number
- Software Creation Date
- System Features: (e.g., Static Tank Leak Detect)

Tank Setup Screens

[267] Tank Setup - Enter Password Screen

If the System Security Setup - Setup Password (page 14) is enabled, you will be required to enter that password before accessing the Tank Setup Menu Screen (page 47). If the Setup Password is disabled, the Tank Setup - Enter Password Screen will not display.



Legend for numbered boxes

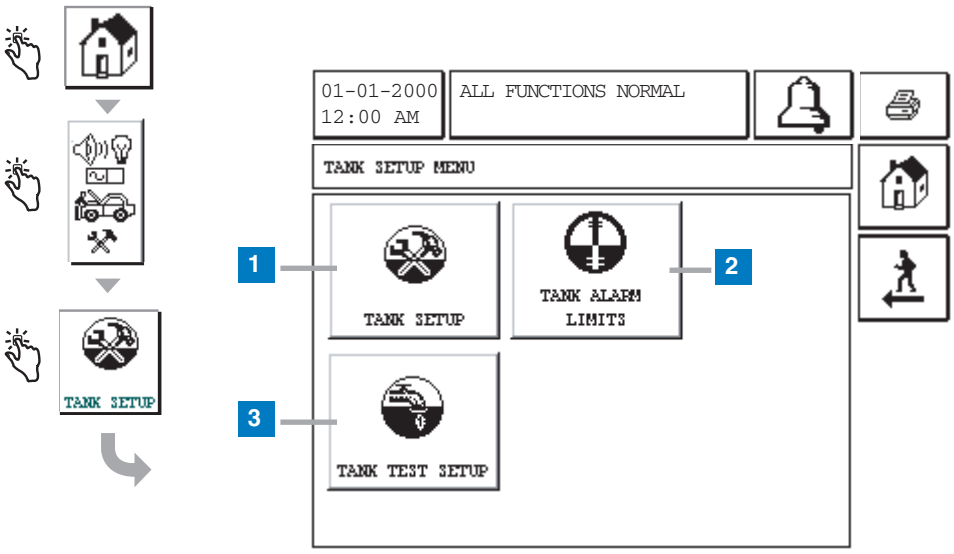
1 Password [267] - To access the Tank Setup Menu Screen (page 47), you must enter the 6 to 16 character alphanumeric System Security Setup - Setup Password.

As you enter the password, asterisks (*) will display in place of the entered characters.

If the entered password is correct, theTank Setup Menu Screen will display.

If the entered password is incorrect, you will be asked to re-enter the password.

Tank Setup Menu Screen



Legend for numbered boxes

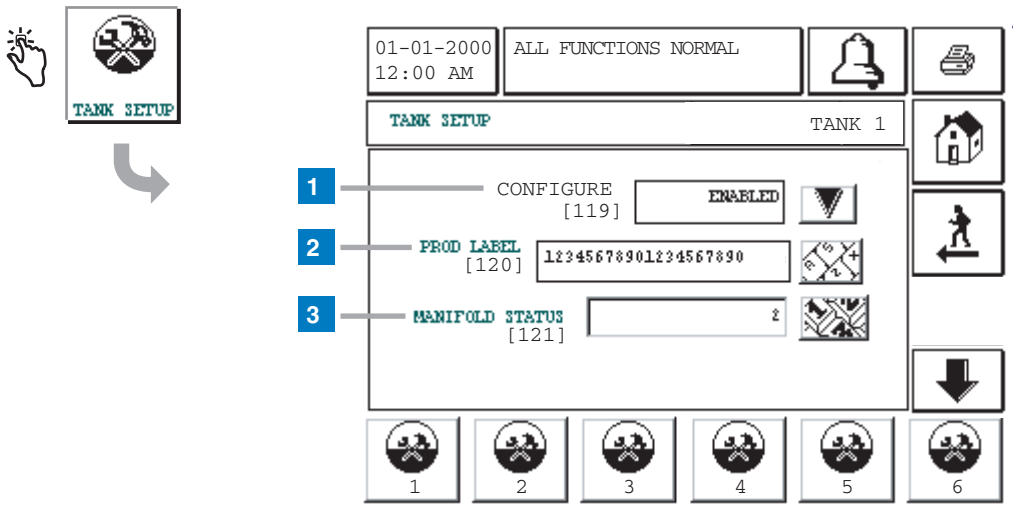
This screen contains access to Tank Setup Screens.

1 Tank Setup button - touch to display the Tank Setup Screen (page 48).

2 Tank Alarm Limit button - Touch to display the Tank Alarm Limits Setup Screen (page 72).

3 Tank Test Setup button - Touch to display the Tank Test Setup Screen (page 60).

[119-121] Tank Setup Screen 1



Legend for numbered boxes

This screen accesses Tank Setup parameters.

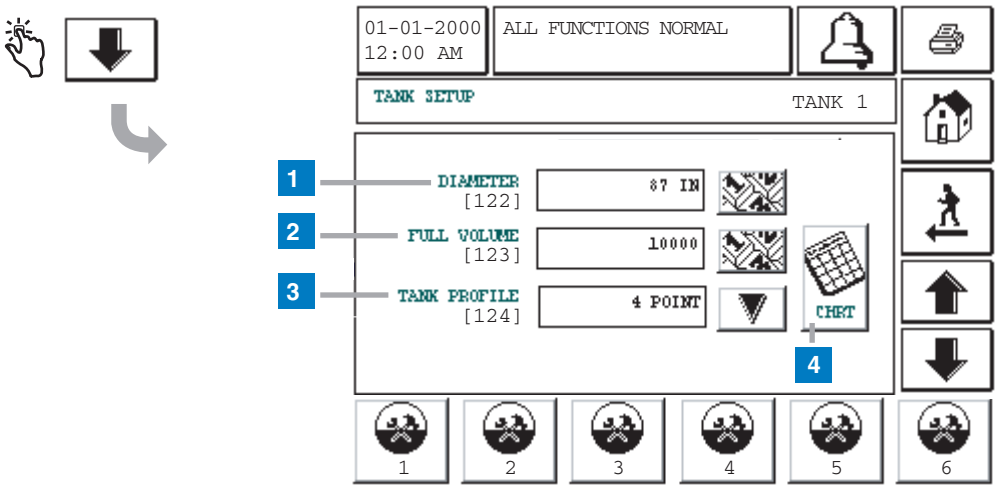
1 Configure [119] - Touch the Down Arrow button to the right of the window and select: Enabled or Disabled (default).

2 Prod Label [120] - Touch the Down Arrow button to the right of the window and enter up to a 20 character label. Only numerals from 0 - 9 and Roman alphabet characters can be entered.

3 Manifold Status [121] - Touch the Keypad button to the right of the window. Enter the number(s) of the tanks to which this tank is manifolded. You must enter a comma between tank numbers if more than one tank is entered.

Tank Setup parameters continue on next page.

[122-124] Tank Setup Screen 2



Legend for numbered boxes

This screen continues Tank Setup.

1 Diameter [122] - touch the Down Arrow button to the right of the window and enter the diameter of the tank.

2 Full Volume [123] - touch the Down Arrow button to the right of the window and enter the Full Volume of the tank.

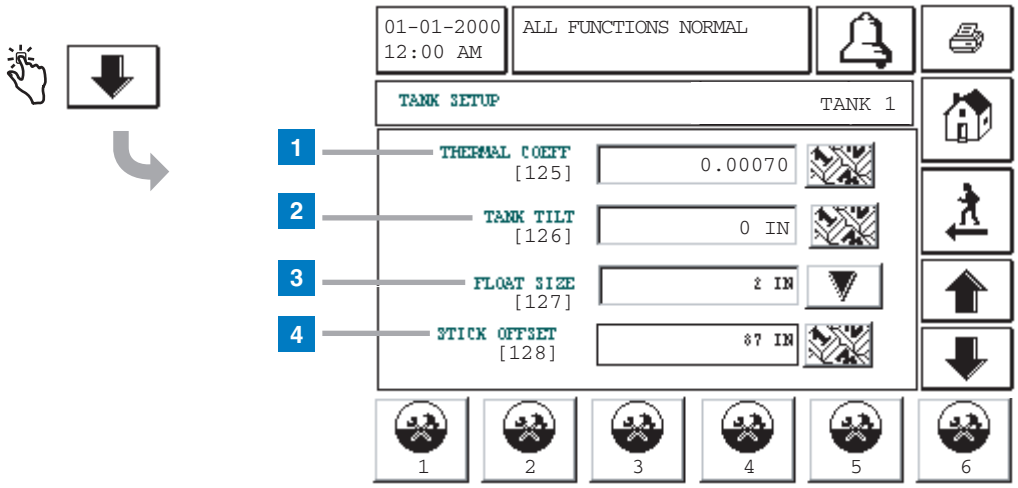
3 Tank Profile [124] - touch the Down Arrow button to the right of the window and select a tank profile: Linear -for rectangular tanks or cylindrical tanks standing on end, 1 point - for flat-ended steel tanks (default), 4 points - for fiberglass tanks, or 20 points - for all tanks.

4 Tank Chart button - This button only appears if you have selected the 4-point or 20-point Tank Profile.

- The system will calculate heights for each point (4 or 20) based on the selected profile and the tank's diameter, and display them beside windows in which you must enter the corresponding volume. Get the volume for the displayed heights from the tank chart and enter that volume in the window.
- Take care to enter the exact value from the tank chart for the labeled height. Out of range entries will not be accepted.
- If the 4-point or 20-point profile is selected, you must enter a volume for each point or the system will compute a volume of 0 for any height.

Tank Setup parameters continue on next page.

[125-128] Tank Setup Screen 3



Legend for numbered boxes

This screen continues Tank Setup.

1 Thermal Coefficient [125] - Touch the Down Arrow button to the right of the window and enter the diameter of the tank.

To ensure accurate temperature compensated volume conversions the product's thermal coefficient of expansion must be correctly entered. An incorrect value will adversely affect leak detection testing and temperature compensated inventory values.

Table 2 lists the U.S. and Metric coefficients for approved fuels and liquids. Enter the coefficient in U.S. or Metric units, depending on the units specified in System Setup (page 9). **Be careful to add the correct number of zeros to the right of the decimal point. Incorrect entry can cause test failures and other problems**.

2 Tank Tilt [126] - Touch the Down Arrow button to the right of the window and enter the tank tilt. The allowable range is -144 to +144 inches (-365.76 to +365.76 cm) and the default is 0.

Tank Tilt allows you to adjust for a difference between fuel height at the probe location and fuel height at the center of the tank caused by a tilt in the tank. You must enter a minus (-) if the Tank Tilt is a negative value. A Tank Tilt value is not required if the probe is located in the center of the tank. If the probe is located in the center of the tank, the value entered is 000.00 U.S units or 0000.0 Metric units. If the probe is not in the center of the tank, calculate the tank's tilt using the directions in Table 3. Enter the value from Column G in the worksheet as the Tank Tilt.

3 Float Size [127] - Touch the Down Arrow button to the right of the window and from the float sizes presented, enter the Mag probe float size that you installed on the tank's probe

4 Stick Offset [128] - Touch the Down Arrow button to the right of the window and enter a Stick Offset value. The allowable range is -144 to +144 inches (-365.76 to +365.76 cm) and the default is 0.

Note: To enter a Stick Offset value, the Stick Offset option must have been enabled (page 44), and you must have calculated and entered the tank tilt (if necessary). A Stick Offset can be entered so that the probe (product) height "appears" to be equal to a stick gauge reading of the product height - *This entry is for operator convenience only, and as such it has no bearing on product volume calculations.*

To determine the value to enter for Stick Offset, record the probe height reading and record a stick height reading from the tank. If the probe's fuel height reading is lower than the stick reading, enter the positive difference between the two. If the probe's reading is higher than the stick reading, enter the negative difference between the two. For example, if stick height = 52 and probe height = 48, you enter +4; if stick height = 52 and probe height = 54, you enter -2.

Table 2: U.S. and Metric Thermal Coefficients

Product	Thermal Coefficient (U.S. Units)	Thermal Coefficient (Metric Units)
Alcohol	0.00063	0.00114
Aviation Gas	0.00075	0.00135
Biodiesel B20	0.00045	0.00081
Biodiesel B100	0.00044	0.00079
Diesel (fuel oil #2)	0.00045	0.00081
Ethylene Glycol	0.00037	0.00067
Fuel Oil #4	0.00047	0.00085
Gasohol	0.00069	0.00125
Gear Oil, 90W	0.00047	0.00085
Hydraulic Oil	0.00047	0.00085
Jet Fuel	0.00047	0.00085
Kerosene (fuel oil #1)	0.00050	0.00090
LPG Butane*	0.00109	0.00196
LPG Propane*	0.00160	0.00288
Leaded	0.00070	0.00126
Low Benzene Unleaded	0.00070	0.00126
Motor Oil	0.00047	0.00085
Premium	0.00070	0.00126
Regular Unleaded	0.00070	0.00126
Super Unleaded	0.00070	0.00126
Transmission Fluid	0.00047	0.00085
Turbine Oil	0.00047	0.00085
Water	0.00012	0.00022
Washer Fluid	0.00047	0.00085
Used Oil	0.00044	0.00079

**Coefficient dependent on temperature, 15°C is nominal.*

Table 3: Calculating Tank Tilt

Use the worksheet below to record measurements and perform Tank Tilt calculations for each of the tanks.

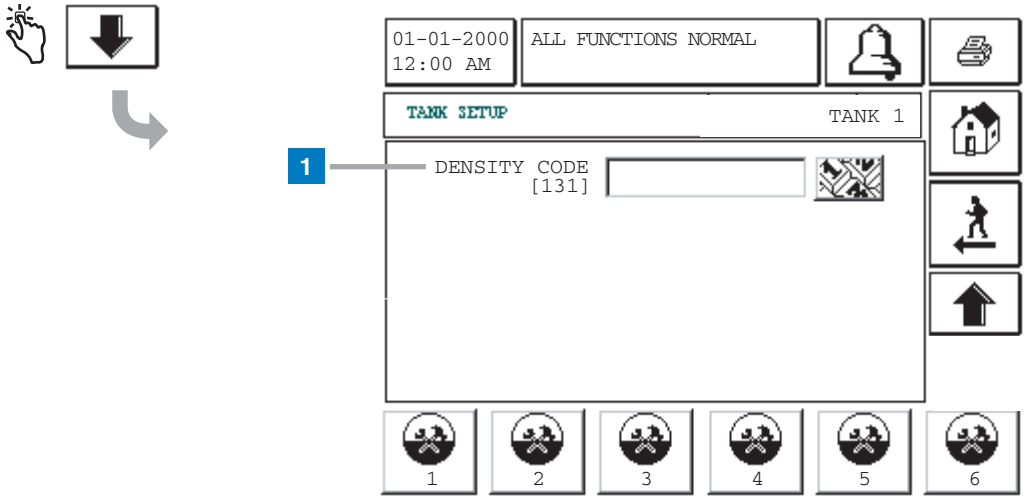
1. Stick the tank at the fill riser opening at least three times. Record the average reading in column A of the chart.
2. Before beginning this step, make sure the Tank Tilt [126] on the screen = 0. Record the probe's Fuel Height (In-Tank Inventory Function) reading in column B of the chart.
3. Subtract the value entered in column B from the value entered in column A. Record the result in column C.
4. Measure the distance in inches (or millimeters if you use Metric Units) between the probe and fill risers. Record the measurement in column D.
5. Divide the value in column C by column D to determine the pitch. Record the results in column E.
6. Measure the distance in inches or millimetres from the probe riser to the center of the tank. Record the distance in column F.
7. Multiply column E by column F to determine Tank Tilt (E X F = Tank Tilt Value). Record the value in column G.

Tank Tilt Calculation Worksheet

Tank No.	A Stick Gauge Avg. Height @ Fill Riser	B Probe's Fuel Height Reading (Probe Riser)	C (A - B = C)	D Distance Fill to Probe Risers	E Pitch (C / D = E)	F Distance from Probe Riser to Center of Tank	G Tank Tilt* (E x F = G)
1							
2							
3							
4							
5							
6							

*Tank Tilt may be a positive (+) or negative (-) value. If it is a negative value, BE SURE to change the value symbol to minus (-) when entering a negative Tank Tilt value.

[131] Tank Setup Screen 4



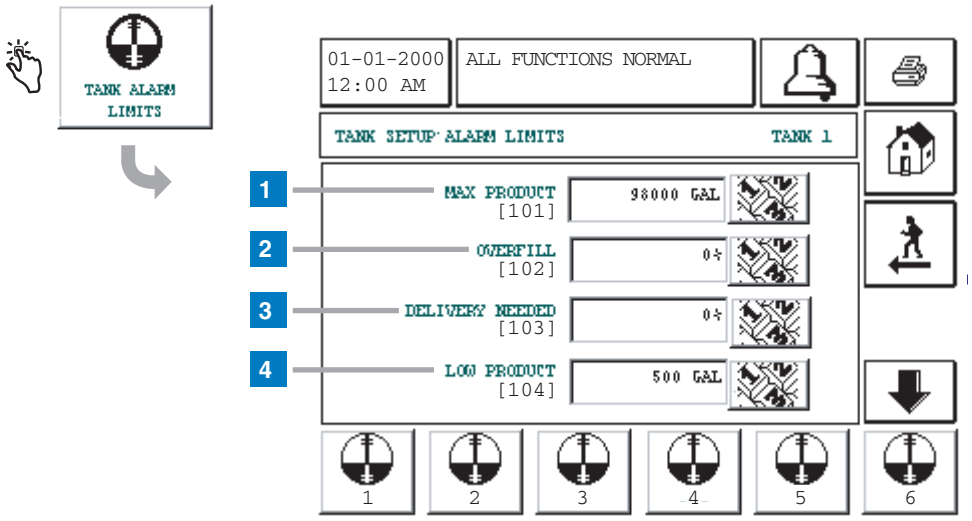
Legend for numbered boxes

This screen concludes Tank Setup.

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.

NOTE: If the Density Code is not available or is not entered into the console during configuration, the density measured accuracy will default to ± 2 kg/m^3.

101-104] Tank Alarm Limits Setup Screen 1



Legend for numbered boxes

This screen begins Tank Alarm Limits setup.

1 Max Product [101] - Alarms when the level of fluid in the tank exceeds the volume you enter here. Allowable range is 0-26000 gallons (0-98420 L). Default is 0. If the value entered is 0 or full volume, this alarm is disabled. An active Probe Low Temperature Warning will disable this alarm. Touch the Down Arrow button to the right of the window and enter the max product for the tank.

2 Overfill [102] - Overfill Limit warns of a potential overfill during a delivery. When the volume reaches this limit, the system can activate an overfill alarm. The overfill alarm threshold is referenced to the Max Product value. If the Max Product value is 0, the Overfill Alarm threshold is referenced to the Full Volume capacity. Allowable range is 0 to 100%. Default is 0 (disabled). An active Probe Low Temperature Warning will disable this alarm.

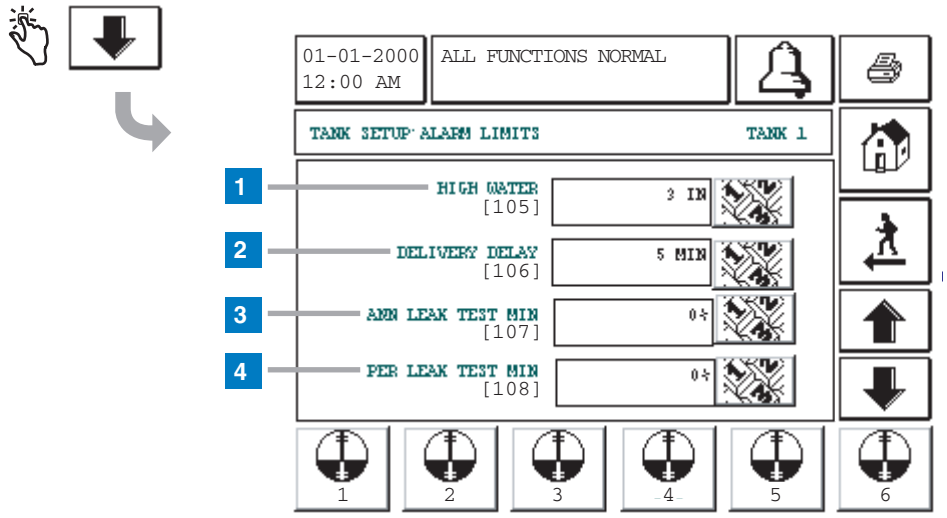
3 Delivery Needed [103] - Delivery Needed warns when the level of fluid in the tank drops to a level at which the operator calls for a delivery. This value is a percentage of Full Volume with an allowable range of 0 to 100%. Default is 0% (which disables the alarm).Touch the Down Arrow button to the right of the window and enter a volume higher than that of the Low Product alarm.

4 Low Product [104] - Low Product warns when volume in the tank pumps down to the level you enter here. Allowable range is 0-26000 gallons (0-98420 L). Default is 0 (which disables the alarm). An active Probe Low Temperature Warning will disable this alarm. Touch the Down Arrow button to the right of the window and enter this value at a volume lower than that of the Delivery Needed alarm.

NOTE: Typically this alarm is set to the lowest level before the pump runs dry. All dispensing should stop when this alarm is active.

The Tank Alarm Limit Setup continues on next page.

[105-108] Tank Alarm Limits Setup Screen 2



Legend for numbered boxes

This screen continues Tank Alarm Limits setup.

1 High Water [105] - Alarms when the level of water in the tank exceeds the height you enter here. Set this value at a level lower than the pickup for the submersible pump or suction line. Allowable range is 0-9 inches (0-228.6 mm). Default is 0 (which disables the alarm). Touch the Down Arrow button to the right of the window and enter the desired high water limit.

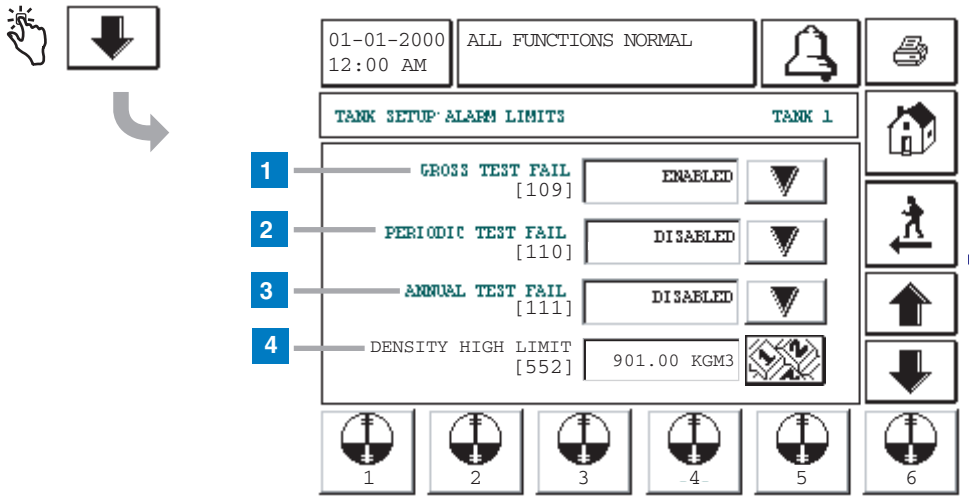
2 Delivery Delay [106] - Use this display to set a delay time between the completion of a bulk delivery and the Delivery Increase Report. This feature prevents generation of multiple reports during the intervals between multi-compartment drops to one tank. The feature also allows fuel to “settle out” after a delivery, which is especially important in manifolded tank groups. Allowable delay is 1 to 60 minutes. Default is 1. Touch the Down Arrow button to the right of the window and enter a desired delay.

3 Ann Leak Test Min [107] - This value sets the minimum tank volume required to record a passed annual leak test. The value reflects federal, state, and local requirements. This value is a percentage of Full Volume with an allowable range of 1.0 to 100%. Default is 0 (which disables the alarm). Touch the Down Arrow button to the right of the window and enter a volume.

4 Per Leak Test Min [108] - This value sets the minimum tank volume required to record a passed periodic leak test. The value reflects federal, state, and local requirements. This value is a percentage of Full Volume with an allowable range of 1.0 to 100%. Default is 0 (which disables the alarm). Touch the Down Arrow button to the right of the window and enter a volume.

The Tank Alarm Limit Setup continues on next page.

[109-111, 552] Tank Alarm Limits Setup Screen 3



Legend for numbered boxes

This screen continues Tank Alarm Limit setup.

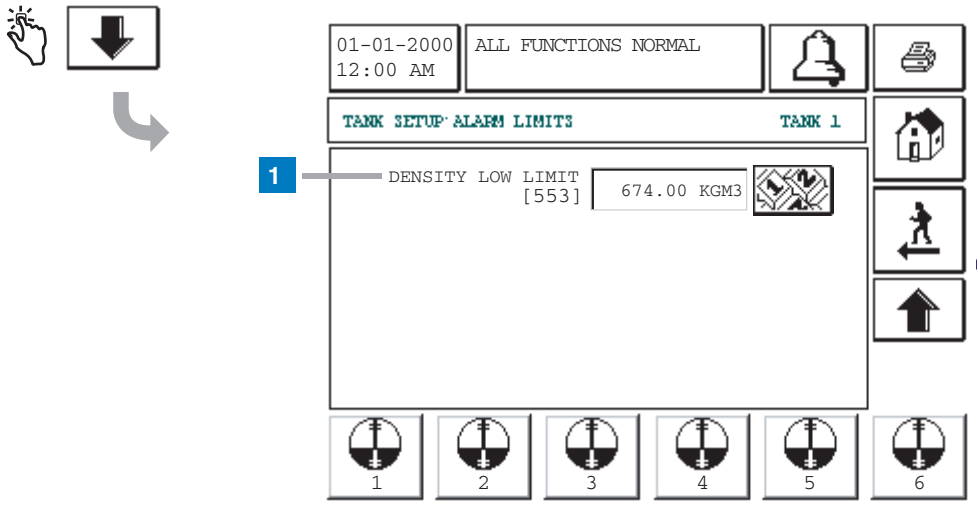
1 Gross Test Fail [109] - Gross Test Fail allows you to disable or enable an alarm that triggers if a 3 gph (11.3 lph) leak test fails. Choices are Alarm Enabled or Disabled. Default is Disabled. Touch the Down Arrow button to the right of the window and enter the desired choice.

2 Periodic Test Fail [110] - Periodic Test Fail allows you to disable or enable an alarm that triggers if a 0.2 gph (0.76 lph) leak test fails. Choices are Alarm Enabled or Disabled. Default is Disabled. Touch the Down Arrow button to the right of the window and enter the desired choice.

3 Annual Test Fail [111] - Annual Test Fail alarms when an annual leak test has not passed. Choices are Alarm Enabled or Disabled. Default is Disabled. Touch the Down Arrow button to the right of the window and enter the desired choice.

4 Density High Limit [552] - touch the numeric button to enter a high limit at which you want the set the density warning. Allowable Tank Density High Limit range is : 674.00 to 901.00 kg/m^3(42.076 TO 56.248 lbs/ft^3). Default high limit is 901.00 kg/m^3 (56.248 lbs/ft^3).

[553] Tank Alarm Limits Setup Screen 4

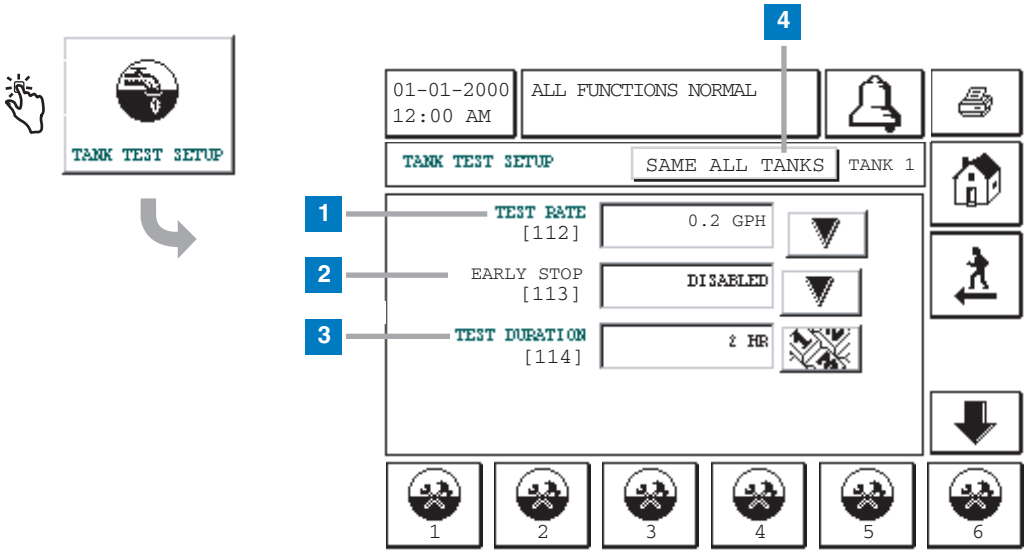


Legend for numbered boxes

This screen concludes Tank Alarm Limits setup.

1 Density Low Limit [553] - touch the numeric button to enter a low limit at which you want the set the density warning. Allowable Tank density low limit range is : 674.00 to 901.00 kg/m^3(42.076 to 56.248 lbs/ft^3). Default low limit is 674.00 kg/m^3 (42.076 lbs/ft^3).

[112-114] Tank Leak Test Setup Screen 1



Legend for numbered boxes

The Tank Leak Test Setup allows you to establish and enter the method, timing, and duration of automatic leak tests. You must have a Mag 1 or 2 probe installed to perform leak tests.

If you are using the In-Tank Leak Test feature for underground storage tank regulatory compliance, be sure the leak test limits you establish and enter comply with the test type, accuracy, and frequency requirements as defined by local, county, state, federal and any other regulatory authority governing your site.

In addition, set the test time for a period when no fueling from or bulk delivery to the tank will occur. Such activity during a leak test procedure will result in inaccurate leak test results.

1 Test Rate [112] - You can set the leak test rate at 0.2 gph (0.76 lph) (default) or 0.1 gph (0.38 lph). Selecting 0.1 gph (0.38 lph) requires a Mag 1 probe. Touch the Down Arrow button to the right of the window and enter the desired choice.

2 Early Stop [113] - Disabled is the default setting. When enabled this feature will prevent an In-Tank Leak Test from starting under the following conditions:

- Tank volume is less than Leak Min Periodic vlaue or Leak Min Annual value.
- It is less than 8 hours from a delivery.
- The product temperature is less than 0°F (-17.6°C) or more than +100°F (+37.4°C).
- There is too little fuel in tank.

Touch the Down Arrow button to the right of the window and enter the desired choice.

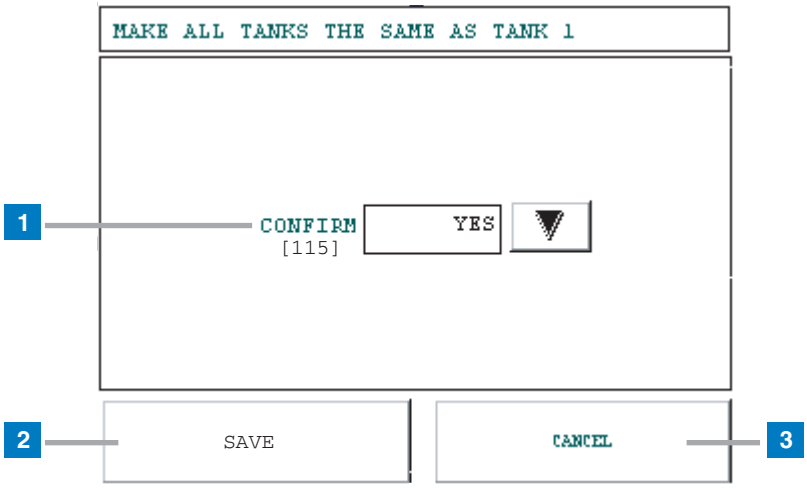
3 Test Duration [114] - The maximum duration is 24 hours. There is a minimum duration of two hours for 0.2 gph (0.76 lph) tests and three hours for 0.1 gph (0.38 lph) tests.

Note: If you have Early Stop enabled and the console determines that an Tank Leak Test has passed the test is completed before the duration times out. Default duration is 2 hours. Touch the Down Arrow button to the right of the window and enter the desired choice.

4 Same All Tanks button - Touch this button to transfer identical selections made on this screen for Tank 1 to All Tanks (opens the confirm Same All Tanks Screen on page 59).

The Tank Leak Test setup concludes on page 60.

[115] Same All Tanks Screen



Legend for numbered boxes

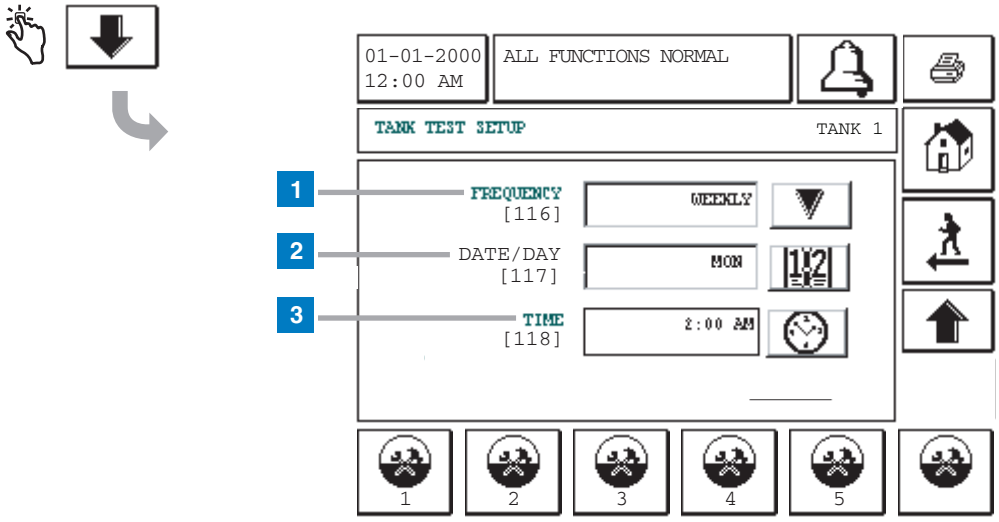
This screen appears if you touch the SAME ALL TANKS button on the Tank Leak Test Setup screens.

1 Confirm [115] - Select Yes to transfer the Tank 1 setup selections on the Tank Leak Test Setup screens to all configured tanks in the system. Select No not to transfer the Tank 1 setup to all tanks. Default is No. If necessary, touch the arrow button on the right of the window and change the entry.

2 Save button - Touch this button to save your selection and return to the Tank Leak Test Setup screen.

3 Cancel button - Touch this button to cancel your choice and return to the Tank Leak Test Setup screen.

[116-118] Tank Leak Test Setup Screen 2



Legend for numbered boxes

This screen concludes Tank Leak Test Setup.

1 Frequency [116] - You can choose from several Tank Leak Test frequency options:

- On Date
- Annually
- Monthly
- Weekly
- Daily

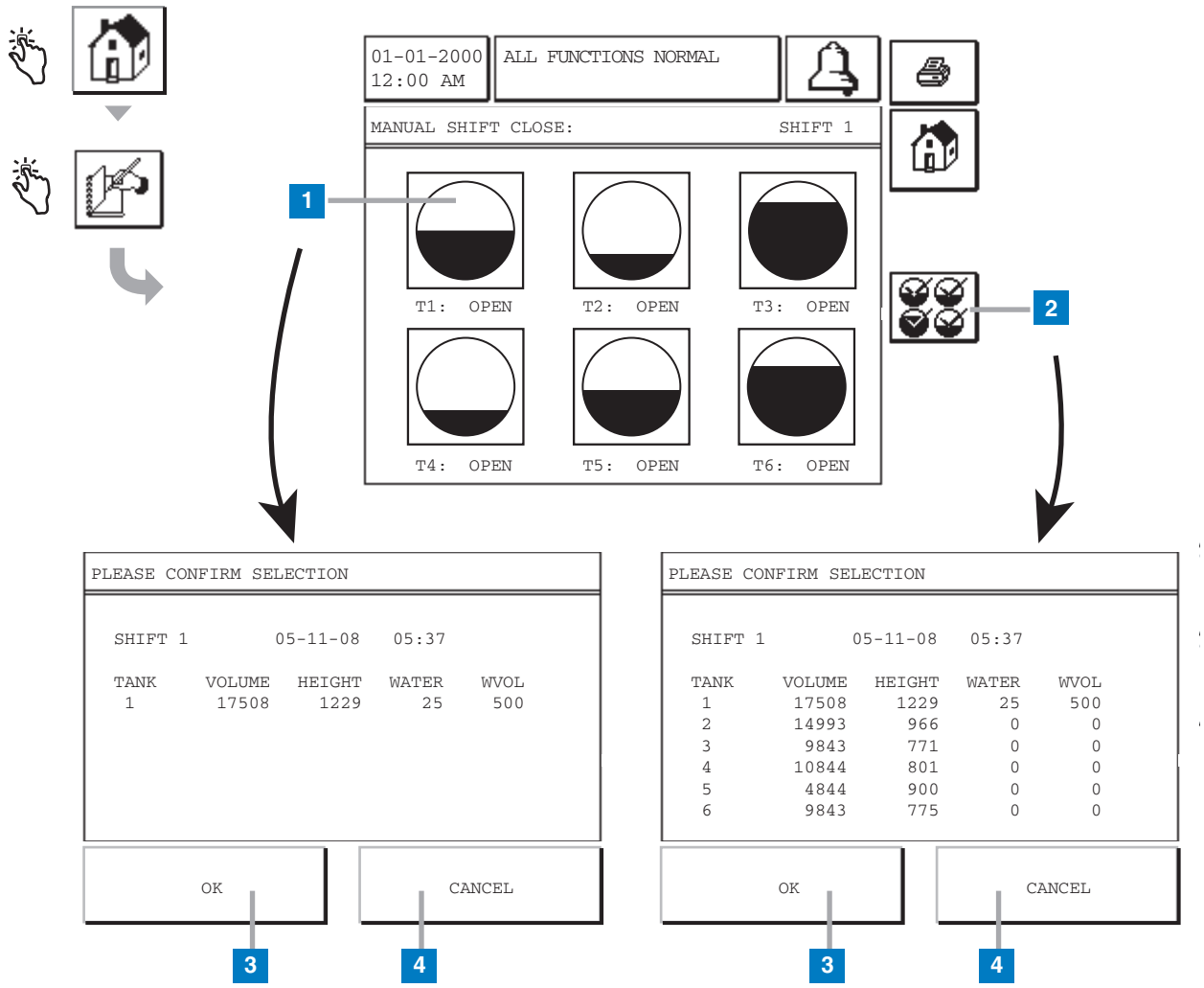
Touch the Down Arrow button to the right of the window and enter the desired choice.

2 Date/Day [117] - Touch the Date button to enter the day, month, and year on which to run the test.

3 Time [118] - Touch the Time button to enter the Time of Day for the leak test.

Manually Closing a Shift

Manual Shift Close Screen



Legend for numbered boxes

1 You can manually close the shift for any tank by touching the desired tank's graphic on the screen, or

2 You can manually close the shift for all tanks by touching the All Tanks button.

3 For either Single or All Tank shift closure, touch the OK button to confirm the closing.

4 For either Single or All Tank shift closure, touch the Cancel button to abort the closing.

NOTES:

Pressing a tank that is already closed will not display the confirmation close screen.

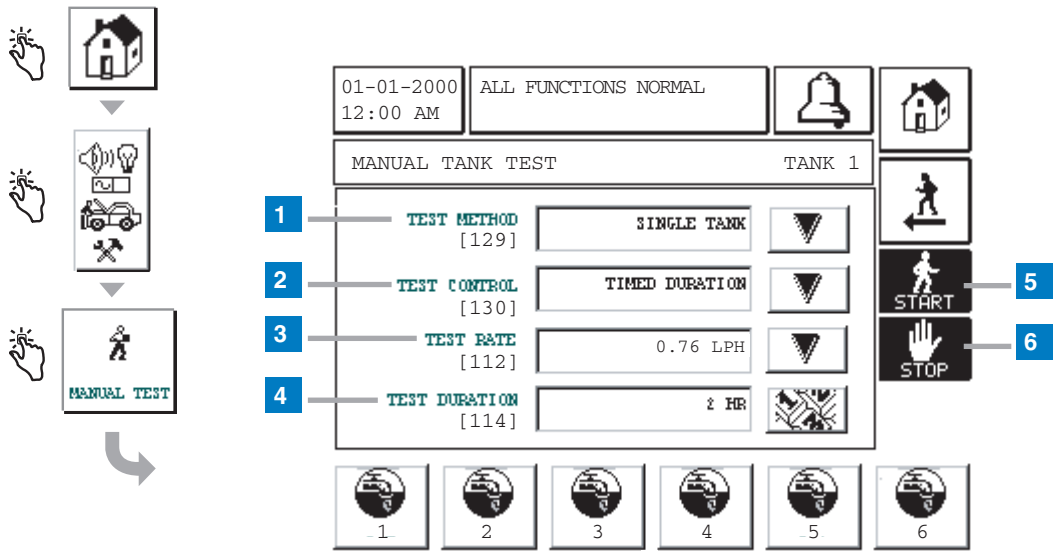
Once all tanks are closed, you can not close another shift until 2 hours after the last tank was closed.

From midnight to 11:59 pm, you can manually close a maximum of four shifts.

Manually Starting/Stopping Tank Leak Tests

Use this screen to manually start or stop a Tank Leak Test.

[112, 114, 129-130] Manual Test Start/Stop Screen



Legend for numbered boxes

1 Test Method [129] - Select Single Tank or All Tanks. Touch the Down Arrow button to the right of the window and enter the desired choice.

2 Test Control [130] - Select Timed Duration or Manual Stop (test runs until you stop it, or for 24 hours, whichever comes first). Touch the Down Arrow button to the right of the window and enter the desired choice.

3 Test Rate [112] - Select a leak test rate of 0.2 gph (0.76 lph) (default) or 0.1 gph (0.38 lph). The 0.1 gph (0.38 lph) rate requires a Mag 1 Probe. Touch the Down Arrow button to the right of the window and enter the desired choice.

4 Test Duration [114] - Select a test duration of from 0 to 24 hours. There is a minimum duration of two hours for 0.2 gph (0.76 lph) tests and three hours for 0.1 gph (0.38 lph) tests. Default is 2 hours.

Note: this window only appears if you selected Timed Duration in the Test Control window. Touch the Down Arrow button to the right of the window and enter the desired choice.

5 Test Start button - Touch this button to begin the test.

6 Test Stop button - Touch this button to stop a tank leak test.

Reports

System Reports

System reports are accessed from the System Status (Home) Screen (see page 5) by touching one of the four report buttons at the bottom of the screen. Table 4 describes the available System reports.

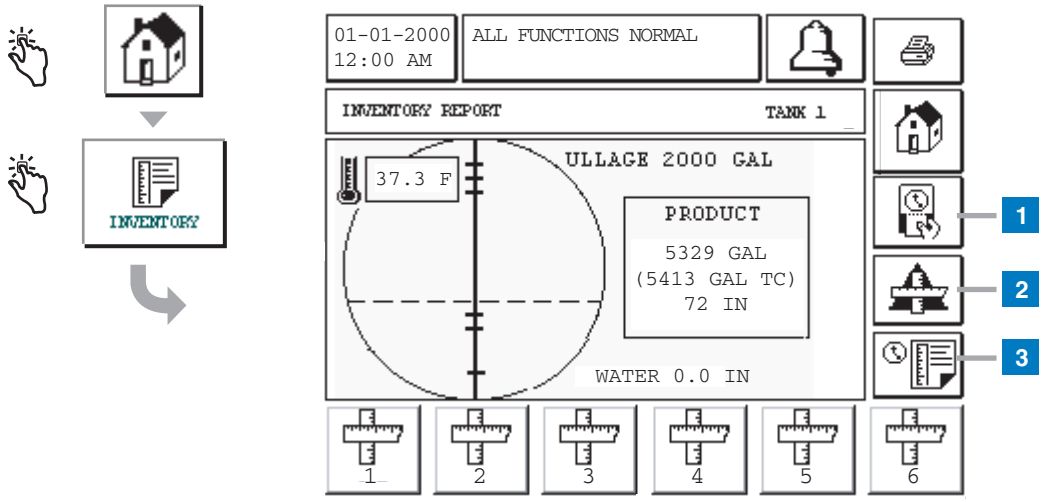
Table 4: System Reports

Report Button	Report	Report Parameters
	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.	INVENTORY REPORT (Non-Density Probe) Fuel Volume, TC Fuel Volume, Ullage, Fuel height, Water Height and Fuel Temperature. See example on page 65. INVENTORY REPORT (Density Probe) Fuel Volume, Mass, Density, Fuel height, Water Height and Fuel Temperature. See example on page 66.
	 Touch to display the Hourly Inventory Report for a selected tank. Touch the Print button to print the report to a connected printer.	HOURLY INVENTORY REPORT Date, Hour, Volume, Height, Water, Temp See example on page 66.
	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.	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 See example on page 67. 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 See example on page 68.
	 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.	POWER OUTAGE DELIVERY REPORT Start Date, Time, Volume; End Date, Time, Volume Amount

Table 4: System Reports

Report Button	Report	Report Parameters
 Touch to display the Environmental Reports Screen. When this screen displays you can select one of two test reports.	 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.	CURRENT TEST RESULTS Test Type, Start Date/Time, Test Result, Hours Run, %Volume in Tank at Time of Test
	 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.	FULLEST LAST PASS REPORT Test Type, Start Date/Time, Hours Run, %Volume in Tank at Time of Test
	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.	ACTIVE ALARM REPORT Device (T = Tank, C = Comm), Alarm Type, Date, Time See example on page 69.

Inventory Report (US Units and Non-Density Probe)



To see the inventory report(s) for any other tank touch the inventory report button for that tank at the bottom of the screen. To view the shift inventory report for the tank touch the Shift Inventory button (item 1 in the screen above). To view the stick height (if enabled), touch the Delta Stick button (item 2 in the screen above). To view the Inventory Log report for the selected tank, touch the Inventory Log Report button (item 3 in the screen above).

EXAMPLE REPORT PRINTOUT - INVENTORY REPORT WITH TC VOLUME

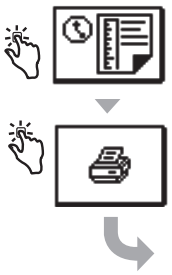
```
T 1:REGULAR UNLEADED
TANK          VOLUME     TC VOLUME     ULLAGE     HEIGHT     WATER      TEMP
1              5329         5413         4500       48.8       0.0       37.3
2              5329         5413         4500       48.8       0.0       37.3
```

EXAMPLE REPORT PRINTOUT - SHIFT INVENTORY REPORT WITH TC VOLUME

```
T 1:REGULAR UNLEADED
TANK          PRODUCT
1             REGULAR UNLEADED          VOLUME  TC VOLUME  ULLAGE  HEIGHT  WATER   TEMP
SHIFT 1           STARTING VALUES        8518       8492     1482   76.26   0.0    64.7
                  ENDING VALUES          8518       8492     1482   76.26   0.0    64.7
                  DELIVERY VALUE         0
                  TOTALS                 0
SHIFT 2           STARTING VALUES        8518       8492     1482   76.26   0.0    64.7
                  ENDING VALUES          8518       8492     1482   76.26   0.0    64.7
                  DELIVERY VALUE         0
                  TOTALS                 0
```

Inventory Report Notes

- The TC Volume and temperature columns are printed only for the probes in the system that have temperature measurement capability.
- If system setup parameter Print TC Volumes is set to NO, the TC Volume and temperature columns are not printed.
- The water column is printed only for probes in the system that have water measurement capability.



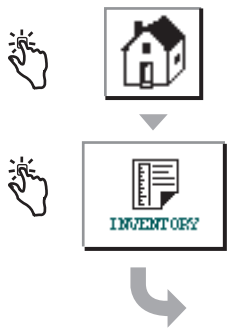
EXAMPLE REPORT PRINTOUT - INVENTORY LOG REPORT

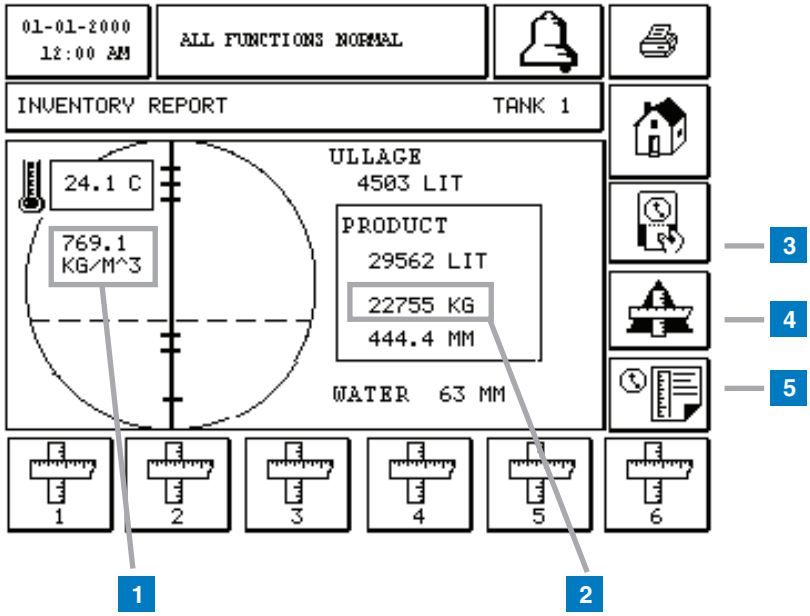
DATE	VOLUME	HEIGHT	WATER	TEMP
08-5-08 09:00	17508	1229	25	15
08-5-08 08:00	16508	1129	25	12
08-5-08 07:00	15508	1029	25	12
08-5-08 06:00	14508	929	25	12
08-5-08 05:00	13508	829	25	12
08-5-08 04:00	12508	729	25	12

Inventory Log Report Notes

- The Inventory Log report (reference page 18) is a rolling log of 72 (max.) records.

Inventory Report (Metric Units and Density Probe)





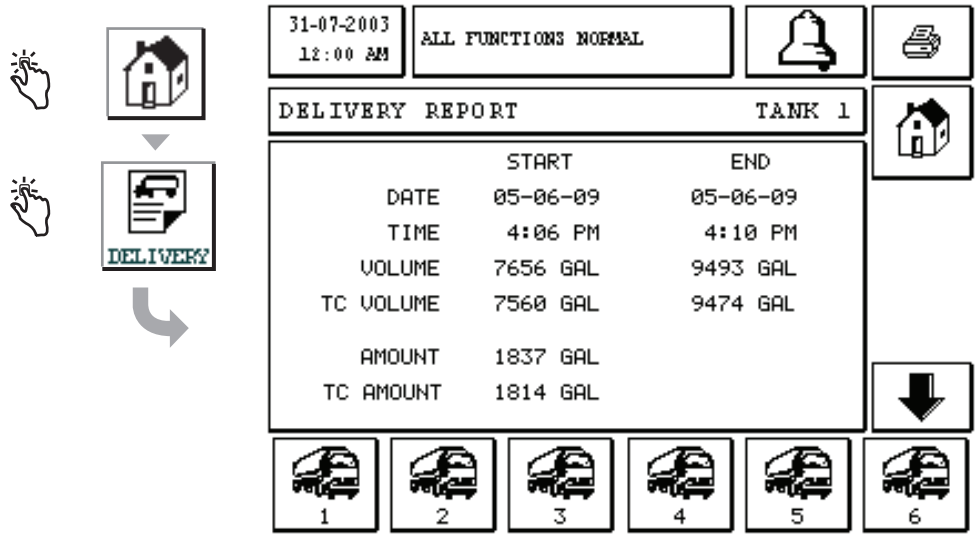
The inventory report for a tank with a density probe has the density value displayed in the tank graphic (item 1 in the screen above) and the mass value displayed in the Product box (item 2 in the screen above). If Temperature Compensated Density is enabled, TC will follow the density value, e.g., 769.1 kg/m^3 TC). The other values are in the same locations as for the non-density probe. Touch the inventory report button for the desired tank at the bottom of the screen. To view the Shift Inventory report for the selected tank, touch the Shift Inventory button (item 3 in the screen above). To view the stick height (if enabled) for the selected tank, touch the Delta Stick button (item 4 in the screen above). To view the Inventory Log report for the selected tank, touch the Inventory Log Report button (item 5 in the screen above).

EXAMPLE REPORT PRINTOUT - INVENTORY REPORT WITH DENSITY PROBE

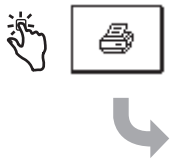
T 1:REGULAR UNLEADED

TANK	VOLUME	MASS	DENSITY	HEIGHT	WATER	TEMP
1	29562	22755	769.1	444	63	24.1

Delivery Report (US Units and Non-Density Probe)



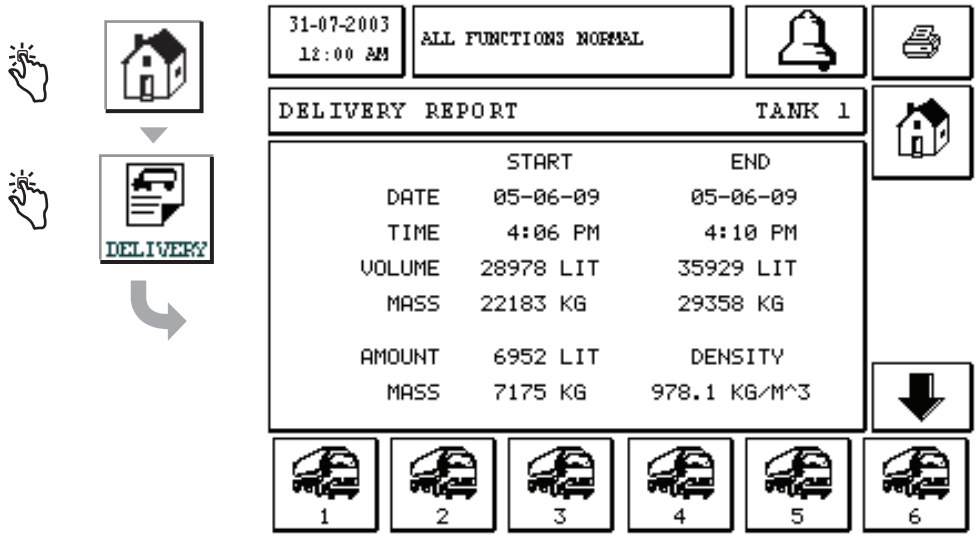
Touch the Tanker button at the bottom of the screen to view a delivery for that tank.



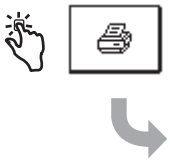
EXAMPLE PRINTOUT - DELIVERY REPORT WITH NON-DENSITY PROBE

```
T 1:REGULAR UNLEADED
INCREASE      DATE/TIME         VOLUME    TC VOLUME    WATER     TEMP     HEIGHT
     END:   05-06-09  4:10PM      9493         9474      5.3     76.9       21.6
   START:   05-06-09  4:06PM      7656         7560      5.1     77.0       17.2
 AMOUNT:                         1837         1814
```

Delivery Report (Metric Units and Density Probe)



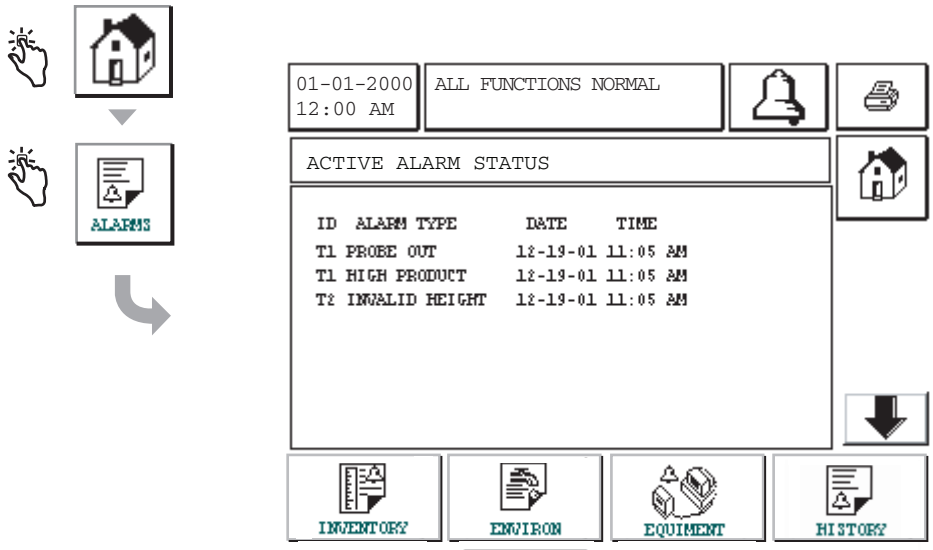
Touch the Tanker button at the bottom of the screen to view a delivery for that tank. Note: If TC Density is enabled, then TC Density will be displayed instead of Density.



EXAMPLE PRINTOUT - DELIVERY REPORT WITH DENSITY PROBE

```
T 1:REGULAR UNLEADED
INCREASE      DATE/TIME       VOLUME     MASS    DENSITY    WATER    TEMP   HEIGHT
     END:   05-06-09  4:10PM   35929    29358      817.0    134.8    24.9    549.7
   START:   05-06-09  4:06PM   28978    22183      764.9    130.5    25.0    436.1
 AMOUNT:                        6952     7175
```

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 5 describes the available reports.

Table 5: 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.	INVENTORY ALARM REPORT 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.	ENVIRONMENTAL ALARM REPORT 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	TANK EQUIPMENT ALARM REPORT Date/Time of last 3 Probe Out alarms for each tank.

Table 5: Alarm Reports

Button	Report	Report Parameters
4  Touch to display the Alarm Reports - Alarm History Screen. From this screen you can choose to view history of High or Low Priority Alarms.	 Touch to display the High Priority Alarm Report. Touch the Print button on the display to print the report to a connected printer	HIGH PRIORITY ALARM REPORT 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 Autodial 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.
	 Touch to display the Low Priority Alarm Report. Touch the Print button on the display to print the report to a connected printer.	LOW PRIORITY ALARM REPORT 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,

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 5) 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 5). 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.

In-Tank Alarm Information

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.

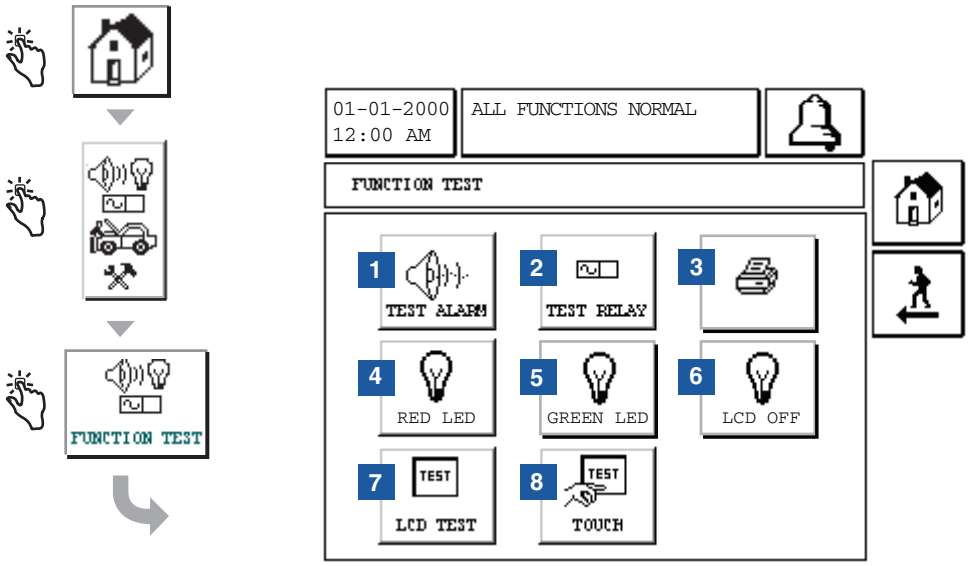
DELIVERY NEEDED ALARM

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.

Function Test Menu Screen



Legend for numbered boxes

This screen displays System Test Functions.

1 TEST ALARM button - Touch and the console beeper will beep.

2 TEST RELAY button - Touch and the relay is activated for 5 seconds.

3 Printer button - Touch and a test line will print to a connected printer.

4 RED LED button - Touch and the red front panel LED turns On for several seconds.

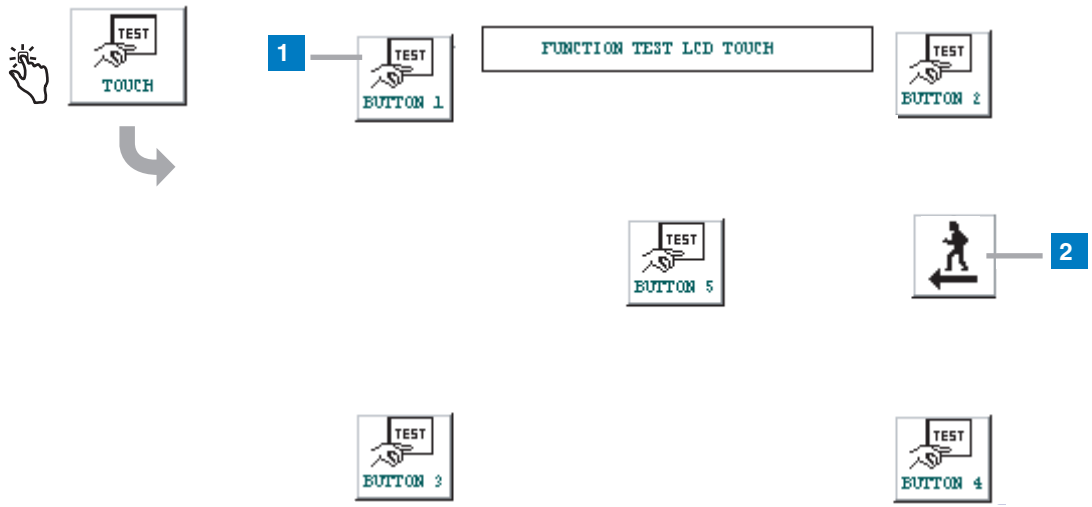
5 GREEN LED button - Touch and the green front panel LED turns On for several seconds.

6 LCD OFF button - Touch and the Display Screen backlight is turned Off. Touch this button again to turn the Display Screen backlight back On.

7 LCD TEST button - Touch and a video test pattern will run for several seconds and then clear.

8 TOUCH button - Touch to display the LCD Touch Test Screen (page 73).

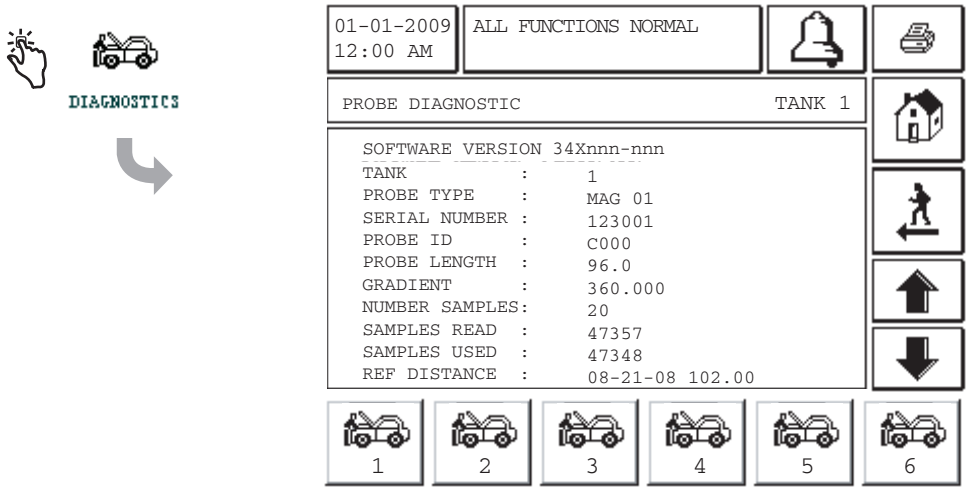
LCD Touch Test Screen



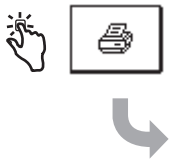
This screen displays 5 test buttons (e.g., item 1) around the display. Touch one of these buttons and a message appears showing that button's corresponding x/y coordinates and a look up list with the correct coordinates for all 5 buttons).

Touch the Back button (item 2) to return to the Function Test Menu Screen.

Probe Diagnostic Screen



Touch the down arrow to view available probe temperature data. To view another tank's probe diagnostics, touch the desired tank's Diagnostic button at the bottom of the screen.



EXAMPLE REPORT PRINTOUT - PROBE DIAGNOSTIC REPORT

```
SOFTWARE VERSION 349nnn-nnn-n

TANK            :  1                 2                 3
PROBE TYPE      :  MAG 1             MAG 1             MAG 1
SERIAL NUMBER   :  168809            50069             50069
PROBE ID        :  0XC000            0XC000            0XC000
PROBE LENGTH    :  30.00             18.0              18.0
GRADIENT        :  354.520           351.000           351.00
NUMBER SAMPLES  :  20                20                20
SAMPLES READ    :  47357             4730              4729
SAMPLES USED    :  47348             4706              4704
REF DISTANCE    :  08-21-08 102.00   08-21-08 102.00   08-21-08 102.00
                   08-27-08 102.01   08-27-08 102.01   08-27-08 102.01
REF DISTANCE    :  08-21-08 102.00   08-21-08 102.00   08-21-08 102.00
                   08-27-08 102.01   08-27-08 102.01   08-27-08 102.01
TEMP 6          :  72.6              76.9              71.2
TEMP 5          :  72.1              76.6              70.8
TEMP 4          :  70.9              76.1              70.3
TEMP 3          :  69.4              75.9              70.0
TEMP 2          :  68.3              75.8              69.7
TEMP 1          :  67.6              75.6              69.5
TEMP 6 - TEMP 5 :  0.5               0.3               0.4
TEMP 5 - TEMP 4 :  1.3               0.5               0.5
TEMP 4 - TEMP 3 :  1.5               0.2               0.3
TEMP 3 - TEMP 2 :  1.1               0.1               0.3
TEMP 2 - TEMP 1 :  0.7               0.2               0.2
COUNTS 00       :  001319            001405            001405

COUNTS 19       :  0X0000            0X0000            0X0000
```

AVAILABILITY OF PROBE DATA

Diagnostic probe data for configured tanks or for active tanks will be available in the Probe Diagnostic Screen above, in printed reports, and in serial commands. An active tank is defined as a tank that has a probe that is communicating with the system. If the tank is configured but not active, all data will be zero and the probe type will be unknown.

When the software identifies probes that do not have temperature measurement capability, it will inhibit temperature related data. For probes that do not have water measurement capability, it will inhibit water related data.

Label Code Index

Table 6 and Table 7 are included to help non-English speaking users find translations of all English labels used in the TLS2P Setup screens. Beneath each label is a unique code in brackets, e.g., [101]. This code is listed in the tables below and points to every Setup Screen in this manual where the label is used.

Table 6: Tank Setup Label Codes

Label Code	Label	Where Used
101	Max Product	page 72
102	Overfill	page 72
103	Delivery Needed	page 72
104	Low Product	page 72
105	High Water	page 55
106	Delivery Delay	page 55
107	Ann Leak Test Min	page 55
108	Per Leak Test Min	page 55
109	Gross Test Fail	page 56
110	Periodic Test Fail	page 56
111	Annual Test Fail	page 56
112	Test Rate	page 58 and page 62
113	Quick Mode	page 58
114	Test Duration	page 58 and page 62
115	Confirm	page 59
116	Frequency	page 60
117	Date/Day	page 60
118	Time	page 60
119	Configure	page 48
120	Prod Label	page 48
121	Manifold Status	page 48
122	Diameter	page 49
123	Full Volume	page 49
124	Tank Profile	page 49
125	Thermal Coeff	page 50

Table 6: Tank Setup Label Codes

Label Code	Label	Where Used
126	Tank Tilt	page 50
127	Float Size	page 50
128	Stick Offset	page 50
129	Test Method	page 62
130	Test Control	page 62
131	Density Code	page 53
320	Delivery Completed	page 40

Table 7: System Setup Label Codes

Label Code	Label	Where Used
201	System Language	page 9
202	Units	page 9
203	Serial Language	page 9
204	Header 1	page 10
205	Header 2	page 10
206	Header 3	page 10
207	Header 4	page 10
208	Security	page 13
209	Password	page 13
212	Date	page 15
213	Time	page 15
214	Time/Date Format	page 15
215	Shift 1	page 19
216	Shift 2	page 19
217	Shift 3	page 19
218	Shift 4	page 19
219	Daylight Savings	page 20
220	Start Date	page 20
221	Start Time	page 20
222	End Date	page 20

Table 7: System Setup Label Codes

Label Code	Label	Where Used
223	End Time	page 20
224	Phone Number	page 35
225	Retries	page 35
226	Retry Delay	page 35
227	Max Product	page 38
228	Overfill Limit	page 38
229	Delivery Needed	page 38
230	Low Product	page 38
231	High Water	page 39
232	Gross Test Fail	page 39
233	Periodic Test Fail	page 39
234	Annual Test Fail	page 39
235	Invalid Fuel Height	page 40
236	Probe Out	page 40
237	Low Temperature	page 40
238	Comm Type	page 21, page 22, page 24, page 25
239	Handshaking	page 21, page 24
240	ISO 3166 Country Code	page 9
241	Page Eject	page 24
244	Modem Type	page 25
245	Dial Type	page 25
246	Answer On	page 25
247	Dial In	page 26
248	Dial Out	page 26
249	Baud Rate	page 23
250	Parity	page 23
251	Data Length	page 23
252	Stop Bits	page 23
253	Printer Lang	page 24

Table 7: System Setup Label Codes

Label Code	Label	Where Used
254	TC Density	page 43
256	Alarm Relay	page 42
257	TC Reference	page 43
258	Print TC Volume	page 43
259	H-Protocol Format	page 44
260	Euro Protocol Prefix	page 44
261	Stick Height Offset	page 44
262	Leak Test Format	page 44
263	Old Password	page 14
264	New Password	page 14
265	Confirm New	page 14
266	Password	page 7
267	Password	page 46
270	Dial Type	page 33,page 35, page 36, page 37
271	Remote IP	page 36
272	Remote Port	page 36
273	Recipient 1	page 37
274	Recipient 2	page 37
275	From	page 37
276	Mail Server	page 37
277	Push Site ID	page 36
278	Site ID	page 36
280	Host IP	page 28
281	Subnet Mask	page 28
282	Gateway IP	page 28
283	Host Port	page 28
500	Shift Close Method	page 18
501	Shift Close Timeout	page 18
502	Inventory Log Time	page 18
503	Inventory Log Interval	page 18

Table 7: System Setup Label Codes

Label Code	Label	Where Used
550	Shift Close Event	page 41
551	Density Warning	page 41
552	Density High Limit	page 56
553	Density Low Limit	page 57

Accessing The TLS2P Web Server

Once the TLS2P has been installed and setup, you can access the TLS2P web server via a Wide Area Network (WAN); or by connecting your laptop directly to the TLS2P.

Connecting to the TLS2P in a WAN

What you will need:

- The IP address and host port number of the TLS2P (see your network administrator)

Connection Procedure:

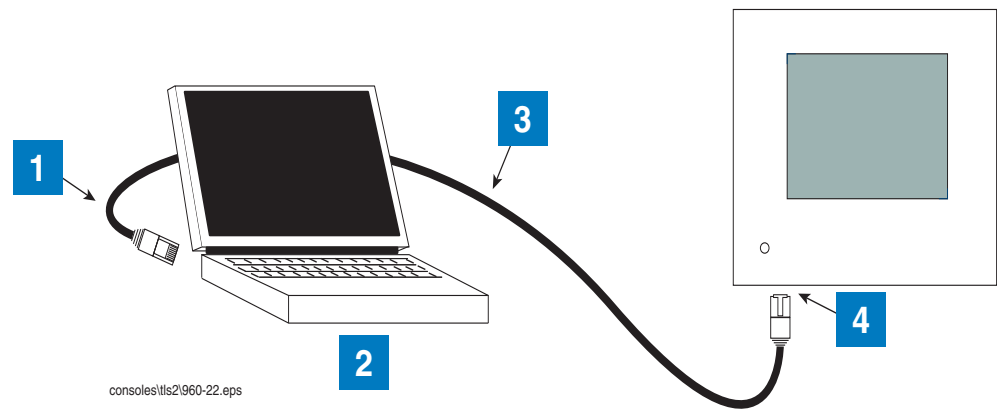
1. Enter the IP address and host port of the TLS2P in the address window of your in browser , e.g, 12.2.1.120:10001 and click the go-to button. You should see the TLS2P Home screen.

Connecting a Laptop Directly to the TLS2P

What You Will Need:

- Ethernet crossover cable
- IP address of TLS2P
- A Static IP address for laptop.

1. Connect your laptop to the TLS2P as shown in Figure 1. Go to your laptop's Control Panel folder and doubleclick the 'Network and Dial-up Connections' icon.



Legend for Numbered Boxes

1 Plugs into RJ45 Ethernet connector in Laptop.

2 Laptop

3 You MUST use an Ethernet crossover cable!

4 Plugs into RJ45 connector in bottom of console

Figure 1. Direct Connection

2. Select **Local Area Connection** and the status screen displays (Figure 2).

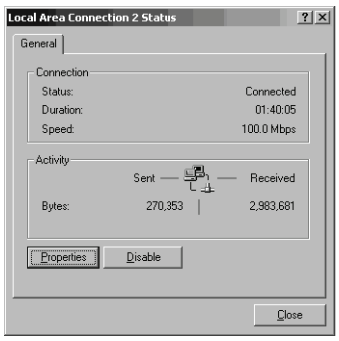


Figure 2. Local Area Connection Status Screen

3. Click the **Properties** button and the Local Area Connection Properties screen displays (Figure 3).

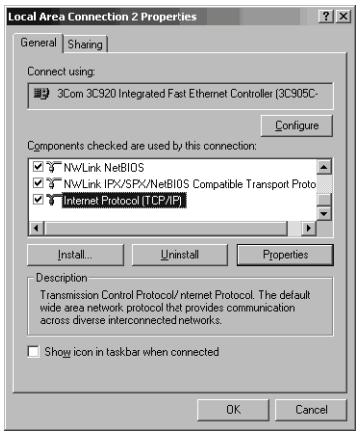


Figure 3. Local Area Connection Properties Screen

4. In the 'connections or components used check list' window, highlight Internet Protocol (TCP/IP) and then click the **Properties** button to display the Internet Protocol TCP/IP Properties dialog box (Figure 4).

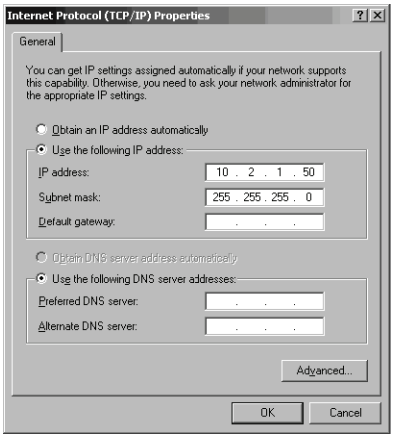


Figure 4. Internet Protocol TCP/IP Properties dialog box

5. Click the **Use the following IP Address** radio button and enter an IP Address and Subnet mask for your laptop. You can use an IP address that is one digit off from the customer supplied IP Address you will assign to the console's TCP/IP Interface Module. For example, if the IP Address for the TLS2P is 12.2.1.120, you would enter 10.2.1.119 for the laptop's IP Address. You also need to enter a Subnet mask. Use the same Subnet mask that is in the example in Figure 4 above (255.255.255.0). Click OK to accept your entries.

   Note: Prior to reconnecting your laptop to a network, you will need to select the **Obtain an IP address automatically** radio button shown in Figure 4 above.

6. Open your browser and enter the IP Address of the TLS2P and click the Go-To button. You should see the TLS2P Web Server Home Page.

TLS2P Web Server Main Pages

- Home Page - Displays after connecting to TLS2P web server. Also displays when you click on the top **Home** button (see Figure 5).
- Inventory Report Page - displays whcn you click on the top **Inventory** button (see Figure 6).
- Delivery Report Page - displays when you click on the top **Delivery** button (see Figure 7).
- Alarms Report Page - displays when you click on the top **Alarms** button (see Figure 8).

Display a TLS2P RS-232 Command

1. Enter a valid TLS2P RS-232 command (reference manual 577013-767) and click enter. For example, entering **I10100** and clicking Enter would display the System Status Report for the TLS2P.
2. Click the **Clear** button at the bottom of the screen to clear the page.
3. Click the **Reset Port** button at the bottom of the page to reestablish a connection with the TLS2P should that be necessary.

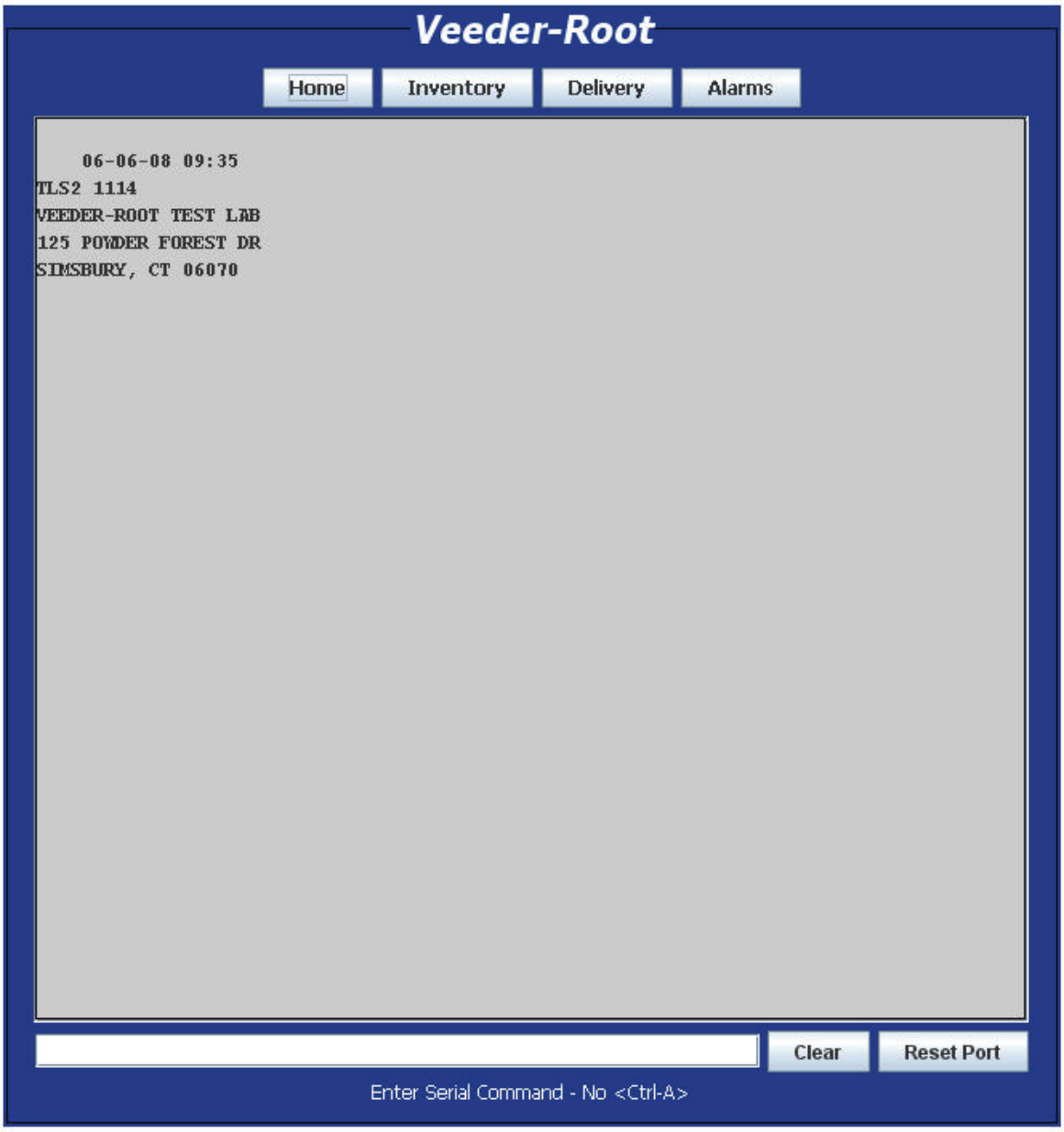


Figure 5. TLS2P Web Server Home Page

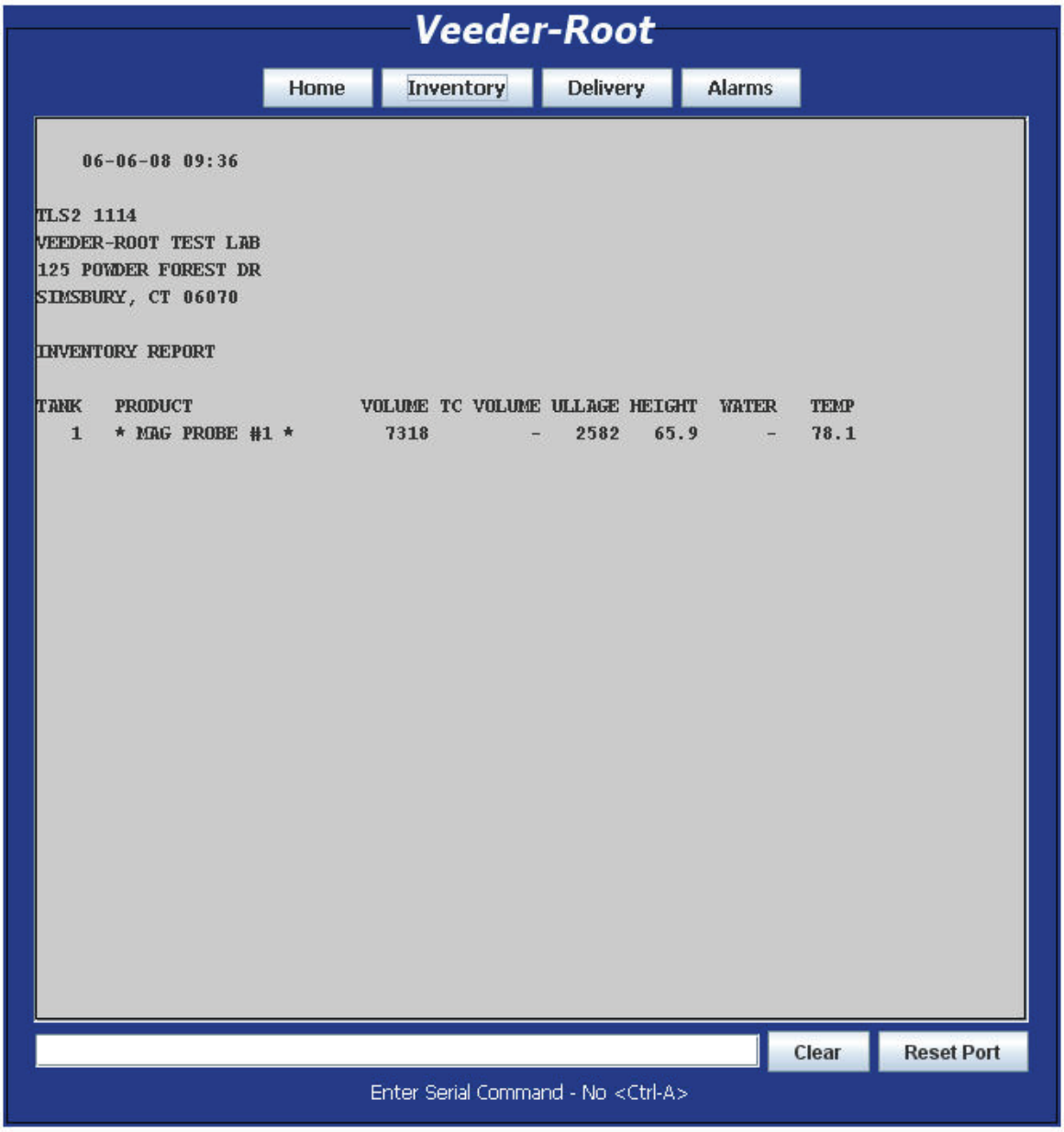


Figure 6. TLS2P Web Server Inventory Page

Figure 7. TLS2P Web Server Delivery Page

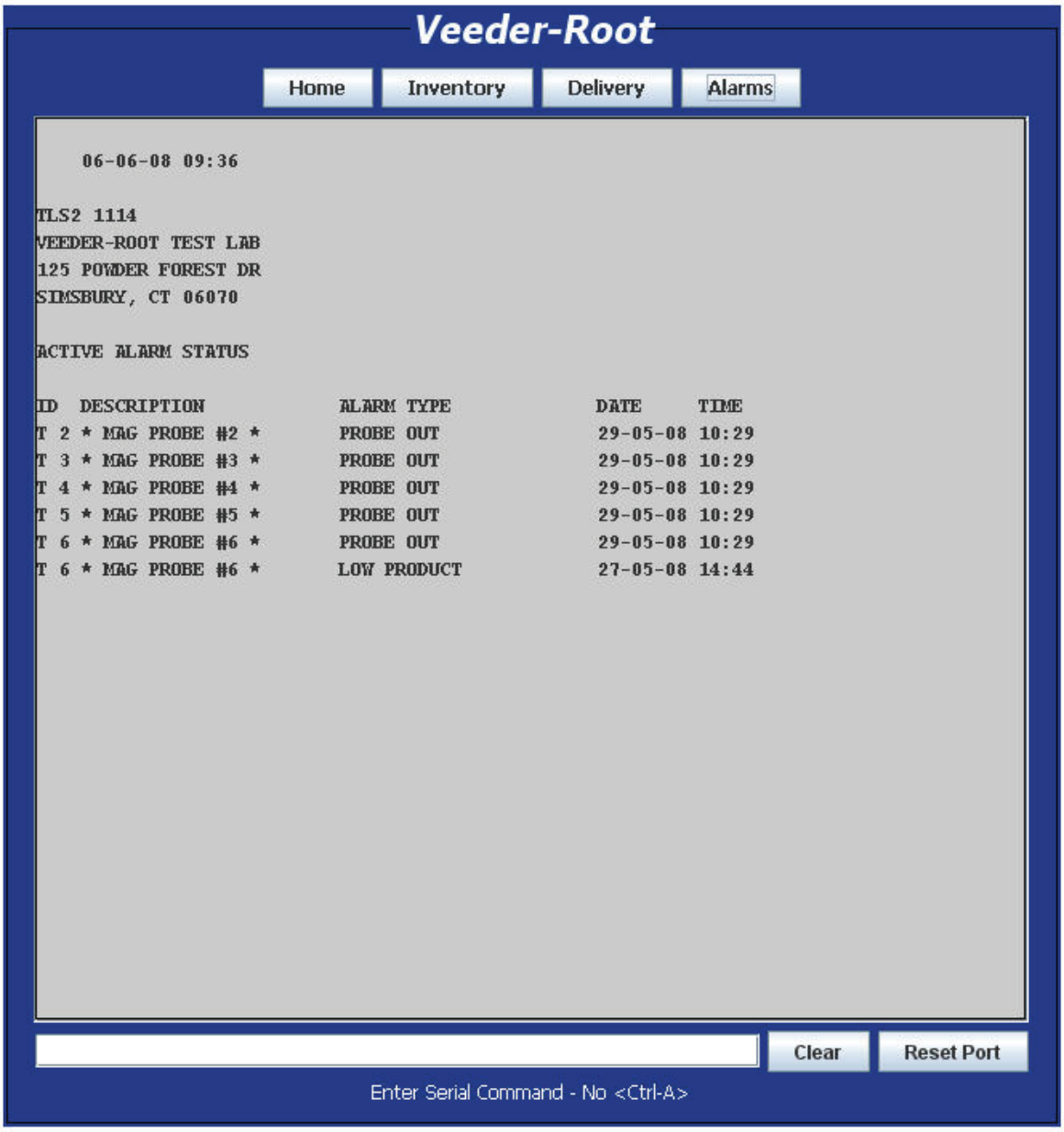


Figure 8. TLS2P Web Server Alarms Page

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