FINCH III OPERATOR GUIDE

FOR TRUEFILL SOLUTIONS

Document Version: 1.2
Last Updated: June 22, 2026

CONTENTS

1 INTRODUCTION

1.1 About this Manual

This manual provides installation and operational information for the Titan Logix TrueFill PRO system, designed specifically for the refined petroleum market.

Titan Logix equipment **must** be installed, operated, and maintained only in accordance with the instructions provided in Titan Logix manuals, application notes, and other related documentation from Titan Logix. If installation or operation falls outside the scope of this documentation, contact **Titan Logix Technical Support** before proceeding.

Documentation for optional equipment or third-party peripheral systems is not included in this manual. Refer to the documentation supplied by the respective equipment manufacturer for installation and operating instructions.

Additional documentation and product resources are available from the **Titan Logix Help Center:** (***help.titanlogix.com***).

1.2 Safety Information

WARNING

Installation, operation and service of this equipment must be performed only by qualified personnel familiar with the equipment and applicable safety and electrical regulations.

Failure to follow the instructions provided in this manual may result in equipment damage, personal injury, or loss of life.

CAUTION

Improper or unintended use of this product, including operation outside the conditions described in any Titan Logix's product documentation, may impair the protection provided by the equipment as well as void the warranty.

Installation, operation and service of this equipment must be performed only by qualified personnel familiar with the equipment and applicable safety and electrical regulations.

Failure to follow the instructions provided in this manual may result in equipment damage, personal injury, or loss of life.

1.3 Hazardous Location Requirements

WARNING EXPLOSION HAZARD

- Substitution of components may impair suitability for **Class I, Division 1** locations.
- Do **not** disconnect equipment or replace fuses unless power has been switched off and the area is known to be non-hazardous.
- Install equipment in accordance with **Drawing 1001516_DME**.
- Maximum non-hazardous voltage must **not** exceed **30V**.

Certification Requirements

To maintain certification and safe operation:

- Each relay must be supplied with **8–30 VDC, 3.3A maximum transient-protected power** to maintain the **Class I, Division 2 rating**.
- Replace fuses only with Titan Logix's sand-filled fuses of the same type and rating.
- The FINCH III system requires high-temperature cable.
- Cable diameter must be within 0.260 in (6.6 mm) to 0.545 in (13.8 mm) to maintain proper strain relief integrity.
- Connections that introduce additional electrical transients into the power supply circuit are not permitted.

	**CAUTION – STATIC IGNITION HAZARD** Non-metallic enclosure components may present a static ignition hazard. Clean the enclosure only with a damp cloth and install the equipment in a manner that prevents static charge buildup caused by airflow, non-conductive process flow, or friction.

1.4 Service and Repair

	**CAUTION** FINCH III is an intrinsically safe associated apparatus and contains **no user-serviceable internal components**.

Field repair of Titan Logix equipment is **not** recommended. If service is required, contact **Titan Logix Technical Support** for guidance and to determine if service is required.

Temporary or emergency field repair of damaged cables or wiring may be performed if necessary; however, the affected cable or wiring must be replaced at the earliest opportunity.

1.5 Warranty

Use of unauthorized parts, improper wiring, or any modifications not approved by Titan Logix Corp. will **void** the manufacturer's warranty.

All installations must follow Titan Logix specifications and installation guidelines to maintain warranty coverage.

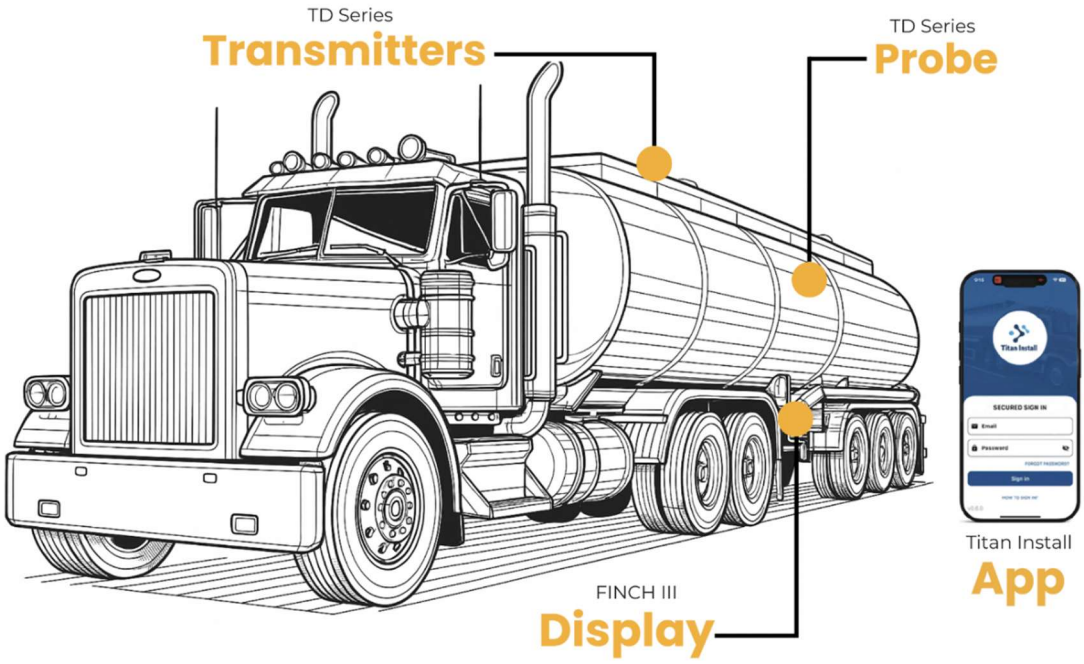
1.6 System Overview

The **FINCH III display** is the latest part of the Titan Logix mobile liquid measurement system designed for continuous tank level monitoring and overfill protection in mobile tank applications.

The system uses **Guided Wave Radar (GWR)** technology to continuously measure liquid level inside the tank. A radar pulse is transmitted along the probe toward the liquid surface. The reflected signal is returned to the transmitter, which calculates the liquid level and corresponding volume. This information is then transmitted to the FINCH III display.

The Titan Logix system operates without any moving parts, reducing mechanical wear and maintenance requirements.

	**IMPORTANT** System configuration and programming are performed using the Titan Install App and Titan Portal platform.


TD Series
Transmitters
TD Series
Probe
FINCH III
Display
Titan Install
App

2 System Operation

2.1 FINCH III Display

FINCH III is Titan Logix's latest version of our display in our mobile liquid level measurement system. The FINCH III is an intrinsically safe associated apparatus and has been designed to withstand harsh environments and is certified for use in hazardous locations.

The FINCH III Display shows the liquid level volume within the compartment in real-time, any active alarms, as well as error codes that apply for that specific compartment. A single FINCH III display can support up to six compartments on a single tanker.

Three high powered relays can be customized to indicate SPILL, High-High, FILL/FALL alarms and Error codes using external devices such as overfill prevention valves, lights, horns, and pump controls.

The FINCH III display is designed to:

- Shows real-time liquid levels, alarms, and errors with a bright 5-digit LED screen.
- Work safely in hazardous locations to prevent overfill incidents.
- Control up to six TD100 transmitters for compartment monitoring.
- Control up to three high powered relays for alarming, high level shutdown and low-level prevention. These built-in relays can control lights, horns, solenoids, or other external devices based on reaching specific levels in each compartment.
- Directly connect to any standard API socket for rack control without extra devices.
- Handle outdoor conditions, although it is recommended to install it in a weather protected cabinet for best results.

2.2 Start Up

When power is applied to the FINCH III, each TD100 Transmitter and the FINCH III display will run through a short, warm-up cycle. During this boot-up process, the current FINCH firmware version will scroll across the FINCH III display every time the FINCH III is powered on.

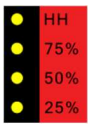
Once the boot-up process is complete, the FINCH III display will enter its normal mode of operation. It will either show an error code/Alarm status, the liquid level inside the selected compartment, an Alarm status, or an error code.

!	**NOTE** If the FINCH III warm-up cycle completes before the TD100 Transmitters warm-up cycle, five dashes (-----) will appear on the FINCH III display for a few seconds until the full boot-up process is complete. No action is required if this happens. If the dashes do **NOT** go away after the FINCH III boot-up cycle is completed, refer to help.titanlogix.com for more details on error codes and troubleshooting steps.

2.3 FINCH III Operator Interface

The FINCH III receives a continuous stream of information and alarm states from each connected TD100 transmitter in real-time. Volume alarm states and errors are shown on the display. Alarms can be configured to control relays and to signal or operate external devices for multiple options for fail-safe overfill prevention. The FINCH III can support up to 6 compartments.

Relays can be programmed to indicate Error, Spill and High-High alarms to external devices such as overfill prevention valves, lights, horns, and stationary loading controls. These relays can indicate a pre-set, increasing Fill or decreasing Fall level to warn of an approaching operator action while loading or unloading product.

Indicator	Description
Compartment # 	• The blue digit shows the currently selected compartment • The digit automatically switches to any compartment that has any active alarms or errors (digit number is blinking when this occurs)
5 Digit Display 	• Shows volume readings, alarm messages, error codes, fill/fall settings, and calibration settings • When a TD transmitter connection is not available, the display will show "-----".
Level % 	LED lights that provide a quick visual indication of the percentage of the High-High (HH) volume of the currently selected compartment.
SPILL – ERROR 	• This LED turns red and is lit up to indicate if there is a Spill alarm reached or when any Error codes appear on the FINCH display. • These alarms are not acknowledgeable and require specific procedures to be followed.
RACK STATUS 	The Rack Status option is configured when programming your system through Titan Install. If Rack Loading is NOT enabled: **LED Light Off:** The system does not detect rack loading. If Rack Loading IS enabled: **LED Light Green:** Permit Status, no retained fluid detected and/or errors detected **LED Light Red:** Non-permit Status, Retain alarm is not acknowledged, error detected at the rack or with the Titan System, or the liquid level has reached the non-permit status in the compartment

2.4 FINCH III Buttons

Button	Description
	Push this button to cycle through all the available compartments. When a compartment is selected, the 5-digit display and error/level LEDs will show information about the compartment. It is not possible to switch compartments if there is an active error alarm. The blue digit next to this button is the compartment number displayed.
	The HORN MUTE button turns the HORN relay feature on and off. • **LED Light Red:** when the HORN MUTE feature is enabled – the external horn will not go off, even if it is configured to based on a specific alarm. • **LED Light OFF:** The Horn Mute feature is disabled, where an external horn will go off if this is configured.
	The ACK button will clear any active alarms that can be acknowledged. Fall, Fill and High-High alarms are acknowledgeable. Once acknowledged the alarms are cleared, and any assigned relays will return to a non-alarming state. All alarms (except for Spill and Error) can optionally be configured as acknowledgeable or locked until the alarm condition clears.
	The DIM/SLEEP LED blinks when the display is in sleep or display mode. This button adjusts the brightness level of the display as well as puts the display into sleep mode. The display has 3 brightness levels (max, medium, low) and sleep mode. This button press will put the display to sleep mode after the lowest brightness setting. All acknowledgeable alarms must be cleared with the ACK button before entering sleep. Non-acknowledgeable alarms do not prevent sleep mode entrance. • Cycles through high, medium, and low brightness as the button is pressed. • If the brightness is LOW, pressing the button again will put the display into Sleep Mode. • If the display is in Sleep Mode, pressing the button again will put the display into Active Mode at the highest brightness setting. • The LED in the top right corner of the button will blink while in Sleep Mode.
	The up and down arrows are used when going into manual calibration on the FINCH display. Press either the ▲ arrow or ▼ arrow to adjust the volume displayed on the FINCH display when in manual calibration mode.

2.5 Modes of Operation

The FINCH III Display has different modes of operation. The system will not allow the user to switch operating modes until all Acknowledgeable alarms have been acknowledged.

Operation Mode	Description
Sleep Mode	Sleep mode can be enabled by the operator so that all alarms are disabled, and the display remains inactive. While in sleep mode the Display DIM/SLEEP LED blinks, indicating that the alarm functions are disabled. Sleep mode can only be entered when all acknowledgeable alarms have been cleared, and then by pressing the DIM/SLEEP button from the lowest brightness setting. Active non-acknowledgeable alarms do not prevent sleep mode entrance. • Blanks the display and ignores the alarms. • Press an arrow button to briefly wake the display. The display will go blank again after 30 seconds of no activity. • Entered by pressing the DIM SLEEP button when the display is in its lowest brightness setting. • Exit Sleep Mode by pressing the DIM SLEEP button.
Display Mode	Display mode is entered by pressing the ▲ or ▼ arrow button while in sleep mode. The display mode shows the current tank volume, as well as any unacknowledgeable error codes. The unit stays in Display Mode for 30 seconds before returning to Sleep Mode.
Active Mode (Monitor)	To enter Monitor Mode, the display enable signal must be active. The FINCH Display shows the current volume or “2 Lo". Optional display of flashing "2Lo" and estimated volume is available. The Spill, High-High, Fill and Fall Alarms also remain active in this mode and will respond if the conditions are reached. • Fully active mode that displays the tank's liquid level, alarms, and errors. • “2Lo” and estimated volume display • If there is a connection issue between the TD transmitter and the FINCH III, it will display five dashes “-----“. • Active mode can be entered by pressing the DIM SLEEP button while in Sleep Mode.

3 SYSTEM ALARMS

The Titan Logix system has several alarms and alerts that will respond to various liquid levels within the tank.

3.1 SPILL Alarm

This alarm may be adjusted using Titan Install App depending on the Probe type in the tank.

The maximum volume for the Spill alarm is a safety feature that is set at factory and cannot be altered. This alarm may be assigned to relays. If the Spill Alarm level is reached, the FINCH III Display flashes "Spill" and the last known volume; any relays assigned to the Spill alarm will respond.

- Triggered when the liquid reaches the spill level.
- Display flashes "SPILL" until the level is reduced.
- Unable to clear this alarm by pressing the ACK button.

Important: Do not turn off the unit while unloading, or the alarm may not reset.

Alarm Configuration:

Determined based on Probe type.

3.2 HH Alarm

The High-High alarm (HH) is set when programming the system using Titan Install.
This alarm may be assigned to the relays. When the HH alarm is triggered, the assigned relays are activated, and the display alternately flashes the current volume and "HH".

To acknowledge the alarm, press the ACK button. If the Fill or Fall alarm and the High-High alarms are triggered at the same time, they can both be acknowledged at the same time by pressing the ACK button.

- Signals the tank is at maximum safe capacity.
- The default level is 2.0" below SPILL. HH can moved as high as 0.5" below the Spill level.
- Can clear this alarm by pressing the ACK button.

Alarm Configuration:

Set during installation or programming.

3.3 FILL Alarm

The FILL alarm can be set using Titan Install or the FINCH III display.

The Fill alarm volume can be used in filling the tank to a predetermined level and can be assigned to a specific relay. When the Fill volume is reached, the alarm is triggered, and the assigned relays are activated. The alarm will continue until it is acknowledged by pressing the ACK button.

Note:

The Fill alarm is factory-set to the HH alarm volume.

- Set to warn about filling to certain levels.
- Can clear this alarm by pressing the ACK button.

Alarm Configuration:

The FILL alarm can be set using Titan Install or the FINCH III display.

3.4 FALL Alarm

The Fall alarm volumes can be used in filling or draining the tank to a predetermined level and can be assigned to a specific relay. When the Fill or Fall volume is reached, the alarm is triggered, and the assigned relays are activated. The alarm will continue until it is acknowledged by momentarily pressing the ACK button.

Note:
The Fall alarm is factory-set to 0. If a value below 2Lo is set, the alarm will not be triggered. The Fill and Fall alarm settings are set independently on each compartment.

- Set to warn about unloading to certain levels.
- Can clear this alarm by pressing the ACK button.

Alarm Configuration:

The Fall alarm can be set using Titan Install.

3.5 Retain Alarm

Retain is an optional alarm that can ONLY be used with the ClearView probe. This is enabled during the programming process. When the retain alarm is active it will prevent rack loading.

- ONLY available with ClearView probe
- Set to warn about possible retained liquid in the tank.
- Can clear this alarm by pressing the ACK button.
- After Retain alarm has been acknowledged, the display will show the volume

Alarm Configuration:

This alarm is only compitable with our TrueFill PRO Solution, using a ClearView probe. This alarm is configured in your strapping table per compartment.

3.6 2Lo

	The FINCH Display can show the low level within the bottom dead band by flashing “2 Lo” and the estimated volume. The FINCH Display shows estimated tank volume to the top of the shorting block (2 ½” minimum from the bottom of the tank). **Note:** The readings within the bottom dead band are an estimate only. NOTE: If 2Lo appears when the compartment is equipped with the ClearView probe, it indicates that the tank is empty or that the liquid level is below the probe.

3.7 Error Code

	The Error alarm indicates a system error. This alarm can be assigned to the relays and is combined with the SPILL alarm. This alarm will activate the relays when an error occurs on the transmitter or the display. When the cause of the error is resolved, the alarm resets. Since this alarm is self-resetting, no acknowledgment is required for this alarm. • Signals communication or system errors. • Automatically cleared when the issue is resolved. • Unable to clear this alarm by pressing the ACK button.

4 FINCH III CALIBRATION

The TD100 Transmitter calibration process is only required to be completed one time, which is after the transmitter is first installed. This would also be required if the transmitter is replaced with a new one or the same transmitter is reprogrammed.

	NOTE The manual calibration setting is lost each time the transmitter is re-programmed.

The calibration compensates for small differences between the programmed Offset Measurement and the actual probe height above the top of the tank. The Spill alarm level and High High alarm volume are not affected by calibration. Calibration does adjust the calculated volume that is determined from the actual liquid level in the tank. That adjustment in turn shifts the High High alarm's distance from the bottom of the tank.

Additional adjustments are **not** required again while the TD100 Transmitter is in service if it is properly installed and configured.

If a large manual calibration is required to achieve accurate measurement, it may be an indication of an installation error and requires servicing. It is recommended for the installer to verify the accuracy of the strapping table, mounting details, and verify if the correct strapping table is programmed on the correct transmitter. You are able to calibrate your system through Titan Install or through the FINCH III display.

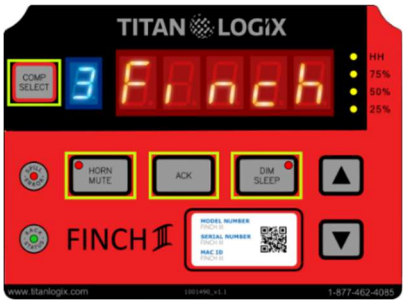
4.1 Manual Calibration Process

1. Ensure the tank is completely level prior to completing these steps.

1. Fill the tank with a known quantity of fluid in that compartment, approximately 1/2 to 2/3 full.
2. Note that reported volume. This must be less than the SPILL alarm level.
3. Determine the volume with a flow meter (ensure that the flow meter is accurate and has been properly calibrated)

4. If manual calibration is required, complete the steps through:
   - **Titan Install mobile app:** Refer to the Titan Install Guide for these steps.
   - **FINCH III Display:** Complete the following steps.
5. Select the compartment to be calibrated on the FINCH III display.
6. Press and hold the following four buttons **simultaneously**: COMP SELECT, HORN MUTE, ACK, DIM SLEEP
7. Continue to hold down the four buttons until the display flashes "CAL". Then release the buttons.

	NOTE Alternately, the FINCH III can enter Calibration mode by holding either ▲ or ▼ arrow while applying power to the display.



8. The unit will then show the current volume of liquid in the tank.
9. Adjust the displayed volume to match the preferred volume by pressing the ▲ or ▼ arrow until the displayed value is correct.
10. Power off your Titan System.

11. Power on the Titan System without holding any buttons on the FINCH III display.
12. Verify that the display matches the actual volume.

4.2 Updating Strapping Table

When calibrating the volume in the table lower, the volume will be limited by the highest allowable High-High alarm setting. e.g. If the table has HH set to 0.5” below Spill, it will not be possible to shift the table lower during calibration. In this instance, the only solution is to edit the strapping table.

Correcting the strapping table requires the following steps:

- Review the tank or compartment depth chart for correct information.
- Confirm probe mounting details (tank depth, probe mounting height, riser height, sump depth)
- Program the transmitter with the correct information.
- Once the display is reading accurately, the FINCH III must be turned off and restarted for normal operation.

Also, stating to edit the strapping table is incorrect. The cause is usually incorrect measurements, programming error or the wrong calibration chart.

NOTE

When calibrating the volume in the table lower, the volume will be limited by the highest allowable High-High alarm setting.

If the table has HH set to 0.5” below Spill, it will not be possible to shift the table lower during calibration. In this instance, the only solution is to edit the strapping table.

5 ERROR CODES & TROUBLESHOOTING

The FINCH III will display error codes when an issue is detected with the system. The Error alarm indicates a system error. This alarm can be assigned to the relays and is combined with the SPILL alarm. This alarm will activate the relays when an error occurs on the transmitter or the display. When the cause of the error is resolved, the alarm resets. Since this alarm is self-resetting, no acknowledgment is required for this alarm.

- Signals communication or system errors.
- Automatically cleared when the issue is resolved.
- Unable to clear this alarm by pressing the ACK button.

	NOTE Additional resources, troubleshooting articles, and videos can be found through Titan Logix's Help Center: **help.titanlogix.com**

A APPENDIX: DOCUMENT REVISIONS

Document Version	Release Date	Updates
1.1	December 3, 2025	Various document updates
1.2	June 22, 2026	Updated document template, removed error codes from document and added to Titan Help Center. Made other various updates.

Corporate Office

4130 – 93 Street NW
Edmonton, Alberta
Canada T6E 5P5

Service and Repair

Toll-free technical support: 1-877-462-4085

Email: service@titanlogix.com

www.titanlogix.com | help.titanlogix.com