

FloTech FT555 Automatic Truck Overfill System Tester

Optic Systems
Thermistor Systems
Ground Bolt
TIM Module



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Introduction

This Manual describes the features, use and maintenance of the FT555 Automatic Truck Overfill System Tester. The FT555 is compatible with all makes of Optic sensor systems, 2 wire Thermo-Optic systems, and truck onboard monitor systems regardless of manufacture as long as they are compatible with API RP1004: 2003 recommended practice.

Main Features

The FloTech FT555 Automatic Truck Overfill System Tester has the following features:

- Automatically test all 4 test functions, Optic, Thermistor, Ground Bolt, and TIM number.
- Test all API 5 wire optic sensor systems and report the number of functional / wetted sensors.
- Test 2 wire Thermo-Optic sensors and report the number of functional / wetted sensors.
- Monitors up to eight compartments.
- Test Ground Bolts with both forward and reverse continuity check.
- Read TIM modules and report serial number in display
- Has "WET TEST" mode with alarm to report when sensors are wetted.
- Set up screen to configure which of the four tests are enabled and will configure maximum number of compartments by region.
- Software can be upgraded to include new tests and future expanded testing and troubleshooting capability.

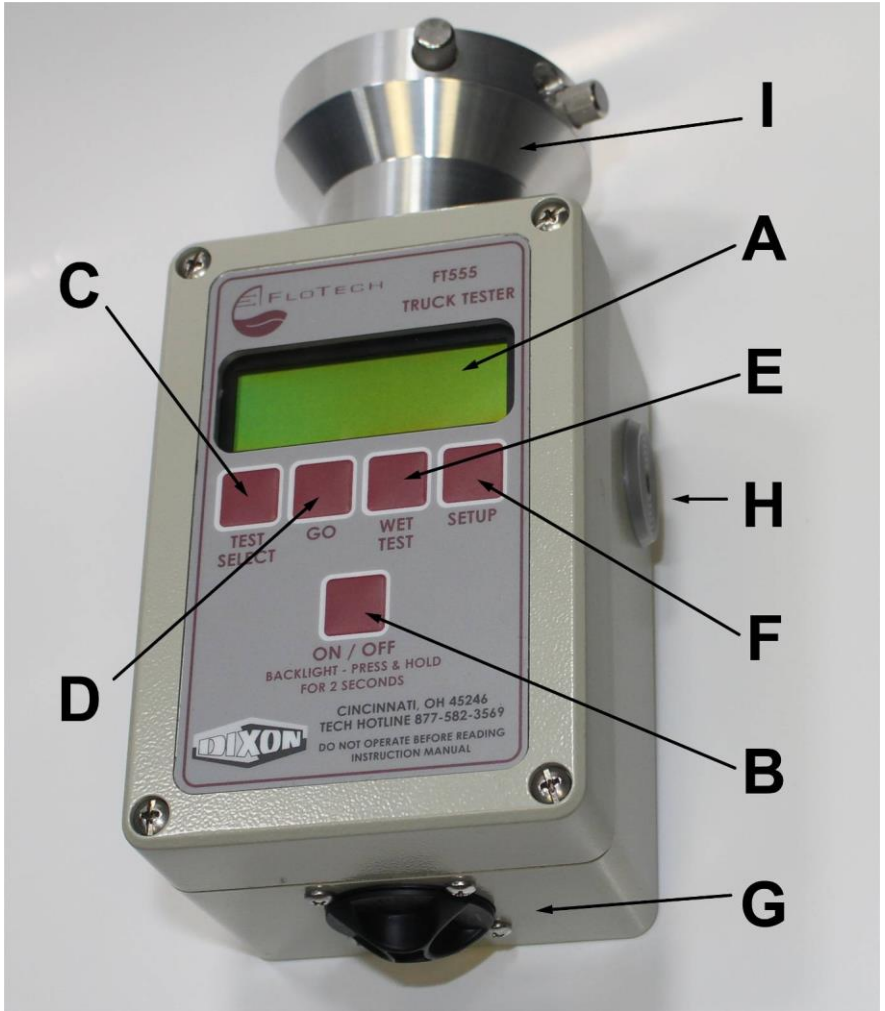


Fig. 1 FT555 Automatic Truck Tester

FT555 Indicators

A) LCD SCREEN

The LCD screen is the main display where test selection, test results, and test instructions are displayed. Screen is backlit enabled using the ON/OFF button.

B) ON/OFF BUTTON

Press this button to turn the FT555 Automatic Truck Tester on and off. The unit will automatically turn off after 10 minutes. Press and hold this button for 2 seconds and the backlight will illuminate.

C) TEST SELECT BUTTON

Press this button to cycle through the available tests.

D) GO BUTTON

Press this button to start the selected test.

E) WET TEST BUTTON

Press this button while in the Optic or Thermistor Test mode and the wet test feature will begin. Pressing any button will stop the wet test.

F) SETUP BUTTON

Press this button to enter the set up screens.

G) BATTERY DOOR

Twist to open, hold two D cells, positive points towards battery door (out).

H) ALARM

Audible alarm sounds when FT555 Automatic Tester is in WET TEST mode and sensor is wetted.

I) API PLUG CONNECTOR

API compatible plug with configurable J-Slot pins for both optic and thermistor sockets.

Unpack Unit and Initial Setup

Step 1) When unpacking the FT555 Automatic Truck Tester you will find the following;

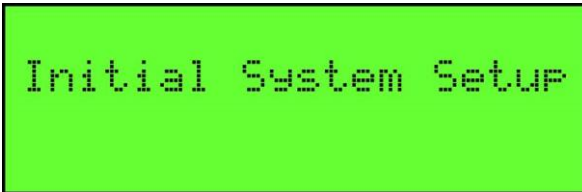
- a) FT555 Automatic Truck Tester
- b) Two "D" size batteries
- c) Three J-Slot thumb screws
- d) This instruction manual

Step 2) Screw in the three J-Slot Screws into the threads marked “O” for Optic socket compatibility and into the J-Slot threads marked “T” for thermistor socket compatibility.

Step 3) Remove the battery door by turning counter clock wise until door opens. Insert two “D” size batteries with positive battery terminal facing out of the opening. Reinstall battery door by turning clockwise.

DO NOT FORCE BATTERY DOOR OPEN OR CLOSE

Step 4) Press ON/OFF button once. The FT555 will show the Initial System Setup screen shown below;



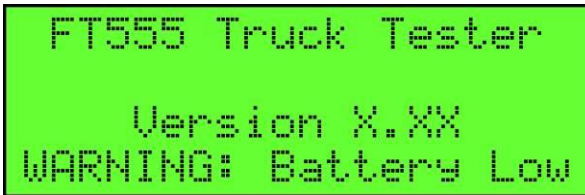
Step 5) Complete the Initial System Setup following the setup instructions on page 7.

Welcome Screen

After completing the Initial System Setup the welcome screen will be displayed. This screen will be displayed every time the FT555 Automatic Truck Tester is turned on.



The Welcome Screen shows the version software the FT555 is running and the battery health status in bars. 5 bars represent full battery capacity. If 2 or less bars are displayed, a warning beep will sound and a warning message will flash for a few seconds. Batteries should be changed at your next convenience.



Power ON/OFF

Press the ON/OFF button once to turn the tester on. Push the button again to turn the tester off. The tester has a display back light for dark conditions. After turning on the tester, press and hold the ON/OFF button for 2 seconds and the back light will turn on. Press and hold again for 2 seconds and the back light will go off.

Setup Instructions

At the “Press Key” screen pressing the SETUP key will enter the setup mode. The first option will be:

MAX OPTIC COMPS = #

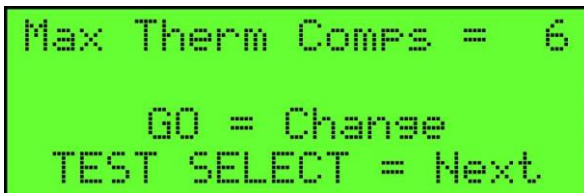
Press the GO button to toggle between 6 and 8 maximum number of compartments. Generally the USA has a maximum of 6 compartments signals per one socket and Canada or European regions will have a maximum of 8. Once the correct Maximum Compartments count is showing, press TEST SELECT button to move to the next SETUP screen.

A screenshot of a green monochrome LCD display. The text on the screen is: "Max Optic Comps = 6" on the first line, "GO = Change" on the second line, and "TEST SELECT = Next" on the third line.

```
Max Optic Comps = 6
GO = Change
TEST SELECT = Next
```

MAX THERM COMPS = #

Press the GO button to toggle between 6 and 8 maximum number of compartments. Generally the USA has a maximum of 6 compartments signals per one socket and Canada or European regions will have a maximum of 8. Once the correct Maximum Compartments count is showing, press TEST SELECT button to move to the next SETUP screen.

A screenshot of a green monochrome LCD display. The text on the screen is: "Max Therm Comps = 6" on the first line, "GO = Change" on the second line, and "TEST SELECT = Next" on the third line.

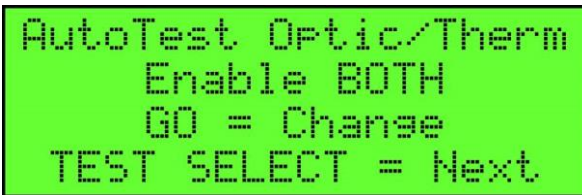
```
Max Therm Comps = 6
GO = Change
TEST SELECT = Next
```

AutoTest Optic/Therm

This screen will enable or disable the Optic or Thermistor tests when performing an automatic test of the trailer overfill system. This configuration is only for the automatic testing mode. All four tests are available in the manual test selection.

Some regions may not have a need to test optic or thermistor type systems as none are found in that region. Example, trailers in California do not have Thermistor sockets so there is no need to perform the Thermistor test. In this case the Optic test would be enabled.

Press the "GO" button to choose between "Enable BOTH", "Enable OPTIC" or "Enable THERM" Press the "TEST SELECT" button to move to the next screen.



```
AutoTest Optic/Therm
Enable BOTH
GO = Change
TEST SELECT = Next
```

Auto Test Ground Bolt

Press the "GO" button to ENABLE or DISABLE the ground bolt test during the automatic testing. PRESS "TEST SELECT" button to move to the next screen.



```
AutoTest GroundBolt
Enable GroundBolt
GO = Change
TEST SELECT = Next
```

Auto Test Truck ID Module

Press the “GO” button to ENABLE or DISABLE the Truck ID Module test during the automatic testing. PRESS “TEST SELECT” button to exit the SETUP mode and return you to the “PRESS KEY TEST SELECT” screen.



```
AutoTest TruckIDMod
Enable TruckIDMod
GO = Change
TEST SELECT = Next
```

SELECTING TEST OPTION

When at the “Press Key” screen, each time the TEST SELECT button is pressed the tester will cycle through each of the five available testing modes.

- AUTOMATIC TEST**
- OPTIC TEST**
- THERMISTOR TEST**
- GROUND BOLT TEST**
- TRAILER ID MODULE TEST**

PERFORMING AUTOMATIC TEST FUNCTION

This test option will automatically test all of the available test options previously enabled in the setup procedure above, and report the findings in a PASS / FAIL screen.

- Step 1)** Move the J-Slot thumb screws to the correct holes to match the type of socket to be connected. Follow the “O” and “T” markings on the plug body.
- Step 2)** Connect the FT555 Automatic Truck Tester to the trailer socket.
- Step 3)** Press the ON/OFF button to turn on the FT555 Automatic Truck Tester. When “Press Key” screen appears press “TEST SELECT” button one time so the “Automatic Test” screen appears.
- Step 4)** Press the “GO” button to start the test. Follow the prompts listed in the display screen.

```
Automatic Test
Press GO to Start
```

```
Automatic Test
  Optic Mode
Connect OPTIC socket
Press GO to Continue
```

Step 5) Move the J slot screws to match the J-Slot configuration of the optic socket.

Step 6) Connect the tester to the optic socket.

Step 7) Press go button to start the test.

Next the tester will instruct you to connect to the Thermistor socket.

Step 8) Move the J-Slot Screws to match the configuration of the Thermistor socket.

Step 9) Connect the tester to the socket and press the go button to start the test.

```
Automatic Test
  Thermistor Mode
Connect THERM socket
Press GO to Continue
```

The tester will automatically test the ground bolt and TIM module if these options are enabled in the set up screen.

When the test is complete the Screen will display the PASS / FAIL status of each test performed.

```
Optic  --  Fail
Therm  --  PASS
GroundBolt  --  PASS
Truck ID Mod  --  PASS
```

Step 5) Press the “TEST SELECT” button to move on to a new test, press “GO” to restart the test, or press the “ON/OFF” button to turn the tester off.

OPTIC TEST

This test will test the API Optic signal from the trailer mounted sensors or onboard monitor and report a Pass/ Fail.

OPERATION NOTE:

This test will also report the number of good sensors IF THE SENSORS ARE WIRED DIRECTLY TO THE SOCKET AND NO ONBOARD MONITOR IS USED. Should your trailer have an onboard monitor the tester will test the Onboard Monitor as if it were a single sensor. The status of sensor connected to an Onboard Monitor does not pass through the monitor to the socket.

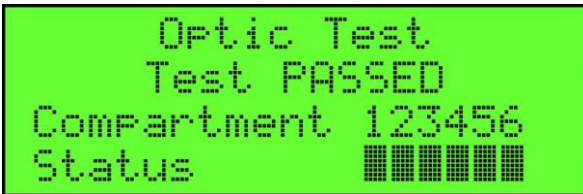
Step 1) Move the J-Slot thumb screws to the correct holes to match the type of socket to be connected. Follow the “O” and “T” markings on the plug body.

Step 2) Connect the FT555 Automatic Truck Tester to the trailer socket.

Step 3) Press the ON/OFF button to turn on the FT555 Automatic Truck Tester. When “Press Key” screen appears press “TEST SELECT” button two times so the “Optic Test” screen appears.

Step 4) Press the “GO” button to start the test. When the test is complete the screen will display the PASS / FAIL status and a wet/dry status for each of the compartments enabled during the setup. A square under the number indicates a dry sensor or a dash under the number indicates a wet or missing sensor. If connected to an Onboard Monitor dashed lines will show and no black bars.

Step 5) Press the “TEST SELECT” button to move on to a new test, press “GO” to restart the test, or press the “ON/OFF” button to turn the tester off.



Optic pass when connected to sensors is shown above. A black square will light for each good sensor.



Optic pass when connected to an onboard monitor will show dashes for sensor status. Onboard monitors do not have a diagnostic connection to the rack monitor and do not pass the number of good sensors through the onboard monitor to the socket.

THERMISTOR TEST

This test will test the API Thermistor signal from the trailer mounted sensors or onboard monitor and report a Pass/ Fail.

OPERATION NOTE:

This tester is not compatible with the old style analog “green or silver tipped sensors. These devices require the FT510 tester.

Step 1) Move the J-Slot thumb screws to the correct holes to match the type of socket to be connected. Follow the “O” and “T” markings on the plug body.

Step 2) Connect the FT555 Automatic Truck Tester to the trailer socket.

Step 3) Press the ON/OFF button to turn on the FT555 Automatic Truck Tester. When “Press Key” screen appears press “TEST SELECT” button three times so the “Thermistor Test” screen appears.

Step 4) Press the “GO” button to start the test. When the test is complete the screen will display the PASS / FAIL status and a wet/dry status for each of the compartments enabled during the setup. A square under the number indicates a dry sensor or a dash under the number indicates a wet or missing sensor. If connected to an Onboard Monitor dashed lines will show and no black bars.

Step 5) Press the “TEST SELECT” button to move on to a new test, press “GO” to restart the test, or press the “ON/OFF” button to turn the tester off.



```

Thermistor Mode
  Test PASSED
Compartment 123456
Status      ██████████
    
```

GROUND BOLT TEST

This test will test the Ground Bolt using the forward and reverse test to confirm proper operation of the diode inside the ground bolt. The tester will report a Pass/ Fail.

Step 1) Move the J-Slot thumb screws to the correct holes to match the type of socket to be connected. Follow the “O” and “T” markings on the plug body.

Step 2) Connect the FT555 Automatic Truck Tester to the trailer socket.

Step 3) Press the ON/OFF button to turn on the FT555 Automatic Truck Tester. When “Press Key” screen appears press “TEST SELECT” button four times so the “Ground Bolt Test” screen appears.

Step 4) Press the “GO” button to start the test. When the test is complete the screen will display the PASS / FAIL status.

Step 5) Press the TEST SELECT” button to move on to a new test, press “GO” to restart the test, or press the “ON/OFF” button to turn the tester off.



TRAILER ID MODULE TEST

This test will test the Trailer ID Module and report the 12 digit serial number stored inside the ID module. If there is no trailer ID module or the test fails the screen will show "TIM not found"

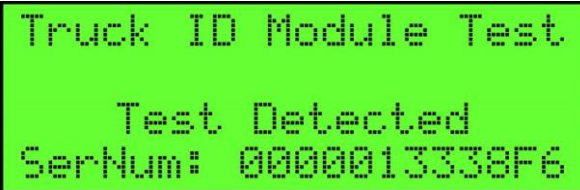
Step 1) Move the J-Slot thumb screws to the correct holes to match the type of socket to be connected. Follow the "O" and "T" markings on the plug body.

Step 2) Connect the FT555 Automatic Truck Tester to the trailer socket.

Step 3) Press the ON/OFF button to turn on the FT555 Automatic Truck Tester. When "Press Key" screen appears press "TEST SELECT" button five times so the "Trailer ID Module Test" screen appears.

Step 4) Press the "GO" button to start the test. When the test is complete the screen will report the 12 digit serial number or show "TIM not found".

Step 5) Press the TEST SELECT" button to move on to a new test, press "GO" to restart the test, or press the "ON/OFF" button to turn the tester off.



Truck ID Module Test
Test Detected
SerNum: 0000013338F6

OPTIC AND THERMISTOR WET TEST

THE WET TEST FUNCTION IS INTENDED TO BE USED ON WORKING SYSTEMS. IF THE SYSTEM HAS A PROBLEM IT MUST BE REPAIRED BEFORE WET TESTING.

Step 1) Move the J-Slot thumb screws to the correct holes to match the type of socket to be connected. Follow the “O” and “T” markings on the plug body.

Step 2) Connect the FT555 Automatic Truck Tester to the trailer socket.

Step 3) Press the ON/OFF button to turn on the FT555 Automatic Truck Tester. When “Press Key” screen appears press “TEST SELECT” button a few times until the “Optic Test” or “Thermistor Test” screen appears, depending on the socket the tester is connected to.

Step 4) Press “WET TEST” button to begin the wet test.



```
Optic Wet Test
Test Running

Sensor Wet
```



```
Thermistor Wet Test
Test Running

Sensor Dry
```

Step 5) The FT555 will repeatedly test for the presence of any wet sensors connected to the socket.

Step 6) Dip test a compartment and listen for a beep. The display will also indicate the presence of a wet sensor.

Step 7) Continue testing each compartment.

Step 8) Stop the wet test by pressing any key.

```
Thermistor Wet Test  
No Sensors Found  
Check Connections  
Cont=GO      Stop=SETUP
```

IF THE TESTER DOES NOT SEE ANY SENSORS OR IS NOT CONNECTED, IT WILL DISPLAY THE ABOVE SCREEN UNTIL IT SEES A SENSOR OR THE TEST IS STOPPED.



The FT555 is not certified as suitable for use in a Class I Division 1 hazardous location. You should avoid use in explosive or flammable atmospheres.

Troubleshooting:

- A. Should the FT555 fail to start or shut down during use, check the battery indicator on the welcome screen and or replace the batteries.
- B. Should the FT555 appear to freeze, remove the batteries to force the unit to power down. Reinstall the batteries and begin test procedure. By removing the batteries you will force the FT555 to restart back to the welcome screen.

Technical Support Hotline

(877) 582-3569

Contact the FloTech Technical Support Hotline for help:

- Troubleshooting overfill systems.
- Verifying defective components
- To request an RGA for defective FloTech products under warranty.