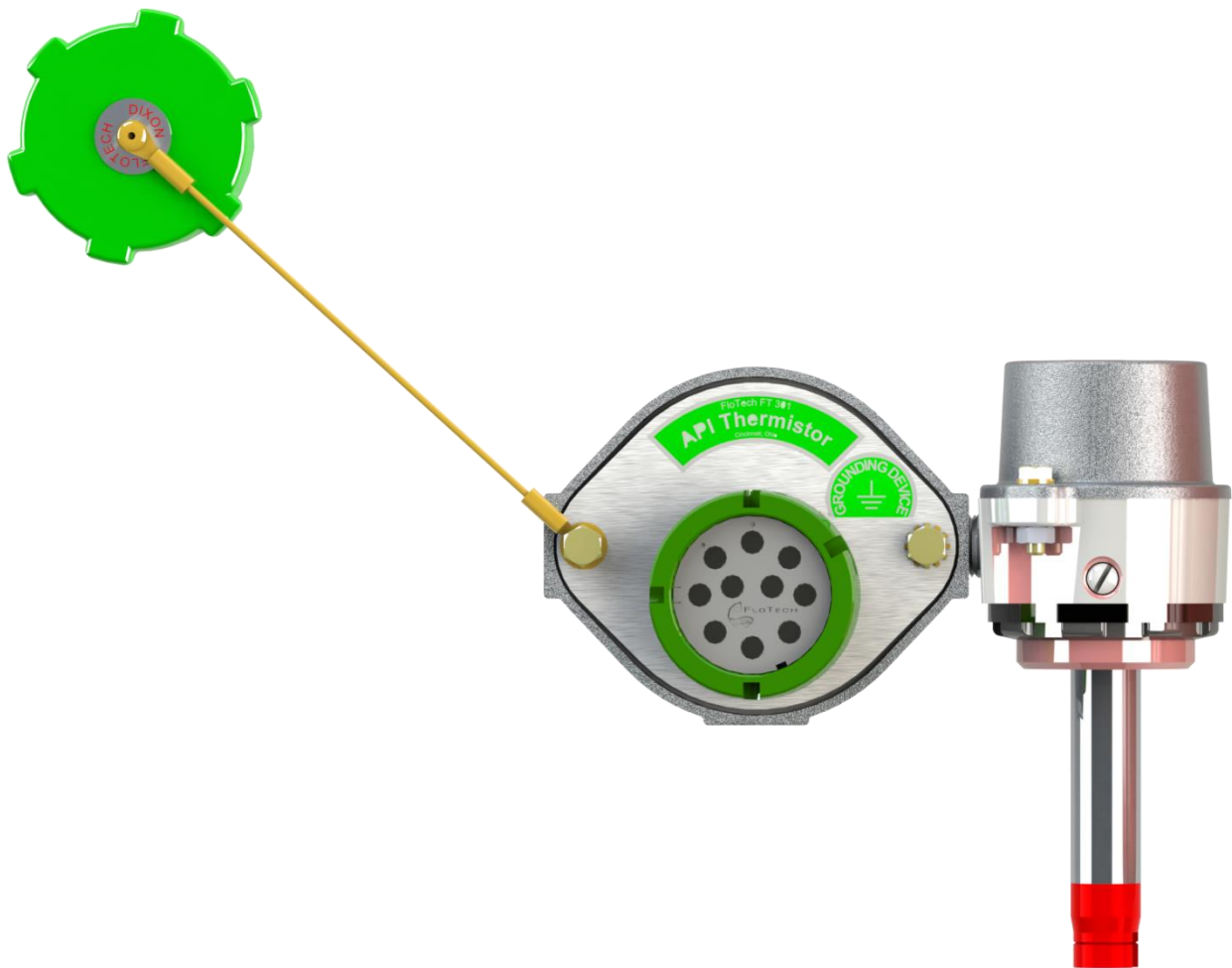


# Maintenance & Operating Instructions

For  
Dixon Bayco  
FT590 Series Products



*The Right Connection®*

[dixonvalve.com](http://dixonvalve.com)

## Product Overview

The FT590 series rack test unit is intended for use by loading facility operators to verify the correct operation of their facility's equipment and systems.

The tester can be used with most rack monitors that will be found at bottom-loading petroleum distribution facilities throughout the world. The FT590 tester is connected to the rack system using the industry-typical API 1004 style connection that is used to connect to tank trailers for loading. Once connected, the FT590 unit will induce electrical signals that should cause the rack monitor to become permissive. Verifying the rack monitor's ability to reach permissive state will drastically reduce troubleshooting time by narrowing the failure to either rack-side or trailer-side.

**WARNING – THE FT590 RACK TESTER CAN CREATE UNSAFE LOADING CONDITIONS IF USED IMPROPERLY. ENSURE IT IS ONLY USED IN A TESTING CAPACITY AND BY TRUSTED PERSONNEL.**

### Comparison of FT590 models:

Rack Tester Model	Simulated Overfill system type	Simulated Grounding Device	Simulated Trailer Identification Module
FT590OG	Optic (5 Wire)	Yes	No
FT590OGT	Optic (5 Wire)	Yes	Yes
FT590TG	Thermistor (2 Wire)	Yes	No
FT590TGT	Thermistor (2 Wire)	Yes	Yes

## Technical Specifications

POWER SOURCE	PORT POWERED FROM RACK MONITOR
INTENDED HAZARDOUS LOCATION	CLASS I, DIV 1, GROUP C & D
CONNECTION	FT590OG & FT590OGT API 1004 OPTIC, 6 PIN, 3 J-SLOTS  FT590TG & FT590TGT API 1004 THERMISTOR, 10 PIN, 4 J-SLOTS
PHYSICAL OVERFILL SENSORS	1
OVERFILL SENSOR TYPE	FT590OG & FT590OGT: 5 WIRE OPTIC  FT590TG & FT590TGT 2 WIRE OPTIC
SIMULATED SENSORS (AS SHOWN ON RACK)	FT590OG & FT590OGT 1  FT590TG & FT590TGT 8
DIMENSIONS (CASE)	15.3" x 12.1" x 6.7"
WEIGHT	10.6 lbs.
SIMULATED GROUNDING DEVICE	GROUND-BOLT OR GROUND DEVICE
COMPATABILITY WITH GROUND LOOP	NO

## Operation

1. Disconnect the rack cord from any trailers. Verify the rack monitor is non-permissive.
2. Connect the rack cord to the FT590 unit.
3. Verify the rack monitor becomes permissive. This will typically be indicated by a green light.
  - a. If the rack monitor does not become permissive, this indicates the issue is likely related to the terminal side equipment.

Make note of the lights shown on the front of the rack monitor as they may be indicative of the failure point.

Refer to the rack monitor and junction box manuals for troubleshooting these items.

4. Optional: Using a dark colored cup filled with fuel oil or diesel, submerge the end of the probe on the FT590 approximately 1" into the liquid. Verify the rack monitor returns to non-permissive.
5. If the rack monitor performed as expected in steps 3 and 4, the rack monitor is working correctly, and the failure is on the trailer overfill system.

## Maintenance

The FT590 has few parts that will require regular maintenance. The socket may develop oxidation or accumulate debris over time which may lead to poor connection to a rack cord. To minimize oxidation and debris buildup ensure the FT590 is stored in the orange case it was shipped in.

Over time the socket connection may still become dirty or oxidized leading to intermittent or connections to the rack cord. If this occurs the socket face may need cleaning. Dixon sells a cleaning brush designed specifically to clean oxidation and debris from trailer sockets. Contact your local Dixon sales representative for information about purchasing the FT406 socket cleaner.

## Troubleshooting

- **The FT590 Rack tester is working intermittently or has stopped working completely.**  
Clean the socket connection on the FT590 using an abrasive pad.
- **The FT590 tester is sending intermittent signals depending on how I hold it.**  
The optic probes are sensitive to sun light and incandescent lights. Shielding the probe tip from these light sources will eliminate the issue.
- **The trailer's On-Board-Monitor (OBM) shows permissive, and the FT590 rack tester has verified the rack monitor operation, but the trailer cannot load.**  
The issue is likely in the wiring from the OBM to the trailer socket, or the socket itself.
- **The rack uses Trailer Identification Modules (TIM). How can the FT590 rack tester be used to verify TIM reading is working?**  
An FT590 model including a TIM will be required. FT590OGT and FT590TGT both include a TIM module. When the rack tester is initially connected, it will be recognized as an un-registered trailer. A rack operator will need to enter the serial number from the FT590's internal TIM into the terminal automation system. Once the FT590's TIM serial number is registered, it can be used as outlined in the operation section above.

## Warranty

For warranty claims and information regarding coverage, service, repairs, or troubleshooting, please contact the 24 hour Dixon Tech-Support line at: +1 (877) 582-3569.

## For Sales and Service Contact

Europe:  
Dixon Group Europe Ltd.  
Preston, England  
Phone: +44 (0) 1772 323529  
Fax: +44 (0) 1772 314664  
Email: [enquiries@dixoneurope.co.uk](mailto:enquiries@dixoneurope.co.uk)

Mexico:  
Dixva, S. de R.L. de C.V.  
Monterrey, N.L.  
Phone: 01-800-00-DIXON (34966)  
Fax: 01-81-8354-8197  
E-mail: [contactenos@dixonvalve.com.mx](mailto:contactenos@dixonvalve.com.mx)

Canada:  
Dixon Group Canada Limited  
Innisfil (Barrie), Ontario  
Phone: 705-436-1125  
Fax: 705-436-6251  
Toll Free: 877-963-4966  
E-mail: [isales@dixongroupcanada.com](mailto:isales@dixongroupcanada.com)

Asia Pacific:  
Dixon (Asia Pacific) Pty Ltd Wingfield,  
South Australia  
Phone: +61 8 8202 6000  
Fax: +61 8 8202 6099  
E-mail: [enquiries@dixonvalve.com.au](mailto:enquiries@dixonvalve.com.au)

USA:  
Dixon Bayco USA  
Chestertown, Maryland  
Phone: 410-778-2000  
Fax: 410-778-4702  
Toll Free: 800-355-1991  
E-mail: [dixonbayco@dixonvalve.com](mailto:dixonbayco@dixonvalve.com)



*The Right Connection®*