



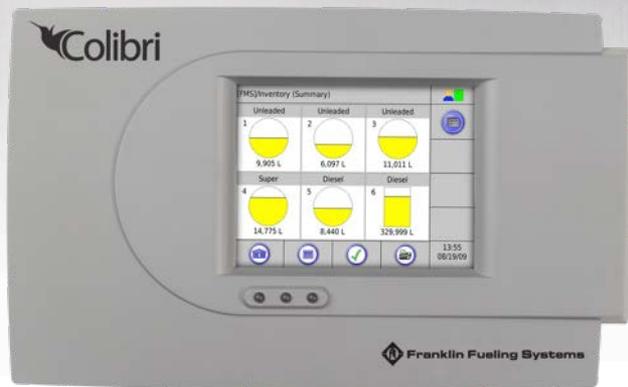
# Leak Detection & Control Systems



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Fuel Management Systems  
Associate Product Manager

## SELECTING A GAUGE

Be sure to address your compliance needs and operational requirements when considering which tank gauge is right for you.




**AUTOMATIC TANK  
GAUGE**

Perfect for owners looking for assurance in a highly functional and accurate inventory monitoring and tank testing device, but without the need for containment monitoring.




**FUEL MANAGEMENT  
SYSTEM**

Ideal for owners needing a full-feature tank gauge capable of fuel management, advanced containment monitoring, and line leak detection, with a superior user interface.

## CAPABILITIES

Use this side-by-side comparison of the two tank gauges to make your selection.



**COLIBRI™**  
Capable of monitoring up to 6 tanks.



**TS-550 evo™**  
Capable of monitoring up to 36 tanks (72 with expansion console).

Inventory and delivery management



Static tank leak detection



High, low and water alarm set points



Browser interface and email notifications



SCALD 24 hour tank leak detection



Inventory reconciliation / tank autocalibration



Density and mass measurement



Web-based monitoring



External printer support



Supports sensors for containment monitoring



Line leak detection capability



Internal printer option

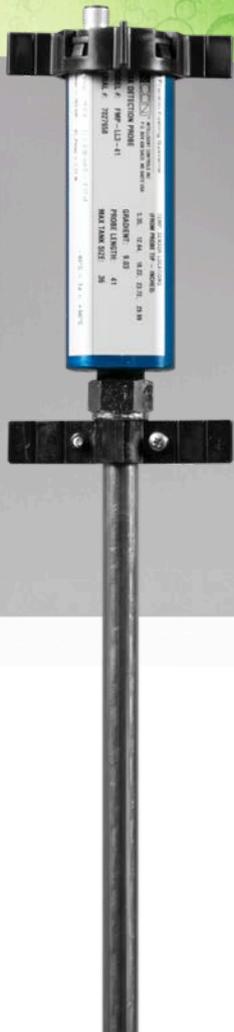


Modular hardware and software for future expandability



Highly advanced, intuitive touch screen user interface





## PROBES

Pair with a tank gauge and float kit for accurate tank level measurement. Probes come available in two model options:



### INVENTORY CONTROL

Precision product and water level measurement.



### LEAK DETECTION UPGRADE

Tank level measurement plus tank leak detection testing.

## PHASE SEPARATION FLOAT KITS

Protect your site from the dangers of undetected ethanol phase separation. Detect both water and phase separation with a single float kit.



### INVENTORY CONTROL

Manage product levels and be alerted to high water or phase separation levels in tanks.



### PREVENT DAMAGE

Phase separation that goes undetected can cause serious damage if pumped into a customer's vehicle.

## DENSITY MEASUREMENT FLOAT KITS

Ensure fuel quality and prevent cross-dropping with density measurement float kits. When paired with Leak Detection probes these kits allow you to monitor product and water levels.



### FUEL QUALITY ASSURANCE

Ensure you are always getting exactly what you paid for in fuel quality.



### PREVENT DAMAGE

Detect cross-drops so you can react quickly and avoid system or vehicle damage.



## THERE ARE TWO TYPES OF SENSORS



### NON-DISCRIMINATING SENSORS

These two-wire sensors are able to detect and send an alarm signal if the presence of liquid appears inside of a containment space.



### DISCRIMINATING SENSORS

These three-wire sensors are able to detect and send an alarm signal if the presence of liquid appears inside of a containment space and can also differentiate between liquid and hydrocarbons (fuel).

## TURBINE PUMP INTERFACE

Run your business as efficient as possible by networking your FE Petro™ submersible pumping system with intelligent controllers to an INCON™ fuel management system. Sharing pumping and fuel management intelligence, this synergy provides your pumping system with these enhanced capabilities:



REMOTE PUMP  
INTERFACE



E-MAIL & TEXT  
NOTIFICATIONS



CLOGGED STP ESCALATION



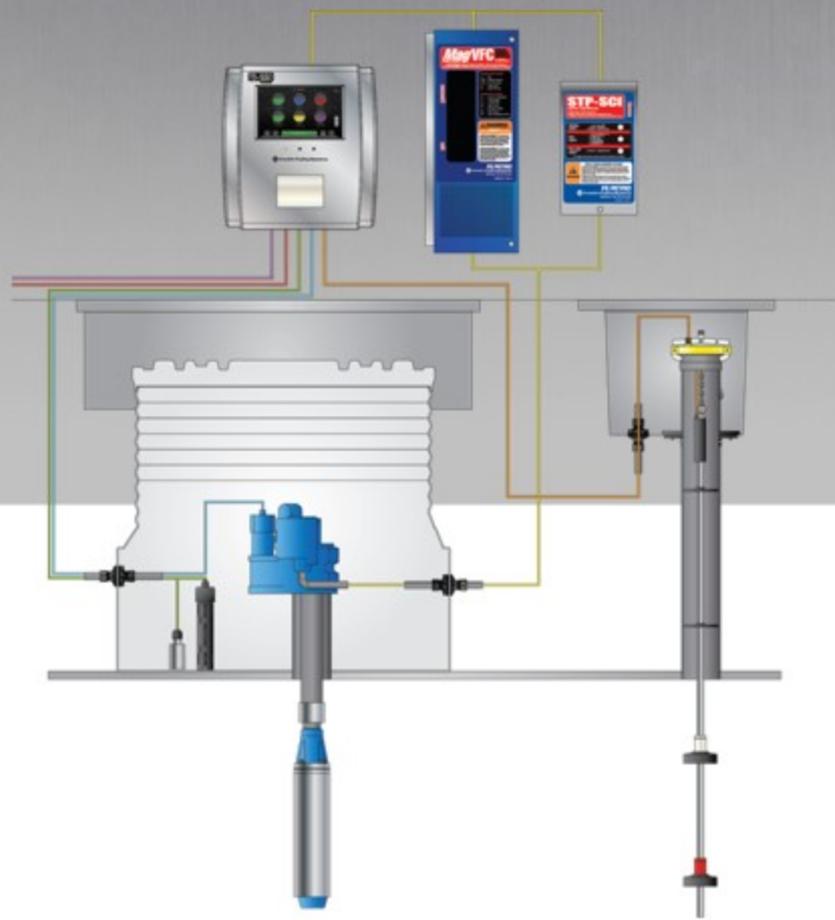
TANK LEVELING



ENHANCED OVERFILL PREVENTION



PUMP-IN WATER AUTOMATION



## TPI SCENARIO:

A site reports an intermittent problem with the pumping system, but cannot provide any detailed feedback of the alarms being issued by the intelligent controllers and the tank gauge

Parameter	P01	P02	P03
Status	ENABLED	ENABLED	ENABLED
Pump On	0	0	0
Address	1	2	3
Controller Type	MagEco	MagEco	Smart 1
Voltage	208	208	208
Calibration Voltage			208
Current	0	0	0
Calibration Current			10
Temperature	140.00	140.00	10
Software Revision	1.08	1.08	1.05

Controller Switch Settings	
Product Type	Gas
High Concentration	Comp 1 Fuel
Water Flow	4.000
Start Pressure Increase	0
Auto Restart	0
Alternate Circuit	0
Extended Run	0
Fault Shutdown	0
Master Slave	0
On VCI Mode	0



## REMOTE PUMP INTERACTION

By networking the intelligent controllers to the fuel management system via TPI, a technician can **remotely connect to the site** to review the logged event history and view the status of the pump controllers.



### E-MAIL & TEXT NOTIFICATIONS

Additionally, the fuel management rules engine can automatically notify the proper off-site personnel to ensure a timely and accurate response.



## TPI SCENARIO:

When the pump controller reports a dry run, the tank gauge automatically verifies against product levels and determines whether a clogged intake has occurred. If clogged, the tank gauge on its own automatically will attempt to clear the intake.



## CLOGGED INTAKE ESCALATION

By attempting to clear the intake on its own, **TPI can eliminate the need for a service call.** Whether the intake is cleared or not, TPI will log the alarm to provide detailed history to expedite service in the event of a future dry run versus clogged intake alarms.

## TPI SCENARIO:

When managing two storage tanks of the same product 'Leveling Mode' can keep both tanks at the same percentage full without the use of a syphon bar between the two tanks. Alternately, 'Priority Mode' will pump one tank down to a certain level before turning on the other pump.



### LEVELING & PRIORITY MODES

Leveling Mode mimics a traditional syphon system **without the upfront cost of piping between the two storage tanks**. You can also avoid the on-going maintenance costs of servicing the syphon bar as well as the additional piping penetrations in the tank sumps.



#### ENHANCED OVERFILL PREVENTION

With TPI, the system is able to react automatically to prevent overflow conditions.



## TPI SCENARIO:

When the water level in a tank approaches the pump intake, the tank gauge will enter alarm mode and automatically shut down the pump, protecting the system and consumers from water being pumped from that tank.

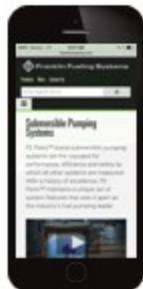


## PUMP IN WATER AUTOMATION

By shutting off the affected pump, **TPI prevented water from being pumped into the customer's vehicle**, avoiding potential damage and lost customer loyalty.

WANT MORE?

Visit [frankinfueling.com/TPI](http://frankinfueling.com/TPI) for more product information and literature downloads.





## ELECTRONIC LINE LEAK DETECTION

With tightening regulations, having accurate and reliable leak detection for your fuel product lines is becoming more and more of a must-have for any savvy station owner.

See how our leak detection can help you.

## WHAT IS ELLD?

Electronic Line Leak Detection (ELLD) is an optional software feature available on TS-550 evo™ tank gauges. Check out these unique benefits available on INCON™ brand tank gauges.



## HOW IT WORKS

ELLD is a pressure-based system that uses line information to monitor changes in pressure during periods of no dispensing.

It determines if a line is tight or if there is a leak and will provide 3.0 gph hourly, 0.2 gph monthly and 0.1 gph annual precision line leak detection. Here's what you'll need:



**TS-550 evo™**

A fuel management system with the TS-ELLD software option, a TS-420 input module, and a TS-RLY Relay module or TPI Turbine Pump Interface.



**TS-LS500 Transducer Kits**

A transducer which plugs into the submersible, available in 2, 3, or 4-line kits with cables included.

## AUTOLEARN™ TECHNOLOGY

As a standard feature of ELLD, AutoLearn™ automatically learns the pressure characteristics of each pipeline, for precision leak detection.



### NO INPUT NEEDED

Automatically learning the pressure characteristics eliminates the need to enter pipe lengths and diameters, removing the potential for human error.



### TAMPER PROOF

Users are unable to manipulate setup parameters in order to clear alarms.





## STATISTICAL LINE LEAK DETECTION

As a standard feature, SLLD allows busy sites with high fuel sales volume and very few quiet periods of no dispensing to achieve 0.2 gph leak testing. SLLD constantly collects hundreds of data points to ensure accurate analysis and runs in parallel with standard 3.0 gph, 0.2 gph and 0.1 gph tests.



### ADDED SECURITY

Provides the security of consistent precision testing and peace of mind knowing your lines are being continually tested to EPA precision levels.



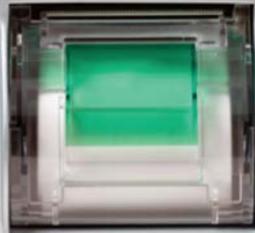
### ELIMINATES COSTS

Eliminates annual testing costs on high throughput lines with no additional hardware to purchase.

TS-550  
evo



 Franklin Fueling Systems



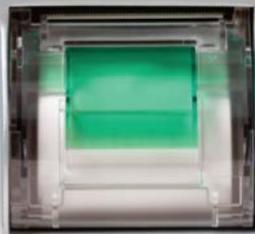
# DEF Recirculation



TS-550  
evo

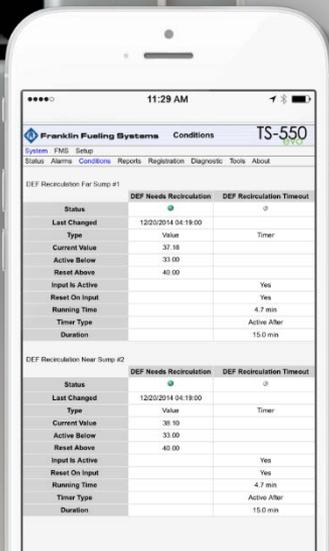


 Franklin Fueling Systems



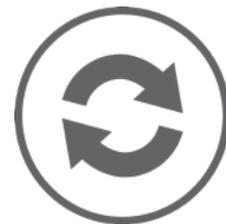
## FREEZE PREVENTION

Diesel exhaust fluid (DEF) will freeze at around  $^{\circ}$  F (-11 $^{\circ}$  C). No DEF system is complete without a means to prevent this fuel additive from freezing in the lines and costing you loss of potential sales.



## DEF RECIRCULATION SYSTEM

We network our powerful TS-550 evo™ tank gauge to temperature sensors placed within the product pipelines. When temperatures drop, the system triggers the pump to recirculate the fluid – preventing it from freezing in the lines.



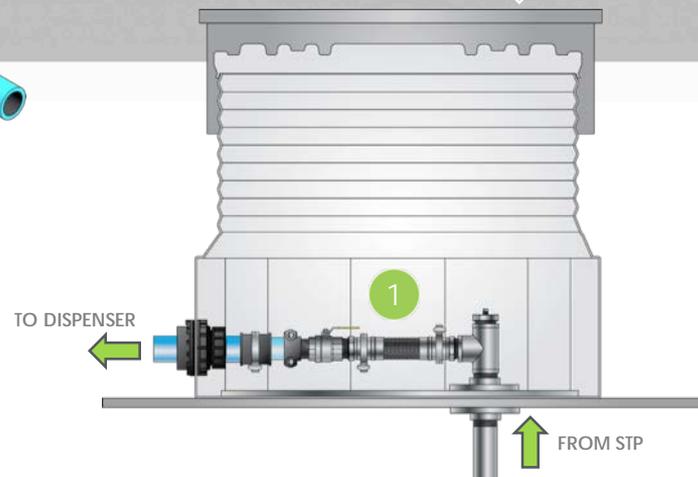
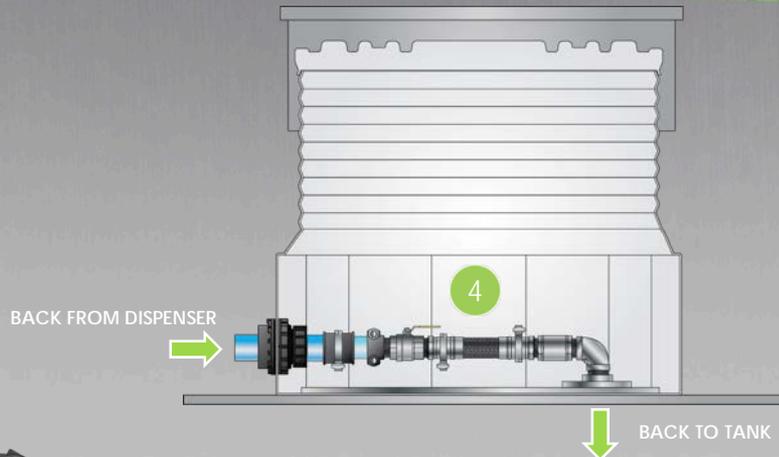
## DEF RECIRCULATION: SYSTEM OPERATION

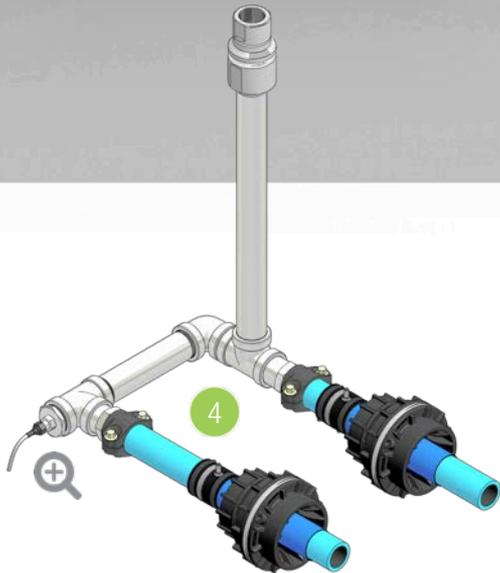
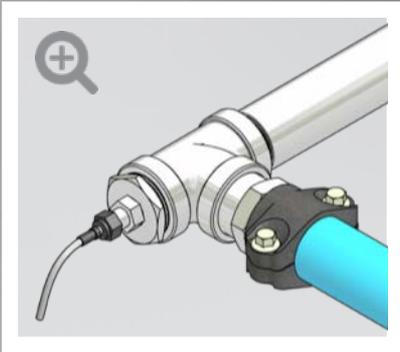
Product flows up from Submersible Turbine Pump through the discharge line (1), through the dispensers to the tee configuration (2) in the furthest dispenser, past the temperature sensor (3) and back to the tank through the return line (4).



Recirculation system components:

- 1 Product discharge line (from STP in tank)
- 2 Product return line (back into tank)
- 3 Dispenser Tee Configuration (farthest dispenser only)
- 4 Temperature sensor





## APPLICATION: TEMPERATURE SENSOR

The temperature sensor is installed into the APT™ pipework system using a “tee” pipework configuration. This allows the sensor to come into direct contact with the DEF all times, providing accurate temperature readings.

Temperature sensor components:

- 1 Temperature sensor
- 2 ½" compression fitting (included with sensor)
- 3 1½" to ½" hex bushing(sold separately)
- 4 DEF tee dispenser sump configuration

# DEF RECIRCULATION: TOTAL CONTROL OF YOUR DEF SYSTEM

The DEF recirculation system utilizes the powerful rules engine inside the TS-550 evo™ to give you complete control of how your recirculation system operates



## CUSTOM CLIMATE RULES

You have the flexibility of writing your own rules for automated recirculation based on your climate.



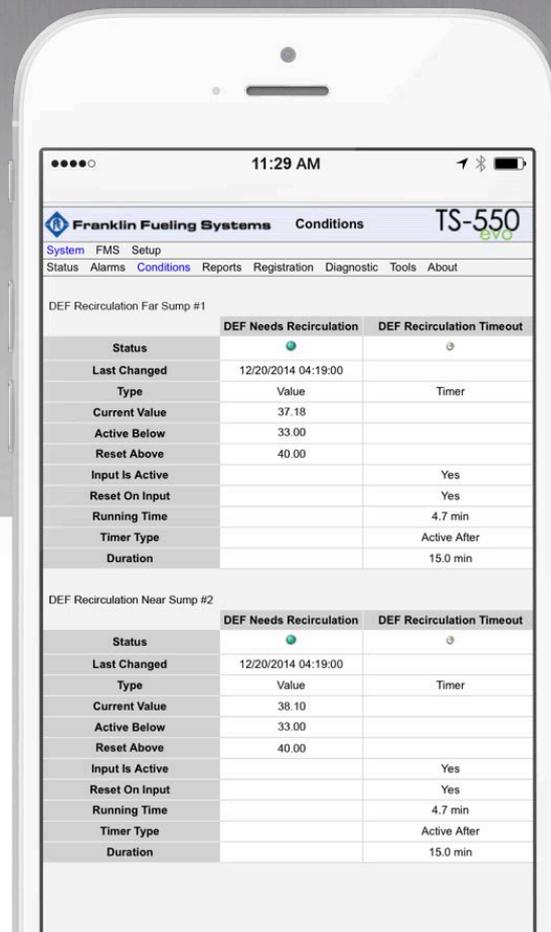
## THE DATA YOU NEED

The powerful fuel management system provides valuable data including system status, product levels, and usage.



## WITH YOU ANYWHERE

Monitor your system remotely on a PC or mobile device as well as receive timely system notifications.





## DEF RECIRCULATION: MAXIMUM ENERGY EFFICIENCY

Instead of turning on a heated-pipeline system at the beginning of winter and constantly running it, the temperature sensors in the DEF recirculation system will trigger the system to only run when it's absolutely needed.



**EFFICIENT OPERATION**  
With no need to constantly heat the entire system, the DEF recirculation system only consumes energy as needed.



**ENERGY SAVINGS**  
Avoid high energy bills during the colder winter months that can result from heated pipe systems.



**SYSTEM AUTOMATION**  
Even with fluctuating temperatures of spring and fall, the system will know when it's time to run.

# T5 Series

Beyond Fuel Management



## Complete Control

What if you could tie complete control of your entire operation, including fuel management, energy management, security and theft prevention as well as convenience store operations into a single controller? With the powerful line of T5 Series fuel management systems, Franklin Fueling Systems is making that "what if" a reality.

Take Complete Control of  
**Your Entire  
Operation.**



## Going Beyond Fuel Management

You already know that our complete line of T5 Series tank gauges set the industry standard for making fuel management simple and easy for any user. When you pair the powerful rules engines in our tank gauges with a few third-party sensors or accessories, you can get that same level of efficiency for your entire operation with major cost saving implications.

Here are just a few basic types of third-party sensors and accessories you can pair with a T5 Series tank



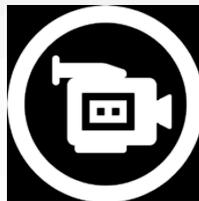
**Temperature**

A temperature control sensor uses ambient temperature sensing technology to send a signal to a controller with changes in the surrounding temperatures.



**Magnetic**

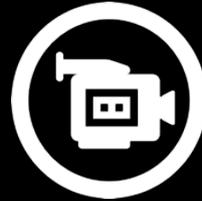
A magnetic contact sensor includes two surface mounted magnets which send a signal to a controller when one magnet moves away from the other.



**Photo**

A photo control sensor uses ambient light sensing technology to send a signal to a controller with changes in the surrounding levels of lighting.





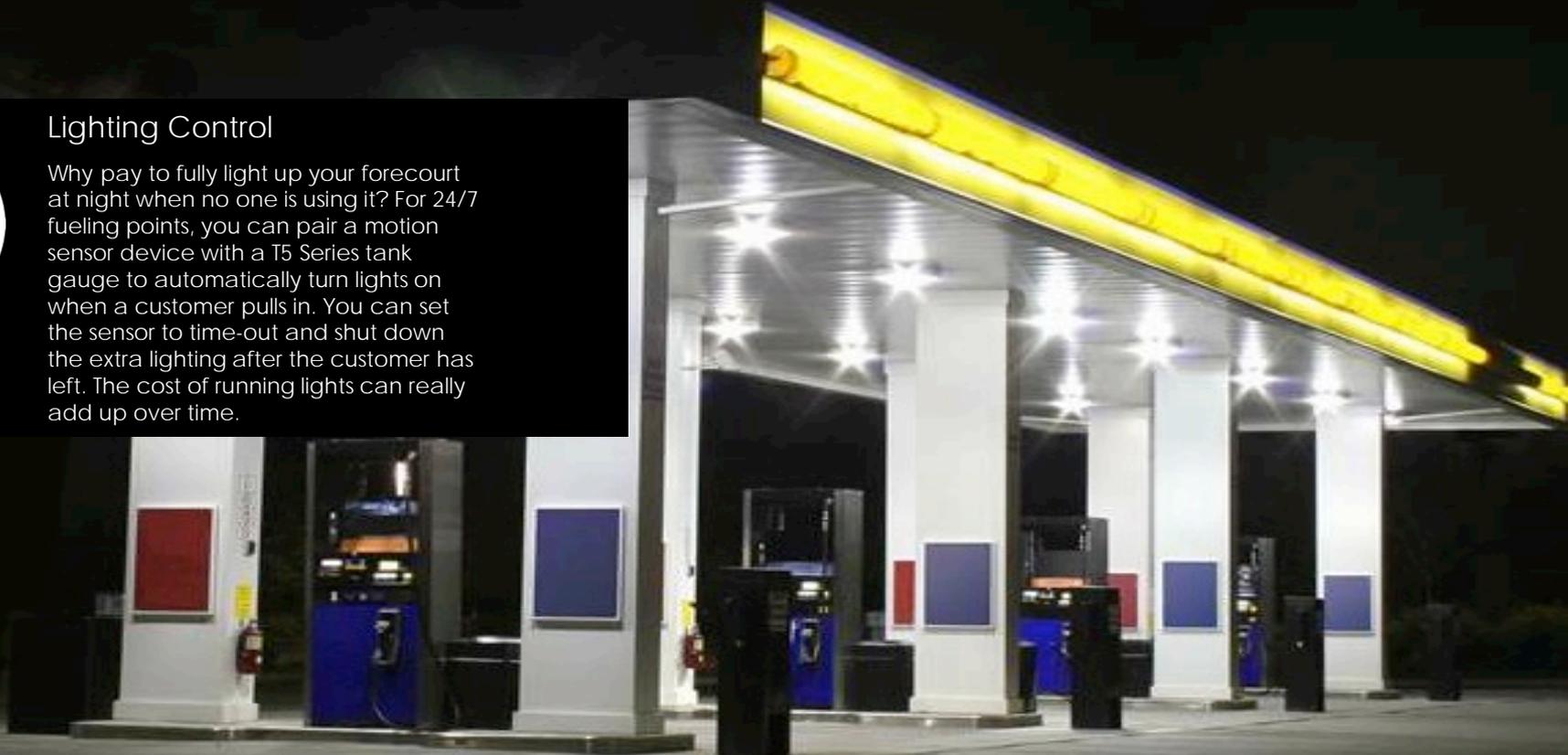
## Video Surveillance

Several markets require constant video surveillance of fueling positions and if a video camera goes down, you need to make sure that the fueling point it's covering is deactivated. By pairing your video equipment with a T5 Series tank gauge, you can shut down the affected dispenser until your video camera has been serviced and is back up and running.



## Lighting Control

Why pay to fully light up your forecourt at night when no one is using it? For 24/7 fueling points, you can pair a motion sensor device with a T5 Series tank gauge to automatically turn lights on when a customer pulls in. You can set the sensor to time-out and shut down the extra lighting after the customer has left. The cost of running lights can really add up over time.





## Lighting Management

With each sunrise and sunset you want to activate your station's lighting systems accordingly. With the exact sunrise and sunset times changing daily, a timer-based system can end up costing you. By pairing a photo control sensor with a T5 Series tank gauge you can let the ambient lighting automatically dictate your lighting system.



## Property Security

Protecting your station from theft is extremely important to station owners. Mount a magnetic sensor device on your dispenser access panels or your exterior doors and pair them with a T5 Series tank gauge. If either are opened when they shouldn't be, you can program the tank gauge to sound an alarm or send a text message to alert you or the authorities of a potential theft or break-in.





## Refrigeration Monitoring

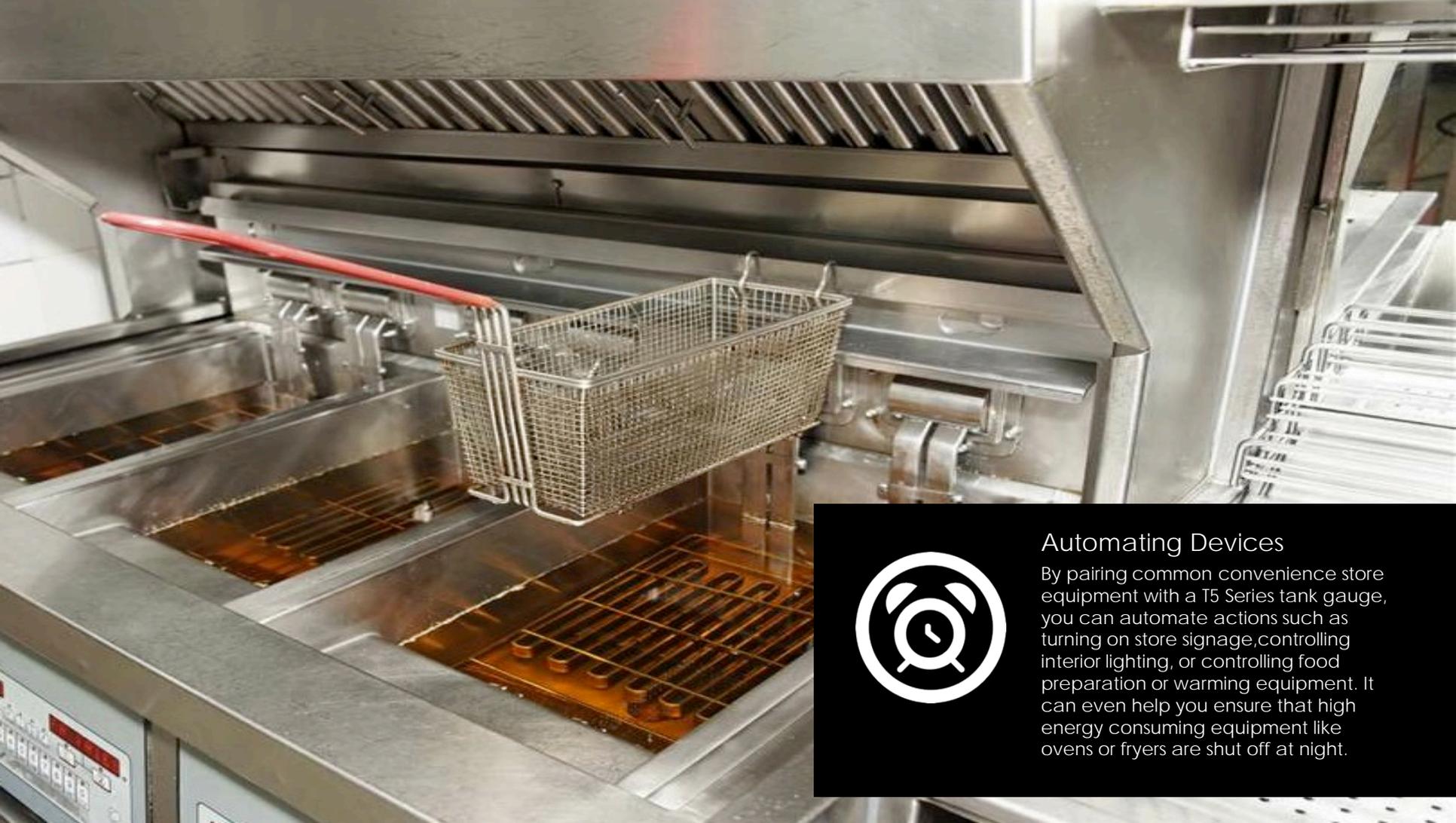
The costs of keeping your convenience store products cold are enough as it is. By pairing a temperature sensor with a T5 Series tank gauge, you can program the system to send you an alert if your refrigerator temperatures drop, indicating a door has been left open too long or a refrigerator malfunction has occurred so you can react timely.



## Emergency Stop

When you pair an emergency stop button with a T5 Series tank gauge you can program your system to automatically shut down submersible pumps when the stop button is pushed. You can also alert station managers or service technicians with an automatic text message or email letting them know of the stoppage so they can respond accordingly.



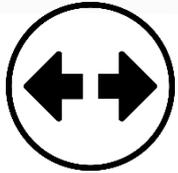


## Automating Devices

By pairing common convenience store equipment with a T5 Series tank gauge, you can automate actions such as turning on store signage, controlling interior lighting, or controlling food preparation or warming equipment. It can even help you ensure that high energy consuming equipment like ovens or fryers are shut off at night.

## DID YOU KNOW?

Each flexible probe comes with a stainless steel probe weight and pin to help keep the probe properly aligned in the tank.



### MINIMAL INSTALLATION SPACE

Fitting a rigid probe down into a tank indoors can be next to impossible, unlike flexible probes that can be installed with minimal space required.



### UNCOIL AND INSTALL

A flexible probe can be uncoiled and fed directly into the tank within a small amount of space.



### PROBE WEIGHT

An included probe weight fits at the bottom of the probe and helps to pull the probe into place.

## APPLICATION: LOW OVERHEAD CLEARANCE

Flexible probes make installing in spaces with little overhead clearance, like indoor generator tank applications, easy to carry out.



FUEL MANAGEMENT SYSTEMS

# SUMP TEST SYSTEM

 **Franklin Fueling Systems**



## SIMPLE LEAK TESTING...

The INCON™ brand Sump Test System (STS) is designed specifically to provide portable, cost-effective environmental compliance leak testing.

Full compliance testing in just 15 minutes.

# INCON



WANT MORE?

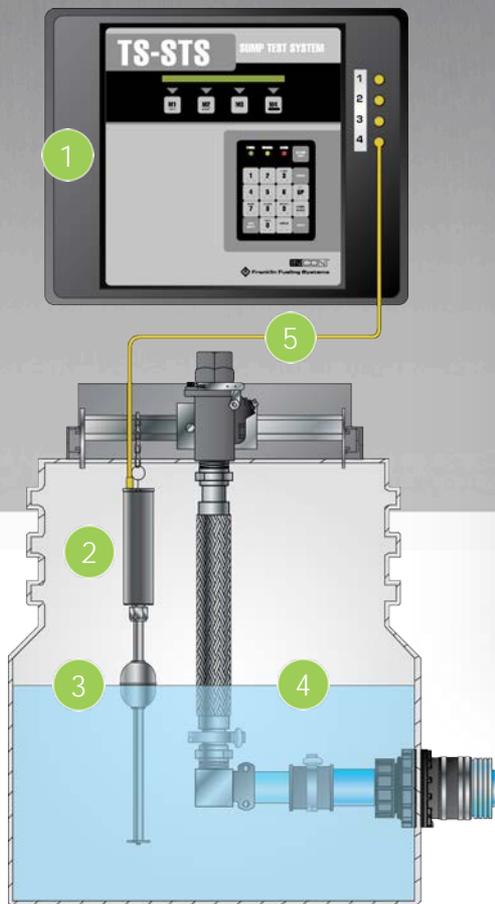
Visit [franklinfueling.com/STS](http://franklinfueling.com/STS)  
for more product information and  
literature downloads.

## PORTABLE LEAK DETECTION

The system is designed to be carried to the site in two durable cases with minimal setup. This makes it an ideal solution for marketers and distributors with service technicians who have many sites to test.

System components:

- 1 TS-STs sump test kit console
- 2 Leak test probe
- 3 Float
- 4 Probe cable
- 5 Test fluid (filled above all openings)



TS-STs Console

Console and inputs packaged into single box.





## ACCURATE LEAK TESTING

Accommodates up to four probes for testing of up to four spill containers, dispenser sumps, or tank sumps simultaneously.



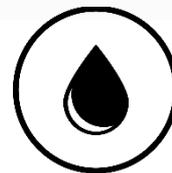
### HIGHLY ACCURATE

Highly accurate leak test detects level changes greater than 0.002 inches during the test.



### RELIABLE DATA

Uses INCON™ brand magnetostrictive probe technology for unparalleled accuracy and reliable results.



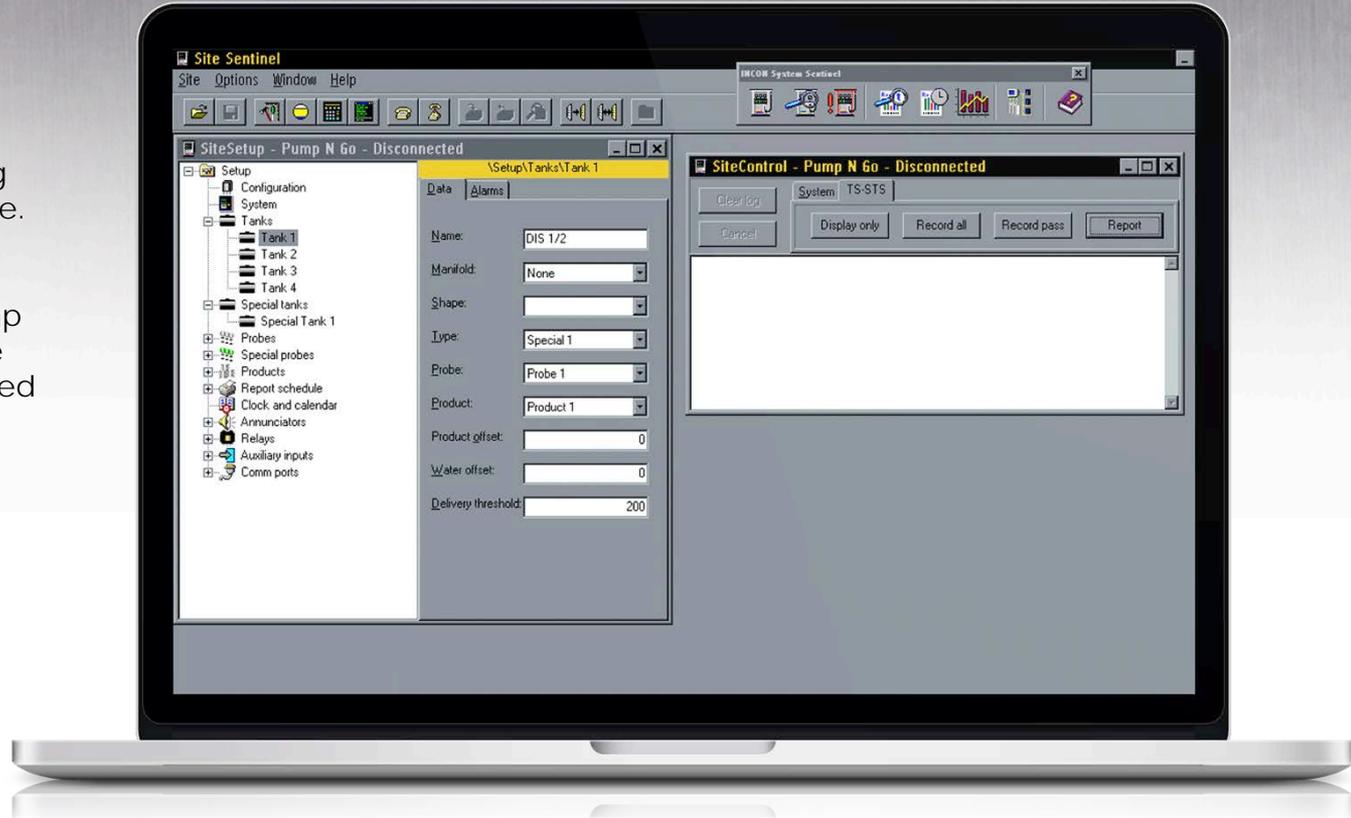
### TEST FLUID LEVELS

Provides accurate test fluid levels for each sump monitored.

## MOBILE READY

Optional laptop interface using System Sentinel™ Tech Software.

Easily set-up and programmed with site-specific data and sump identification before a test. Site and test data can then be saved to a laptop.



Pump N Go

### Sump Test Report

Las

PUMP N GO  
100 MAIN ST  
HOMETOWN USA 12345

Sump Name		Test Date/Time	Level	Test Type	Result	Last Updated
DIS 1/2	Started	Wed 8/14/2002 11:01a	1.522 In	0.002 In	Passed	Thu 8/15/2002 8:00a
	Ended	Wed 8/14/2002 11:16a	1.522 In			
DIS 3/4	Started	Wed 8/14/2002 11:01a	1.522 In	0.002 In	Passed	Thu 8/15/2002 8:00a
	Ended	Wed 8/14/2002 11:16a	1.522 In			
SUPER	Started	Wed 8/14/2002 11:01a	1.522 In	0.002 In	Passed	Thu 8/15/2002 7:59a
	Ended	Wed 8/14/2002 11:16a	1.522 In			
UNLD	Started	Wed 8/14/2002 11:01a	1.522 In	0.002 In	Passed	Thu 8/15/2002 7:59a
	Ended	Wed 8/14/2002 11:16a	1.522 In			

**PASSED**

## PRINTED REPORTS

Automatically prints out passed or failed test reports in just fifteen minutes after starting a leak test.

Shows the date and time of the test, test-fluid levels and the leak test results on sump leak test reports.

Additional sump leak test reports can also be printed at the console before other tests are completed.



FUEL MANAGEMENT SYSTEMS

# SUMP TEST SYSTEM

