

2018

PRODUCT CATALOGUE

FUEL MANAGEMENT SYSTEMS

 Franklin Fueling Systems



CREATE EFFICIENCIES SPEED INSTALLATIONS REDUCE COSTS



Our product systems are designed to create efficiencies and user benefits beyond those of standalone products. Check out these examples of how our system solutions can help your business.

TOTAL SYSTEM
SOLUTIONS

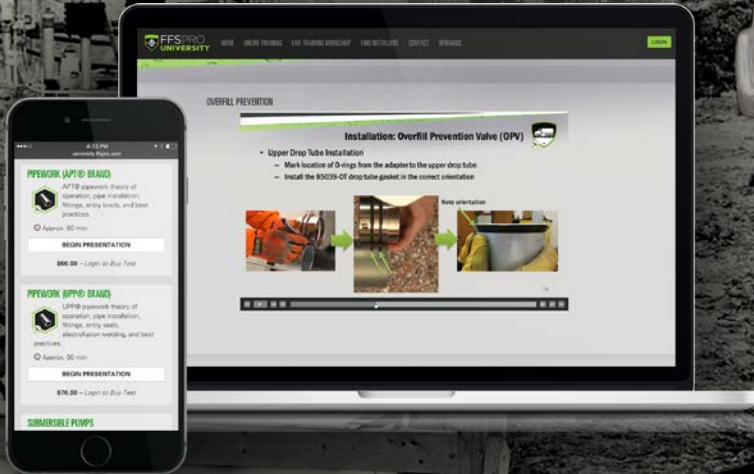


go.franklinfueling.com/total-system-solution



Franklin Fueling Systems

TRAINED CERTIFIED READY TO WORK



Introducing the industry's premier training, certification, and resource tool for installation professionals. FFS PRO: University is your go-to source for installation safety education, best practices, and product training. It's about being safe. It's about staying educated. It's about getting the job done right.



university.ffspro.com

WORK JUST GOT A LITTLE EASIER



It's a handy quick reference tool full of all the calculations and install tips installers need on the job site - plus plenty of pages for their own notes. What's more, it's completely FREE - no sign-up form, no strings. Just go to our Literature Order Page and we'll send them to you.

go.franklinfueling.com/forecourt-guide

 Franklin Fueling Systems

QUOTE LIKE A PRO



 **FFS PRO**
SITE BUILDER

The industry's most powerful quoting tool. Our new FFS PRO: Site Builder will have you quoting a complete site like a pro in no time. The intuitive user interface guides you through the process of quoting a site including a full bill of materials, pricing, and a site drawing.

FUEL MANAGEMENT SYSTEMS

Franklin Fueling Systems offers a complete line of inventory monitoring systems, providing users the capability to take complete control of fuel management. The complete range is ideal for monitoring inventory, environmental control and fuel management. Next generation technology from INCON® allows users to monitor tanks from any web browser.

SUBMERSIBLE PUMPING SYSTEMS

Franklin Fueling Systems submersible pumping systems provide faster fuel dispensing, improved efficiency and unmatched reliability. The FE Petro® brand industry-leading product design offers the highest performing submersible pumping systems available.

PIPING AND CONTAINMENT

Franklin Fueling Systems offers the most comprehensive line of piping and containment products in the industry. The UPP® brand features innovative technology and outstanding quality. With 30 years' worth of installations and a 100% leak-free performance record, Franklin Fueling Systems is the leading provider of fuel pipe.

DISPENSING SYSTEMS

Franklin Fueling Systems manufactures and markets a complete line of Stage II vapour recovery systems globally under the Healy™ product brand. Healy™ vapour recovery products suit any application and customise to any site, ensuring proper connection.

SERVICE STATION HARDWARE

Franklin Fueling Systems fuel station hardware products comprise a comprehensive and environmentally friendly system, including a complete biofuel approved system for E85 and biodiesel sold under the brands EBW® and Phil-Tite.

TRANSPORT SYSTEMS

Franklin Fueling Systems road tanker systems products make it easy to connect to loading terminals and underground storage tanks with our broad line of adapters, elbows and valves. Sold under the brand EBW®, these products cover both loading and off-loading applications. Our road tanker hardware products provide a wide range of connection options.

DEF/ADBLUE®

Franklin Fueling Systems offers a complete system of Diesel Exhaust Fluid (DEF) or AdBlue® compatible products all from a single manufacturer. Our system is designed together – to work together, resulting in unmatched system performance and an energy efficient means of keeping DEF from freezing at low temperatures.

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ABOUT US



WELCOME TO FRANKLIN FUELLING SYSTEMS, THE WORLD'S LEADING PROVIDER OF COMPLETE FUELLING SYSTEMS.

We are comprised of the industry's most extensive lines of fuelling product solutions. With us, you can get the most comprehensive product offering from the industry's leader in total system solutions.

Franklin Fueling Systems provides unparalleled simplicity in placing one order, having one point of contact, relying on one service team and receiving one consolidated shipment.

A wide variety of products, a world class customer service experience and extensive technical background create a complete system solution where our services, features and products set us apart as the industry leader.

Whether you want to automate your station or network, build or re-build your station according to the latest environmental laws, update a station to fulfill new regulations or intend to realize a more cost efficient site construction and operation, you can rely on Franklin Fueling Systems. Our submersible pumping systems, service station hardware, fuel management systems and complete pipework solutions can increase your efficiency and improve your business.

In addition to the industry's most comprehensive product offering, Franklin Fueling Systems also provides:

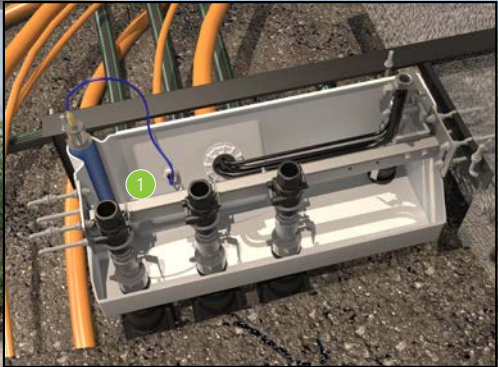
- One order for all equipment
- Factory tested leak-tight equipment
- Reduced site downtimes
- 100% Bio-fuel compatible options
- Effective control of your fuel stocks
- Ensured environmental protection
- Solutions to keep fuel in and water out
- Lowest total cost of ownership
- Time and money savings

Franklin Fueling Systems can deliver a complete package of pipework, manhole chambers, under dispenser containment, submersible pumps and intelligent fuel stock & environmental monitoring systems all designed around your exact needs and delivered in one shipment, ready for installation.

FUEL MANAGEMENT SYSTEMS

- 1 Liquid dispenser or tank sump sensors
- 2 Discriminating dispenser or tank sump sensors (also interstitial tank sensors – not pictured)
- 3 Leak detection and inventory control probes
- 4 Float kits for all common applications including LPG and chemical
- 5 Electronic line leak detection (Mechanical Leak Detection shown)
- 6 Complete line of T5 Series Fuel Management Systems
- 7 Web access to ATGs and remote monitoring software and services





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NEVER STOP EVOLVING™

INTRODUCING THE EVO™ SERIES FAMILY OF AUTOMATIC TANK GAUGES

Driven by our pursuit to innovate, simplify, and better connect every station owner to their secure system data, we introduce the EVO™ 200 and EVO™ 400 to our lineup of world class Automatic Tank Gauges (ATGs). These new models feature everything you've come to expect from our EVO™ 550 and EVO™ 5000 ATGs in packages that are right-sized for small sites and up-and-coming station networks. See how the EVO™ Series can help evolve your business.










EVO™ 200

-  Maximum Tank Capacity
-  Maximum Sensor Capacity
-  Total # of Inputs
-  Turbine Pipe Interface
-  Remote Monitoring
-  Inventory Reconciliation*
-  Tank Autocalibration*

*Optional feature



EVO™ 400

-  Maximum Tank Capacity
-  Maximum Sensor Capacity
-  Total # of Inputs
-  Turbine Pipe Interface
-  Remote Monitoring
-  Inventory Reconciliation*
-  Tank Autocalibration*

*Optional feature

FROM INCONTO EVO™ SERIES

INCON Intelligent Controls was started in 1978 by brothers Allan and Paul Lukas in their basement on a dead end street in the coastal town of Saco, Maine USA. It was in that basement on West Labonte Avenue that the two brothers began designing remote monitoring devices for power utility companies. Their spirit of innovation and drive to better connect people to their work would eventually evolve their business to the petroleum industry, where they would launch their first automatic tank gauge for the remote monitoring of a single tank.

As INCON became part of Franklin Fueling Systems, we continued to build on the Lukas brothers' legacy of innovation by evolving that first ATG into a complete line of fuel management system solutions and along the way set the industry benchmark for quality and customer support as well as pioneering user interface design. As the next step in our evolution, we bid farewell to the INCON brand name as we welcome the new EVO™ Series family of Automatic Tank Gauges.



EVO™ 550

- 36** Maximum Tank Capacity**
- 48** Maximum Sensor Capacity**
- 48** Total # of Inputs
- Turbine Pipe Interface
- Remote Monitoring
- Inventory Reconciliation
- Tank Autocalibration
- Electronic Line Leak Detection
- Secondary Containment Monitoring
- DEF/AdBlue Recirculation

**Additional capacity available with expansion console



EVO™ 5000

- 36** Maximum Tank Capacity**
- 96** Maximum Sensor Capacity**
- 96** Total # of Inputs
- Turbine Pipe Interface
- Remote Monitoring
- Inventory Reconciliation
- Tank Autocalibration
- Electronic Line Leak Detection
- Secondary Containment Monitoring
- DEF/AdBlue Recirculation

**Additional capacity available with expansion console



CREATE EFFICIENCIES. SPEED UP INSTALLATION. REDUCE COSTS.

Our product systems are designed to create efficiencies and user benefits beyond those of standalone products

USER INTERFACE**SIMPLICITY & VISIBILITY**

A full-color 7" LCD touchscreen serves up one of the most intuitive user interfaces available with simplified user features you won't find anywhere else. Whether you're a station owner, technician, or station employee, the patented design presents your inventory and compliance data with an easy-to-understand, easy-to-navigate approach.

ICON-BASED DESIGN

Designed to be understood easily and operated intuitively, the icon-based user interface makes fuel management like second nature. It's simple to operate for new users and can reduce the amount of training required to operate.

ONE TOUCH BUTTONS

You can customize these home screen buttons to automate and carry out anything from complex, multi-function processes to simple daily delivery report generation - all with the touch of a single button.

QUICK JUMP MENU

Navigate quickly from application to application with ease. This time-saving menu makes the interface's structure extremely shallow, simple to navigate, and reduces the amount of steps it takes to accomplish tasks.

CUSTOMIZABLE TO YOUR BUSINESS

You choose your home screen, you choose what shows up on your favorites screen, and you program your product colors. Customize the interface to meet your business needs the way you operate.



REMOTE CONNECTIVITY

DATA-DRIVEN DECISION MAKING WHENEVER, WHEREVER

The FFS PRO™ Connect web interface allows you to securely connect directly to your EVO™ Series ATG* from any web enabled device. It automatically scales for tablets and smart phones, meaning no app to download.



- Gathers and displays specified data in a user-defined polling schedule, or in real-time.
- Inventory can be monitored as needed to precisely schedule deliveries.
- Deliveries can be forecasted from current inventory usage rates.
- Provides centralized control of all compliance information - such as tank data and leak detection sensor status.
- Access to information can be controlled for multiple users.
- A wide variety of reports can be custom-scheduled, displayed, printed, or emailed at specific times.
- Offers immediate notification of alarms for corrective action.
- Simplifies setup and programming with the ability to copy entire programming profiles from one ATG to another.

*Currently available on EVO™ 200 and EVO™ 400.



EVO™ SERIES

SELECTING AN AUTOMATIC TANK GAUGE

When you fully understand both your current site needs and where you might be headed in the future, you are able to make a sound ATG selection. Be sure to address your compliance needs and operational requirements when considering which ATG is right for you. The EVO™ Series offers you four different options with right-sized features to meet the requirements of your specific application, size, and compliance needs.

Which ATG is right for your application?

Maximum tank capacity	6
Maximum sensor input capacity	6
Total # of inputs	6
Line capacity	-
Dry contact input channels	2
AC input channels	-
4-20 ma input channels	-
Relay output channels	2
Display type	7" Color LCD
Printer options	External
Internal audible alarm	✓
Email/SMS notifications	✓
Inventory and delivery management	✓
Leak detection sensors	✓
Static and Continuous tank testing	✓
Static and Statistical Electronic Line Leak Detection	
High/low product, water, and temperature alarm set points	✓
Inventory reconciliation / tank autocalibration	✓ (optional)
Density and mass measurement	✓
Phase separation detection	✓
Secondary Containment Monitoring (vacuum)	
Turbine Pump Interface	✓
DEF/AdBlue® recirculation system	
Back-up generator monitoring	✓
Fuel flow control	
MODBUS® compatibility	



EVO™ 200



EVO™ 400



EVO™ 550



EVO™ 5000

14	36*	36*
14	48*	96*
14	48	96
-	24	24
2	2	2
-	36	36
-	24	24
2	26	50
7" Color LCD	7" Color LCD	7" Color LCD
External	Internal & External	Internal & External
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓ (optional)	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓

*Additional capacity available with expansion console.



EVO™ 200 & EVO™ 400 AUTOMATIC TANK GAUGES

EVO™ 200 & EVO™ 400 Automatic Tank Gauges (ATGs) provide highly accurate inventory management and containment monitoring for small to mid-size fuel systems. Both ATGs feature the capability to interface with probes and sensors in any combination up to 6 (EVO™ 200) or 14 (EVO™ 400). Their simple setup and operation, remote connectivity, and advanced security features protect your fuel system while keeping you directly connected to vital site data whenever, and wherever. The highly-intuitive, full-color, icon-based touch screen provides user-friendly on-site access to inventory, alarm, and compliance data, while the FFS PRO™ Connect web interface provides remote access from any web device.

HIGHLIGHTS

- Allows you to make informed, data-driven inventory management decisions while keeping your site in compliance and protected from security threats.
- Provides inventory monitoring, static and continuous tank testing, tank autocalibration, inventory reconciliation, and containment compliance monitoring.
- Streamlined setup and programming includes hardware auto-detection and wiring confirmation, extensive multipoint tank charting, network printer auto-detection, and the ability to copy and paste or move sections of the programming profile within the ATG or download and upload entire programming profiles from one ATG to another.
- Customizable user roles and log-in security features protect against unwanted access while keeping track of user activity within your system.
- Stores 5 years worth of critical data to provide back-up security from power outages or other system interruptions.
- Intuitive full-color 7" touch screen interface provides simplified on-site access features including:
 - One Touch buttons that are custom programmed to carry out common automated tasks with a single tap.
 - Quick Jump menu allows you to quickly maneuver from application to application using a single button.
 - Select your home screen, program your product colors, and customize your favorites screen - customize the interface the way you want it.
- FFS PRO™ Connect web interface allows you to directly connect to your ATG from any web enabled device that automatically scales for tablets and smart phones.
- Optional Wifi allows secure and protected on-site viewing of inventory levels for fuel delivery drivers.
- Available with optional 24-hour statistical continuous automatic leak detection (SCALD) and the industry's only Turbine Pump Interface (TPI) capability for enhanced and automated submersible turbine pump control.

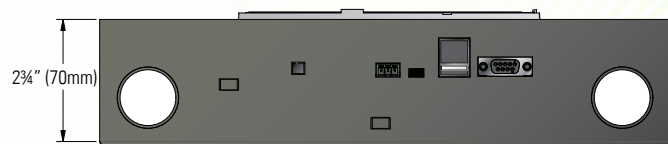
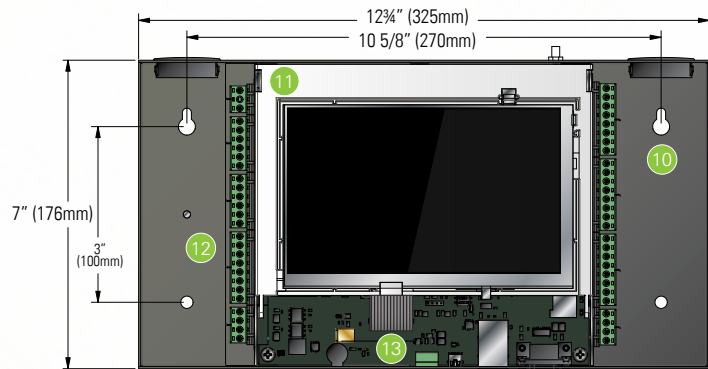
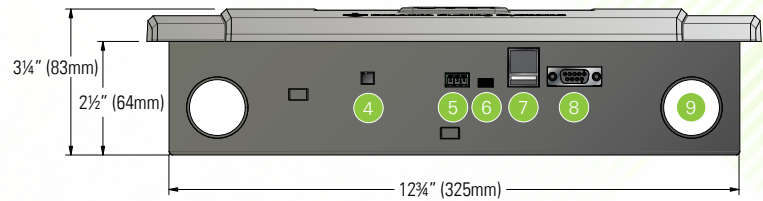
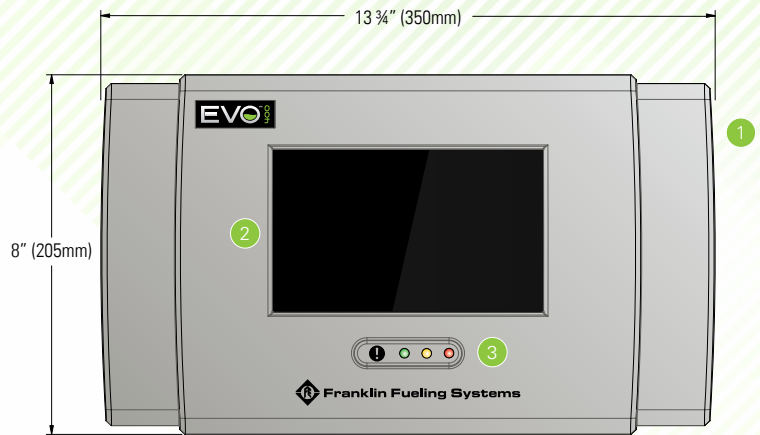
SPECIFICATIONS

- Maximum tanks monitored: 6 (EVO™ 200) / 14 (EVO™ 400)
 - Maximum sensor input capacity: 6 (EVO™ 200) / 14 (EVO™ 400)
 - Total # of inputs: 6 (EVO™ 200) / 14 (EVO™ 400)
 - Dry contact input channels: 2
 - Relay output channels: 2
 - Connectivity: Ethernet, RS-232, RS-485, standard USB, mini USB, and Wifi (optional)
 - Display type: 7" (17.78 cm) color LCD touch screen
 - Printer type: External (network or USB)
 - Alarm: Internal audible alarm
 - LEDs: Alarm, warning, and power
 - Tank chart correction points: 7,500
 - Applicable liquids: Petroleum, chemicals, and waste
 - Level units: Inches, centimeters, and millimeters
 - Volume units: gallons or liters (mass with density option)
 - Power requirements: 110 to 240 VAC, 50/60 hz, 2.6 Amps
 - Operating temperature: 32° to 104 °F (0° to 40 °C)
 - Humidity: 0-90% non-condensing
 - Dimensions: Height: 8" (205mm), Width: 13 ¾" (350mm), Depth: 3 ¼" (83mm)
- Capabilities**
- High/low product, water, and temperature alarm set points
 - Inventory reconciliation / tank autocalibration (optional)
 - Density, mass, and phase separation measurement
 - Email and SMS notifications
 - Back-up generator monitoring
- Approvals/Certifications**
- UL, cUL, ATEX, IECEx
 - Third party certification of leak detection capabilities

SPECIFICATIONS CONTINUED

Components

- 1 Cover
- 2 LCD touch screen
- 3 LED indicators
- 4 Anunciator (audible alarm)
- 5 RS-485
- 6 Mini USB port
- 7 Ethernet / USB port
- 8 RS-232
- 9 Knockouts
- 10 Mounting holes
- 11 Flip up panel (touch screen)
- 12 Termination blocks
- 13 Main board



ORDERING INFORMATION

Ordering Guide

ATG model, hardware, and software options should be combined when ordering. Complete part numbers have specific order and are created using the following guidelines. A complete list of the all available configurations is shown for convenience.

EVOX DW - TR

EVOX = Base Model Options

EVO200 = EVO™ 200 base model, up to 6 channels

EVO400 = EVO™ 400 base model, up to 14 channels

DW = Hardware Options (choose all that apply)

D = Display (color LCD touch screen)

W = Wifi

TR = Software Options (choose all that apply)

T = SCALD 24-hour tank testing

R = Reconciliation/Autocalibration

Example: EVO400DW-TR = EVO™ 400 base model, up to 14 channels with display, with Wifi, with SCALD, and with Reconciliation/Autocalibration.

EVO™ 200 Automatic Tank Gauges

Model	Description
EVO200	EVO™ 200 ATG base (no display)
EVO200D	EVO™ 200 ATG with display
EVO200W	EVO™ 200 ATG with Wifi
EVO200DW	EVO™ 200 ATG with display, Wifi
EVO200-T	EVO™ 200 ATG with SCALD 24-hour tank testing
EVO200-R	EVO™ 200 ATG with Reconciliation/Autocalibration
EVO200-TR	EVO™ 200 with SCALD 24-hour tank testing, Reconciliation/Autocalibration
EVO200D-T	EVO™ 200 ATG with display, SCALD 24-hour tank testing
EVO200D-R	EVO™ 200 ATG with display, Reconciliation/Autocalibration
EVO200D-TR	EVO™ 200 ATG with display, SCALD 24-hour tank testing, Reconciliation/Autocalibration
EVO200W-T	EVO™ 200 ATG with Wifi, SCALD 24-hour tank testing
EVO200W-R	EVO™ 200 ATG with Wifi, Reconciliation/Autocalibration
EVO200W-TR	EVO™ 200 ATG with Wifi, SCALD 24-hour tank testing, Reconciliation/Autocalibration
EVO200DW-T	EVO™ 200 ATG with display, Wifi, SCALD 24-hour tank testing
EVO200DW-R	EVO™ 200 ATG with display, Wifi, Reconciliation/Autocalibration
EVO200DW-TR	EVO™ 200 ATG with display, Wifi, SCALD 24-hour tank testing, Reconciliation/Autocalibration

Note: An external printer must be ordered separately (see following page for ordering information).

EVO™ 400 Automatic Tank Gauges

Model	Description
EVO400	EVO™ 400 ATG base (no display)
EVO400D	EVO™ 400 ATG with display
EVO400W	EVO™ 400 ATG with Wifi
EVO400DW	EVO™ 400 ATG with display, Wifi
EVO400-T	EVO™ 400 ATG with SCALD 24-hour tank testing
EVO400-R	EVO™ 400 ATG with Reconciliation/Autocalibration
EVO400-TR	EVO™ 400 ATG with SCALD 24-hour tank testing, Reconciliation/Autocalibration
EVO400D-T	EVO™ 400 ATG with display, SCALD 24-hour tank testing
EVO400D-R	EVO™ 400 ATG with display, Reconciliation/Autocalibration
EVO400D-TR	EVO™ 400 ATG with display, SCALD 24-hour tank testing, Reconciliation/Autocalibration
EVO400W-T	EVO™ 400 ATG with Wifi, SCALD 24-hour tank testing
EVO400W-R	EVO™ 400 ATG with Wifi, Reconciliation/Autocalibration
EVO400W-TR	EVO™ 400 ATG with Wifi, SCALD 24-hour tank testing, Reconciliation/Autocalibration
EVO400DW-T	EVO™ 400 ATG with display, Wifi, SCALD 24-hour tank testing
EVO400DW-R	EVO™ 400 ATG with display, Wifi, Reconciliation/Autocalibration
EVO400DW-TR	EVO™ 400 ATG with display, Wifi, SCALD 24-hour tank testing, Reconciliation/Autocalibration

Note: An external printer must be ordered separately (see following page for ordering information).

ORDERING INFORMATION

External Printer

Model	Description
FMP-ETP	External printer, includes USB cable, power cord, one roll of thermal printer paper, and wall mount hardware
FMP-EPPC	Case of 25 thermal printer paper rolls

Note: The external printer measures 142mm X 132mm X 204mm (w x h x d) and can be mounted to wall next to the EVO™ Series ATG using the included hardware).



EVO™ 200 & EVO™ Hardware & Software Field Upgrades

EVO™ 200 and EVO™ 400 ATGs come standard with the ability to perform in-tank static leak detection. The following software and hardware options can be added to customize your ATG once it's been installed in the field.

Internal Hardware Field Upgrades

Model	Description
FMP-LCD	Display (color LCD touch screen)
FMP-WIFI	Wifi

Internal Software Field Upgrades

Model	Description
TS-TT	Statistical Continuous Automatic Leak Detection, 24 hour continuous tank testing software
TS-TRAC	Tank inventory reconciliation and autocalibration



EVO™ 550 & EVO™ 5000 AUTOMATIC TANK GAUGES

EVO™ 550 & EVO™ 5000 Automatic Tank Gauges (ATGs) provide highly accurate inventory management and full-featured compliance monitoring for any size fuel system. These module-based ATGs are highly configurable for site-specific probe and sensor requirements. Their simple setup and operation, remote connectivity, and advanced security features protect your fuel system while keeping you directly connected to vital site data whenever, and wherever. The highly-intuitive, full-color, icon-based touch screen provides user-friendly on-site access to inventory, alarm, and compliance data.

HIGHLIGHTS

- Allows you to make informed, data-driven inventory management decisions while keeping your site in compliance and protected from security threats.
- Provides inventory monitoring, static and continuous tank testing, tank autocalibration, inventory reconciliation, and containment compliance monitoring.
- With the EVO™ 550, six total modules can be installed with a maximum of four intrinsically safe modules and a maximum of three of any one kind of module. With the EVO™ 5000, eleven total modules can be installed with a maximum of nine intrinsically safe modules and a maximum of three of any one kind of module.
- Patented AutoLearn™ electronic line leak detection capability including Statistical Line Leak Detection for high throughput sites.
- Secondary containment monitoring provides the ability to vacuum-monitor single or multiple secondary containment spaces like double walled tanks, piping, and sumps.
- Streamlined setup and programming includes hardware auto-detection and wiring confirmation, multipoint tank charting, network printer auto-detection, and the ability to download and upload entire programming profiles from one ATG to another.
- Intuitive full-color 7" touch screen interface provides simplified on-site access features including:
 - One Touch buttons that are custom programmed to carry out common automated tasks with a single tap.
 - Quick Jump menu allows you to quickly maneuver from application to application using a single button.
 - Programmable product colors.
- Available with optional 24-hour statistical continuous automatic leak detection (SCALD) and the industry's only Turbine Pump Interface (TPI) capability for enhanced and automated submersible turbine pump control.
- Web interface allows you to directly connect to your ATG from any web enabled device.

SPECIFICATIONS

- Maximum tanks monitored: 36 (EVO™ 550) / 36 (EVO™ 5000)
- Maximum sensor input capacity: 48 (EVO™ 550) / 96 (EVO™ 5000)
- Lines capacity: 24 (EVO™ 550) / 24 (EVO™ 5000)
- Dry contact input channels: 2
- AC input channels: 36 (EVO™ 550) / 36 (EVO™ 5000)
- Relay output channels: 26 (EVO™ 550) / 50 (EVO™ 5000)
- Connectivity: Ethernet, RS-485, standard USB (qty 2)
- Display type: 7" (17.78 cm) color LCD touch screen
- Printer type: Thermal (also network or USB)
- Alarm: Internal audible alarm
- LEDs: Alarm, warning, and power
- Applicable liquids: Petroleum, chemicals, and waste
- Level units: Inches, centimeters, and millimeters
- Volume units: gallons or liters (mass with density option)
- Power requirements: 110 to 240 VAC, 50/60 hz, 2.6 Amps
- Operating temperature: 32° to 104 °F (0° to 40 °C)
- Humidity: 0-90% non-condensing
- EVO™ 550: H: 11.75" (300mm), W: 10¼" (260mm), D: 9" (229mm)
- EVO™ 5000: H: 11.75" (300mm), W: 16½" (419mm), D: 9" (229mm)

Capabilities

- High/low product, water, and temperature alarm set points
- Inventory reconciliation / tank autocalibration
- Density, mass, and phase separation measurement
- Email and SMS notifications
- Back-up generator monitoring / fuel flow control
- Advanced logic control for DEF/AdBlue® recirculation system
- MODBUS™ support

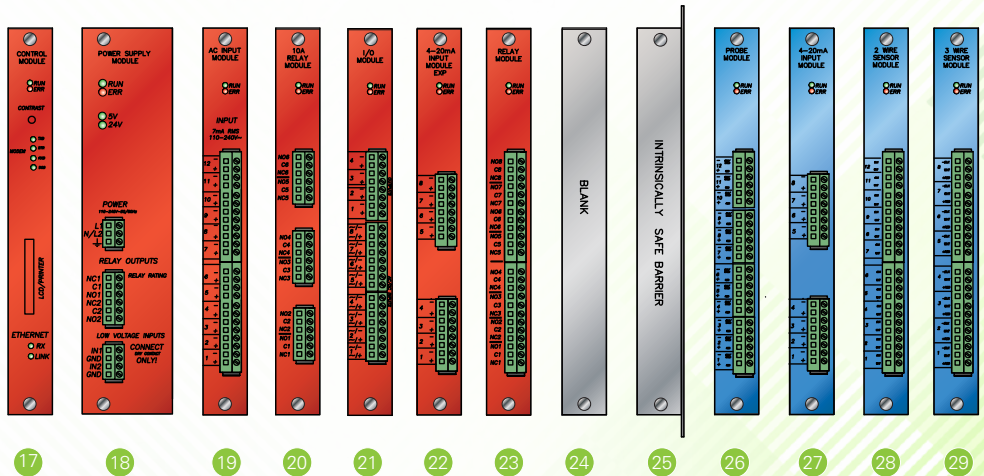
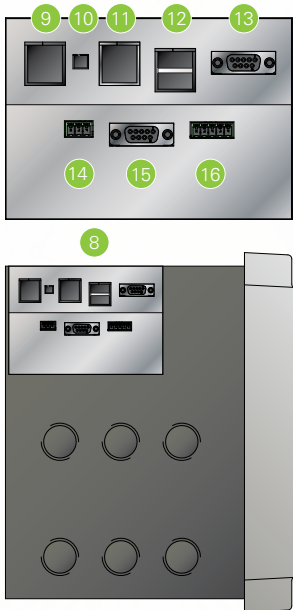
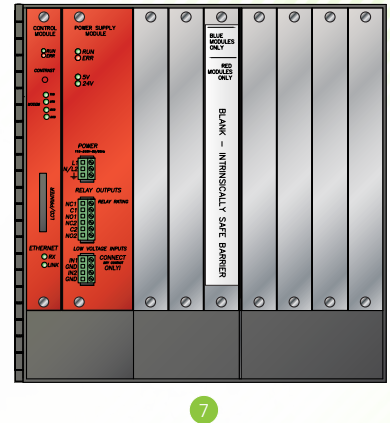
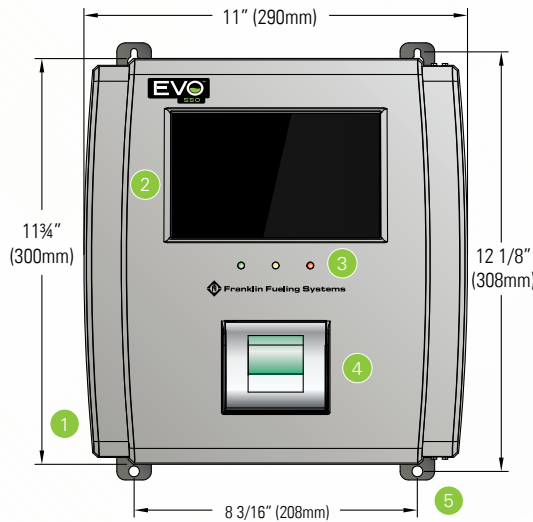
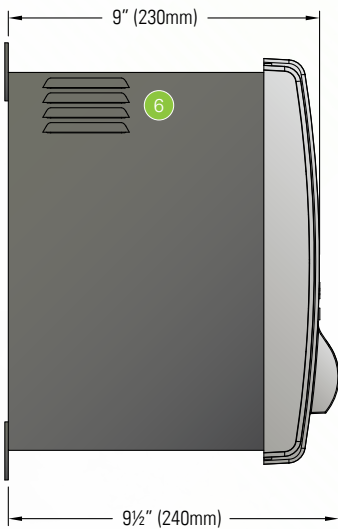
Approvals/Certifications

- UL, cUL, ATEX, IECEx
- Third party certification of leak detection capabilities

SPECIFICATIONS CONTINUED

Components

- 1 Cover
- 2 LCD touch screen
- 3 LED indicators
- 4 Printer
- 5 Mounting tabs
- 6 Cooling vents
- 7 Module slots
- 8 Communication ports
- 9 Modem port
- 10 Annunciator (audible alarm)
- 11 Ethernet port
- 12 USB ports (qty 2)
- 13 Serial comm port 1
- 14 Bus extension
- 15 Serial comm port 2
- 16 RS-485 comm port
- 17 Controller module
- 18 Power supply module
- 19 AC input module
- 20 10 Amp relay module
- 21 I/O module
- 22 4-20mA input module EXP
- 23 Relay module
- 24 Blank
- 25 Intrinsically safe barrier
- 26 Probe module
- 27 4-20mA module
- 28 2 wire sensor module
- 29 3 wire sensor module



ORDERING INFORMATION

Ordering Guide

ATG model, software and hardware options can be listed separately or combined when ordering. Systems shipped from the factory will list the combined part number. Complete part numbers have a specific order and are created using the following guidelines:

TX DPMIE / TRLSC

TX = Base Model Options

T550E = EVO™ 550 base ATG

T5000E = EVO™ 5000 base ATG

DPMIE = Hardware Options (choose all that apply)*

D = Display

P = Printer

M = Internal modem

I = Dispenser interface module

E = LON module

TRLSC = Software Options (choose all that apply)

T = SCALD 24-hour tank testing

R = Reconciliation/Autocalibration

L = Line leak detection

S = Secondary containment monitoring

C = Recirculation, scheduling, and timer conditions

*Only one EVO-DIM or EVO-LON module can be installed per ATG.

Example: T550EDPMI/TRLSC = EVO™ 550 base model with display, with printer, with internal modem, with dispenser interface module, with SCALD, with reconciliation/autocalibration, with line leak detection, and with secondary containment monitoring.

EVO™ 550 & EVO™ 5000 Base Models

Model	Description
T550E	EVO™ 550 base model automatic tank gauge
T5000E	EVO™ 5000 base model automatic tank gauge

EVO™ 550 & EVO™ 5000 Hardware & Software Options

EVO™ 550 and EVO™ 5000 ATGs come standard with the ability to perform in-tank static leak detection. The following software and hardware options can be added to customize your ATG. The internal hardware options will be factory installed when ordered with the ATG.

Internal Hardware Options

Model	Description
TS-MDMIB	(M) Internal modem, includes fax and data software capability
EVO-DIMIB	(I) Internal dispenser interface module, dispenser interface cable must be ordered separately
EVO-LON	(E) Lon™ communication module, IFSF protocol capability

Note: Only one EVO-DIM or EVO-LON module can be installed per ATG.

Internal Software Options

Model	Description
TS-TT	(T) Statistical Continuous Automatic Leak Detection, 24 hour continuous tank testing software
TS-TRAC	(R) Tank inventory reconciliation and autocalibration
TS-ELLD	(L) Electronic line leak detection
TS-SCM	(S) Secondary containment monitoring
TS-CON	(C) DEF/AdBlue® recirculation, scheduling, and timer conditions

Expansion Consoles

Model	Description
EVO-EXPC2	Secondary console to add six additional plug-in modules to the primary EVO™ 550 ATG, comes without a display or printer
EVO-EXPC	Secondary console to add eleven additional plug-in modules to the primary EVO™ 550 ATG, comes without a display or printer

EVO™ 550 & EVO™ 5000 ACCESSORIES

EVO™ 550 and EVO™ 5000 Automatic Tank Gauges Interface Modules

The EVO™ 550 and EVO™ 5000 Automatic Tank Gauges come standard with a power supply module and a controller module. Additional interface modules can be installed. Interface modules ordered with an ATG will be installed at the factory. The following guidelines must be followed:

- EVO™ 550: Six total modules can be installed with a maximum of four intrinsically safe modules and a maximum of three of any one kind of module.
- EVO™ 5000: Eleven total modules can be installed with a maximum of nine intrinsically safe modules and a maximum of three of any one kind of module.

INTRINSICALLY SAFE MODULES

Part Number	Description
TS-PRB	12 input probe module, LL2 and LL3 Series mag probes, VFM flow meters and DMS Mag sensors
TS-2WSNS	12 input 2-wire sensor module, FMP-ULS, FMP-UHS, TSP-HLS, and FMP-HFS sensors
TS-3WSNS	8 input 3-wire sensor module, FMP-EIS, FMP-DIS, FMP-DDS, FMP-DTS, FMP-HIS, TSP-MWS and TSP-DVS sensors. Can also support 2-wire sensors (FMP-EIS-U, FMP-DIS-U, FMP-DDS-U, FMP-DTS-U, FMP-HIS-U)
TS-420IB	8 input 4-20 mA module, LSU500 transducers and VPS and SCCM pressure sensors

NON-INTRINSICALLY SAFE MODULES

Part Number	Description
TS-ACI	12 input AC input module, dispenser hook inputs
TS-RLY	8 output relay module, SCCM solenoid and STP control
TS-10ARLY	6 output 10 Amp relay output module, dispenser power
TS-IO	Input output module, 4 output 4-20 mA, 8 input 3-240 VAC/DC
TS-420EXP	8 input 4-20 mA module, LSU500E transducers and external devices

Note: TS-RLY Module is not required for STP control when utilizing turbine pump interface (TPI) communications. The TS-420EXP module requires Controller Module software version 9.5 or greater Do not include Power Supply and Controller Module when calculating total modules allowed.

TS-LS500 AutoLearn™ with Statistical Line Leak Detection

Pressurized line leak detection provides automatic 3.0 gph hourly, 0.2 gph monthly and 0.1 gph annual precision line leak detection for the EVO™ 550 and EVO™ 5000 ATGs. Statistical Line Leak Detection (SLLD) is a standard feature that can provide 0.2 gph monthly results on even high throughput lines. Available in intrinsically safe and explosion proof models. Use explosion proof when low voltage conduit is not available. The TS-420IB or TS-420EXP, TS-ACI and TS-RLY module and TS-ELLD software option must be ordered and installed in the fuel management system ATG.

INTRINSICALLY SAFE

For new installations where separate low voltage conduits can be used. Use TS-420IB module.

Part Number	Description
TS-LS500/2	2-line transducer kit
TS-LS500/3	3-line transducer kit
TS-LS500/4	4-line transducer kit

Note: Using turbine pump interface (TPI) communications eliminates the need for a TS-RLY module; FFS intelligent controllers required.

DISPENSER INTERFACE MODULE CABLES

Part Number	Description
TSP-WDCBL	Wayne™ cable
TSP-TDCBL	Tokheim™ cable
TSP-GDCBL	Gilbarco™ cable
TSP-GSDCBL	Gilbarco™ G-Site™ cable
TSP-BDCBL	Bennett® 515 only cable

Note: For new installations where separate low voltage conduits can be used. Use TS-420IB module.

EXPLOSION PROOF

For retrofit installations where only a high voltage conduit can be used. Use TS-420EXP module.

Part Number	Description
TS-LS500E/2	2-line transducer kit, explosion proof
TS-LS500E/3	3-line transducer kit, explosion proof
TS-LS500E/4	4-line transducer kit, explosion proof

Note: Using turbine pump interface (TPI) communications eliminates the need for a TS-RLY module; FFS intelligent controllers required.

ALTERNATIVE FUELS ACCESSORIES

Part Number	Description
TS-AFALNIP	Leak generator needle valve kit required for E85 installations

Bennett® is a registered trademark of Bennett Pump Company.
Wayne™ is a trademark of Dresser Equipment Group Inc.
Gasboy™, Gilbarco™, Encore™, and G-Site™ are trademarks of Gilbarco Inc.
Tokheim™ is a trademark of Tokheim Holding B.V.

Explosion Proof

Part	Description
TS-LS500E/2	2-line transducer kit, explosion proof
TS-LS500E/3	3-line transducer kit, explosion proof
TS-LS500E/4	4-line transducer kit, explosion proof

Using turbine pump interface (TPI) communications eliminates the need for a TS-RLY module; FFS intelligent controllers required.

Alternative Fuel Accessories

Part	Description
TS-AFALNIP	Leak generator needle valve kit required for E85 installations

Dispenser Interface Module Cables

Part	Description
TSP-WDCBL	Wayne™ cable (*)
TSP-TDCBL	Tokheim™ cable (*)
TSP-GDCBL	Gilbarco™ cable (*)
TSP-GSDCBL	Gilbarco™ G-Site™ cable (*)
TSP-BDBCL	Bennett® 515 only cable (*)

Paper Supplies

Part	Description
TS-TP2	One box of 5 rolls of thermal printer paper for TS-550, TS-5000 and Tank Sentinel® consoles (*)
TS-TP2C	One case (100 rolls) of thermal printer paper for TS-550, TS-5000 and Tank Sentinel® consoles (*)

Part	Description
TS-TP5000	TS-550 and TS-5000 impact printer paper
TS-TP5000C	12 rolls of impact printer paper
TS-INKRB	TS-550 and TS-5000 ink ribbon

Note: T5 Series consoles shipped after 8/2010 have thermal printers.

Secondary Containment Monitoring

The secondary containment monitoring system is designed to detect leaks in double-wall tanks, sumps and piping. TS-420IB, TS-RLY and TS-ACI modules and the TS-SCM software option must be ordered and installed in the tank gauge console.

Sensor Modules

Part	Description
TS-SCCM/1	Single channel secondary containment control module
TS-SCCM/2	Dual channel secondary containment control module
TS-SCMCAL	Leak generator kit, one per station
VS-SCCM/1	220 VAC single channel secondary containment control module
VS-SCCM/2	220 VAC dual channel secondary containment control module

Install Kit

Part	Description
TSP-SCLSI	Product, vapour line and sump containment install kit
TSP-SCTK2	Tank containment install kit for 2" risers, in-tank hose sold separately
TSP-SCTK2B	Tank containment install kit for 2" risers with BSP threads, in-tank hose sold separately
TSP-SCTK4	Tank containment install kit for 4" risers, in-tank hose sold separately
TSP-SCTK4B	Tank containment install kit for 4" risers with BSP threads, in-tank hose sold separately

Accessories

Part	Description
TSP-SCBRB	Five 1/4" NPT barbed fittings
TSP-SCBRBT	1/4" NPT barbed T-fitting
TSP-SCCLP	Five hose clamps
TSP-SCTB25	25' hose
TSP-SCTB50	50' hose
TSP-SCTB100	100' hose
TSP-SCVLV	Five Schreuder valves

Upgrading Installed Fuel Management System Consoles

Two types of upgrades can be done on a fuel management system console: feature upgrades and software upgrades. The latest software versions are included with all feature upgrades. Most feature upgrades require ordering a software option, hardware options and interface modules. Some modules may already be installed.

Feature Upgrade

Part	Description		
Internal modem		TS-MDMIB internal modem	
24 hour tank testing	TS-TT SCALD® tank testing		
Line leak	TS-ELLD electronic line leak detection	Appropriate TS-LS500/N transducer kit	TS-RLY module, not needed with TPI TS-420IB module TS-ACI module
Tank inventory reconciliation	TS-TRAC tank inventory reconciliation and autocalibration	TS-DIMIB module Appropriate DIM interface cables	
Secondary containment monitoring	TS-SCM secondary containment monitoring	Appropriate TS-SCCM modules, installation kits and accessories	TS-ACI module TS-RLY module TS-420IB module
Vapour recovery monitoring (ISD)	TS-VRM vapour recovery monitoring	TS-VFM flow meters TS-VPS pressure sensor TS-DIMIB dispenser interface	TS-ACI module (not needed w/ VRM 1.2) TS-RLY or TS-10ARLY module TS-PRB probe module TS-420IB module

Note: When placing an order for a feature upgrade, the serial number of the console to be upgraded must be supplied.

Software Version Upgrade Only

Part	Description
TSA-UPGMS	Software version upgrade shipped on a USB memory stick



TS-LS500 AUTOLEARN™ ELECTRONIC LINE LEAK DETECTION

INCON® brand TS-LS500 AutoLearn™ electronic line leak detection (ELLD) learns the characteristics of each line, eliminating possible configuration errors and ensures unparalleled leak detection accuracy. It is an optional feature of T5 Series fuel management systems. The TS-LS500 AutoLearn™ ELLD system includes a statistical line leak detection (SLLD) feature which can be activated at high throughput sites that cannot accommodate the prolonged downtime necessary for static line leak detection testing.

HIGHLIGHTS

- Automatically learns exact pipeline characteristics.
- No pipe type and length programming required.
- Monitors flexible, steel and/or fibreglass pipelines in any combination up to certified maximum values.
- Works with submersible pumps generating 25 psi or more.
- Automatically performs 3.0 gph, 0.2 gph and 0.1 gph line tests, as well as other line pressure checks.
- Includes the industry's only statistical line leak detection (SLLD).
- Positive submersible pump shutdown in the event of a leak.
- Optional feature of T5 Series fuel management systems.
- For use in rigid, flex and rigid/flex piping configuration.
- Intrinsically safe and explosion proof options.
- Dispenser hook isolation and turbine pump interface (TPI) pump control options.
- Remote access to line pressure, test, and alarm information.

SPECIFICATIONS

- Dimensions: 6-1/4" x 2" NPT.
- Operating temperature: -40° to 149 °F (-40° to 66 °C).
- Operating pressure: 0 to 100 psi (0 to 689 kPa).
- Belden™ (*) cable: #9363-22 AWG, #9364-20 AWG or #9365-18 AWG.
- Max. sensor to console cable distance: 500' (152.4 M).
- Sensor port fitting: 2" female NPT.
- Sensor material: anodized aluminium body and stainless steel sensor.

Capabilities

- Performs a 3.0 gph leak and pressure test after every dispense cycle or 45 min. Positive shutdown of the affected turbine(s) on test failure.
- Performs a 0.2 gph monthly and 0.1 gph annual precision leak test during the thermally stable periods of ne dispensing. Optional positive shutdown of the affected turbine(s) on test failure.
- Performs Pressure up, Catch pressure and other additional checks. Alarm only on test failure.

Approvals

- TS-LSU500 UL, cUL, ATEX, IECEx
- TS-LSU500E UL, cUL
- Third party certification of leak detection capabilities

T5 Series Specifications

- Number of lines monitored: 8 (48*)
- Dispenser hook input channels: 12 (72*)
- STP control Relay output channels: 8 (50*)
- Turbine Pump Interface STP control with FE Petro® intelligent controllers
- Applicable liquids: Gasoline, diesel, aviation fuels

* Maximum number when including additional options

ORDERING INFORMATION

Minimum Console Requirements

- TS-550/5000, TS-550/5000 evo Fuel Management System
 - TS-ELLD software options
 - TS-ACI, TS-420IB or TS-420EXP, TS-RLY Modules
- * TS-RLY module is not required when utilizing turbine pump interface (TPI) communications

Intrinsically Safe

For new installations where separate low voltage conduits can be used. Use TS-420IB module.

Model	Description
TS-LS500/2	2-line transducer kit
TS-LS500/3	3-line transducer kit
TS-LS500/4	4-line transducer kit

Explosion Proof

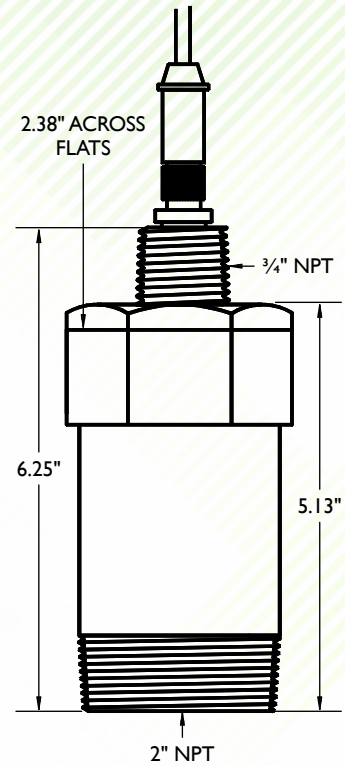
For retrofit installations where only a high voltage conduit can be used. Use TS-420EXP module.

Model	Description
TS-LS500E/2	2-line transducer kit, explosion proof
TS-LS500E/3	3-line transducer kit, explosion proof
TS-LS500E/4	4-line transducer kit, explosion proof

Note: Using turbine pump interface (TPI) communications eliminates the need for a TS-RLY module; FFS intelligent controllers required.

Alternative Fuels Accessories

Model	Description
TS-AFALNIP	Leak generator needle valve kit required for E85 installations





TURBINE PUMP INTERFACE

EVO™ SERIES ATGS

All EVO™ Series ATGs include the industry's only Turbine Pump Interface (TPI) capability for enhanced and automated submersible turbine pump monitoring and control.

HIGHLIGHTS

Enhanced Pumping

Turbine Pump Interface is a powerful tool that creates a network between your Submersible Turbine Pump (STP) controllers and EVO™ Series ATGs. Through TPI, the tank gauge can be programmed to respond to faults in the submersible pumping system and react with intelligence that pump controllers alone cannot. The devices share data to provide you with enhanced system capabilities like:

- Remote access to STPs
- Response automation
- STP history reporting
- Pump in water prevention
- Clogged STP intake escalation
- Overfill protection/automation
- Primary/secondary pump management
- Adjusted pump priority (levelling on the fly)

Remote Access

Once notified of a pumping system event via TPI, anyone with network access can open up any web-enabled device (PC, tablet, smart phone) and log into the tank gauge web interface where they review pumping systems data and even execute tasks remotely. This enables technicians to have a better understanding of a site problem and the potential solution before they travel to the site.

Pump in Water Detection

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.

- By shutting off the affected pump, TPI prevented water from being pumped into your customer's vehicle, avoiding potential damage and lost customer loyalty. Additionally, the fuel management rules engine can automatically notify the proper off-site personnel to ensure a timely and accurate response.

Clogged Intake Escalation

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.

- 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.

Leveling & Priority Modes

Scenario: When managing two storage tanks of the same product 'Levelling 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 pump.

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

Remote Pump Interaction

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.

- 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. If necessary, the history provided by TPI can ensure the proper equipment is on the technician's service vehicle before leaving to perform maintenance.

ORDERING INFORMATION

Turbine Pump Interface is built into the following FE PETRO® brand intelligent controllers for service and control integration to Franklin Fueling Systems EVO™ Series Automatic Tank Gauges (EVO™ 200, EVO™ 400, EVO™ 550, EVO™ 5000):

- MagVFC (60 Hz)
- STP-SCI (60 Hz)
- STP-SCIII (60 Hz)
- EcoVFC (50 Hz)
- STP-SCI (50 Hz)
- STP-SCIIC (50 Hz)



RECIRCULATION SYSTEM FOR DEF/ADBLUE

Diesel exhaust fluid (DEF) will freeze at approximately 12°F (-11°C). For colder climate installations, no DEF system is complete without a means to prevent this fuel additive from freezing in the lines and costing you potential sales. Franklin Fueling Systems provides a state-of-the-art recirculation system as part of our TS-550 evo™ tank gauge that not only gives you complete control of your DEF system, but also provides you with energy cost savings throughout the life of the system as well as upfront cost savings on equipment.

HIGHLIGHTS

Recirculation System

By pairing an INCON™ brand TS-550 evo™ fuel management system with our complete DEF/AdBlue® compatible pipe, containment, hardware, and dispensing systems you can achieve these system benefits no other single manufacturer can provide.

Total Control of Your DEF System

The DEF recirculation system utilizes temperature sensors placed within the pipework system to circulate the fluid and prevent freezing.

- You have the flexibility of writing your own rules for automated recirculation based on your climate.
- The powerful system provides valuable data like product levels, usage, and notifications - all available remotely on a PC or mobile device.

Maximize Your Energy Efficiency

With no need to constantly heat the entire system, you can avoid those high electric bills during winter months as a recirculation system only works when needed, for minimal energy usage.

- Instead of turning on a heated-pipework system at the beginning of winter and constantly running it, the recirculation system will only run when it is absolutely needed, based on your initial programming.
- Avoid high energy consumption and its expensive costs.

Lower Up-Front Equipment Costs

Let's face it, heated pipework systems are expensive. Our system allows you to use our standard APT™ pipework, saving you as much as 30% in equipment costs.

- Odds are, you've already installed the familiar APT™ brand XP pipework system, or there are plenty of certified contractors in your area ready to do the installation and do it fast.
- There are no new tools to purchase or new pipework installation methods to learn with this proven system.

Future Proof Your DEF System

With regulations constantly changing, our 1½" DEF pipework system is large enough to be used with other fuel types should the need arise in the future.

- Protect your equipment investment by ensuring compatibility with other fuel types should the demand for DEF cease.
- With a full-feature fuel management system in place, you can take advantage of advanced features like electronic leak detection or containment monitoring while the modular design will let you expand the system as needed.

ORDERING INFORMATION

The DEF recirculation system is available by ordering the following components:

- TS-550 evo™ with DEF recirculation, scheduling, and timer conditions internal software option (TS-CON)
- 6" temperature sensors with ½" NPT compression fitting installation hardware (FMP-TEM)



SECONDARY CONTAINMENT MONITORING

The INCON™ brand secondary containment monitoring (SCM) system is designed to detect leaks in double-wall piping, tanks, and sumps. The system utilizes the siphon/vacuum port of a submersible turbine pump to draw a vacuum on these interstitial spaces. The vacuum levels are then continuously monitored to detect any potential leaks in these double-wall containments.

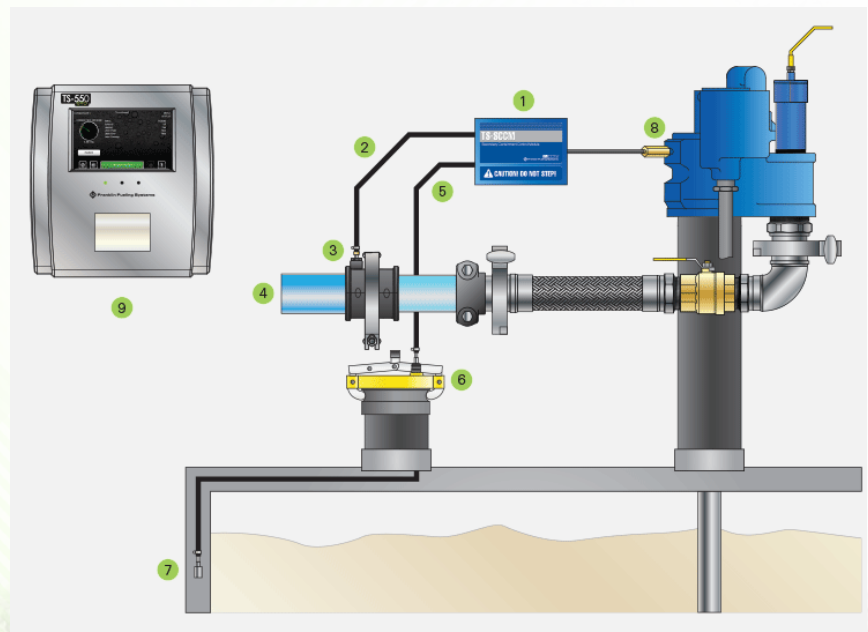
HIGHLIGHTS

- Up to four different containments can be connected to each submersible turbine pump using a combination of single and dual channel TS-SCCM secondary containment control modules and secondary syphon ports.
- The secondary containment control module collects information on all interstitial spaces.
- Gathers system status, replenish rate, alarm, and diagnostic information.
- Utilizes AUTO-LEARN® technology to learn the actual interstitial space being monitored based on the vacuum flow rate through a calibrated orifice for precise leak detection.
- Alarms when vacuum cannot be maintained or when liquid is detected in secondary space.
- Optional positive submersible turbine pump shut-down upon alarm.
- Compatible with FE PETRO® brand submersible turbine pumps as well as Red Jacket® STPs.
- All components necessary for installation including syphon check valve, vacuum hose, fittings and other installation accessories are available from Franklin Fueling systems.

SPECIFICATIONS

Components

1. Secondary containment control module
2. Vacuum line to secondary contained pipe
3. Pipe fitting with integrated test port
4. Secondary contained pipe
5. Vacuum line to secondary contained tank
6. Tank installation kit
7. Line weight (included with tank install kit)
8. Syphon check valve
9. TS-550 evo™ with SCM software



SPECIFICATIONS CONTINUED

- Operating vacuum level: -2 to -6 inHg
- Available software option on TS-550 evo™, TS-5000 evo™ and TS-EMS fuel management systems.
- TS-420IB, TS-RLY and TS-ACI modules and the TS-SCM software option must be ordered and installed in the tank gauge console.
- Requires TS-SCCM secondary containment control module consisting of pressure sensor(s) and solenoid valve(s).
- Requires syphon check valve to connect to STP manifold.
- Containments to be monitored must terminate inside the submersible turbine pump containment.
- Installer must verify the vacuum limitation of each containment with its manufacturer prior to installation.

Approvals/Certifications

- Meets all requirements of California AB2481.
- National Work Group approved.

Operation

Secondary containment monitoring uses the siphon port of the submersible turbine pump to draw and maintain a vacuum on the secondary containments of lines, sumps, tanks and vapor lines. During installation a calibrated leak is introduced during the AUTO-LEARN™ process which allows the system to learn the vacuum characteristics of each containment space. The vacuum level is continuously monitored and compared to established leak rates to ensure that the secondary containment is tight.

ORDERING INFORMATION

Secondary Containment Control Modules

Model	Description
TS-SCCM/1	Single channel secondary containment control module
TS-SCCM/2	Dual channel secondary containment control module
TS-SCMCAL	Leak generator kit, one per station
VS-SCCM/1	220 VAC single channel secondary containment control module
VS-SCCM/2	220 VAC dual channel secondary containment control module

Installation Kits

Model	Description
TSP-SCLSI	Product, vapor line and sump containment install kit
TSP-SCTK2	Tank containment install kit for 2" NPT risers, in-tank hose sold separately
TSP-SCTK2B	Tank containment install kit for 2" BSP risers, in-tank hose sold separately
TSP-SCTK4	Tank containment install kit for 4" NPT risers, in-tank hose sold separately
TSP-SCTK4B	Tank containment install kit for 4" NSP risers, in-tank hose sold separately

Accessories

Model	Description
TSP-SCBRB	¼" NPT barbed fittings (Qty 5)
TSP-SCBRBT	¼" NPT barbed T-fitting
TSP-SCCLP	Hose clamps (Qty 5)
TSP-SCTB25	25' vacuum hose
TSP-SCTB50	50' vacuum hose
TSP-SCTB100	100' vacuum hose
TSP-SCVLV	Schreader valves (Qty 5)
400137908	Syphon check valve



Install Kit (TSP-SCLSI)
Hose, Schreader Valve, Barbed T-fitting, Hose Clamps



TS-STS SUMP TEST SYSTEM KIT

The TS-STS sump test system is designed specifically to test dispenser and turbine containment sumps for leaks. Up to four sumps can be leak-tested simultaneously with accurate compliance test results available in just 15 minutes. The system consists of two carrying cases containing a TS-STS console and quick start guide in one, and leak test probes, cables and printer paper in the other.

HIGHLIGHTS

- Designed to deliver cost-effective environmental compliance test data.
- Easily transported in two supplied carrying cases.
- Easily set-up and programmed with site-specific data and sump identification before a test. Site and test data can also be saved to a laptop.
- Laptop interface optional using System Sentinel™ Tech Software.
- Accommodates up to four probes for testing of up to four spill containers, dispenser sumps, or tank sumps simultaneously.
- Uses INCON® brand magnetostrictive probe technology for unparalleled accuracy and reliable results.
- Highly accurate leak test detects level changes greater than 0.002 inches during the fifteen minute test.
- Provides accurate test fluid levels for each sump monitored.
- Automatically prints out passed or failed test reports in just fifteen minutes after starting a leak test. Printer included.
- 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.
- Provides accurate test solution levels for each sump monitored.
- Automatically prints out passed and/or failed sump leak test reports in just fifteen minutes after starting a leak test. Printer included.
- Shows the date and time of the test, test-solution 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.

SPECIFICATIONS

- Operating temperature:
 - Console - 32° to 122 °F (0° to 50 °C).
 - Leak test probes - -40° to 140 °F (-40° to 60 °C).
- Storage temperature:
 - Console - -4° to 140 °F (-20° to 60° C).
 - Leak test probes - -40° to 158 °F (-40° to 70 °C).
- Intrinsic safety rating:
 - Leak test probes - Class 1, Div. 1, Group D.
- Carry case weight and dimensions:
 - Console - 33 lbs. (15 kg), 24" × 19" × 8½" (62 cm × 49 cm × 22 cm).
 - Leak test probes - 30 lbs. (13.5 kg), 38" × 18" × 6" (97 cm × 45 cm × 16 cm).
- Number of sumps monitored:
 - Console - 4.
 - Leak test probes - 1.
- Applicable liquids:
 - Leak test probes - testing solution.
- Level units:
 - Console - inches.
- Display type and size:
 - Console - alphanumeric LCD,
 - 2 lines of 40 characters.
- Printer type:
 - Console - 24 column thermal printer.
- Power requirements:
 - Console - 115 VAC, 50 Watts, 6' power cord with 3 prong plug supplied.
 - Leak test probes - 50' cable supplied.

ORDERING INFORMATION

Model	Description
TS-STS-2K	Sump test system with two probes
TS-STS-3K	Sump test system with three probes
TS-STS-4K	Sump test system with four probes



S940 SENSOR ALARM CONSOLE

The S940 Sensor Alarm Console is a cost effective solution for tank overfill protection and sensor leak detection needs. This easy-to-install-and-operate device monitors up to four tanks, containment sumps or interstitial spaces and provides an audible and visual indication of an alarm condition. Two programmable relay outputs are included to sound an external alarm or send a signal to a building control or monitoring system. The weather proof enclosure allows the S940 Sensor Alarm Console to be conveniently installed indoors or out.

HIGHLIGHTS

- Monitors up to 4 sensors for overfill or leak detection.
- Simple to install and configure.
- Can be installed indoors or outdoors.
- Cost effective leak detection or overfill solution.
- Connect to remote alarms or external devices.
- Compatible Franklin Fueling Systems 2-wire sensors:
 - TSP-ULS universal liquid sensor
 - TSP-HLS high level sensor
 - TSP-HFS horizontal float switch
 - TSP-UHS universal hydrostatic sensor

ORDERING INFORMATION

Model	Description
S940	Four channel sensor alarm console

SPECIFICATIONS

- Input channels: 4 (2-wire float switch sensor inputs)
- Output channels: 2 (dry contact relay outputs)
- Alarm: Internal audible alarm
- LEDs: Alarm, power and output
- Dimensions: 6" x 6" x 4"
- Power requirements: 100-240 VAC +/- 10%, 50/60 Hz, 15 W max
- Operating temperature: -13 to +140 °F (-25 to +60 °C)
- Enclosure: NEMA® 4, indoor / outdoor (non-hazardous locations only)

Capabilities

- Tank overfill alarm
- Steel or fibreglass tank interstitial monitoring
- Containment sump monitoring
- General liquid sensor monitoring
- Programmable relay outputs for remote alarm or external device interface

Approvals

- UL, cUL, associated apparatus, non hazardous location
- Third party certification of leak detection capabilities



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.



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 Kit - 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 Necessary - 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.





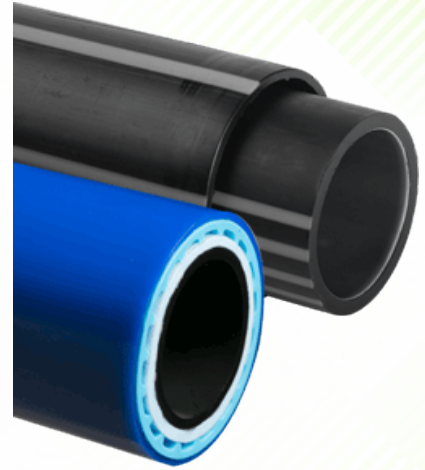
STATISTICAL LINE LEAK DETECTION

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

HIGHER PIPING CAPACITY

INCON® ELLD is capable of monitoring up to approximately 312 gallons of rigid piping capacity in addition to up to 95 gallons of flexible piping capacity. The closest competitive pressure-based ELLD is only capable of monitoring up to 200 total gallons of piping capacity, making it difficult for larger sites to achieve precision leak detection.





TS-LS300 AUTOLEARN™

The TS-LS300 AutoLearn™ line leak detection system learns the exact characteristics of each line, ensuring unparalleled accuracy. It can run independently or with any INCON TS-1001, TS-2001, TS-504 or TS-508 tank gauge.

HIGHLIGHTS

- Automatically learns exact pipeline characteristics.
- No pipe type and length programming required.
- Monitors flexible, steel and/or fibreglass pipelines in any combination up to certified maximum values.
- Works with submersible pumps generating 25 psi or more.
- Automatically performs 3.0 gph, 0.2 gph and 0.1 gph line tests.
- Positive submersible pump shutdown in the event of a leak.
- Can be monitored through ATG and System Sentinel™.
- Third party certified for 0% probability of false alarm.
- Eliminates the need for factory calibration or on-site field judgments for set-up.
- For use in rigid, flex and rigid/flex piping configuration.
- Immediate notification of alarm condition.
- Allows printed compliance reports.

SPECIFICATIONS

- Number of lines monitored: 1, 2, 3 or 4.
- Dimensions: 11" x 12" x 4".
- Power requirements:
 - 115 VAC - +15%, -10%, 100 Watts maximum, 1 Amp maximum.
 - 230 VAC - +15%, -10%, 100 Watts maximum, 0.5 Amp maximum.
- Operating temperature: 20° to 122 °F (10° to 50 °C).

Leak Sensing Transducer Specifications

- Number of lines monitored: 1.
- Dimensions: 6-1/4" x 2" NPT.
- Applicable liquids: motor fuels.
- Power requirements:
 - 10 to 20 VDC from console.
- Operating temperature: -40° to 149 °F (-40° to 66 °C).
- Operating pressure: 0 to 100 psi (0 to 689 kPa).
- Belden™ cable: #9363-22 AWG, #9364-20 AWG or #9365-18 AWG.
- Max. sensor to console cable distance:
 - 500' (152.4 M).
- Sensor port fitting: 2" female NPT.
- Sensor material: anodized aluminium body and stainless steel sensor.
- Intrinsic safety rating: Class 1, Div. 1, Group D, II (1) G [EEX Ia] IIA T4
- Explosion proof: Class 1, Div. 1, Group D.

Capabilities

- The TS-LS300 performs a 3.0 gph leak and pressure test after every dispense. Upon detection of a failed test, the LS300 will alarm and positively shutdown the affected turbine.
- The TS-LS300 continuously monitors pressurised lines for thermally stable conditions and performs a 0.2 gph monthly and 0.1 gph annual precision leak test during the thermally stable union.
- AutoLearn™ line leak detection technology is also available with the TS-LS500, part of the TS-550/TS-5000 and the TS-550 evo/ TS-5000 evo fuel management systems.

Approvals

- UL, cUL, ATEX
- Third party certification of leak detection capabilities

ORDERING INFORMATION

TS-LS300, 115 VAC 50/60 Hz Models

Intrinsically Safe

For new installations where separate low voltage conduits can be used.

Model	Description
TS-LS300/2	2-line console with line calibration kit
TS-LS300/3	3-line console with line calibration kit
TS-LS300/4	4-line console with line calibration kit

Note: All AutoLearn™ models include the TPI turbine pump interface module.

TS-LS300, 230 VAC 50/60 Hz Models

Intrinsically Safe

For new installations where separate low voltage conduits can be used.

Model	Description
VS-LS300/2	2-line console with line calibration kit
VS-LS300/3	3-line console with line calibration kit
VS-LS300/4	4-line console with line calibration kit

Note: All AutoLearn™ models include the TPI turbine pump interface module.

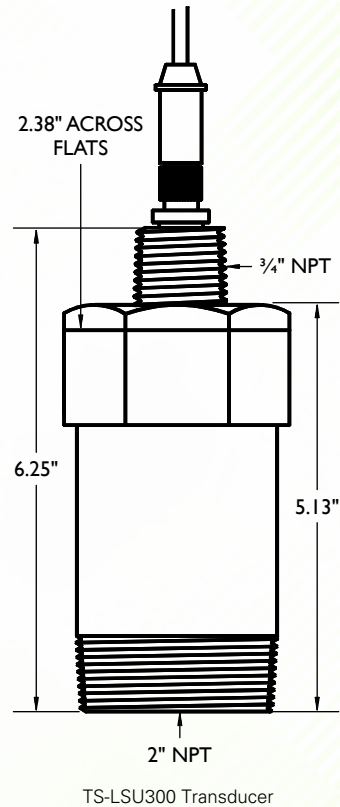
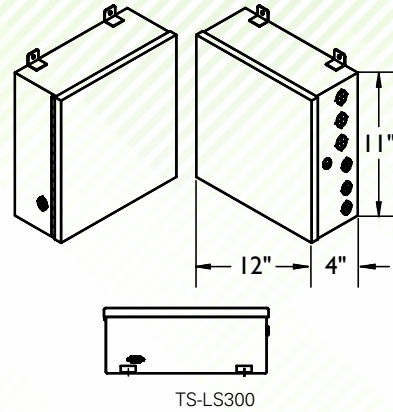
Interface Cable

For connecting two AutoLearn™ consoles together.

Model	Description
TSSP-ALICBL	AutoLearn™ interface cable

Alternative Fuels Accessories

Model	Description
TS-AFALNIP	Leak generator needle valve kit required for E85 installations





LEAK SENTINEL

The UPP® leak detection system monitors the interstitial space that runs the entire length of any UPP® secondary contained pipework.

Using pressurised air or nitrogen, the system monitors the pressure within the interstitial space. Any reduction in pressure indicates a leak has occurred either in the primary or secondary pipe and a visual alarm is shown on the system's display screen. An optional external audible alarm will sound allowing the site operator to take the relevant pipelines out of service.

A pump housed inside the unit maintains the pressure in the system, meaning no external pressurised air or gas cylinders are required, reducing running costs for the operator. It is possible to connect one unit to several double wall pipe lines on a site using manifolds (with individual line gauges for easy identification of leaking lines) or using interconnecting tubing.

The new LD-UPP®-3 Leak Detector complies with the European standard EN 13160 and fulfils the highest environmental protection level.

HIGHLIGHTS

- Easy installation.
- Integral pumped pressure supply.
- Small weather proof unit for discreet installation.
- One unit can service several pipe lines.
- Visual and audible alarm warnings.
- Complies with European Standard EN 13160.

SPECIFICATIONS

Leak Detectors		LD-UPP®-3 (built-in pump make compressed air)	LD-UPP®-2 (operating with compressed dry air supplied)	LD-UPP®-2 operating with compressed inert gas supplied)	
Caution information	1st	This Leak Detector is not recommended for pipes with inner pipe made of plastic if liquids with flash points below 55°C are conveyed.	Applicable (compressed air)	Applicable (compressed air)	Not applicable (inert gas, can handle liquid with flash point below 55°C)
	2nd	Pumps and motor inside, pressurised air cylinder needed for mutual commissioning only.	Applicable (built-in pump)	Not applicable (solenoid valve for supply)	Not applicable (solenoid valve for supply)
	3rd	Air filter needed.	1 Applicable (filter required)	Not applicable (no filter required)	Not applicable (no filter required)

ORDERING INFORMATION

Model	Description	Pack Size	Weight (kg)	Weight (lbs)
LD-UPP®-2	Leak Detector - Nitrogen Over Pressure	1	1	2.2
LD-SIGNAL HORN	Siren Acoustic Alarm	1	2	4.41
LD-FLASHING LIGHT	Beacon Flashing Visual Alarm	1	2	4.41
LD-PROTECTIVE BOX	IP55 Enclosure 400 x 600 x 200 mm	1	--	--
LD-MANIFOLD-2	Manifold - 2 UPP® SC Lines	1	2	4.41
LD-MANIFOLD-4	Manifold - 4 UPP® SC Lines	1	4	8.82
LD-MANIFOLD-6	Manifold - 6 UPP® SC Lines	1	6	13.23
LD-MANIFOLD-8	Manifold - 8 UPP® SC Lines	1	8	17.64

Model	Description	Pack Size	Weight (kg)	Weight (lbs)
LD-UPP®-3	Leak Detector - Air Over Pressure	1	8	17.64
LD3-F	Replacement Air Filter for LD-UPP®-3	1	--	--
LD3-M2	Manifold - 2 UPP® SC Lines	1	2	4.41
LD3-M3	Manifold - 3 UPP® SC Lines	1	3	6.61
LD3-M4	Manifold - 4 UPP® SC Lines	1	4	8.82
LD3-M5	Manifold - 5 UPP® SC Lines	1	5	11.02

FUEL MANAGEMENT SYSTEMS

INVENTORY MONITORING

With the growing popularity of various newer fuel types, it's more important now than ever to understand what your options are for tank monitoring. Check out our easy guide to selecting probes and floats.

Choose the options best suited for your site.



EQUIPMENT SELECTION

Each station has to accommodate different site-specific and even tank-specific conditions. Ensure you have the right probe and float combination for your particular application.



PROBES

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

Inventory Control

Precision product and water level measurement.

Leak Detection Upgrade

Tank level measurement plus tank leak detection testing.



STANDARD GAS AND DIESEL FLOAT KITS

Standard gas and diesel floats kits come complete with a product and water float. A single set is paired with each probe to collect tank level information.



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. Manage product levels and be alerted to high water or phase separation levels in tanks. Phase separation that goes undetected can cause serious damage if pumped into a customer's vehicle.

Float Options

Standard gas, diesel, and phase separation floats are all available in 2" models for 2" riser applications, and 4" models for 4" riser applications.



DENSITY MEASUREMENT FLOAT KITS

Ensure fuel quality and detect cross-dropping with density measurement float kits. When paired with leak detection probes these kits not only allow you to monitor product and water levels, they also give you the ability to monitor the quality of the fuel being dropped to ensure you are always getting exactly what you paid for and detect cross-drops so you can react quickly.



Plus

Additional flexible probe and chemical/LPG float options available.

DIGITAL PROBES



MITIGATE STATIC FRICTION

With any probe, naturally occurring static friction between the float and the probe shaft can cause the float to remain in place when the product level drops and even when it rises.

Our digital probes feature a unique and innovative vibration motor mounted inside the probe head. Every 5 minutes, the vibration motor automatically pulses. This frees the floats from any static friction with the probe shaft and mitigates the negative effects static friction can have on level readings or leak detection accuracy.

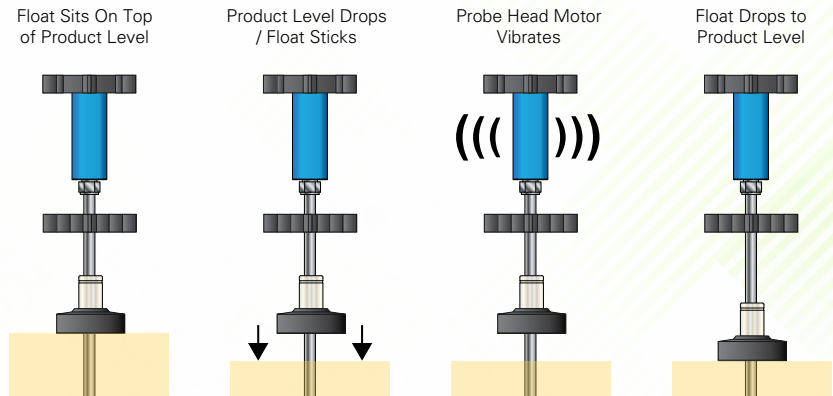


Diagram has been exaggerated for illustrative purposes.

SIMPLE INSTALLATION AND SETUP

The digital probes advanced communication capabilities allow for a faster installation and setup.



BOTTOM MOUNT INSTALLATION

With no hanging installation kit needed, the probe can simply be placed in the tank riser and rested on the tank bottom.



FASTER SETUP

The probe automatically sends important setup data to the tank gauge eliminating manual input by technicians.

This data includes:

- Gradient
- Probe type
- Length
- Serial number

DIGITAL INVENTORY AND LEAK DETECTION PROBES

Digital inventory and leak detection probes provide accurate tank level monitoring and reporting with optional leak detection capabilities. These probes employ digital magnetostrictive position measurement technology for highly accurate tank readings.

HIGHLIGHTS

- Models available for inventory control or inventory control with leak detection.
- Capable of precise leak detection, density measurement, and inventory monitoring.
- Suitable for use with gasoline, diesel, DEF/AdBlue®, and other manufacturer approved products.
- Bottom mounted installation for fast and simple install.
- Vibration motor integrated into probe head pulses every 5 minutes to reduce the effects of stiction on level reading and leak detection, providing readings with higher accuracy.
- Screw-in electrical connector provides quick installation or removal, eliminating the need to re-splice wires.
- Highly accurate digital communication between the probe and the tank gauge.
- Probes are available in many sizes that are suitable for all common tanks.
- Easily installed into 2", 3" or 4" riser pipes.

SPECIFICATIONS

- Operating temperature: -40° to 140 °F (-40° to 60 °C)
- Storage temperature: -40° to 158 °F (-40° to 70 °C)
- Non-linearity: $\pm 0.025\%$ of full scale
- Repeatability: $\pm 0.001"$
- Temperature sensors: 5 thermistors located in the shaft
- Temperature resolution: ± 0.02 °F (± 0.01 °C)
- Probe pigtail: 10' long three conductor cables with shields and polyurethane jacket
- Compatible with up to three floats for product, water, phase separation detection, or density measurement.
- Compatible with Franklin Fueling Systems tank gauges including: EVO™ 200, EVO™ 400, EVO™ 550, EVO™ 5000.

Approvals/Certifications

- UL and cUL listed, ATEX, IECEx

Applications

Digital probes feature exceptional linearity, resolution, and stability, and are used in underground and aboveground storage tanks. Two types of probes are available for the following applications:

- The leak detection probes are typically used for underground storage tanks and petroleum applications when static or SCALD leak detection is required.
- The inventory control probes are typically used for aboveground storage tanks, chemical or oil waste, or underground storage tanks that do not require in-tank leak detection.



Inventory and Leak Detection Probe (Shown with optional precision density diesel float kit)

Inventory Probe (Shown with optional 4" gas float kit)

SPECIFICATIONS CONTINUED

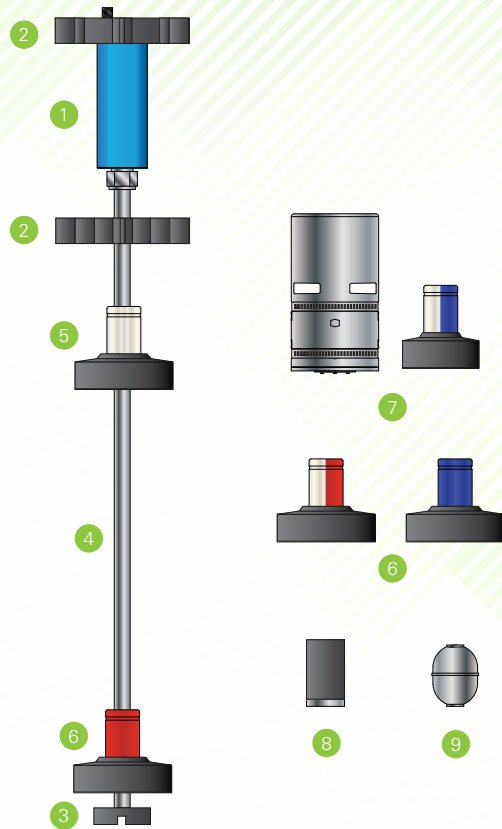
Components

- 1 Probe head
- 2 Guides
- 3 Bottom mount fitting
- 4 Probe shaft
- 5 Product float
- 6 2" or 4" gas, diesel or phase separation water floats
- 7 Precision or standard density float
- 8 LPG float
- 9 Chemical float

Note: All float kits sold separately.

Operation

An electromagnetic field is created inside the probe head and forms around a long waveguide within the probe shaft when position measurements are taken. The electromagnetic field interacts with the magnetic field of the float(s) and produces a shock wave in the waveguide that travels at a known speed. When the shock wave is detected at the probe head, the probe creates a signal that corresponds precisely to the product level. Product expansion calculations are enabled by temperature sensors that are located at various points in the probe shaft.



ORDERING INFORMATION

Leak Detection Probes

Model	Description
FMP-LL3-29	2' digital leak detection probe
FMP-LL3-41	3' digital leak detection probe
FMP-LL3-53	4' digital leak detection probe
FMP-LL3-65	5' digital leak detection probe
FMP-LL3-69	5'4" digital leak detection probe
FMP-LL3-77	6' digital leak detection probe
FMP-LL3-81	6'4" digital leak detection probe
FMP-LL3-89	7' digital leak detection probe
FMP-LL3-101	8' digital leak detection probe
FMP-LL3-113	9' digital leak detection probe
FMP-LL3-125	10' digital leak detection probe
FMP-LL3-131	10'6" digital leak detection probe
FMP-LL3-137	11' digital leak detection probe
FMP-LL3-149	12' digital leak detection probe

Notes:

- 1. DEF, AdBlue, and chemical installations require that head of the probe be installed outside of the tank and riser. Order a probe length that is greater than the tank height/diameter plus the riser.
- 2. FMP-LL3 probes are available in standard lengths up to 149 inches only.
- 3. Longer probes are available in TSP-LL2 models, contact Customer Service for price and availability.
- 4. Custom probe lengths are available, contact Customer Service for price and availability.
- 5. Float kits must be ordered separately.
- 6. FMP-LL3 probes come with bottom mount hardware. For replacement hardware kits, order TSSP-BMKT.

Inventory Control Probes

Model	Description
FMP-LL3-29-I	2' digital inventory control probe
FMP-LL3-41-I	3' digital inventory control probe
FMP-LL3-53-I	4' digital inventory control probe
FMP-LL3-65-I	5' digital inventory control probe
FMP-LL3-69-I	5'4" digital inventory control probe
FMP-LL3-77-I	6' digital inventory control probe
FMP-LL3-81-I	6'4" digital inventory control probe
FMP-LL3-89-I	7' digital inventory control probe
FMP-LL3-101-I	8' digital inventory control probe
FMP-LL3-113-I	9' digital inventory control probe
FMP-LL3-125-I	10' digital inventory control probe
FMP-LL3-131-I	10'6" digital inventory control probe
FMP-LL3-137-I	11' digital inventory control probe
FMP-LL3-149-I	12' digital inventory control probe

FLEXIBLE INVENTORY

INCON™ brand flexible probes provide accurate and reliable inventory management. These flexible digital probes use magnetostrictive measurement technology to report inventory levels in storage tanks. Their flexibility makes them ideal for aboveground storage tank and indoor or low-overhead applications. Available in lengths ranging from 4' to 70' (1,219 mm - 21,336 mm), flexible probes provide an ideal solution for tall spaces, tight spaces, aboveground, and indoor applications.



FLEXIBLE PROBES

INCON® brand flexible probes provide accurate and reliable inventory management for otherwise difficult to install applications.



ABOVEGROUND STORAGE TANKS

Flexible probes are ideal for aboveground storage tank applications where probes are installed at higher levels.

HIGHLIGHTS

- The flexibility of the probe allows the installer to take the entire probe to the top of the tank, uncoil it, and then install it.
- A long rigid probe can be difficult and dangerous to position and install at large heights.
- Transporting a longer rigid probe takes up significantly more space than a flexible probe.



LOW OVERHEAD CLEARANCE

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

HIGHLIGHTS

- 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.
- A flexible probe can be uncoiled and fed directly into the tank within a small amount of space.
- The included probe weight fits at the bottom of the probe and helps to guide it into place.



ACCURATE INSTALLATION

The flexible probe installation kit includes several design features which ensure accurate installation for proper performance.

HIGHLIGHTS

- A 16" stainless steel sleeve guides the probe into place and ensures proper vertical alignment.
- The adjustable compression fitting allows for variable height adjustment, giving you the ability to set the probe depth with precision.
- The guides and fitting make sure that the probe is installed correctly, thereby ensuring accurate and consistent level readings.



ACCURATE LEVEL MONITORING

The water and product level float kits are designed specifically to provide accurate inventory levels on flexible probes.

HIGHLIGHTS

- Float kits are available in 2", 3", and 4" diameters.
- Both diesel and gasoline float kits are available.
- With longer probes, inaccuracies can develop due to the larger span of the probe shaft. To avoid this, each flexible probe float kit comes with a spacer designed to ensure that accurate level readings are relayed over longer probe shaft distances.

ADDITIONAL HIGHLIGHTS



- Ideal for tall aboveground storage tanks where rigid probes may be difficult to install at height.
- The flexibility of these probes lend well to installations where overhead space is minimal such as indoor generator tank applications.
- Available in lengths ranging from 4' to 70' (1,219 mm - 21,336 mm).
- All probe components are packaged within a 5/8" flexible probe shaft, eliminating a bulky probe head. The compact design provides a better environmental seal and offers flexibility in mounting the probe.
- Each probe comes with a stainless steel weight and weight pin to keep the flexible probe aligned vertically in the storage tank.
- A 16" (406 mm) installation sleeve with adjustable compression fitting (sold separately) allows for variable height adjustment during installation and ensures accurate placement of the probe within the tank.
- Flexible probe float kits (sold separately) come with product float, water float, and a spacer which ensures accurate readings for these longer length probes.

SPECIFICATIONS

- Input voltage: 16 to 31 VDC
- Resolution: 0.010" (0.254 mm)
- Linearity: +/- 0.01% of full scale, +/- 0.010 inch (.254 mm), whichever is greater
- Repeatability: +/- 0.001% of full scale, +/- 0.00025 inch (0.0064 mm), whichever is greater
- Temperature accuracy: Absolute +/- 2 °F (+/- 1.11 °C)
- Temperature measurement resolution: +/- 0.01 °F (0.02 °C)
- Temperature sensing range: -40 °F to 150 °F (-40 °C to 66 °C)
- Operating temperature range: -40 °F to 158 °F (-40 °C to 70 °C)
- Maximum tank capacity: 5,875,000 gal (22,200,000 liters)
- Total float capability: 2 floats
- Environment: NEMA 4
- Probe material: PVDF (polyvinylidene fluoride)
- Weight and weight pin material: stainless steel
- Includes 2' (610 mm) cable (for additional cable, order P/N 88761 for 500 feet (152 m) or P/N 88760 for 1,000 feet (305 m).
- Compatible with TS-550/5000 evo™ fuel management systems with software version 2.6.2.8040 or later, and Colibri monitoring system with software version 1.18.16.8543 or later.
- Use appropriate flexible probe installation kit for installing flexible probes.
- Use appropriate flexible probe float kits only.

Capabilities

- Flexible probes can report the level of up to 2 floats.
- Flexible probes are capable of inventory monitoring.

Approvals/Certifications

- UL, cUL, ATEX, IECEx

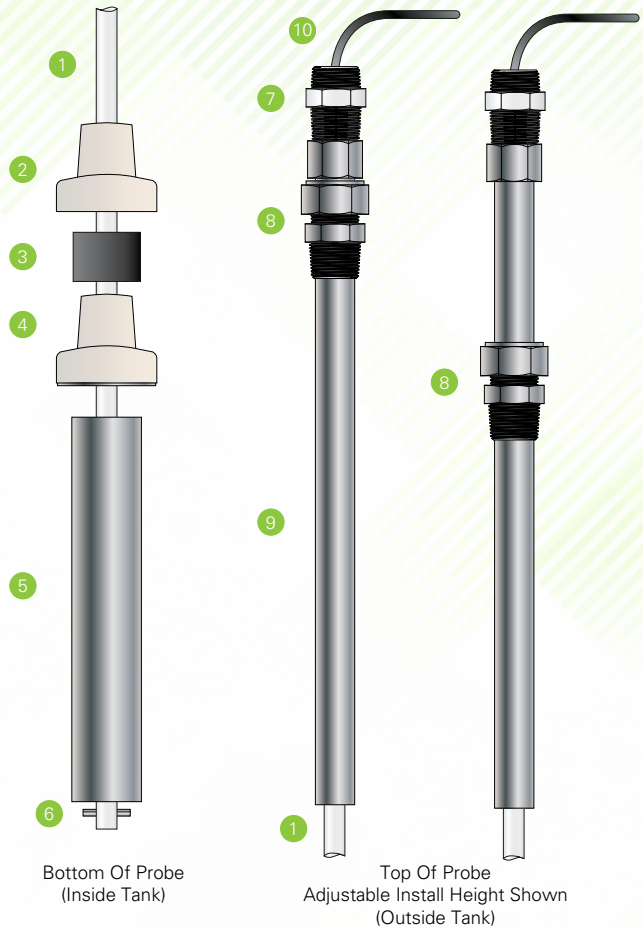
SPECIFICATIONS CONTINUED

Installation

- 1 Flexible probe shaft
- 2 Product float
- 3 Spacer
- 4 Water float
- 5 Weight
- 6 Weight pin
- 7 Probe head, 3/4" NPT
- 8 Adjustable compression fitting, 1" NPT
- 9 16" (610 mm) installation sleeve, 3/4" NPT
- 10 Probe Cable

Operation

When the flexible probe takes a measurement an electromagnetic pulse is created inside the probe and travels at a known speed down a long waveguide within the probe shaft. When the pulse encounters the magnetic field of one of the floats a portion of the pulse is reflected back to the probe head. When the reflected pulse is detected at the probe head the data is sent to the automatic tank gauge and a precise product level is displayed. Temperature sensors located at various points on the probe shaft allow the automatic tank gauge to compensate for temperature related expansion or contraction of the product.



ORDERING INFORMATION

Flexible Probes

Model	Description
FMP-FLX-4	4' flexible inventory probe
FMP-FLX-5	5' flexible inventory probe
FMP-FLX-6	6' flexible inventory probe
FMP-FLX-7	7' flexible inventory probe
FMP-FLX-8	8' Flexible inventory probe
FMP-FLX-9	9' flexible inventory probe
FMP-FLX-10	10' flexible inventory probe
FMP-FLX-11	11' flexible inventory probe
FMP-FLX-12	12' flexible inventory probe
FMP-FLX-13	13' flexible inventory probe
FMP-FLX-14	14' flexible inventory probe
FMP-FLX-15	15' flexible inventory probe
FMP-FLX-16	16' flexible inventory probe
FMP-FLX-17	17' flexible inventory probe
FMP-FLX-18	18' flexible inventory probe
FMP-FLX-19	19' flexible inventory probe
FMP-FLX-20	20' flexible inventory probe
FMP-FLX-21	21' flexible inventory probe
FMP-FLX-22	22' flexible inventory probe
FMP-FLX-23	23' flexible inventory probe
FMP-FLX-24	24' flexible inventory probe
FMP-FLX-25	25' flexible inventory probe
FMP-FLX-26	26' flexible inventory probe
FMP-FLX-27	27' flexible inventory probe
FMP-FLX-28	28' flexible inventory probe
FMP-FLX-29	29' flexible inventory probe
FMP-FLX-30	30' flexible inventory probe
FMP-FLX-31	31' flexible inventory probe
FMP-FLX-32	32' flexible inventory probe
FMP-FLX-33	33' flexible inventory probe
FMP-FLX-34	34' flexible inventory probe
FMP-FLX-35	35' flexible inventory probe
FMP-FLX-36	36' flexible inventory probe

Model	Description
FMP-FLX-37	37' flexible inventory probe
FMP-FLX-38	38' flexible inventory probe
FMP-FLX-39	39' flexible inventory probe
FMP-FLX-40	40' flexible inventory probe
FMP-FLX-41	41' flexible inventory probe
FMP-FLX-42	42' flexible inventory probe
FMP-FLX-43	43' flexible inventory probe
FMP-FLX-44	44' flexible inventory probe
FMP-FLX-45	45' flexible inventory probe
FMP-FLX-46	46' flexible inventory probe
FMP-FLX-47	47' flexible inventory probe
FMP-FLX-48	48' flexible inventory probe
FMP-FLX-49	49' flexible inventory probe
FMP-FLX-50	50' flexible inventory probe
FMP-FLX-52	52' flexible inventory probe
FMP-FLX-53	53' flexible inventory probe
FMP-FLX-54	54' flexible inventory probe
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FMP-FLX-62	62' flexible inventory probe
FMP-FLX-63	63' flexible inventory probe
FMP-FLX-64	64' flexible inventory probe
FMP-FLX-65	65' flexible inventory probe
FMP-FLX-66	66' flexible inventory probe
FMP-FLX-67	67' flexible inventory probe
FMP-FLX-68	68' flexible inventory probe
FMP-FLX-69	69' flexible inventory probe
FMP-FLX-70	70' flexible inventory probe

Flexible Probe Installation Kits & Float Kits

Part	Description
FMP-SLVF	Installation kit, includes sleeve and adjustable height compression fitting
FMP-AGF2	2" gasoline float kit for flexible probes, includes product float, water float, and spacer
FMP-AGF3	3" gasoline float kit for flexible probes, includes product float, water float, and spacer
FMP-AGF4	4" gasoline float kit for flexible probes, includes product float, water float, and spacer
FMP-ADF2	2" diesel float kit for flexible probes, includes product float, water float, and spacer
FMP-ADF3	3" diesel float kit for flexible probes, includes product float, water float, and spacer
FMP-ADF4	4" diesel float kit for flexible probes, includes product float, water float, and spacer



PROBE INSTALL KIT

FFS Probe installation kits primarily come in two styles, Suspension and Bottom Mount. The Suspension kits are used to install TSP-LL2-xxx Leak Detection probes in underground storage tank applications using either 2" or 4" riser pipes. Suspension isolates the probe from possible tank deflection and also keeps it in a true vertical orientation for optimal float movement and measurement accuracy. These kits also provide a tight seal to the tank to prevent water intrusion and meet regulatory requirements. The 4" models also provide a quick release cap for easy access to the probe for inspection or maintenance. TSP-LL2-xxx-I Inventory Control probes come with hardware that allows them to be installed on the tank bottom. The Bottom Mount install kits provide the same tight seal and ease of access without the need for the suspension hardware necessary in leak detection applications. Both styles work well on either steel or fiberglass tanks.

HIGHLIGHTS

- The TSP-K4AS/ASL install kits are for use with chemical or other installations where it is desirable for the probe head to be outside of the riser. It consists of a #316 SS 4" cap and compression fitting that is installed on the probe shaft so that only the floats and shaft are exposed to the tank contents. Includes TSP-UVPK probe head protection kit.
- The TSP-LPGK install kit is for use with pressurised LPG tanks where the probe head will reside outside of the tank opening. It consists of a special compression fitting, designed to retain the contents of the pressurised tank, that is installed on the probe shaft and then inserted into a user supplied cap with a 3/4" NPT hole. Includes TSP-UVPK probe head protection kit.

ORDERING INFORMATION

Suspension Kits

Part	Description
TSP-K2A	Leak detection probe install kit for 2" riser pipes
TSP-K2B	Leak detection probe install kit for 2" riser pipes with BSP threads
TSP-K4A	Leak detection probe install kit for 4" riser pipes
TSP-K4B	Leak detection probe install kit for 4" riser pipes with BSP threads

Bottom Mount Kits

Part	Description
TSP-C2A	Inventory probe Install kit for 2" risers
TSP-C2B	Inventory probe Install kit for 2" risers with BSP threads
TSP-C4A	Inventory probe install kit for 4" risers
TSP-C4B	Inventory probe install kit for 4" risers with BSP thread

Other Kits

Part	Description
TSP-K4AS	#316 stainless steel mag probe install kit for 4" riser pipes
TSP-K4ASL	#316 stainless steel install kit for probes larger than 149"
TSP-LPGK	LPG probe install kit, 149" maximum LL2 probe length

Note: TSP-LPGK install kit is not needed when locally supplied tank isolation sleeve is utilised.

Cables

Part	Description
600-0042	Belden™ #87761, runs up to 500'
600-0055	Belden™ #89182, runs 500' to 1,500'
600-0180	Quick disconnect probe cable

Notes:

1. Cable is sold in 500' increments.
2. Orders greater than 500' will ship in 1000' and 500' rolls.
3. Contact tech support for more information on cable requirements.

ORDERING INFORMATION CONTINUED

Accessories

Part	Description
TSP-DB1	One direct burial splice connector kit
TSP-DB10	Pack of 10 direct burial splice connector kits
TSP-DBTOOL	Epoxy dispensing tool
TSP-KW30	Pack of 30 3M™ splice connectors
TSP-UVPK	Ultraviolet protection kit - protects probe electronics when installed in AST applications

Notes:

1. Use the TSP-DB1 or TSP-DB10 for direct burial cable applications or when weatherproof junction boxes are not used.
2. The DBTOOL is required to dispense the epoxy.
3. Each direct burial splice connector kit includes a receptacle, three splice connectors and epoxy for the dispensing tool.



STANDARD MAGNETOSTRICTIVE PROBE FLOAT KITS

A variety of inventory control and leak detection float kits for various applications.

HIGHLIGHTS

2" & 4" Float Kit

- Designed for applications involving 2", 3" or 4" riser pipes.
- Each float set contains a product and water float.
- Constructed of nitrile rubber and PVDF. Water floats contain either stainless steel or nickle plated brass ballast. Compatible with a wide variety of petroleum products.
- Water floats are coloured red for gasoline and blue for diesel.

TSP-SSP Chemical Float

- #316 stainless steel product float with 2-1/16" OD.
- Suitable for use in a wide variety of chemical applications, consult factory for chemical compatibility issues.
- Use one float per TSP-LL2-I probe.
- Float specific gravity 0.55 to 0.63.
- Collapse pressure 500 psi/g minimum.

LPG Float

- Designed for applications involving tank openings of at least 2".
- Single float used for monitoring the level of LPG (propane) fuel.
- Suitable for monitoring pressurised products.
- For use in USTs or ASTs with TSP-LL2 or TSP-LL2-I probes. TSP-LPG/EU float can be used with locally supplied tank isolation sleeves.

ORDERING INFORMATION

Part	Description
TSP-IDF2	2" float set for diesel tanks
TSP-IGF2	2" float set for gasoline tanks
TSP-IDF4	4" float set for diesel tanks
TSP-IGF4	4" float set for gasoline tanks
TSP-LPGF	2" float for LPG tanks, with or without isolation sleeve
TSP-SSP	2-1/16" OD, #316 stainless steel float for chemical applications only

Note: Order one float set for each LL2 Mag probe..



PHASE SEPARATION WATER & PHASE SEPARATION DETECTION FLOAT KIT

Detect both water and phase separation with a single float kit. The water and phase separation detection float kit allows you to effectively manage product levels as well as alert you of water or phase separation levels in your tanks. A single float is used to detect the presence of both water or phase separated fuel to ensure the prevention of either from reaching customer's vehicles.

HIGHLIGHTS

Phase Separation

- Optional float kit for gasoline and Ethanol blend users.
- Product float determines fuel level.
- Water float will rise with the presence of water or phase separated fuel.
- Simple single-float solution for both water and phase separation.
- Free software upgrade available for T5 Series fuel management systems and Colibri® automatic tank gauges.
- Improved minimum water level detection capability.
- Allows you to easily shut down a submersible pump before water or phase separation reaches the customer's vehicle.

SPECIFICATIONS

Applications

- Designed for applications using 4" risers.
- Each float kit contains both product float and water & phase separation float.
- Appropriate for use with gasoline and Ethanol blends up to E15.
- Compatible with all TSP-LL2 and TSP-LL2-I probes.
- T5 Series and Colibri® software version 1.8.0 required.

ORDERING INFORMATION

Model	Description
TSP-IGF2P	2" phase separation float for gasoline and up to E15 tanks
TSP-IGF4P	4" phase separation float for gasoline and up to E15 tanks



DENSITY MEASUREMENT FLOAT KITS

With INCON® brand density float kits, tank gauges like the Colibri® and T5 Series fuel management systems have the ability to continuously monitor the density of fuel stored in underground and aboveground storage tanks. The same TSP-LL2 and FMP-LL3 magnetostrictive probe that provides inventory management and leak detection capabilities can also supply product density and mass without the addition of extra probes or sensors. Programmable high and low density alarm points allow the user to determine the range of acceptable density fluctuations.

HIGHLIGHTS

- Designed for applications involving 4" riser pipes.
- Each float set contains a product, density and water float.
- Available in Standard (3 kg/m³ accuracy) or Precision (1 kg/m³ accuracy) models.
- Floats are constructed of nitrile rubber and PVDF. Precision model density floats are also nickel plated.
- Water and product floats are coloured red for gasoline and blue for diesel.
- Density and product floats are calibrated and must be maintained as a set.

SPECIFICATIONS

- Measurement accuracy: ±1.0 kg/m³
- Measurement resolution: ±0.1 kg/m³
- Minimum detectable product level with water float: 10.70"
- Minimum detectable product level without water float: 6.70"

ORDERING INFORMATION

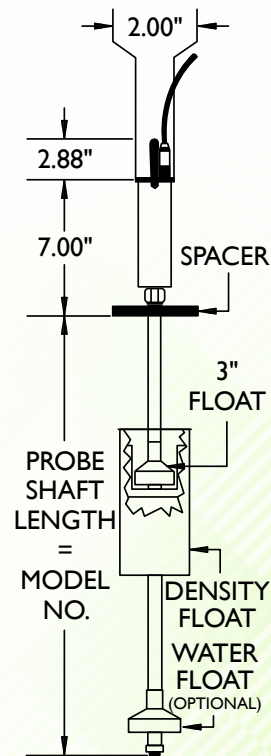
Standard

Part	Description	Density Range
TSP-IDF4D3	Standard diesel/fuel oil density float kit	790-900 kg/m ³
TSP-IGF4G3	Standard gasoline density float kit	690-800 kg/m ³

Note: Order one density measurement float kit for each magnetostrictive probe. Probes used with density float kits must have serial numbers greater than 6000000.

Theory of Operation

Density measurement is based on the distance between the calibrated product and density floats. As the density of the fuel changes, the gap between the floats will increase or decrease in proportion to the change. The tank gauge receives this information from the probe and uses it to calculate and display the current density of the fuel.



FUEL MANAGEMENT SYSTEMS

CONTAINMENT MONITORING

As regulations continue to drive the need for liquid-free containment spaces and zero leaks, it's more important than ever to know if anything is getting into your sumps or out of your tanks.

We've got containment monitoring covered.



SELECTING CONTAINMENT MONITORING SENSORS

No matter what the application is, we have a containment monitoring solution to fit your needs. From dispenser sumps and turbine sumps, to tank interstitial spaces and monitoring wells, we have a sensor option to meet your requirements.



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).

TANK GAUGE REQUIREMENTS

All sensors require an EVO™ Series fuel management system. Depending on the sensor type, either two-wire or three-wire sensor modules are used to power and control the sensors.

								
Sensor	Discriminating Dispenser Sump Sensor	Discriminating Turbine Sump Sensor	Discriminating Magnetostrictive Sump Sensor	Universal Liquid Sensor	Universal Hydrostatic Sensor	Electro-Optic Interstitial Sensor	Discriminating Interstitial Sensor	Hydrostatic Interstitial Sensor
Discriminating Capability	✓	✓	✓				✓	
Non-Discriminating				✓	✓	✓		✓
Turbine Sump Applications		✓	✓	✓				
Dispenser Sump Applications	✓		✓	✓				
Tank Interstitial Space Applications				✓		✓	✓	✓
Position Sensitive (Tampers Protection)			✓					
Hydrostatic Monitoring Capability					✓			✓
EVO 200 / EVO 400 Model Number	FMP-DDS-U	FMP-DTS-U	TSP-DMS	FMP-ULS	FMP-UHS	FMP-EIS-U	FMP-DIS-U	FMP-HIS-U FMP-HIS-XL-U
EVO 550 / EVO 5000 Model Number*	FMP-DDS	FMP-DTS	TSP-DMS	FMP-ULS	FMP-UHS	FMP-EIS	FMP-DIS	FMP-HIS FMP-HIS-XL
Typical Application	Dispenser sump applications requiring discriminating capabilities	Turbine sump applications requiring discriminating capabilities	Turbine or dispenser sump applications with tamper protection regulations in place	Turbine and dispenser sumps or drop-down tank interstitial space	Hydrostatic monitoring of a liquid in a double wall sump interstitial space	Dry double wall tank applications including fiberglass and wrap-around	Dry double wall tank applications requiring discriminating capabilities	Double wall tank interstitial space filled with brine solution

*EVO™ 550 and EVO™ 5000 may support additional sensors



FMP-DDS

DISCRIMINATING DISPENSER SUMP BRITE™ SENSOR

The INCON™ brand FMP-DDS is a discriminating dispenser sump Brite™ sensor which provides reliable monitoring of dispenser pans and containment sumps. Combining magnetic float switch sensors with an innovative polymer strip, the FMP-DDS generates three different alarms for the detection of hydrocarbons, for liquid in sump and when the sump is full. The FMP-DDS may be used with INCON™ fuel management systems.

HIGHLIGHTS

- Uses magnetic float switches to detect liquid at two levels.
- Innovative polymer strip detects hydrocarbons along sensor and floating on water.
- Compatible with common fuels and chemicals.
- Detects liquid at 1-1/2" (38mm) from base.
- Detects hydrocarbons on sensor and floating on water.
- Digitally encoded status information sent from microcomputer to console from 775+ feet (236m).
- Alarms to indicate liquid in sump, hydrocarbon detected, sump is full and sensor malfunction.

SPECIFICATIONS

Approvals/Certifications

- UL listed.
- ATEX approved.
- IECEx approved.

Application

For containment sump monitoring.

Installation

Variety of mounting methods possible depending on location. Bracket provided for quick installation.

ORDERING INFORMATION

Model	Description
FMP-DDS	Discriminating dispenser sump Brite™ sensor
TSP-KS	Unistrut™ mounting kit

Note: This sensor communicates with the console using 3 wires.



FMP-DTS

DISCRIMINATING TURBINE SUMP BRITE™ (*) SENSOR

The INCON™ brand FMP-DTS is a discriminating turbine sump Brite™ sensor that detects the presence of liquid and hydrocarbons when installed in turbine and containment sumps. The FMP-DTS is designed to interface with INCON™ fuel management systems.

HIGHLIGHTS

- Uses magnetic float switches to detect liquid at two levels.
- Innovative polymer strip detects hydrocarbons along sensor and floating on water.
- Compatible with common fuels and chemicals.
- Detects liquid at 1-1/2" (38mm) from base.
- Detects hydrocarbons on sensor and floating on water.
- Digitally encoded status information sent from microcomputer to console from 775+ feet (236m).
- Alarms to indicate liquid in sump, hydrocarbon detected, full sump and sensor malfunction.

SPECIFICATIONS

Approvals/Certifications

- UL listed.
- ATEX approved
- IECEx approved

Application

For containment sump monitoring.

Installation

Variety of mounting methods possible depending on location. Bracket provided for quick installation

ORDERING INFORMATION

Model	Description
FMP-DTS	Discriminating turbine sump Brite™ sensor
TSP-KS	Unistrut™ mounting kit

Note: This sensor communicates with the console using 3 wires.



TSP-DMS

DISCRIMINATING MAGNETOSTRICTIVE SENSOR

The TSP-DMS is a fast acting discriminating sensor that utilizes magnetostrictive technology to provide reliable monitoring of dispenser pans and containment sumps. Its floats can detect the presence of water or hydrocarbons and also ensure that the sensor installation has not been tampered with. The TSP-DMS can report water warnings and programmable water alarm points as well as product alarms. The TSP-DMS is used with fuel management system consoles.

HIGHLIGHTS

- Utilizes proven magnetostrictive technology.
- Water warning, water alarm and product alarm.
- Tamper protection feature will alarm if sensor is moved from installed position.
- Will alarm and recover quickly when hydrocarbons are present.

SPECIFICATIONS

Application

For containment sump monitoring.

Installation

Each TSP-DMS comes with a 10' long quick disconnect cable and a Unistrut 2" pipe clamp for installation. The sensor's anti-tamper feature requires that the sensor be mounted on the bottom of the containment, with the bottom of the sensor flush with the containment floor. Once installed, the sensors position will need to be "learned" during system start up.

ORDERING INFORMATION

Model	Description
TSP-DMS-12	Discriminating magnetostrictive sensor, 12"
TSP-DMS-24	Discriminating magnetostrictive sensor, 24"
TSP-KS	Unistrut™ mounting kit

Notes:

1. For use with the T5 Series fuel management systems.
2. This sensor communicates with the console via the TS-PRB probe module.
3. Requires Controller Module software version 9.5 or greater.



FMP-ULS LIQUID SENSOR

The FMP-ULS liquid sensor is a low cost sensor which may be used with all Tank Sentinel® and fuel management system consoles. This sensor is also compatible with S940 Sensor Alarm Console. Based on float-switch technology and made of chemically resistant materials, the FMP-ULS may be installed in sumps, dispenser pans, steel double wall tanks or other locations where the presence of liquid indicates a leak has occurred.

HIGHLIGHTS

- Highly reliable float technology and closed output circuit ensures that leaks are detected.
- Chemical-resistant materials assure compatibility with most liquids.

SPECIFICATIONS

Application

For dry steel tank interstitial and containment sump monitoring.

Installation

Each FMP-ULS comes with a 25' cable. 1/2" NPT thread is provided on the compression gland fitting attached to the sensor's cable, allowing it to be suspended from standard electrical boxes and fittings. The sensor may be positioned vertically by adjusting cable length. For steel interstitial tanks, FMP-ULS is lowered into the opening provided on the tank and is suspended by optional TSP-K12 installation kit. Other mounting methods available depending upon application and location.

ORDERING INFORMATION

Model	Description
FMP-ULS	Universal liquid sump sensor
TSP-K12	Interstitial sensor riser cap kit for 2" riser pipes

Note: This sensor communicates with the console using 2 wires.



FMP-UHS

UNIVERSAL HYDROSTATIC SENSOR

The FMP-UHS Universal Hydrostatic Sensor uses float switch technology to continuously monitor liquid filled double wall containment sumps. Normally submerged, the single float FMP-UHS will provide an indication if there is a loss of monitoring liquid.

HIGHLIGHTS

- Highly reliable float technology and closed output circuit ensures that leaks are detected.
- Chemical-resistant material

SPECIFICATIONS

Application

Typically used for hydrostatic monitoring of the liquid in a double wall sump interstice.

Installation

Each FMP-UHS comes with a 25' cable. The sensor can be installed into the reservoir of a liquid filled double wall containment sump. The sensor must be installed in a vertical position at a level where it is normally submerged. The FMP-UHS will alert if the liquid level drops below the bottom of the sensor.

ORDERING INFORMATION

Model	Description
FMP-UHS	Universal Hydrostatic Sensor
HM-KIT	Hydrostatic monitoring installation kit. Includes: flexible brine tube, sensor housing clamp, sensor housing, sensor cap and hardware

Note: This sensor communicates with the console using 2 wires.



FMP-EIS

ELECTRO-OPTIC INTERSTITIAL SENSOR

The INCON™ brand FMP-EIS electro-optic interstitial sensor may be used with all INCON™ fuel management system consoles. Utilizing electro-optic technology and made of chemically resistant polysulfone plastic, the FMP-EIS may be installed in sumps, double wall tanks or other locations where the presence of liquid indicates a leak has occurred.

HIGHLIGHTS

- Highly accurate electro-optic technology and closed output circuit ensures that leaks are detected.
- Chemical-resistant materials.
- Can be installed in fiberglass or steel double wall tanks.
- Utilizes light emitting diodes and prisms to indicate if a leak has occurred.

SPECIFICATIONS

Approvals/Certifications

- UL listed.
- ATEX approved.
- IECEx approved.

Application

For dry tank interstitial monitoring.

Installation

Each FMP-EIS comes with 25' (7.6m) of oil-resistant cable. For fiberglass tanks, FMP-EIS is pulled into the interstitial space using a "fish" string or wire. For steel interstitial tanks, FMP-EIS is lowered directly to the bottom of the interstitial space through a 2" (51mm) NPT fitting provided for that purpose on the tank. Optional installation kits are available which include a riser cap and other parts required to complete installation.

ORDERING INFORMATION

Model	Description
FMP-EIS	Electro-optic interstitial sensor
TSP-K12	Interstitial sensor riser cap kit for 2" (51mm) riser pipes

Note: This sensor communicates with the console using 3 wires.



FMP-DIS

DISCRIMINATING INTERSTITIAL BRITE™ SENSOR

The INCON™ brand FMP-DIS discriminating interstitial Brite™ sensor detects the presence of various liquids in tanks as well as sumps and other locations. The FMP-DIS is designed to interface with INCON™ fuel management systems.

HIGHLIGHTS

- Installs in the interstitial space of steel and fiberglass double wall tanks and sumps.
- Uses light beam traveling through probe to determine if sensor is wet.
- Microprocessor inside sensor interprets readings and communicates data to the Tank Sentinel® and fuel management system.
- Fail-safe digital communications with built-in alarm if sensor malfunctions.
- Sensor can distinguish between petroleum and water.
- Alarms indicate petroleum present, water present and sensor malfunction.

SPECIFICATIONS

Approvals/Certifications

- UL listed.
- ATEX approved.
- IECEx approved.

Application

For dry tank interstitial monitoring.

Installation

Each FMP-DIS comes with 25' (7.6m) of oil-resistant cable. For fiberglass tanks, FMP-DIS is pulled into the interstitial space using a "fish" string or wire. For steel interstitial tanks, FMP-DIS is lowered directly to the bottom of the interstitial space through a 2" (51mm) NPT fitting provided for that purpose on the tank. Optional installation kits are available which include a riser cap and other parts required to complete installation.

ORDERING INFORMATION

Model	Description
FMP-DIS	Discriminating interstitial Brite™ sensor
TSP-KI2	Interstitial sensor riser cap kit for 2" (51mm) riser pipes

Note: This sensor communicates with the console using 3 wires.



FMP-HIS

HYDROSTATIC INTERSTITIAL BRITE™ SENSOR

The INCON™ brand FMP-HIS hydrostatic interstitial Brite™ sensor detects leaks in double wall tanks where the interstitial space is filled with a liquid brine solution. For use with INCON™ fuel management systems, the FMP-HIS polyester, nitrile and epoxy construction is compatible with all types of brine.

HIGHLIGHTS

- Versatile sensor for virtually all fiberglass double wall tanks equipped for hydrostatic leak detection.
- Microcomputer monitors liquid at varying levels within tanks and relays digitally encoded status information via the fail-safe Brite™ sensor digital communication system to fuel management system or Tank Sentinel® consoles, alerting of any alarm conditions.

SPECIFICATIONS

Approvals/Certifications

- UL listed.
- ATEX approved.
- IECEx approved.

Application

For liquid-filled tank interstitial monitoring.

Installation

Lower FMP-HIS to the bottom of the brine reservoir of double wall tank. The normal brine level should reside half way up the sensor. Sensors include the TSP-KV4 vented 4" (102mm) riser cap.

ORDERING INFORMATION

Model	Description
FMP-HIS	Hydrostatic interstitial Brite™ sensor, 11" (280mm)*
FMP-HIS-XL	Hydrostatic interstitial Brite™ sensor, 21" (533mm)*
TSP-KV4	Hydrostatic sensor vented riser pipe cap kit for 4" (102mm) riser pipes

Model	Description
TSP-HIS	Hydrostatic interstitial Brite™ sensor, 11"*
TSP-HIS-XL	Hydrostatic interstitial Brite™ sensor, 21"*
TSP-KV4	Hydrostatic sensor vented riser pipe cap kit for 4" riser pipes

Note: This sensor communicates with the console using 3 wires. *Not including cable..

TSP-HFS AND FMP-HFS HORIZONTAL FLOAT SWITCH SENSOR



The TSP-HFS horizontal float switch sensor is a 2-wire non-discriminating liquid sensor which may be used with the S940 alarm console. The TSP-HFS is designed primarily for liquid detection in fiberglass tank dry interstitial spaces.

Each FMP-HFS comes with 25 feet (7.6m) of oil-resistant cable. For fiberglass tanks, the FMP-HFS sensor is pulled into the interstitial space using a “fish” string wire. Optional installation kits are available which include a riser cap and other parts required to complete the installation.

HIGHLIGHTS

- Fibreglass interstitial monitoring using a 2-wire sensor.
- Highly reliable magnetic-float/reed-switch technology.
- Chemical-resistant materials.

SPECIFICATIONS

Application

For dry fiberglass tank interstitial monitoring.

Installation

Each TSP-HFS comes with 25 (7.6m) feet of oil-resistant cable. For fiberglass tanks, the TSP-HFS sensor is pulled into the interstitial space using a “fish” string wire. Optional installation kits are available which include a riser cap and other parts required to complete the installation.

ORDERING INFORMATION

Model	Description
TSP-HFS	Horizontal float switch sensor
FMP-HFS	Horizontal float switch sensor
TSP-KI2	Interstitial sensor cap kit for 2" (51mm) riser pipes



TSP-MWS MONITORING WELL BRITE™ SENSOR

The TSP-MWS monitoring well Brite™ sensor is a discriminating liquid sensor which detects the presence of hydrocarbon floating on groundwater. Using a float switch and innovative conductive polymer strip, the TSP-MWS identifies hydrocarbons anywhere along the length of the sensor.

HIGHLIGHTS

- Unique alarms for the detection of hydrocarbons or decreased groundwater levels.
- Completely reusable even after several exposures to hydrocarbons.
- Available in four different lengths to accommodate well depth.
- Microcomputer within TSP-MWS detects presence of hydrocarbons and alerts Tank Sentinel® and fuel management system of alarm conditions via digitally-encoded information.

SPECIFICATIONS

Application

For use in wet monitoring wells.

Installation

- Normally installed in 4" groundwater monitoring wells.
- Integral well cap may be locked with standard padlock to prevent unauthorized access.

ORDERING INFORMATION

Model	Description
TSP-MWS-10	Monitoring well Brite™ sensor, 10'
TSP-MWS-15	Monitoring well Brite™ sensor, 15'
TSP-MWS-20	Monitoring well Brite™ sensor, 20'
TSP-MWS-25	Monitoring well Brite™ sensor, 25'

Note: This sensor communicates with the console using 3 wires.

TSP-HLS LEVEL SENSOR



The TSP-HLS level sensor is an overfill prevention switch which is compatible with all Tank Sentinel® and fuel management system consoles. This sensor is also compatible with S940 Sensor Alarm Console. It may be adjusted to operate over a wide range of levels. The TSP-HLS is based on float-switch technology and is made of chemical-resistant materials to assure compatibility with most liquids. Each sensor is supplied with jacketed cable five feet in length. The TSP-HLS's normally closed output circuit provides supervised operation, ensuring that broken wires and similar failures will not go undetected.

The TSP-HLS is installed in a 2" NPT fitting on the tank. The level at which it operates may be adjusted by loosening a fitting and moving the sensor's shaft in or out of the tank as required.

SPECIFICATIONS

Application

Overfill protection switch

Theory of Operation

The secret to the TSP-HLS's reliability is its float switch technology. A small magnetically-activated reed switch is located inside the body of the sensor. Tiny magnets are positioned inside a lightweight float which is free to move up and down along the shaft so that the magnets are below the reed switch. When the sensor is immersed in liquid, the float rises and the magnet activates the reed switch, signaling the console that the high limit has been reached.

ORDERING INFORMATION

Model	Description
TSP-HLS-15	High product level sensor, 15" long, installed in tank
TSP-HLS-15/SS	High product level sensor, stainless steel 15" long, installed in tanks containing alternative fuels
TSP-HLS-30	High product level sensor, 30" long, installed in tank
TSP-HLS-30/SS	High product level sensor, stainless steel 30" long, installed in tanks containing alternative fuels

Note: This sensor communicates with the console using 2 wires.



TSP-DVS

DISCRIMINATING VAPOUR BRITE™ SENSOR

The TSP-DVS is a discriminating vapour Brite™ sensor that detects the presence of gas or vapour molecules when installed in dry monitoring wells or containment space where vapour detection is necessary. TSP-DVS is designed to interface with the Tank Sentinel® and fuel management system.

HIGHLIGHTS

- Detects vapour, gas and rising groundwater when installed in a monitoring well.
- Fail-safe digital communication with built-in alarm if sensor malfunctions.
- Senses ambient temperature to minimise false alarms.
- Equipped with twenty feet of oil-resistant cable for installation in 2" and 4" monitoring wells located around underground tanks.
- Senses vapour, gas and groundwater.
- Communicates with console from 775+ feet.
- Alarms to indicate sensor malfunction.

SPECIFICATIONS

Application

For use in dry monitoring wells.

ORDERING INFORMATION

Model	Description
TSP-DVS	Discriminating vapour Brite™ sensor
TSP-KW4	Vapour sensor monitoring well pipe cap kit for 4" riser pipes

Note: This sensor communicates with the console using 3 wires.



DC400 DISPENSING CUTOFF SYSTEM

The DC400 Dispensing Cutoff System is a stand-alone, solid state two-part system which includes a controller and sensor, designed to automatically shut down product flow if liquid is detected inside containment spaces. Ideal for retrofit applications, the DC400 allows for easy compliance with new and evolving regulations, without the added expenses of shutting down your site to break concrete for new conduit and wiring installation. The DC400 can be mounted inside any turbine sump to provide complete pump shut down or mounted directly into dispenser sumps, allowing only the effected dispenser to be shut down as liquid is detected.

HIGHLIGHTS

- Automatically stops fuel from dispensing in the event of liquid detection.
- Easily installed in either turbine or dispenser sumps.
- Ideal for retrofit applications as system connects to existing turbine or dispenser wiring, eliminating the need to pull new wires or break concrete.

SPECIFICATIONS

- 404-4 Controller is compatible with:
 - S404 Liquid Sensor
- Note: Previous versions of the 404-4, S406, and S404 are not compatible. Both the controller and sensor must be replaced if either requires it. Core credit available for legacy items.
- Dimensions:
 - 404-4 Controller: 6.6" x 6.2" x 3.2"
 - S404 Liquid Sensor: 1 1/2" x 3 1/2", 25' cable length
- 404-4 Input power: 90-250 VAC, 50/60 Hz, 0.25 A
- 404-4 Relay contacts: 12A, 2 hp @ 250 VAC, 12A, 1.5 hp @ 120 VAC
- Operating temperature: -4 to 140 °F (-20 to +60 °C)
- Enclosures: All sensors intrinsically safe, controller explosion proof
- Detection time: <1 second
- S404 sensor minimum detectable water limit: 0.98" (25 mm)

Application

Containment sump liquid detection resulting in dispensing cutoff.

Installation

Simply mount the 404-4 Controller inside any containment sump and connect it to the existing turbine or dispenser wiring. (Dispenser installations require an electrical junction box with an open conduit hub). Connect the liquid sensor using the supplied water tight splice kit. Suspend it so it is just touching the bottom of the containment sump.

Capabilities

- Cutoff power to submersible pumps or dispensers when liquid is detected in containment sumps.
- Automatic reset on liquid removal.

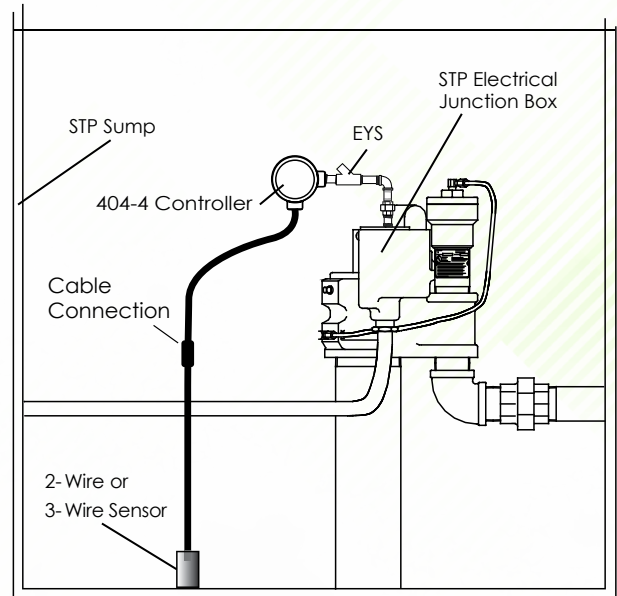
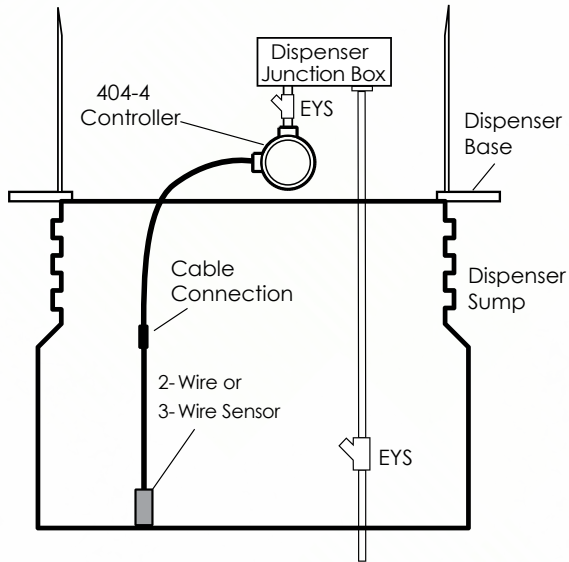
Approvals

- UL
- Third party certification of leak detection capabilities

ORDERING INFORMATION

Model	Description
DC404	S404 liquid sensor and controller
DC404C	S404 liquid sensor and controller for Canadian applications
TS-FE	FE Petro® STP electric junction box adapter
TS-RJ	Red Jacket™ STP electric junction box adapter
TS-RJQ	Red Jacket™ Quantum™ STP electric junction box adapter

Note: Electric junction box adapters for STP installations.





TSP-K12 INTERSTITIAL SENSOR RISER CAP INSTALLATION KIT

Installation kit for installing the TSP-DIS, TSP-EIS or TSP-ULS in dry interstitial spaces with 2" riser pipe openings.

HIGHLIGHTS

- Supplied with a cord grip and butt splices for wiring connections.
- Easily installs into a two-inch riser pipe with a compression fit against the walls of the pipe.
- Provided with security holes that fit a padlock to prevent unauthorized access into the riser pipe.

ORDERING INFORMATION

Model	Description
TSP-K12	Interstitial sensor riser cap kit for 2" riser pipes



TSP-KV4 HYDROSTATIC SENSOR VENTED RISER CAP INSTALLATION KIT

Replacement vented installation kit for use with the TSP-HIS or TSP-HIS XL sensor installed in a 4" reservoir opening on double wall fibreglass tanks. One TSP-KV4 is already included with each TSP-HIS or TSP-HIS-XL

HIGHLIGHTS

- The riser cap is compression fit into a 4" riser pipe via the use of a lever.
- Supplied with a cord grip and butt splices for wiring connections.
- Provided with security holes that fit a padlock to prevent unauthorized access into the riser pipe.

ORDERING INFORMATION

Model	Description
TSP-KV4	Hydrostatic sensor vented riser cap kit for 4" riser pipes



TSP-KW4 INTERSTITIAL/MONITORING WELL PIPE CAP INSTALLATION KIT

Installation kit for installing sensors in a dry tank interstitial or monitoring well with a 4" riser.

HIGHLIGHTS

- The interstitial/monitoring well cap is compression-fit into the riser pipe via the use of a lever.
- Supplied with a cord grip and butt splices for wiring connections.
- Provided with security holes that fit a padlock to prevent unauthorized access into the riser pipe.

ORDERING INFORMATION

Model	Description
TSP-KW4	Interstitial/monitoring well pipe cap kit for 4" riser pipes

SENSOR INSTALLATION ACCESSORIES

- Installation kit for installing the TSP-DDS and TSP-DTS in sump space.
- Easily customised to fit virtually any sump by cutting the Unistrut™ assembly to desired length. (*)
- Provided with 2", 3" and 4" pipe clamps for mounting to sump piping.
- Sensor location easily adjusted by the unique sliding feature of the Unistrut™ assembly. (*)

Model	Description
TSP-KS	Unistrut™ (*) mounting kit for TSP-DDS and TSP-DTS sensors

Part	Description
TSP-DB1	One direct burial splice connector kit
TSP-DB10	Pack of 10 direct burial splice connector kits
TSP-DBTOOL	Epoxy dispensing tool
TSP-KW30	Pack of 30 3M™ (*) splice connectors

Notes:

1. Use the TSP-DB1 or TSP-DB10 for direct burial cable applications or when weatherproof junction boxes are not used.
2. The DBTOOL is required to dispense the epoxy.
3. Each direct burial splice connector kit includes a receptacle, three splice connectors and epoxy for the dispensing tool.



TS-RA1

REMOTE AUDIBLE AND VISIBLE ALARM UNIT

The TS-RA1 is a remote audible and visible alarm unit for use with Franklin Fueling Systems Automatic Tank Gauges. The unit may be used as an overfill alarm as required by federal, state and local regulations, or as a general purpose remote alarm annunciator.

HIGHLIGHTS

- Pulsating light and piezoelectric buzzer warn of alarm conditions.
- Can be combined with TS-RK remote acknowledge unit to provide choice of alarm silencing options.
- Can be programmed through Franklin Fueling Systems Automatic Tank Gauges to activate in response to any type of alarm in the system.
- Alarms for overfill and general purpose.

SPECIFICATIONS

Installation

- Install within 1000 feet of console.
- Wiring: Type THHN, TFFN or THWN, 18 AWG or larger installed in conduits and completely separated from probe and sensor circuits.
- Operates directly from 110 VAC line power.
- For use in indoor/outdoor applications that have low background noise

ORDERING INFORMATION

Model	Description
TS-RA1	Standard intensity, tank overfill alarm with light and horn
TS-RK	Remote tank overfill alarm acknowledge unit



TS-RA2

REMOTE AUDIBLE AND VISIBLE ALARM UNIT

The TS-RA2 is a high intensity remote audible and visible alarm unit for use with Franklin Fueling Systems Automatic Tank Gauges. The unit may be used as an overfill alarm as required by federal, state and local regulations, or as a general purpose remote alarm annunciator.

HIGHLIGHTS

- Pulsating light and electromechanical buzzer warn of alarm conditions.
- Ideal for outdoor applications where a high intensity alarm is necessary.
- Can be combined with TS-RK remote acknowledge schemes.
- Has adjustable sound level with useful range of over 200 feet.

SPECIFICATIONS

Installation

- Install within 1000 feet of console.
- Wiring: Type THHN, TFFN or THWN, 18 AWG or larger installed in conduits and completely separated from probe and sensor circuits.
- Operates directly from 110 VAC line power.
- For use in indoor/outdoor applications that have high background noise.

ORDERING INFORMATION

Model	Description
TS-RA2	High intensity, tank overfill alarm with light and horn
TS-RK	Remote tank overfill alarm acknowledge unit



TS-RK REMOTE ALARM ACKNOWLEDGE UNIT

The TS-RK is a remote alarm acknowledge unit for use with all Franklin Fueling Systems Automatic Tank Gauges equipped with remote alarm annunciators.

HIGHLIGHTS

- Locks or silences audible and visible alarms up to 1000 feet.
- Facilitates rapid response during emergencies in either indoor or outdoor locations.
- Can be combined with TS-RA1 or TS-RA2 remote alarm units to provide a choice of alarm silencing options.
- Housed in rugged, nonmetallic NEMA® 4X unit ideal for any weather condition.

ORDERING INFORMATION

Model	Description
TS-RK	Remote tank overfill alarm acknowledge unit

SPECIFICATIONS

Installation

- Install within 1000 feet of console.
- Wiring: Type THHN, TFFN or THWN, 18 AWG or larger installed in conduits and completely separated from probe and sensor circuits.
- In conjunction with TS-RA1 or TS-RA2 and operates directly from 110 VAC line power.



SYSTEM SENTINEL ANYWARE INTERNET ENABLED FUEL MANAGEMENT SOFTWARE

System Sentinel AnyWare™ is an internet based fuel management package designed to provide you with unparalleled monitoring and control capabilities. Residing on a local server in your home office, System Sentinel AnyWare™ will allow your personnel to access site information through any web browser.

HIGHLIGHTS

- Broad communication capabilities via modem, local or wide area networks, satellites, DSL, cable or other high-speed internet-based methods.
- Gathers specified data in a user-defined polling schedule or in real-time.
- Inventory can be monitored as needed to precisely schedule deliveries.
- Deliveries are forecast from current inventory usage rates.
- Provides centralised control of all compliance information such as tank and line leak testing data and leak detection sensor status.
- Access to information can be controlled for multiple users.
- A wide variety of reports can be custom-scheduled, displayed and printed or faxed at specific times.
- Communicates with all major tank gauge brands.
- Supports an unlimited number of sites.
- Offers immediate notification of alarms for corrective action.
- Multiple language options including: English, Spanish, French, Russian, Chinese, Hindi and Portuguese.

Export Feature

System Sentinel AnyWare™ accumulates valuable fuel management data from all of your sites into one location. The new export feature allows you to extract this data in several different formats so it can be used by other applications. The data files can be automatically sent to an email address, FTP site, or saved to a local drive. From there they can be easily incorporated into other business tools like accounting or fuel dispatch applications.

SPECIFICATIONS

Server

- Microsoft® Windows® server operating system (*)
- Windows® Server 2008 R2 standard (*)
- Windows® Server 2008 R2 enterprise (*)
- Windows® Server 2012 (*)
- Second processor will boost performance significantly.
- Minimum processor 64 bit 1.4 GHz, recommended 2 GHz
- 1 GB memory required, 4 GB recommended
- Hard drive space requirement 40 GB plus room for database

Third Party Application

- LaTeX reports server
- Microsoft® Internet Server (IIS) web server (*)
- Microsoft® SQL server (*)

Capabilities

- The powerful rules engine of the System Sentinel AnyWare™ software package allows you to manage by exception through automatic forwarding of alarm, leak test and inventory information to the appropriate people when immediate attention is required.
- Capable of communicating to an unlimited number of sites using your WAN (wide area network) or a bank of multiple modems. System Sentinel AnyWare™ will quickly collect your site information and get it to you to help you run your business.

ORDERING INFORMATION

System Sentinel AnyWare Site Licenses

Model	Description
SSA-SU25	1-25 Sites License
SSA-SU50	1-50 Sites License
SSA-SU100	1-100 Sites License
SSA-SU10	Additional increments of 10 sites

Notes:

1. When placing order, the following information must be supplied along with email address to issue a software license:

Company software will be licensed to Address of company

Phone number of company

Contact name at company

Phone number of company

Contact name at company

2. Licenses may not be returned after purchase

3. An additional fee will be charged for optional on-site installation and training. The charge is \$500 per day plus travel expenses.

4. The purchase of an annual maintenance contract is required for continued technical support and to receive any software updates.

The maintenance fee is 15% of the list price of the user's system at the time of renewal.

Annual Maintenance

An annual maintenance fee must be paid in order to receive tech support and software upgrades.

The net price is determined by taking 15% of the current list price of the site license the customer currently holds.

TS-5, TS-550, TS-5000, TS-EMS, TS-550 evo, and TS-5000 evo Consoles

Model	Description
Common To All (TS-5 uses TSSP-PRB only)	
TSSP-10ARLY	Spare 6 output 10 amp relay module
TSSP-2WSNS	Spare 12 input 2-wire sensor module
TSSP-3WSNS	Spare 8 input 3-wire sensor module
TSSP-420IB	Spare 8 input 4-20ma module
TSSP-420EXP	Spare 8 input EXP 4-20ma module
TSSP-ACI	Spare 12 input AC input module
TSSP-IO	Spare input output module
TSSP-PRB	Spare 12 input probe module
TSSP-RLY	Spare 8 output relay module
TSSP-PS	Power supply module
TSSP-IPPTR	Impact printer assembly for TS-550,TS-5000 and TS-EMS (upgrade to thermal optional)
TSSP-TMPTR	Thermal printer assembly for TS-550,TS-5000,TS-EMS and TS-550 evo™
TSSP-TRMBLK	Package of 10 assorted terminal blocks
TSSP-EXPPS	Expansion console power supply
TS-5/550/5000/ Only	
TSSP-CM	Spare controller module, fuel management system application only, no software options
TSSP-CM/R	Replacement controller module, factory programmed with required options
TSA-CMUPG	Upgrade kit for TSSP-CM in stock to add original options
TSSP-LCDIFB5x	LCD display and interface board kit for TS-550,TS-5000
TSSP-T550MB	TS-550 motherboard (for use with TS-EMS also)
TSSP-T5000MB	TS-5000 motherboard
TSSP-SP5FUSE	Spare Fuse Kit
TS-5 Only	
TSSP-T5MB	TS-5 motherboard
TSSP-LCDIFB5	LCD display and interface board kit for TS-5
TS-EMS Only	
TSSP-CM/EMS	Spare controller module for TS-EMS, vapour recovery monitoring application only
TSSP-CM/EMSB	Spare controller module for TS-EMS (balance site), VRM (1.1) application only
TS-550 evo™ and TS-5000 evo Only	
EVO-CM	Spare TS-550/5000 evo controller module, standard features only, no software options Spare TS-550/5000 evo controller module, standard features only, no software options
EVO-CM/R	Replacement TS-550 evo™ controller module, factory programmed with required options
EVO-CMUPG	Upgrade kit for EVO-CM in stock to add original options
EVO-LCD	Replacement colour LCD display
EVO-IFB	Replacement display/printer interface board

Note: The serial number of the old CM must be provided when ordering the TSSP or EVO-CM/R. Provide the serial number of the old and new CM when ordering the TSA or EVO-CMUPG.

Colibri® Consoles

Model	Description
CL-MBWD	Replacement main board/display
CL-MBWD/R	Replacement main board/display, factory programmed with required options
CL-MB	Replacement main board (no display systems)
CL-MB/R	Replacement main board (no display systems), factory programmed with required options
CL-CVRWD	Replacement cover with display opening
CL-CVR	Replacement cover without display opening
CL-MBUPG	Upgrade kit for CL-MBWD in stock to add original options

Note: The serial number of the old main board must be provided when ordering the CL-MBWD/R. Provide the serial number of the old and new main boards when ordering the CL-MBUPG

TS-504 and TS-750 Consoles

Model	Description
TSSP-BAT	3 Volt lithium battery
TSSP-DSP1	Keypad/display PC board
TSSP-DSPKC1	Display/keypad cable
TSSP-ENCLK	Enclosure lock and key
TSSP-PSTB4-SM	Surface mount probe/sensor terminal board, serial numbers 100000 and higher
TSSP-PTR	Printer assembly
TSSP-PTRC1	Printer cable
TSSP-SMSB4	Surface mount system PC board, 110 VAC, serial numbers 100000 and higher
TSSP-SPFUSE	Spare fuse kit
TSSP-SVKT4-SM	VS-504 and TS-750 service kit for surface mount boards*
VSSP-SMSB4	Surface mount system PC board, 220 VAC, serial numbers 100000 and higher

*TSSP-SVKT4-SM includes one of the following: TSSP-SMSB4, TSSP-DSP1, TSSP-PSTB4-SM, TSSP-PTR, TSSP-PTRC1, TSSP-DSPKC1, TSSP-SPFUSE, TSSP-ENCLK and TSSP-BAT.
Note:TSSP-MSB4 boards are no longer available. Order TSSP-SMSB4 main board and TSSP-PSTB4-SM terminal board as replacement.

TS-508 Console

Model	Description
TSSP-BAT	3 Volt lithium battery
TSSP-DSP1	Keypad/display PC board
TSSP-DSPKC1	Display/keypad cable
TSSP-ENCLK	Enclosure lock and key
TSSP-PSTB8-SM	Surface mount probe/sensor terminal board, serial numbers 100000 and higher
TSSP-PTR	Printer assembly
TSSP-PTRC1	Printer cable
TSSP-SMSB8	Surface mount system PC board, 110 VAC, serial numbers 100000 and higher
TSSP-SPFUSE	Spare fuse kit
TSSP-SVKT8-SM	VS-508 service kit for surface mount boards*
VSSP-SMSB8	Surface mount system PC board, 220 VAC, serial numbers 100000 and higher

*TSSP-SVKT8-SM includes one of the following: TSSP-SMSB8, TSSP-DSP1, TSSP-PSTB8-SM, TSSP-PTR, TSSP-PTRC1, TSSP-DSPKC1, TSSP-SPFUSE, TSSP-ENCLK and TSSP-BAT.
Note:TSSP-MSB8 boards are no longer available. Order TSSP-SMSB8 main board and TSSP-PSTB8-SM terminal board as replacement.

TS-1001 Console

Model	Description
TSSP-BAT	3 Volt lithium battery
TSSP-DSP1	Keypad/display PC board
TSSP-DSPKC1	Display/keypad cable
TSSP-ENCLK	Enclosure lock and key
TSSP-PSTB1-SM	Surface mount probe/sensor terminal board, serial numbers 100000 and higher
TSSP-PTR	Printer assembly
TSSP-PTRC1	Printer cable
TSSP-SMSB4	Surface mount system PC board, 110 VAC, serial numbers 100000 and higher
TSSP-SPFUSE	Spare fuse kit
TSSP-SVKT1-SM	VS-1001 service kit for surface mount boards
TSSP-T1KEY	Replacement key
VSSP-SMSB4	Surface mount system PC board, 220 VAC, serial numbers 100000 and higher

*TSSP-SVKT1-SM includes one of the following: TSSP-SMSB4, TSSP-DSP1, TSSP-PSTB1-SM, TSSP-PTR, TSSP-PTRC1, TSSP-DSPKC1, TSSP-SPFUSE, TSSP-ENCLK and TSSP-BAT.
 Note:TSSP-MSB4 boards are no longer available. Order TSSP-SMSB4 main board and TSSP-PSTB1-SM terminal board as replacement.

TS-2001 Console

Model	Description
TSSP-BAT	3 Volt lithium battery
TSSP-ENCLK	Enclosure lock and key
TSSP-PTR	Printer assembly
TSSP-SPFUSE	Spare fuse kit
VSSP-SMSB4	Surface mount system PC board, 220 VAC, serial numbers 100000 and higher

*TSSP-SVKT2-SM includes one of the following: TSSP-SMSB8, TSSP-DSP2, TSSP-PSTB2-SM, TSSP-PTR, TSSP-PTRC2, TSSP-DSPKC2, TSSP-SPFUSE, TSSP-ENCLK and TSSP-BAT.
 Note:TSSP-MSB2 boards are no longer available. Order TSSP-SMSB8 main board and TSSP-PSTB2-SM terminal board as replacement.

DC400

Model	Description
404-4	Controller
404-4C	Controller for Canadian applications
S404	Float switch sensor

Note: Replacement parts not compatible with legacy DC400 systems. Both controller and sensor must be replaced. Order DC404 system to replace legacy components.

TS-LS300

Model	Description
600-0180	Transducer quick disconnect cable
TS-ALCAL	3.0 gph calibration kit
TS-ALFUSE	AutoLearn™ fuse kit
TS-AFALNIP	Alternative fuels needle valve kit
TS-ALNIP	Needle valve kit
TS-LSU300	Intrinsically safe pressure transducer
TS-LSU300E	Explosion proof pressure transducer
TSSP-ALDB2	2-line display board
TSSP-ALDB4	4-line display board
TSSP-ALMB2	2-line intrinsically safe main board, 110 VAC
TSSP-ALMB2E	2-line explosion proof main board, 110 VAC
TSSP-ALMB4	4-line intrinsically safe main board 110 VAC
TSSP-ALMB4E	4-line explosion proof main board 110 VAC
TSSP-ALPTRC	Ribbon cable, display board to main board
TSSP-ALTPI	TPI turbine pump interface board
VSSP-ALMB2	2-line I/S main board, 220 VAC
VSSP-ALMB4	4-line I/S main board, 220 VAC

TS-LS500

Model	Description
600-0180	Transducer quick disconnect cable
TS-ALCAL	3.0 gph calibration kit
TS-AFALNIP	Alternative fuels needle valve kit
TS-ALNIP	Needle and valve kit
TS-LSU500	Intrinsically safe 4-20 mA pressure transducer
TS-LSU500E	Explosion proof 4-20 mA pressure transducer

Accessories

Model	Description
430-0033	3 amp fuse for TS-ROM2/4 or /8
TSP-ENCD	Replacement encoder for TS-VFM

If you wish to contact us about any of our products or services please contact the nearest Franklin Fueling Systems office. For a list of local contacts please visit franklinfuelling.com for more information.

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