Franklin Fueling Systems

SENSOR SELECTION GUIDE

No matter what the monitoring application is, Franklin Fueling Systems offers a sensor solution tailored to the specific requirements of each application.











Sensor	Discriminating Dispenser Sump Sensor	Discriminating Turbine Sump Sensor	Discriminating Magnetostrictive Sump Sensor	Universal Liquid Sensor	Universal Hydrostatic Sensor	Electro-Optic Interstitial Sensor	Horizontal Float Switch Sensor	Discriminating Interstitial Sensor	Hydrostatic Interstitial Sensor	Corrosion Detection Sensor	Corrosion Desiccant Pack Sensor
Discriminating Capability	✓	✓	✓					✓			
Non-Discriminating				✓	✓	✓	✓		✓		
Turbine Sump Applications		✓	✓	✓						✓	✓
Dispenser Sump Applications	✓		✓	✓						✓	
Tank Interstitial Space Applications					✓	✓	✓	✓	✓		
Tank Ullage Applications										✓	
Position Sensitive (Tamper 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	FMP-CDS-U	FMP-DPS-U
EVO™ 550 / EVO™ 5000 Model Number*	FMP-DDS	FMP-DTS	TSP-DMS	FMP-ULS	FMP-UHS	FMP-EIS	FMP-HFS2	FMP-DIS	FMP-HIS FMP-HIS-XL	FMP-CDS-U	
EVO™ 600 / EVO™ 6000 Model Number*	FMP-DDS, FMP-DDS-U	FMP-DTS FMP-DTS-U	TSP-DMS	FMP-ULS	FMP-UHS	FMP-EIS FMP-EIS-U	FMP-HFS2	FMP-DIS FMP-DIS-U	FMP-HIS FMP-HIS-XL FMP-HIS-U FMP-HIS-XL-U	FMP-CDS-U	FMP-DPS-U
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	Monitoring for the presence of a liquid in a containment sump	Dry double wall tank applications including fiberglass and wrap-around	Dry double wall tank applications including fiberglass and wrap-around	Dry double wall fiberglass tank applications	Dry double wall tank applications requiring discriminating capabilities	Double wall tank interstitial space filled with brine solution	Monitoring for corrosive environments	Monitoring remaining life of the Desiccant Pack(s)

EVO™ 550, EVO™ 5000, EVO™ 600 and EVO™ 6000 may support additional sensors. Sensors with "-U" are used with the EVO™ 600 and EVO™ 6000 to wire to the probe module. FMP-DDS, FMP-TDS, FMP-EIS, FMP-DIS, FMP-HIS and FMP-HIS-XL all require a 3-wire sensor module.

SPECIFICATIONS

Fuel Compatibility

Sensor	TSP-DDS, FMP-DDS, FMP-DDS-U	TSP-DTS, FMP-DTS, FMP-DTS-U	TSP-DMS	FMP-ULS, TSP-ULS	FMP-UHS, TSP-UHS	TSP-EIS, FMP-EIS, FMP-EIS-U	FMP-HFS2	TSP-DIS, FMP-DIS, FMP-DIS-U	TSP-HIS, TSP-HIS-XL, FMP-HIS, FMP-HIS-XL, FMP-HIS-U, FMP-HIS-XL-U	FMP-CDS-U
Diesel with or without biodiesel blends up to 5% (B5)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Installed in Brine Solutiion	Yes
Diesel with biodiesel blends between 6%- 20% (B6 - B20)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Installed in Brine Solutiion	Yes
Diesel with biodiesel blends between 97% - 100% (B99 - B100)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Installed in Brine Solutiion	Yes
Gasoline with ethanol blends up to 10% (E10)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Installed in Brine Solutiion	-
Mid-range ethanol/gasoline blends of (E15-20)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Installed in Brine Solutiion	-
High-range ethanol/gasoline blends (E51-83)- Commercially sold as E85	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Installed in Brine Solutiion	-

Note: Extended exposures to the above listed fuels or vapors can lead to swelling of connector cables and potentially damage sensors to the point of inoperability.

DISCRIMINATING DISPENSER SUMP SENSOR (DDS)

The DDS is a discriminating dispenser sump sensor which provides reliable monitoring of dispenser pans and containment sumps.

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 1½" (38 mm) from base.
- Detects hydrocarbons on sensor and floating on water.
- Digitally encoded status information sent from microcomputer to ATG from 775+ feet (236 m).
- Alarms to indicate liquid in sump, hydrocarbon detected, sump is full, and sensor malfunction.
- Variety of mounting methods possible depending on location. Bracket provided for quick installation.

SPECIFICATIONS

Applications

For dispenser sump monitoring.

ORDERING INFORMATION

Model	Description
FMP-DDS	Discriminating dispenser sump sensor (EVO™ 550, EVO™ 5000, EVO™ 600 and EVO™ 6000)
FMP-DDS-U	Discriminating dispenser sump sensor (EVO™ 200, EVO™ 400, EVO™ 600 and EVO™ 6000)
TSP-KS	Unistrut™ mounting kit

Note: The FMP-DDS wires to the 3-wire sensor module and the FMP-DDS-U wires to the probe module.

DISCRIMINATING TURBINE SUMP SENSOR (DTS)

The DTS is a discriminating turbine sump sensor that detects the presence of liquid and hydrocarbons when installed in tank containment sumps.

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 1½" (38 mm) from base.
- Detects hydrocarbons on sensor and floating on water.
- Digitally encoded status information sent from microcomputer to ATG from 775+ feet (236 m).
- Alarms to indicate liquid in sump, hydrocarbon detected, full sump, and sensor malfunction.

SPECIFICATIONS

Applications

For containment sump monitoring.

ORDERING INFORMATION

Model	Description
FMP-DTS	Discriminating turbine sump sensor (EVO™ 550, EVO™ 5000, EVO™ 600 and EVO™ 6000)
FMP-DTS-U	Discriminating turbine sump sensor (EVO™ 200, EVO™ 400, EVO™ 600 and EVO™ 6000)
TSP-KS	Unistrut™ mounting kit

Note: The FMP-DTS wires to the 3-wire sensor module and the FMP-DTS-U wires to the probe module.

DISCRIMINATING MAGNETOSTRICTIVE SENSOR (DMS)

The DMS sensor 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 DMS sensor can report water warnings and programmable water alarm points as well as product alarms.

HIGHLIGHTS

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

SPECIFICATIONS

Applications

For containment sump monitoring.

ORDERING INFORMATION

Model	Description
TSP-DMS-12	Discriminating magnetostrictive sensor, monitors 12" (305 mm) of liquid & measures 22" (559 mm) in length (all EVO™ Series ATGs)
TSP-DMS-24	Discriminating magnetostrictive sensor, monitors 24" (610 mm) of liquid & measures 34" (864 mm) in length (all EVO™ Series ATG).
TSP-KS	Unistrut™ mounting kit

Note: This sensor communicates with the ATG via the TS-PRB probe module.

UNIVERSAL LIQUID SENSOR (ULS)

Based on float-switch technology and made of chemically-resistant materials, the ULS is a low-cost sensor that can 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.
- Each ULS sensor comes with a 25' (7.6 m) cable. ½" 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, ULS is lowered into the opening provided on the tank and is suspended by optional TSP-KI2 installation kit. Other mounting methods available depending upon application and location.

SPECIFICATIONS

Applications

For containment sump monitoring.

ORDERING INFORMATION

Model	Description
FMP-ULS	Universal liquid sump sensor (all EVO™ Series ATGs)
TSP-ULS	Universal liquid sump sensor (for use with S940 only)
TSP-KI2	Interstitial sensor riser cap kit for 2" (51 mm) riser pipes

Note: This sensor communicates to the ATG using 2 wires on the 2-wire sensor modules or the 3-wire sensor module. It cannot be wired to the probe module.

UNIVERSAL HYDROSTATIC SENSOR (UHS)

The UHS uses float switch technology to continuously monitor liquid-filled double wall containment sumps. Normally submerged, the single float 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 materials.
- Each UHS sensor comes with a 25' (7.6 m) 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 UHS sensor will alert if the liquid level drops below the bottom of the sensor.

SPECIFICATIONS

Applications

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

ORDERING INFORMATION

Model	Description
FMP-UHS	Universal hydrostatic sensor (all EVO™ Series ATGs)
TSP-UHS	Universal hydrostatic sensor (for use with S940 only)
HM-KIT	Hydrostatic monitoring installation kit. Includes: flexible brine tube, sensor housing clamp, sensor housing, sensor cap, and hardware

Note: The FMP-UHS wires to the 2 wire sensor module or the 3 wire sensor module. It cannot be wired to the probe module.

ELECTRO-OPTIC INTERSTITIAL SENSOR (EIS)

Utilizing electro-optic technology, and made of chemically-resistant polysulfone plastic, the 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.
- Each EIS comes with 25' (7.6 m) of oil-resistant cable. For fiberglass tanks, the EIS is pulled into the interstitial space using a “fish” string or wire. For steel interstitial tanks, the EIS is lowered directly to the bottom of the interstitial space through a 2" 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.

SPECIFICATIONS

Applications

For dry tank interstitial monitoring.

ORDERING INFORMATION

Model	Description
FMP-EIS	Electro-optic interstitial sensor (EVO™ 550, EVO™ 5000 EVO™ 600 & EVO™ 6000)
FMP-EIS-U	Electro-optic interstitial sensor (EVO™ 200, EVO™ 400, EVO™ 600 and EVO™ 6000)
TSP-K12	Interstitial sensor riser cap kit for 2" riser pipes

Note: The FMP-EIS wires to the 3 wire sensor module and the FMP-EIS-U wires to the probe module.

HORIZONTAL FLOAT SWITCH SENSOR (HFS)

The HFS is a 2-wire, non-discriminating liquid sensor designed for liquid detection in dry fiberglass tank interstitial spaces.

HIGHLIGHTS

- Fiberglass interstitial monitoring using a 2-wire sensor.
- For dry fiberglass tank interstitial monitoring.
- Highly reliable magnetic-float/reed-switch technology.
- Chemical-resistant materials.
- Easily fits tight interstitial spaces.
- Rounded design makes it easy to remove for cleaning and reinstall after an alarm condition has been triggered or for maintenance and testing.
- Each HFS comes with a 25' (7.6 m) oil-resistant cable. For fiberglass tanks, the 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.

SPECIFICATIONS

Applications

For dry tank interstitial monitoring.

ORDERING INFORMATION

Model	Description
FMP-HFS2	Horizontal float switch sensor (EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000)
TSP-KI2	Interstitial sensor riser cap kit for 2" riser pipes
TSP-KW4	Interstitial sensor riser cap kit for 4" riser pipes

Note: The FMP-HFS2 wires to the 2 wire sensor module or the 3 wire sensor module. It cannot be wired to the probe module.

DISCRIMINATING INTERSTITIAL SENSOR (DIS)

The DIS installs in the interstitial space of steel and fiberglass double wall tanks and sumps and detects the presence of various liquids in tanks as well as sumps and other locations.

HIGHLIGHTS

- Uses light beam traveling through probe to determine if sensor is wet.
- Microprocessor inside sensor interprets readings and communicates data to the EVO™ Series ATG.
- Fail-safe digital communications with built-in alarm if sensor malfunctions.
- Alarms indicate petroleum present, water present, and sensor malfunction.
- Each DIS comes with 25' (7.6 m) of oil-resistant cable. For fiberglass tanks, the DIS is pulled into the interstitial space using a “fish” string or wire. For steel interstitial tanks, the DIS is lowered directly to the bottom of the interstitial space through a 2" 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.

SPECIFICATIONS

Applications

For dry tank interstitial monitoring.

ORDERING INFORMATION

Model	Description
FMP-DIS	Discriminating interstitial sensor (EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000)
FMP-DIS-U	Discriminating interstitial sensor (EVO™ 200, EVO™ 400, EVO™ 600, and EVO™ 6000)
TSP-KI2	Interstitial sensor riser cap kit for 2" riser pipes

Note: The FMP-DIS wires to the 3 wire sensor module and the FMP-DIS-U wires to the probe module.

HYDROSTATIC INTERSTITIAL SENSOR (HIS)

The HIS detects leaks in double wall tanks where the interstitial space is filled with a liquid brine solution. The 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 sensor digital communication system to fuel management system or Tank Sentinel® ATGs, alerting of any alarm conditions.
- For installation, lower the 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" riser cap.

Note: The FMP-HIS/FMP-HIS-XL wire to the 3 wire sensor module, and the FMP-HIS-U/FMP-HIS-XL-U wire to the probe module.
**One TSP-KV4 is already included with each HIS or HIS-XL sensor.*

SPECIFICATIONS

Applications

For liquid-filled tank interstitial monitoring.

ORDERING INFORMATION

Model	Description
FMP-HIS	Hydrostatic interstitial sensor, 11"* (EVO™ 550, EVO™ 5000, EVO™ 600 and EVO™ 6000)
FMP-HIS-XL	Hydrostatic interstitial sensor, 21"* (EVO™ 550, EVO™ 5000, EVO™ 600 and EVO™ 6000)
FMP-HIS-U	Hydrostatic interstitial sensor, 11" (EVO™ 200, EVO™ 400, EVO™ 600 and EVO™ 6000)
FMP-HIS-XL-U	Hydrostatic interstitial sensor, 21" (EVO™ 200, EVO™ 400, EVO™ 600 and EVO™ 6000)
TSP-KV4*	Hydrostatic sensor vented riser pipe cap kit for 4" riser pipes

HIGH PRODUCT LEVEL SENSOR (HLS)

The HLS level sensor is an overfill prevention switch that may be adjusted to operate over a wide range of levels. The HLS is based on float-switch technology and is made of chemical-resistant materials to assure compatibility with most liquids.

HIGHLIGHTS

- Each sensor is supplied with jacketed cable five feet in length.
- The normally-closed output circuit provides supervised operation, ensuring that broken wires and similar failures will not go undetected.
- A small magnetically-activated read 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 read switch. When the sensor is immersed in liquid, the float rises and the magnet activates the read switch, signaling the ATG that the high limit has been reached.

Note: The TSP-HLS connects to the 2 wire sensor module or the 3 wire sensor module. It cannot be wired to the probe module.

SPECIFICATIONS

Applications

Overfill protection switch.

ORDERING INFORMATION

Model	Description
TSP-HLS-15	High product level sensor, 15" long, installed in tank (EVO™ 550, EVO™ 5000, EVO™ 600, EVO™ 6000 ATGs)
TSP-HLS-15/SS	High product level sensor, stainless steel 15" long, installed in tanks containing alternative fuels (EVO™ 550, EVO™ 5000, EVO™ 600, EVO™ 6000 ATGs)
TSP-HLS-30	High product level sensor, 30" long, installed in tank (EVO™ 550, EVO™ 5000, EVO™ 600, EVO™ 6000 ATGs)
TSP-HLS-30/SS	High product level sensor, stainless steel 30" long, installed in tanks containing alternative fuels (EVO™ 550, EVO™ 5000, EVO™ 600, EVO™ 6000 ATGs)

CORROSION CONTROL™ CORROSION DETECTION SENSOR (CDS)

As part of the Corrosion Control™ System the Corrosion Detection Sensor (CDS) provides automated notification of a corrosive environment in the tank ullage space. Keep the fuel system running at peak performance and avoid costly maintenance, equipment replacement, downtime, and system failure caused by excessive corrosion.

HIGHLIGHTS

- Sensor will detect the presence of corrosion on a sacrificial sample and provide an alarm.
- Protects the tank ullage from the formation of corrosion which can lead to fuel system deterioration.
- Displays a level reading for corrosion index via the EVO™ Series Automatic Tank Gauge (ATG) with programmable alarm types including:
  - Corrosive Environment Present
  - Corrosion Sensor Sample Error
  - Corrosion Sample Needs Replacement
- Compatible with all blends of gasoline, diesel, and Ethanol.
- ATG compatibility:
  - EVO™ 200 and EVO™ 400
  - EVO™ 550 and EVO™ 5000
  - EVO™ 600 and EVO™ 6000

SPECIFICATIONS

Applications

Monitoring for a corrosive environment within a tank ullage space.

Theory of Operation

The CDS is installed in the tank ullage space. The intrinsically safe sensor utilizes an included quick disconnect cable to wire to any EVO™ Series ATG via the probe module (EVO™ 550, EVO™ 5000, EVO™ 600, EVO™ 6000) or any Intrinsically Safe (IS) channel (EVO™ 200 and EVO™ 400). The sensor utilizes a sacrificial metal screen which is used to detect the formation of corrosion. This screen can be removed and replaced upon the formation of corrosion.

ORDERING INFORMATION

Corrosion Control™ Corrosion Detection Sensor

Model	Description
FMP-CDS-U	Corrosion Detection Sensor (all EVO™ Series ATGs)
FMSP-RDS1	Replacement detection screen, qty 1
FMSP-RDS10	Replacement detection screen, qty 10
TSP-KS	Unistrut® mounting kit

Note: this sensor communicates with the ATG via a TS-PRB probe module (EVO™ 550, EVO™ 5000, EVO™ 600, and EVO™ 6000) or via an IS channel (EVO™ 200 & EVO™ 400).

CORROSION CONTROL™ DESICCANT PACK SENSOR (DPS)

As part of the Corrosion Control™ System, the Desiccant Pack Sensor provides remote monitoring of the remaining life of the Desiccant Pack via an EVO™ Series Automatic Tank Gauge (ATG) for efficient maintenance. The Desiccant Pack absorbs humidity from the sump environment before it turns into corrosion-causing moisture.

HIGHLIGHTS

- The Desiccant Pack Sensor provides the percent of remaining life of the Desiccant Pack.
- The Desiccant Pack Sensor hangers allow for multiple mounting options and can accommodate 1 or 2 Desiccant Packs.
- ATG compatibility:
  - EVO™ 200 and EVO™ 400
  - EVO™ 600 and EVO™ 6000
- ATG data displayed:
  - Desiccant % remaining.
  - Sensor status (Ok, Desiccant Near Saturation, Desiccant Saturated - Service Needed, Desiccant Missing, Desiccant Sensor Overload).
  - Trend (Active Drying - Desiccant is actively absorbing water from environment or Passive Drying - Desiccant is holding required humidity level).

SPECIFICATIONS

Applications

Maintain a non-corrosive environment within the sump with the Desiccant Pack(s) and remotely monitor when the Desiccant Pack(s) need to be changed to maintain optimal low humidity.

Theory of Operation

The Desiccant Pack is installed within the sump environment to maintain optimal non-corrosive levels of humidity. The Desiccant Pack Sensor can be used to hang one or two Desiccant Packs. It measures the weight of the Desiccant Pack and calculates an estimated percent of life remaining via an EVO™ Series ATG.

ORDERING INFORMATION

Model	Description
FMP-DPS-U	Desiccant Pack Sensor with single and multi-pack hanger and installation kit
407750906	Corrosion Control™ desiccant pack, includes (6) packs and (6) cable ties

Note: The FMP-DPS-U wires to the probe module on EVO™ 600 and EVO™ 6000 ATGs and to the UDP input channel on EVO™ 200 and EVO™ 400 ATGs.

SENSOR INSTALLATION ACCESSORIES

INTERSTITIAL SENSOR RISER CAP INSTALLATION KIT

Installation kit for installing the DIS, EIS or ULS sensors in dry interstitial spaces with 2" (5 cm) riser pipe openings. The cap is compression-fit into the riser pipe via the use of a lever.

HIGHLIGHTS

- 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-KI2	Interstitial sensor riser cap kit for 2" (5 cm) riser pipes

HYDROSTATIC SENSOR VENTED RISER CAP INSTALLATION KIT

Vented installation kit for use with the FMP-HIS-U or FMP-HIS XL-U sensor installed in a 4" (10 cm) reservoir opening on double wall fiberglass tanks. The cap is compression-fit into the riser pipe via the use of a lever.

HIGHLIGHTS

- 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" (10 cm) riser pipes

INTERSTITIAL/MONITORING WELL PIPE CAP INSTALLATION KIT

Installation kit for installing sensors in a dry tank interstitial or monitoring well with a 4" (10 cm) riser. The interstitial/monitoring well cap is compression-fit into the riser pipe via the use of a lever.

HIGHLIGHTS

- 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" (10 cm) riser pipes

UNISTRUT® MOUNTING KIT

Installation kit for installing the DDS, DTS, and DMS sensors in sump space.

HIGHLIGHTS

- Easily customized 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.

ORDERING INFORMATION

Model	Description
TSP-KS	Unistrut® mounting kit

DIRECT BURIAL SPLICE CONNECTOR KITS

For direct burial cable applications or when weatherproof junction boxes are not used.

HIGHLIGHTS

- Each direct burial splice connector kit includes a receptacle, three splice connectors, and epoxy for the dispensing tool.

ORDERING INFORMATION

Model	Description
TSP-DB1	One direct burial splice connector kit
TSP-DB10	Pack of 10 direct burial splice connector kits
TSP-DBTOOL	Epoxy dispensing tool

SPLICE CONNECTORS

Save time and ensure accurate wire connections with splice connectors. Available in either 22-14 AWG (blue) or 26-19 AWG (red) options, both splice connector models employ a specially designed wire insulation displacement contact to make a reliable electrical connection to each wire.

HIGHLIGHTS

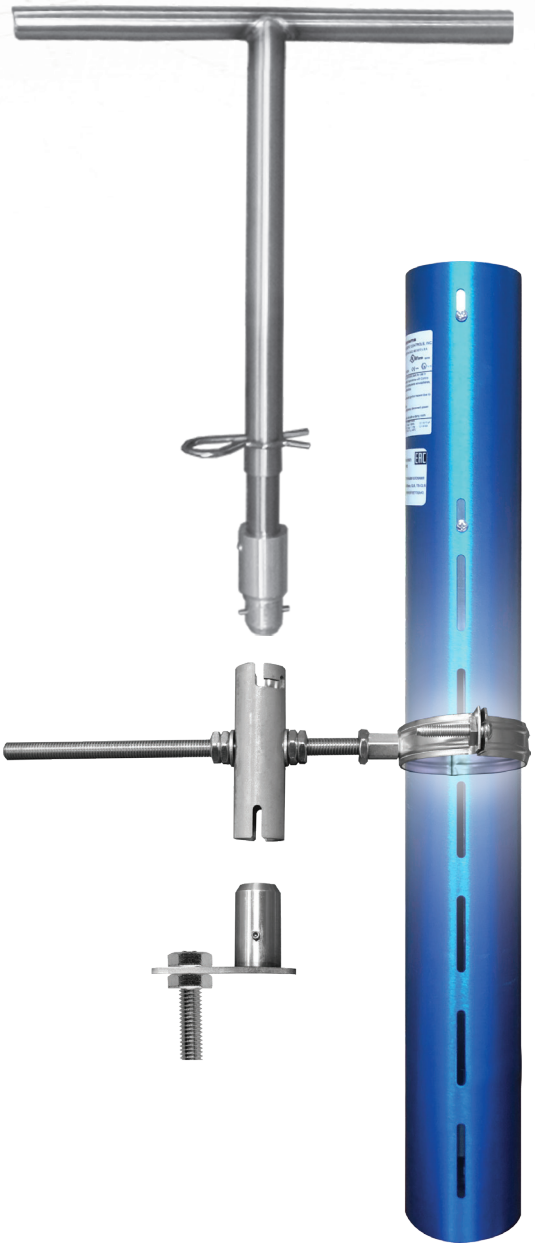
- Three ports accept two or three conductors for splicing.
- Includes a factory-installed sealant to protect against corrosion and seal out moisture.
- Self-stripping, flame retardant, and moisture resistant.

ORDERING INFORMATION

Model	Description
TSP-KW30	22-14 AWG (blue) splice connectors, 30 pack
FMP-CON30	26-19 AWG (red) compact splice connectors, 30 pack

EASY-ACCESS SENSOR BRACKET SYSTEM

The Easy-Access Sensor Bracket System eliminates the high risk activity of confined space entry by enabling sensors to be removed from both tank sumps and dispenser sumps at grade level for safe maintenance and testing.

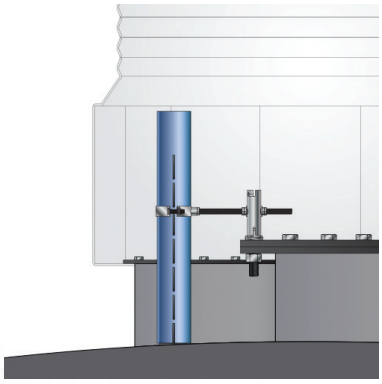


HIGHLIGHTS

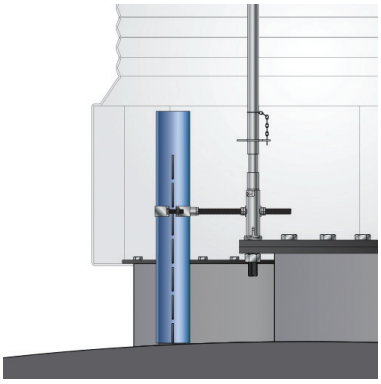
- System includes a removable sensor mounting bracket, extendable lifting handle (sold separately), and optional conversion kit for use in dispenser sumps (sold separately).
- Compatible with all versions of Franklin Fueling Systems' ULS, DDS, DTS, and DMS sensors.
- Suitable for use with alternative sensors with similar dimensions. Please contact Franklin Fueling System Technical Support for questions regarding sensor compatibility beyond those sensors listed.
- Delivers labor cost savings with faster, one-person inspections that do not require the additional safety precautions associated with a two-person confined space entry including mechanical retrieval.
- Securely bolts to any new or existing tank manway with included M16 x 80 mm bolt to stabilize the sensor and optimize its position to ensure that the sensor sits at the lowest point of the containment.
- Provides a wide range of sensor height adjustment.
- Lifting handle extends from 43" (109 cm) to 79" (200 cm), accommodating both medium and deep bury containment.
- Stainless steel bracket components provide compatibility with all fuel types including standard fuel, biofuel, and alcohol blend fuels.

SPECIFICATIONS

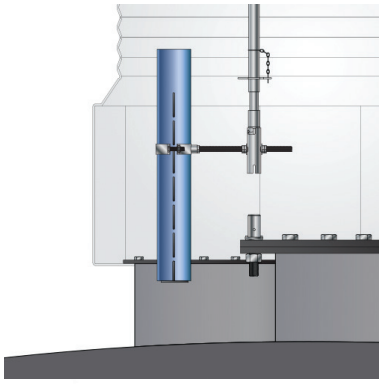
Operation



Sensor installed in bracket



Engage lifting handle from grade



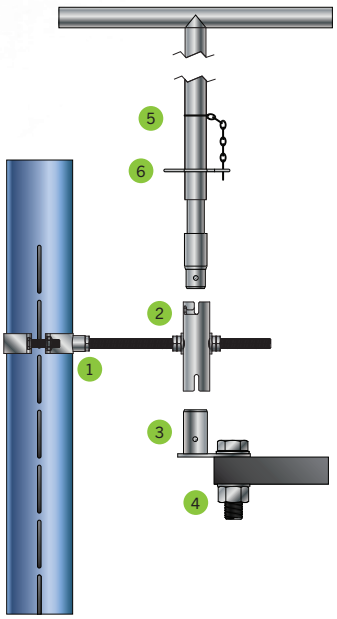
Lift to grade for inspection

SPECIFICATIONS CONTINUED

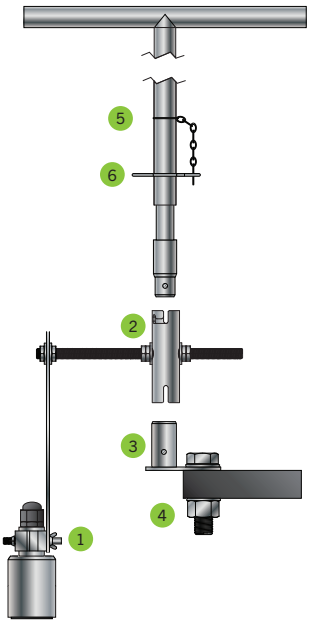
Components

1. Sensor clamp
2. Sensor bracket holder
3. Bracket seat
4. Mounting bolt
5. Extendable lifting handle
6. Spring clip to fix handle length
7. Conversion kit arm (bolts to stabilizer bar kit)

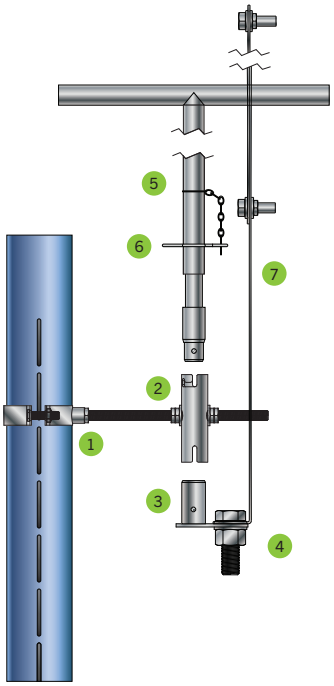
DTS, DDS, DMS Easy-Access Sensor Bracket



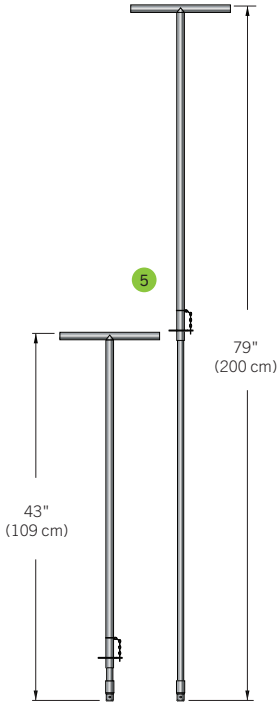
ULS Easy-Access Sensor Bracket



Easy-Access Sensor Bracket Conversion Kit for Dispenser Sumps

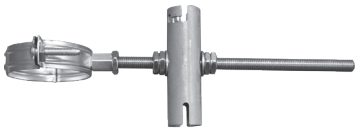


Easy-Access Sensor Lifting Handle



ORDERING INFORMATION

Easy-Access Sensor Brackets



DDS, DTS, and DMS sensor model shown.

Model	Description
FMP-SIB-DMS	Easy-Access Sensor Bracket for all models of the DDS, DTS, and DMS sensors
FMP-SIB-ULS	Easy-Access Sensor Bracket for all models of the ULS sensors

Model	Description
FMP-SIB-UDC	Easy-Access Sensor Bracket conversion kit for dispenser sumps

Note: The conversion kit must be installed with the FMP-SIB-DMS or FMP-SIB-ULS Easy-Access Sensor Bracket.

Model	Description
FMP-SIB-HDL	Easy-Access Sensor Bracket lifting handle, extends from 43" (109 cm) to 79" (200 cm)

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 affected 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.

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 watertight splice kit. Suspend it so it is just touching the bottom of the containment sump.

*** Not for use with 3-phase motors or Variable Frequency Drive installations.*

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

- 04-4 Controller: 6.6" × 6.2" × 3.2"
- 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°F to 140°F (-20°C 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)

Capabilities

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

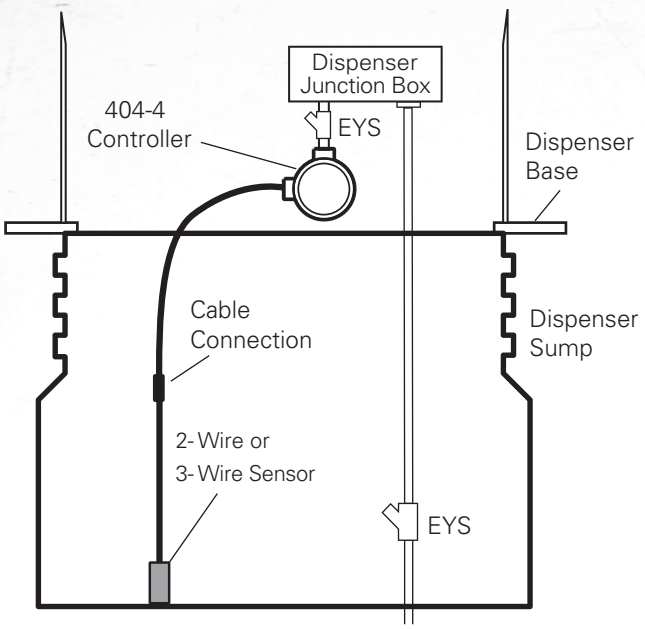
Approvals

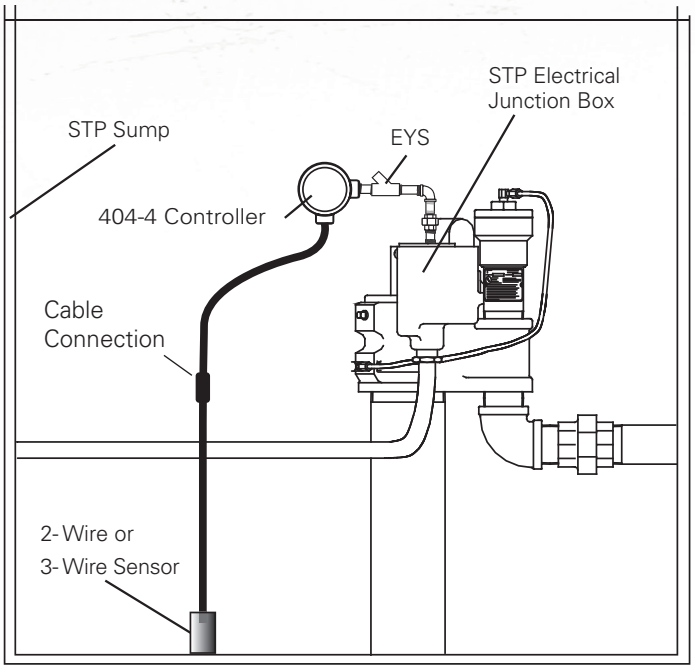
- UL, cUL
- Third party certification of leak detection capabilities

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 lbox adapter

Note: Electric junction box adapters for STP installations.

SPECIFICATIONS CONTINUED





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.

DC400 Replacement Parts

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.

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