OPW FMS Family of Products

Fuel Controls • Tank Gauges • Software

OPW

A DOVER COMPANY

Leading The Way in Fluid Handling Solutions Worldwide

www.opwglobal.com

Overview

Improved Fuel Management For Higher Profits

OPW Fuel Management Systems has been committed to delivering industry-leading fuel management solutions since 1961. With automated fuel control systems, a comprehensive line of integrated tank monitoring equipment and user-friendly fuel management software, OPW's family of fuel management products enable site operators to effectively and efficiently manage their fuel inventories.

Secure Fuel Control

OPW's fuel control systems deliver secure, accurate and reliable fuel tracking for unattended fueling operations. Engineered for the rugged and unpredictable demands of fleet fueling and fuel reselling operations, OPW's fuel control systems eliminate fuel theft by maximizing driver accountability.

Precise Tank Monitoring

Integrated for optimum performance, SiteSentinel® tank gauges, probes and sensors automate data collection and reporting of fuel inventories, deliveries and leak tests. OPW offers precision tank monitoring systems for fuel operations both small and large, ensuring reliable inventory control and environmental compliance for sites of every configuration.

Simple, Reliable Software

User-friendly Phoenix® fuel management software works seamlessly with OPW's fuel management systems and Windows®-compatible PCs to provide powerful data processing. The software's intuitive user interface is easy to navigate for convenient access to critical site, account, card and transaction information. Available in multiple formats (Web-enabled and PC-based) and with a variety of capabilities, OPW's Phoenix family of software is designed to meet the unique needs of your application.

Integrated Fuel Management Equipment

Accurate. Dependable. Durable.

Fuel Controls

1. Petro Vend 100™
2. C/OPT™
3. K800™ Hybrid
4. DTC
5. FSC3000™

Tank Gauges

6. Integra 100™
7. Nano® Console
8. Integra 500™ & VSmart

Software

9. Phoenix® SQL
10. Phoenix SQL Lite™

Accessories

11. IP Authorization Gateway
12. 900 MHz Wireless Communications
13. Probes and Sensors
14. Aqueous Ethanol Float Sensor

*Pictured equipment do not represent OPW's full line of sensors. Refer to page 17 of this brochure for more information.

Fuel Site Controller & Fuel Island Terminals

FSC3000™ Fuel Site Controller

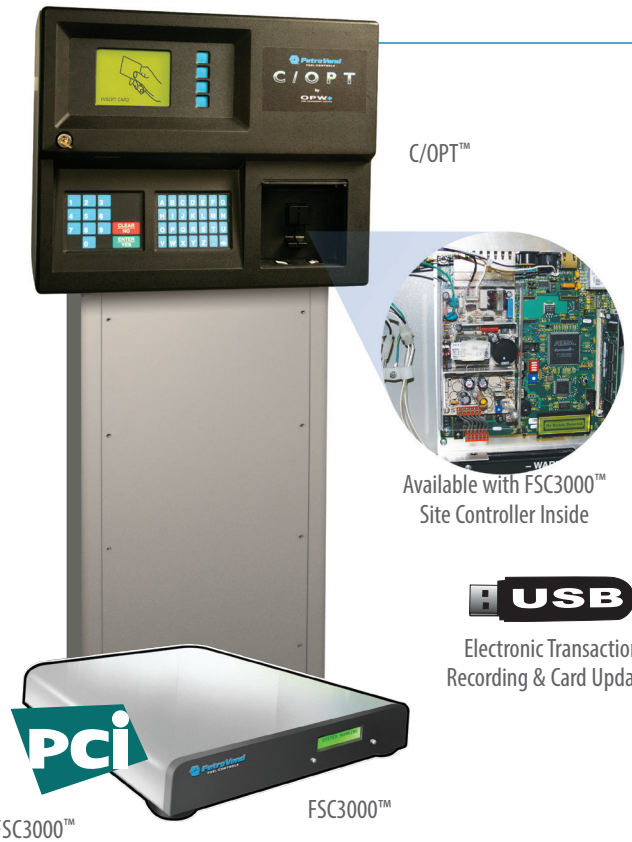
The FSC3000™ is the most comprehensive fuel site controller for fleet-fueling or petroleum-marketing applications. The FSC3000 tracks and reports fueling transactions and interfaces with a wide range of authorization and commercial fueling networks.

FSC3000™
NOW PCI PA-DSS COMPLIANT

NEW FEATURES!

Features and Benefits

- Can control up to 12 FITs or Dispenser Terminals (DTC) with a maximum of 32 hoses per site
- Optional Direct Pump Control communication via current loop for Gilbarco and Wayne dispensers or via RS-485 for Gasboy® dispensers
- Optional ChipKey® Read/Write Mileage Reasonability designed for multiple site operations to accurately track odometer readings
- **NEW!** Optional Dispenser Terminal Control allows communication to Gilbarco CRIND® and Wayne CAT in-dispenser card readers
- Optional Tiered Discounts designed to provide support based on Gasboy-formatted cards
- Optional Tiered Accounts for credit cards and/or proprietary cards/keys to set tiered pricing on a user-entered "Account" number
- **NEW!** Optional Cellular and Ethernet bridge devices allow communication to remote locations in order to facilitate updates and retrieval of transaction data
- Optional Future Media price-sign support
- The FSC3000™ interfaces with many authorization and commercial fueling networks to accept the following cards:
  - CFN, Bank Cards, TCH, Fuelman®/GASCARD, Comdata, NBS, Paymentech, Fleet One®, Wright Express®, T-Chek™, EFS, Pacific Pride and Buypass
- **NEW!** Optional IP Authorization Gateway, gives the FSC3000™ the capability to use a high-speed Internet connection instead of a dial-up phone line to authorize fleet and credit-card transactions with dial-up backup



C/OPT™

Available with FSC3000™ Site Controller Inside

USB

Electronic Transaction Recording & Card Updates

FSC3000™

FSC3000™
NOW PCI PA-DSS COMPLIANT

C/OPT™ Fuel Island Terminal

With the The FSC3000™ Fuel Site Controller now integrated within the Petro Vend C/OPT™ Fuel Island Terminal, the C/OPT™ delivers a stand-alone fuel control system that provides seamless, 24-hour fuel management to sites accepting commercial fleet or major bankcards.

Features and Benefits

- Available with FSC3000™ Fuel Site Controller inside
- Storage capacity for up to 64,000 cards and 2,000 transactions
- ADA-compliant pedestal height available
- Accepts dual readers, including magnetic, proximity and ChipKey®, for maximum flexibility and reliability
- Optional full alpha keypad allows entry of vehicle tags and other alpha information
- "Smart" weather shield automatically closes to protect card readers and receipt chute
- Fiber-optically lit keypads and LED backlit display enable easy viewing at night
- Optional thermal receipt printer
- USB memory key for transaction backup/transfer and updating card files in the FSC3000

Fuel Island Terminals

K800™ Hybrid Fuel Island Terminal

The K800™ Hybrid Fuel Island Terminal is a low-cost fuel management solution that is ideal for private fleets. This advanced terminal interfaces with many fueling networks and incorporates downloadable software for easy system upgrades.

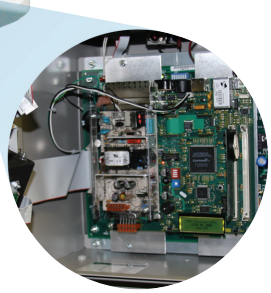
K800™ Hybrid Features and Benefits

- Available with FSC3000™ Fuel Site Controller inside
- Each FSC3000 can control up to 8 FITs with a maximum of 32 hoses per site
- Backlit LCD provides enhanced visibility in bright sunlight and at night
- Programmable prompts guide users through the fueling process
- Durable metal keypad, 16-gauge steel enclosure and thermostatically controlled heater enable reliable operation in the harshest environments

FSC3000™ Features and Benefits

- USB memory key enables transaction recording and card file updates
- Optional dial-up or cell modem allows communication to remote locations

K800™ Hybrid



Available with FSC3000™ Site Controller Inside

USB

Electronic Transaction Recording & Card Updates

FSC3000™

Petro Vend 100® Fuel Control System

Now featuring expanded hose and card capabilities, the Petro Vend 100® Fuel Control System is designed to grow with your application. With its quick installation and upgradeable feature set, the turnkey PV100® is a cost-effective fuel control solution for the needs of today and tomorrow — from start-up to scale-up.

Features and Benefits

- **NEW!** Scale up from 100 to 250 or 1,000 users and from 2 to 4 fueling points
- **NEW!** Dual card system now verifies both driver and vehicle information
- **NEW!** ChipKey®, magnetic card and proximity card/key upgrades enhance dispenser activation security
- 3 powder-coated aluminum pedestal sizes are available, including a size that meets Americans with Disabilities Act requirements
- Menu-driven configuration takes place at the terminal, eliminating the need for PC-required software
- Stand-alone system significantly reduces installation costs and eliminates the need for PC-required software
- Totalizes fueling for users
- Optional USB transaction recording for import into Excel, Phoenix® or other reporting software

NEW FEATURES!

Fuel Island Terminals & Dispenser Interfaces

K800™ Fuel Island Terminal

Petro Vend's K800™ Fuel Control System puts fuel site managers in complete control of their unattended fueling operations. This powerful system provides all the technology-enabled tools necessary to deliver efficient and effective management of fuel expenses.

Features and Benefits

- Up to four (4) K800™ Fuel Island Terminals (FIT) can be connected per location
- One K800 Fuel Site Controller (see below) stores transactions and connects peripherals

K800 Fuel Site Controller

- Controls up to 4 Fuel Island Terminals and 16 hoses simultaneously
- Can store, in memory, up to 10,000 cards and 1,800 transactions
- Menu-driven programming with on-screen help
- Serial communication ports for printer, PC and modem
- Desktop controller can also be conveniently wall-mounted
- Easily interfaces to existing PCs
- Dual card accountability allows tracking and reporting on drivers using multiple vehicles

Dispenser Terminal Control (DTC)

OPW's Dispenser Terminal Control (DTC) interface, which when connected to the FSC3000™ Fuel Site Controller, combines the convenience of a Gilbarco CRIND- or Wayne CAT-equipped retail fuel dispenser with the automated fuel-control functions of a commercial fuel site controller in one system. DTC interfaces directly to the Gilbarco or Wayne Distribution Box, eliminating the need for conduit wiring between the fuel island and building.

Features and Benefits

- DTC interfaces with the FSC3000 to emulate a fuel island terminal for each fueling position that is connected to the DTC system
- Supports Gilbarco CRIND and Wayne CAT in-dispenser card terminals
- Controls up to 12 in-dispenser card readers/terminals per system
- Automatically prompts for receipts
- Connects to pump manufacturer's distribution box, eliminating the costs of installing additional conduit and wiring from the pump
- Up to four in-dispenser card readers/terminals can be connected directly to the DTC interface, which eliminates the cost of a distribution box for smaller sites

Fuel Control System Connectivity

A Leading Number of Connectivity Options

OPW offers numerous options for accessing single site information or for communicating with multiple fueling locations. Using ARTWare™ or Phoenix® software, site managers can connect directly from the RS-232 serial port on an FSC3000™ to a PC or to a network through the Ethernet port. Access FSC3000 and site information via the dial-in modem or use any of OPW's convenient connection options presented here:

USB Key Two-Way Data Transfer

- Record your transactions in a Phoenix-ready file format using the USB port on the back of your FSC3000™
- When ready to poll, remove the USB key from the Fuel Site Controller, take it to the PC running the Phoenix software, and copy the file into the Phoenix/Data directory

Wireless Ethernet

- Provides wireless connection between an FSC3000 Site Controller mounted in the Fuel Island Terminal and a remote Ethernet connection
- Outdoor IP66-rated aluminum enclosure can be mounted on a pole or building
- 128-bit AES encryption for secure communications
- 900 MHz frequency ensures the best possible communication through obstructions such as building walls

IP Authorization Gateway

- When used with the FSC3000™, OPW's IP Authorization Gateway enables the FSC3000™ to securely connect to the Internet for faster transaction authorization (100 Mbps via IP networks vs. 24 Kbps over dial-up phone line)
- Unlike other converter devices, the IP Authorization Gateway is certified to communicate with payment processors such as Buypass, NBS and Paymentech™ and/or fleet card networks to accept a wide range of cards including:

- Bank Cards
- CFN
- TCH
- Fuelman®/GASCARD
- Comdata
- Fleet One®
- WEX®
- T-Chek™
- EFS
- Pacific Pride

Cellular Gateway

- Simple solution for communication to a site without an Internet connection
- Seamless integration with Phoenix® software for card updates and transaction polling
- Verizon or AT&T network plans available

900 MHz Wireless Communications

- A perfect data transmission alternative for sites where running communication conduit is either not practical or is cost-prohibitive
- Fuel Site Controller data is encrypted during transmission
- Install a wireless Petro-Net network to avoid these and other common obstructions: roads, railroad tracks, water lines, utility right-of-ways

Phoenix SQL® Fuel Management Software

Web-Enabled Software Is Ideal for Multi-Site Operations

Phoenix SQL®

Server-based and browser-enabled, Phoenix SQL® Fuel Management Software significantly simplifies fuel management for multi-site operations. With its remote access, clean navigation, comprehensive reports package and ability to export fuel inventory data in multiple formats, the PC-compatible Phoenix SQL helps reduce operating costs by creating data management efficiencies.

Features

- Server-based and browser-enabled, Phoenix SQL pairs the security of Microsoft servers with the convenience of mobile fuel management
- Phoenix SQL's comprehensive reporting options includes reports for sites, accounts, cards, transactions, products and more
- Compatible with Windows Server 2008, 2012 and 2014, Phoenix SQL leverages the proficiencies of Microsoft to provide fuel management software that is both user-friendly and reliable
- Interfaces directly with OPW's FSC3000™ Fuel Site Controller, OPW tank gauges, most third-party tank gauge systems, as well as most fleet maintenance and back-office software

VISIBILITY

Complete reports package includes comprehensive site reconciliation for accurate tracking of inventory levels

EFFICIENT

Software centralizes card database for multiple sites and polls multiple fuel control systems and tank gauges simultaneously

USER-FRIENDLY

With its intuitive interface, browser support, Windows® compatibility and the ability to export data in numerous formats, Phoenix SQL simplifies software interaction

VERSATILE

Phoenix SQL interfaces with most fleet maintenance and back-office software programs, enabling operators to fully maximize their fueling data

Reconciliation with OPW's Phoenix® Family of Fuel Management Software

All of OPW's family of Phoenix® fuel management software has the ability to account for any fuel dispensed while a fuel delivery is in progress. For example, if a fuel delivery of 1,000 gallons is taking place and Phoenix senses 300 gallons are simultaneously being dispensed, Phoenix's Reconciliation Report will account for this sale and clearly show the calculated fuel delivery was, in fact, 1,000 gallons.

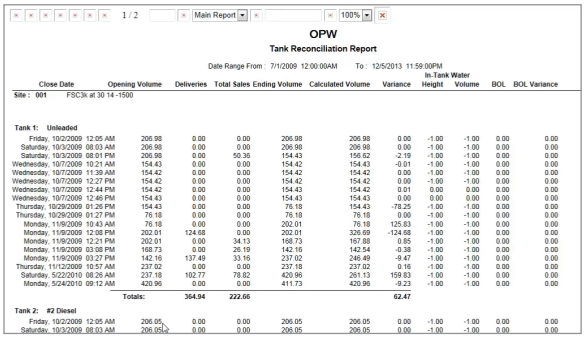
By automating manual reconciliation processes, Phoenix:

- Reduces the financial impact caused by unaccounted fuel losses
- Reduces data inaccuracies resulting from data collection or calculation errors
- Reduces labor costs associated with manual data gathering and calculation
- Improves compliance reporting management

Phoenix SQL® Fuel Management Software

Software Significantly Simplifies Inventory Management

EXPORT DATA IN MANY FORMATS


OPW

Tank Reconciliation Report

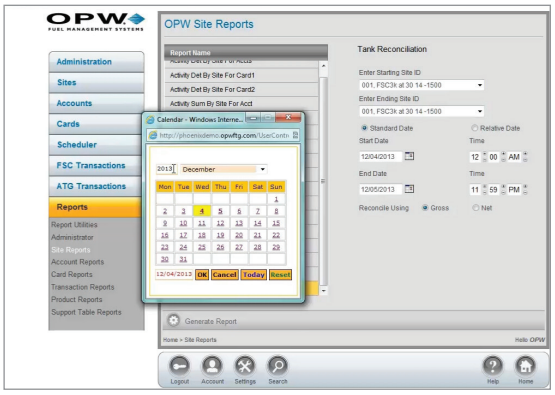
Date Range From : 7/1/2009 12:00:00AM To : 12/5/2013 11:59:00PM

Close Date	Opening Volume	Deliveries	Total Sales	Ending Volume	Calculated Volume	Variance	In-Tank Water Height	In-Tank Water Volume	BOL	BOL Variance
Site : 001 FSC3k at 30 14 -1500										
Tank 1: Unleaded										
Friday, 10/2/2009 12:05 AM	206.98	0.00	0.00	206.98	206.98	0.00	-1.00	-1.00	0.00	0.00
Saturday, 10/3/2009 08:03 AM	206.98	0.00	0.00	206.98	206.98	0.00	-1.00	-1.00	0.00	0.00
Saturday, 10/3/2009 08:01 PM	206.98	0.00	50.36	154.43	156.62	-2.19	-1.00	-1.00	0.00	0.00
Wednesday, 10/7/2009 10:21 AM	154.43	0.00	0.00	154.42	154.43	-0.01	-1.00	-1.00	0.00	0.00
Wednesday, 10/7/2009 11:39 AM	154.42	0.00	0.00	154.42	154.42	0.00	-1.00	-1.00	0.00	0.00
Wednesday, 10/7/2009 12:27 PM	154.42	0.00	0.00	154.42	154.42	0.00	-1.00	-1.00	0.00	0.00
Wednesday, 10/7/2009 12:44 PM	154.42	0.00	0.00	154.43	154.42	0.01	0.00	0.00	0.00	0.00
Wednesday, 10/7/2009 12:46 PM	154.43	0.00	0.00	154.43	154.43	0.00	0.00	0.00	0.00	0.00
Thursday, 10/29/2009 01:26 PM	154.43	0.00	0.00	76.18	154.43	-78.25	-1.00	-1.00	0.00	0.00
Thursday, 10/29/2009 01:27 PM	76.18	0.00	0.00	76.18	76.18	0.00	-1.00	-1.00	0.00	0.00
Monday, 11/9/2009 10:43 AM	76.18	0.00	0.00	202.01	76.18	125.83	-1.00	-1.00	0.00	0.00
Monday, 11/9/2009 12:08 PM	202.01	124.68	0.00	202.01	326.69	-124.68	-1.00	-1.00	0.00	0.00
Monday, 11/9/2009 12:21 PM	202.01	0.00	34.13	168.73	167.88	0.85	-1.00	-1.00	0.00	0.00
Monday, 11/9/2009 03:08 PM	168.73	0.00	26.19	142.16	142.54	-0.38	-1.00	-1.00	0.00	0.00
Monday, 11/9/2009 03:27 PM	142.16	137.40	33.16	237.02	246.49	-9.47	-1.00	-1.00	0.00	0.00
Thursday, 11/12/2009 10:57 AM	237.02	0.00	0.00	237.18	237.02	0.16	-1.00	-1.00	0.00	0.00
Saturday, 5/22/2010 08:26 AM	237.18	102.77	78.82	420.96	261.13	159.83	-1.00	-1.00	0.00	0.00
Monday, 5/24/2010 09:12 AM	420.96	0.00	0.00	411.73	420.96	-9.23	-1.00	-1.00	0.00	0.00
Totals:		364.94	222.66			62.47				
Tank 2: #2 Diesel										
Friday, 10/2/2009 12:05 AM	206.05	0.00	0.00	206.05	206.05	0.00	-1.00	-1.00	0.00	0.00
Saturday, 10/3/2009 08:03 AM	206.05	0.00	0.00	206.05	206.05	0.00	-1.00	-1.00	0.00	0.00

.csv .sdf .xls .xml

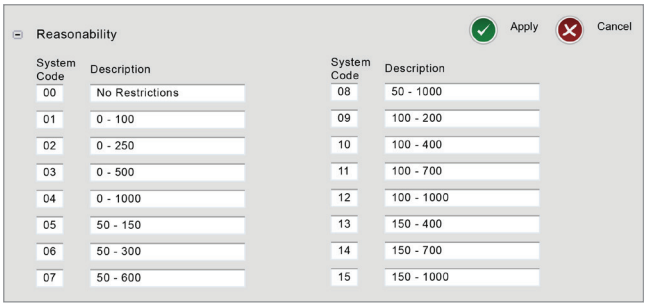
The ability to export data in CSV, SDF, Excel or XML formats provides users flexibility with bookkeeping and compliance reporting procedures.

COMPLETE REPORTS PACKAGE



Phoenix SQL's comprehensive reporting options include reports for sites, accounts, cards, transactions, products and more.

TRACKING AND ACCOUNTABILITY

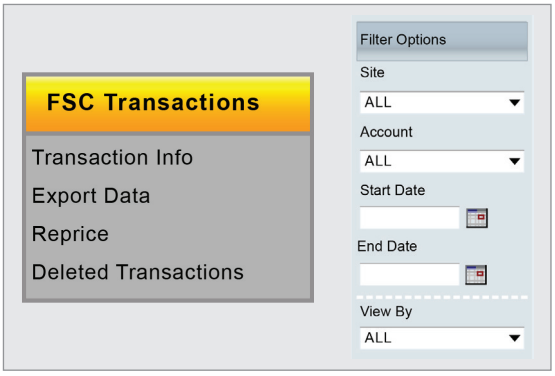

Reasonability

Apply Cancel

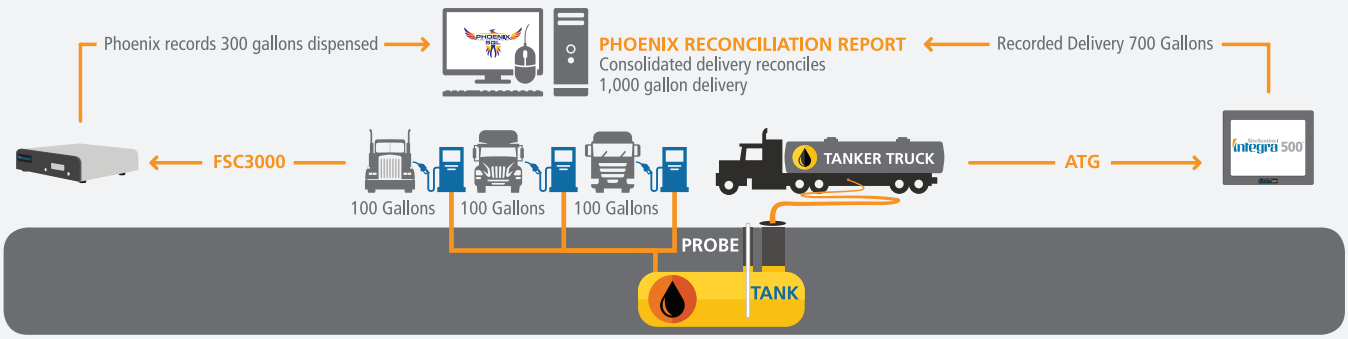
System Code	Description	System Code	Description
00	No Restrictions	08	50 - 1000
01	0 - 100	09	100 - 200
02	0 - 250	10	100 - 400
03	0 - 500	11	100 - 700
04	0 - 1000	12	100 - 1000
05	50 - 150	13	150 - 400
06	50 - 300	14	150 - 700
07	50 - 600	15	150 - 1000

Phoenix SQL simplifies fueling authorization, tracking and accountability. For example, set a reasonability range for miles traveled that will flag instances outside the scope of a predetermined range.

EASILY MANAGE TRANSACTIONS



With the ability to view, add, edit, delete, export and re-price transactions, fuel site managers can easily track fueling transactions and quickly make pricing adjustments.



Phoenix SQL Lite™ Fuel Management Software

PC-Based Software Is Easy to Install, Learn and Use

Phoenix SQL Lite™

Phoenix SQL Lite™ PC-based software leverages Microsoft SQL Express to deliver comprehensive site reconciliation and powerful data management capabilities from a user-friendly Windows® interface. Phoenix SQL Lite has all of the features of Phoenix SQL, but as a standalone Windows application (as opposed to a web-based application) it is designed for single-user, PC-based fuel management that is typical of many small and mid-size fleets.

Features

- Compatible with Windows® 7, 8 and 10, Phoenix SQL Lite easily installs on PCs to perform essential fuel management tasks such as reconciliation, on-demand or scheduled transaction polling and more
- Phoenix SQL Lite's comprehensive reporting options includes reports for sites, accounts, cards, transactions, products and support tables
- Interfaces directly with OPW's FSC3000™ Fuel Site Controller, OPW tank gauges, most third-party tank gauge systems, as well as most fleet maintenance and back-office software
- Custom importing eliminates manual data input while custom exporting maximizes card data for use in fleet maintenance and billing software

ROBUST REPORTING

Complete reports package provides visibility of inventory levels, users' fueling activity and much more to help fleet managers reduce unaccounted fuel losses

EASY TO INSTALL

Software can be quickly downloaded from OPW's website (or optionally via a flash drive) and is easily installed on Windows PCs without complicated configuration requirements

USER-FRIENDLY

Software's clean and simple graphical user interface is easy to navigate, while a supportive "Help" feature guides user through common programming tasks

VERSATILE

Phoenix SQL Lite interfaces with most fleet maintenance and back-office software programs, enabling operators to fully maximize their fueling data

Phoenix SQL Lite™ and Phoenix SQL® Comparison

With their extensive feature set, Phoenix SQL Lite™ and Phoenix SQL® simplify fuel management for fuel sites of every size.

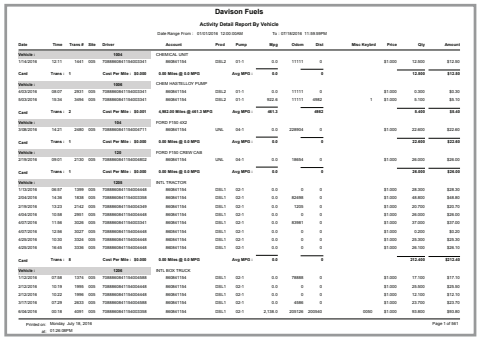
Phoenix SQL Lite™

- Ideal for small- to medium-size operations
- Hosted on local PC
- Compatible with Windows® 7, 8 and 10
- Custom card import/export

Phoenix SQL Lite™ Fuel Management Software

User-Friendly Software Streamlines Fuel Management

EXPORT DATA IN MANY FORMATS



.csv .sdf .xls .xml

The ability to export data in CSV, SDF, Excel or XML formats provides users flexibility with bookkeeping and compliance reporting procedures.

COMPLETE REPORTS PACKAGE

- Site Reports
- Transactions Reports
- Account Reports
- Product Reports
- Card Reports
- Support Tables Reports

Phoenix SQL Lite's comprehensive reporting options include reports for sites, accounts, cards, transactions, products and support tables.

CUSTOM IMPORTING AND EXPORTING

Phoenix SQL Lite's custom import feature eliminates manual data entry that is often required when configuring a new database. The software's ability to custom export data enables users to choose which fields they want to import into fleet maintenance software or billing software.

HELP IS JUST A CLICK AWAY

Phoenix SQL Lite provides a supportive "Help" tool that guides users through common programming tasks.

Phoenix SQL®

- Ideal for fuel sites of all sizes, particularly for multi-site operations
- Browser-enabled for mobile management
- Compatible with Windows® 7 32/64 bit, Windows® 8.1 32/64 bit, Windows® Server 2008 RC2, Windows® Server 2012, Windows® Server 2012 RC2
- Allows for the creation of "Fuel Zones" to limit where fleet cards can fuel

Phoenix SQL Lite™ and Phoenix SQL®

- Export formats include CSV, SDF, Excel and XML
- Compatible with OPW's FSC3000™ Fuel Site Controller-based systems
- Interfaces to most fleet maintenance and back office software
- Complete reports package

Fuel Control System Features

A Comparison of OPW's Fuel Control Family

	FEATURE	C/OPT™	K800™ HYBRID	K800™	PV100®
ISLAND TERMINALS	Magnetic Card Reader	STD	STD	STD	OPT
	ChipKey® Reader	OPT	OPT	OPT	OPT
	Proximity Card/Key Reader	OPT	OPT		OPT
	Dual Readers	OPT			
	Text Display		STD	STD	
	Graphics Display	STD (5-inch B&W)			STD (5-inch Monochrome)
	Receipt Printer	OPT			
	Alphanumeric Entry	OPT	OPT		
	Wireless Petro-Net™	OPT	OPT	OPT	
	Enclosure and Pedestal	Terminal: Painted Steel Pedestal: Aluminum	Painted Steel	Painted Steel	Terminal: Painted Steel Pedestal: Aluminum
	Internal Fuel Site Controller	OPT	OPT		STD
	Internal Pump Controller	OPT (Up to 8 hoses/FIT)	OPT (Up to 4 hoses/FIT)	OPT (Up to 4 hoses/FIT)	STD (2 hoses) OPT (4 hoses)
FUEL SITE CONTROLLERS	Direct Pump Control	OPT	OPT		
	USB Key Two-Way Data Transfer	OPT	OPT		STD
	Wireless Petro-Net™	OPT	OPT	OPT	
	Wireless Ethernet	OPT	OPT		
	Cell Modem Communication	OPT	OPT		
	Fleet Card Network Support	OPT	OPT		
	Credit Card Network Support	OPT	OPT		
	IP Authorization Gateway	OPT	OPT		

SiteSentinel® Integra 100™ and 500™ Tank Gauges

Robust Tank Gauging For Fuel Sites of Every Size

SiteSentinel® Integra 100™ Tank Gauge

The SiteSentinel® Integra 100™ supports OPW's innovative Multi-drop Technology which lowers installation costs by allowing multiple sensors and leak-detection devices to be run back to the gauge via a single wire. All digital devices are automatically detected and configured by using the large touchscreen interface, making it one of the easiest ATG systems to install, configure and use.

Features and Benefits

- Capable of monitoring up to 16 probes or 64 sensors or combination thereof, the Integra 100 is ideal for operations that need a full-featured tank gauge
- OPW's Multi-drop Technology reduces the number of home runs needed to tanks and dispensers by allowing multiple sensors and leak detection devices to be run back to the gauge on one wire, which reduces conduit, wire and installation costs
- A streamlined upgrade process to the Integra 500™ makes the Integra 100 the perfect gauge for sites that intend to expand
- The gauge's large touchscreen and user-friendly software are easy to use, while remote access capabilities allow interaction with the gauge from any location
- Optional Statistical Leak Detection (SLD) provides continuous automatic in-tank leak-detection operation with no need to schedule test times or shut down tanks

The Integra 100 tank gauge provides real-time, accurate inventory information.

SiteSentinel® Integra 500™ Tank Gauge

The SiteSentinel® Integra 500™ represents the fueling industry's most powerful tank gauge. With the ability to communicate with a wireless VSmart, which has an external NEMA 4-Class wiring enclosure that can be mounted on the forecourt, the Integra 500 can monitor more probes and sensors than any gauge on the market. This allows for a drastic reduction in the wiring and labor needed for installation.

Features and Benefits

- Capable of monitoring up to 32 probes and 256 sensors, the Integra 500 is ideal for aboveground storage tank applications, bulk storage and large fueling sites
- SiteSentinel® VSmart compatibility gives the Integra 500 an extra barrier position
- OPW's Multi-drop Technology enables multiple probes and sensors to be run back to the gauge on one wire, which significantly reduces labor and conduit expenses
- Automatic Calibration and Reconciliation (ACR) ensures in-depth and up-to-the-moment fuel monitoring
- Line Leak Detection (LLD) measures volume changes in product piping and will activate an alarm if a leak is detected, helping to prevent costly compliance issues
- Optional Statistical Leak Detection (SLD) provides continuous automatic in-tank leak-detection operation with no need to schedule test times or shut down tanks
- Remote access, a large touchscreen and downloadable and Flash upgradeable software make the Integra 500 an easy tank gauge to install, configure and use

The Integra 500's VSmart compatibility gives the tank gauge an extra barrier position.

SiteSentinel® Nano® Console

Cost-Effective Inventory & Compliance Monitoring

The SiteSentinel® Nano®

OPW's SiteSentinel® Nano® Console provides simplified, cost-effective inventory and compliance monitoring for retail and commercial fuel sites. With an intuitive touchscreen interface, user-friendly data display settings and sensor support, the Nano is an easy-to-use, right-sized tank-monitoring console for small and mid-size fuel sites.

Applications

- Provides accurate, real-time inventory data and reporting for commercial and retail fuel sites
- Delivers streamlined leak monitoring for sites with double-wall tanks and lines
- Monitor up to 12 probes or 24 smart sensors or a combination of both, while OPW's Mixed Multi-drop Technology reduces installation costs by minimizing the wiring and labor needed for quick site install

INTUITIVE

The gauge's color touchscreen provides easy access to inventory, compliance, delivery, warnings and alarms

COST-EFFECTIVE

With streamlined compliance monitoring and cost-saving multi-drop technology, the Nano delivers the performance sites need at a cost-effective price point

USER-FRIENDLY

The Nano's user-friendly software offers a calendar view and a "Favorites" list for quick recall of the most-used filters

CONVENIENT

Online access enables off-site training as well as remote monitoring of leak detection, inventory and compliance information

Specifications

- Dimensions: 8.3 in H x 12.8 in W x 2.4 in D (21 cm H x 32.5 cm W x 6 cm D)
- Power: 120/240 VAC +/-10%, 50/60 Hz, 30 W
- Operating Temperature Range: 32°F to 122°F (0°C to 50°C)
- Display: 7.1 inches (18 cm) color LCD
- Graphical user interface
- Printer: External USB
- Alarm Notifications: Email, SMS
- Standard Alarms: Buzzer, Light and Acknowledge
- Optional Alarms: External Tank Alert (internal relay)
- Network Connectivity: DHCP/static addressable RJ-45 Ethernet ports, supports corporate and local LANs
- Ports:
  - One (1) RS-232, one (1) RS-485 and one (1) RS-422 communication port
  - One (1) Ethernet port
  - Two (2) USB ports
  - Two (2) Internal inputs
  - Two (2) Internal outputs

SiteSentinel® Nano® Console

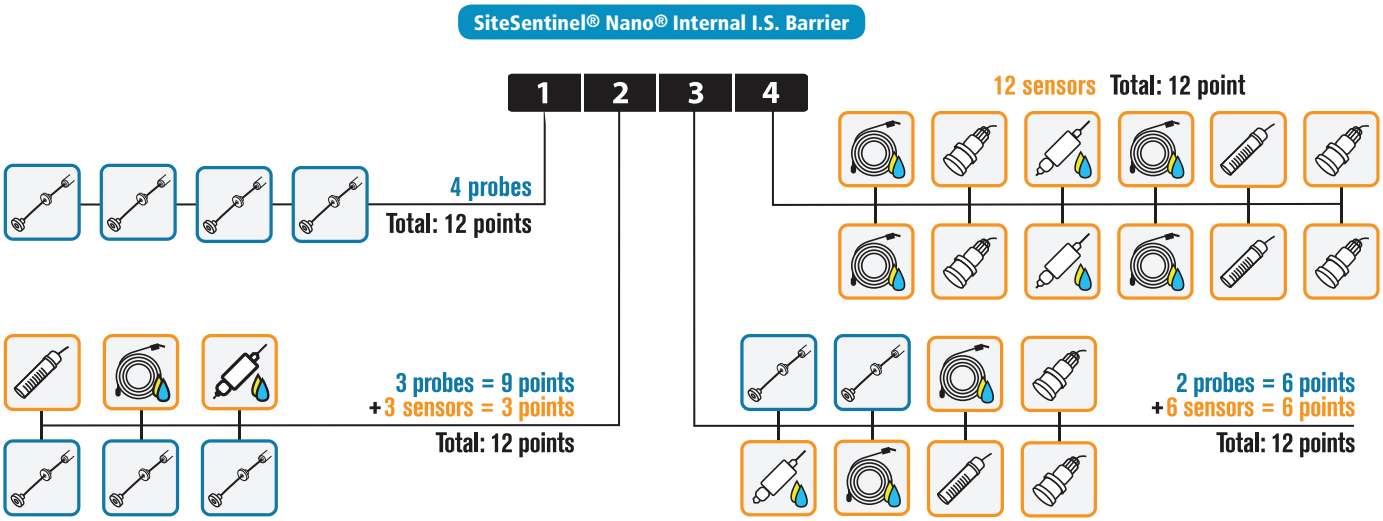
Mixed Multi-drop Technology Reduces Wiring Runs

OPW's mixed multi-drop technology allows probes and sensors to be run on one wire back to a tank gauge. With mixed multi-drop, the SiteSentinel® Nano® can hold up to 12 probes or 24 sensors in any number of combinations. Possible combinations are driven by a point system:

1 PROBE = 3 Points

1 SENSOR = 1 Point

Each of the Nano's four barrier positions can hold a total of 12 points, which can be obtained by 4 probes, or 12 sensors or a combination of probes and sensors.



SiteSentinel® Tank Gauge and Competitor Gauge Comparison

	OPW			COMPETITOR A		COMPETITOR B	
	SiteSentinel® Integra 100™	SiteSentinel® Integra 500™	SiteSentinel® Nano®	Tank Gauge 1	Tank Gauge 2	Tank Gauge 1	Tank Gauge 2
Static Test .1 or .2 (standard out-of-the-box)	Yes	Yes	Yes	✓	✓	✓	✓
Email (standard out-of-the-box)	Yes	Yes	Yes	X	X	X	X
Text Messaging (standard out-of-the-box)	Yes	Yes	Yes	X	X	X	X
RS 232/485/422 (standard out-of-the-box)	Yes	Yes	Yes	X	X	✓	✓
TCP/IP (standard out-of-the-box)	Yes	Yes	Yes	X	X	✓	✓
USB Connection (standard out-of-the-box)	Yes	Yes	Yes	X	X	X	X
Touchscreen	15" screen	15" screen	7.1" screen	X	✓	✓	✓

Probes

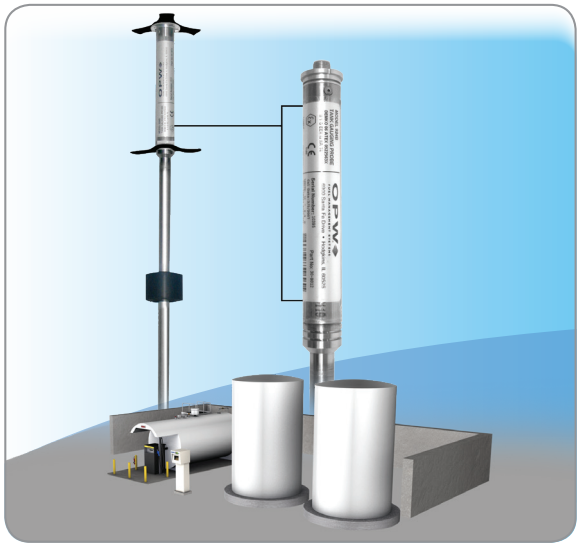
Precise Product Measurement for USTs and ASTs

Model 924B Magnetostrictive Probe and Model 924B Inventory-Only Probe

OPW's Model 924B Magnetostrictive Probe and Model 924B Inventory-Only Probe deliver highly accurate measurement of fuel inventories. The 924B Inventory-Only Probe, which is available in 12- to 20-foot lengths, is designed for large and above ground storage tanks. The 924B Probe, which is available in lengths from 53 inches to 149 inches, also provides in-tank leak detection*. Both models feature stainless steel, welded construction for reliable operation in any gasoline, diesel, ethanol or biodiesel application.

Features and Benefits

- Five-point temperature sensing element provides temperature compensation for product volume contraction and expansion, allowing for accurate inventory management
- Can be used with 2- or 4-inch risers (5.1 cm to 10.2 cm)
- Inventory-Only Probes are available in 12- to 20-foot lengths (3.7 to 6 meters). Available in 6-inch (15.2 cm) increments only
- 924B Probes are available in 53-inch to 149-inch lengths
- Can be multi-dropped
- Probe can be configured with or without a water float
- Optional Density Float provides a measure of all changes in product density within the specified API density range



- Measures product level changes to a resolution of 0.0005 inches (0.0127 mm)
- Measures water level changes to a resolution of 0.01 inches (0.254 mm)
- Linearity over the entire probe length is ±0.04 inches (±1 mm)
- Measures product temperature changes to a resolution of 0.2° F (0.1° C)
- EPA Static Leak and Continuous Test Certified*

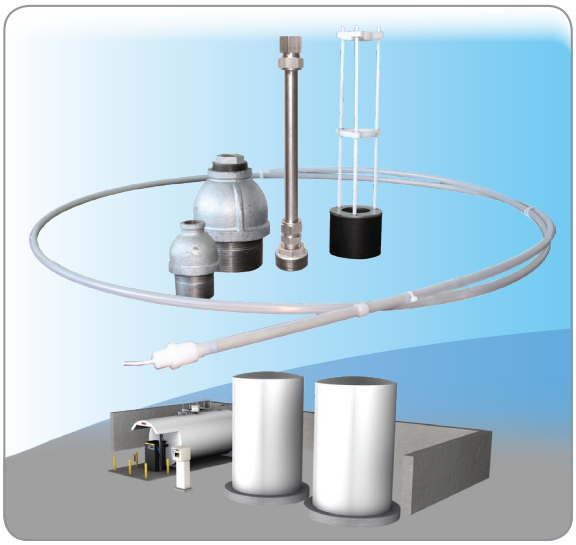
**Leak detection is available on the 924B Probe only (not the inventory-only model).*

Model 7100V AST Flex Probe

The 7100V Series flexible probe, using OPW's industry-leading, field-proven magnetostrictive technology, allows greater precision and reliability in measuring aboveground storage tank product levels. This probe is ideal for liquid-level monitoring of product and water levels in a wide variety of liquids in ASTs, including gasoline, diesel, ethanol, biodiesel and lubricants. The 7100V Series can be outfitted with a low-level inventory-only float kit, giving the operator inventory visibility to the bottom of the tank.

Features and Benefits

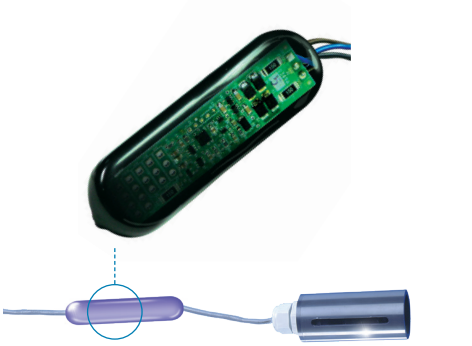
- Available in lengths from 12 to 70 feet (3.7 to 21 meters)
- Advanced water float detects a minimum of 2.5 inches (6.4 cm) of water in the bottom of a tank, ensuring product quality
- Linearity: +/- 0.01% of full scale, +/- 0.010 inch (.254 mm), whichever is greater
- Resolution: 0.01-inch Inventory Mode
- Repeatability: +/- 0.001% of Full Scale, +/- 0.00025 inch (.0064 mm), whichever is greater



- Temperature Accuracy: Absolute +/- 2° F (+/- 1° C)
- Maximum Tank Capacity: 99,999,999 gallons (378,541,175 liters)

IntelliSense™ Technology

Sophisticated Sensors Streamline Installation & Maintenance



IntelliSense™ Technology daisy-chains sensors for cost-savings and streamlined maintenance.

IntelliSense™ Technology for SiteSentinel® Tank Gauges

OPW's IntelliSense™ Technology enables interstitial/annular, STP sump, monitoring well and dispenser pan sensors to be multi-dropped during installation. An IntelliSense "smart" sensor daisy-chains fuel site monitoring sensors, eliminating a wiring home-run for each sensor back to the tank gauge. By interfacing all of the sensors through a single 3-core cable connection, wiring and conduit costs are reduced. The wiring efficiencies also reduce labor requirements, helping fuel sites minimize downtime.

In addition, the IntelliSense Technology communicates sensor connection statuses to SiteSentinel tank gauges. Upon installation of sensors, the tank gauge records the serial number, date and time sensors will need to be replaced, effectively eliminating the guesswork that is frequently experienced with sensor maintenance.

OPW offers a comprehensive line of sensors engineered to detect liquid and hydrocarbons:

Sump Sensor, Float Switch

- Detects liquid in sumps, dispenser pans and other locations where its very presence could indicate a leak has occurred

SiteSentinel® iTouch™ Part Number: 30-3221-1
SiteSentinel® Integra™ Smart Part Number: 30-0231-L

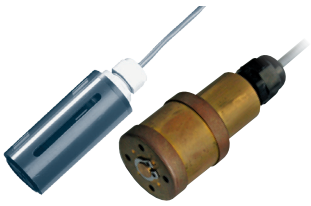
Discriminating Dispenser Pan Sensor

- Detects liquid hydrocarbons in STP sumps, dispenser pans and other locations where their very presence could indicate a leak has occurred

SiteSentinel® iTouch™ Part Number: 30-3219-12
SiteSentinel® iSite™/Integra™ Smart Part Number: 30-0232-DH-10 and 30-0232-DH-20

Liquid Only Interstitial Sensor

- Used primarily in the interstitial area of double-wall tanks
- Can also be used in sumps and dispenser pans
- Contains a float switch that activates in the presence of liquid



SiteSentinel® iTouch™ Part Numbers: 30-3221-1A and 30-3221-1B
SiteSentinel® Integra™ Smart Part Numbers: 30-0230-S

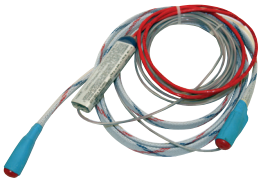
Fuel/Water Interstitial Sensor

- Designed for use in the interstitial area of a double-wall tank
- Sensor easily installs and discriminates between fuel and water

SiteSentinel® iTouch™ Part Number: 30-3206
SiteSentinel® Integra™ Smart Part Number: 30-0234-HW-01

Fuel/Water Monitoring Well Sensor

- Used in monitoring wells with fluctuating ground water tables
- Detects and discriminates between hydrocarbon liquid and water



SiteSentinel® iTouch™ Part Numbers: 30-3210-06, 30-3207-10 and 30-3207-15
SiteSentinel® iSite™/Integra™ Smart Part Number: 30-0234-HW-06, 30-0234-HW-15 and 30-0234-HW-20

Hydrocarbon Vapor Sensor

- Detects hydrocarbon vapors in monitoring wells and the interstitial areas of a double-wall tank

SiteSentinel® iTouch™ Part Number: 30-3222
SiteSentinel® Integra™ Smart Part Number: 30-0235-V

Aqueous Ethanol Float Sensor

First Line of Defense Against Phase Separation

The Aqueous Ethanol Float Sensor

The Aqueous Ethanol Float Sensor provides early detection of unstable water levels inside tanks. Unlike competing aqueous ethanol detection devices, OPW's AEF sensor's density readings are temperature-corrected, which prevents false phase separation alarms. Programmable thresholds allow corrective actions to be deployed before phase separation — and costly inventory losses — occur.

Applications

- Provides early detection of water intrusion by sensing water level changes (at 5/16 inch) and product density fluctuations at bottom of the tank
- Compatible with rigid probe applications
- Monitors ethanol blends ranging from E10 to E85
- Program tank gauge alarms to activate at specific density thresholds

PRECISE

Detects water-level and product density changes almost 4 times earlier than competing devices and eliminates false phase separation alarms

RESPONSIBLE

Preventing fuel contamination helps petroleum marketers minimize financial losses and maintain customer loyalty

FLEXIBLE

Programmable density thresholds enable corrective actions to be deployed in a time frame that provides maximum operational uptime

COMPATIBLE

The AEF Sensor, which monitors ethanol bends from E10 to E85, seamlessly integrates with OPW tank gauging equipment

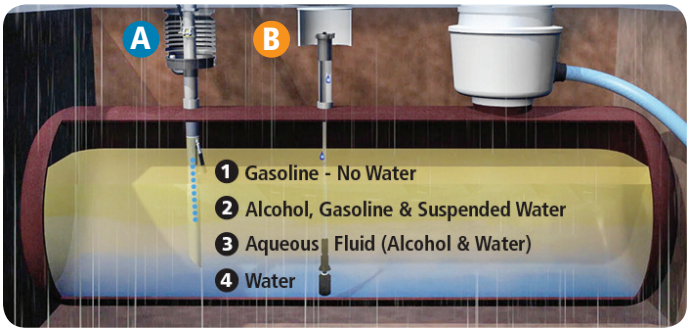
How Water Sabotages Fuel Inventory Through Phase Separation

Water is the enemy of fuel. It can enter tanks in two ways:

A The spill container during fuel delivery

B A bad riser cap gasket or service fitting

It takes very little water to ruin inventory. In 10,000 gallons of E10, it takes as little as 40 gallons of water to cause phase separation, a condition when the ethanol becomes over-saturated and can no longer be suspended in the gasoline. This can lead to four distinct layers of inventory.



327 Volumetric Line Leak Detector

Definitive Volumetric Line Leak Monitoring

327 Volumetric Line Leak Detector

Utilizing a highly accurate flow dispenser, the 327 Volumetric Line Leak Detector provides an industry-leading method for detecting and measuring leaks in fuel lines. The VLLD can test volumes for pipes measuring from 1.5 inches to 4 inches (3.8 cm to 10.2 cm) in diameter (the largest pipe in the industry), and can monitor rigid pipe, flexible pipe or a combination of both, making the VLLD the ideal leak detection solution for any site configuration.

Applications

- Able to perform >3 gph (11.4 L/hr) catastrophic line leak test, even if a submersible turbine pump motor is in continuous operation
- Capable of connecting three VLLD sensors via one three-conductor wire back to the building and capable of controlling two separate STP motors installed in the same tank
- Can control up to four STP motors within a single-line manifold set
- Configurable for STP motor control as a way to bring all tanks in a manifold set down evenly

ACCURATE

Compared to pressure-decay methods that use algorithms and user data to determine flow rates, the VLLD reads actual flow volumes to provide a true volumetric line leak measurement

VERSATILE

The VLLD works with a combination of fiberglass and flex pipe and can measure leak rates for the largest pipes in the industry

ECONOMICAL

Line Leak Interface Module is mounted separately near STP motor relays to eliminate the need to run pump-control wires back to the tank gauge console

USER-FRIENDLY

Easy to install in the 2-inch (5.08 cm) STP leak detector port, the VLLD eliminates the need to know exact line lengths or diameters of underground pipes and does not sacrifice SLD tank idle time to run the line test

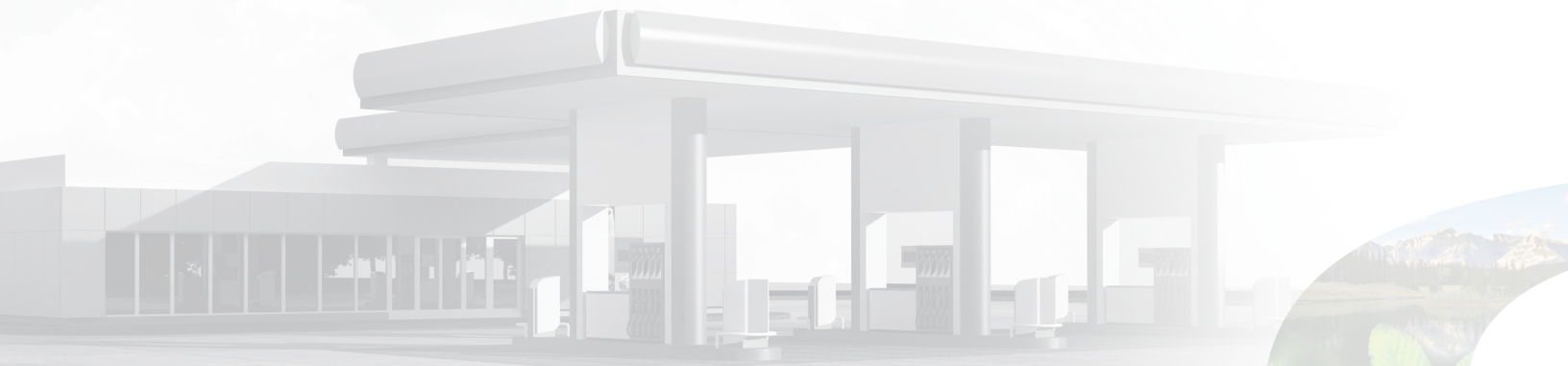
Specifications

- Capable of >3 gph (11.4 L/hr) catastrophic line leak test, even if an STP relay fault condition occurs where the STP motor is in a continuous run state
- Capable of testing the largest pipe volume in the industry [1.5-inch (3.8 cm), 2-inch (5.1 cm), 3-inch (7.6 cm), and 4-inch (10.2 cm) pipe]
- Will shut off STP motor if a low-level alarm or probe failure has occurred
- Runs precision tests at the pump's operating pressure
- Programmable to run an optional monthly 0.2 gph (0.76 L/hr) or annual 0.1 gph (0.38 L/hr) compliance test
- Material: Hardened Anodized Aluminum
- Location: Hazardous, Class 1, Division 1, Group D
- Temperature Range: -40°F to 140°F (-40°C to 60°C)
- Data Cable: 1,000 feet (305 m) Belden 88760; 500 feet (152 m) maximum Belden 88761

OPW

A DOVER COMPANY

Leading The Way *in Fluid Handling Solutions Worldwide*



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