

# **Storage Tank Monitoring**

LevelVolumeTemperature



Sophisticated, yet simple.

Printed in Canada

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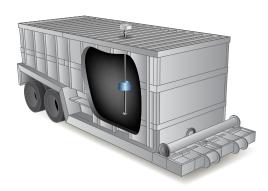
#### **SEELEVEL III** ™ Tank Monitoring System

#### Our solution puts you in control.

Garnet's **SEELEVEL** II ™ tank fluid monitor is a microprocessor-based digital system that measures the fluid level, volume and temperature in storage tanks. Garnet's self-powered engineered system will operate reliably for years on battery power making it ideal to operate in remote sites with stationary tanks, frac tanks and poly tanks.

- ✓ Intrinsically safe
- ✓ CSA approved
- √ Fully digital
- ✓ Battery-powered
- ✓ Temperature sensing
- √ No recalibration required
- ✓ Built-in diagnostics
- ✓ Programmable alarms
- ✓ Security settings
- ✓ Communication options







### **SEELEVEL** TM Sender Bar

#### Proven design for reliable, ultra accurate measuring.

Garnet's **SEELEVEL** ™ float system is a proven design giving reliable measurement that provides continuous readings with greater accuracy. The use of Garnet's digital design rather than analog sensing lowers power consumption to permit better operation with no reading drift or degradation.

#### **Float Systems**



- Floats ride on the liquid surface, partially submerged, unaffected by foam produced by some products which provides a true accurate level of the liquid.
   Float movement is the only moving part.
- Precise level measurement can prevent spills and also control of when the vessel needs to be refilled.
- Continuous level measurement is ideal for clients who need to manage product volume for inventory control.
- Garnet's superior reed switch based technology uses a proven magnetic float to digitally calculate the fluid level in the tank.
- Floats work very well in a wide variety of liquids.
- By design, the clearance between the float and sender bar avoids build-up, preventing false readings.
- Tank materials are not a factor in float operation.



900-PT Sender Bar 900-SST Sender Bar

## **SEELEVEL II** <sup>™</sup> Sender Bar Options

#### Increase your performance with a rugged, safe solution.

The **SEELEVEL** ™ sender bar is mounted vertically in the tank with the float sliding up and down in accordance with the fluid level (two floats for interface applications \*). The sender bar measures and sends the fluid level, volume and temperature information through plastic optical fibre to the display providing electrical isolation for hazardous environments.



Model 900SST

#### **Intrinsically safe and robust**

- Garnet's intrinsically safe sender bar is Class I, Div 1 CSA certified. A weatherproof enclosure at the top of the bar is for fiber optic interconnection and battery access.
- Operates for up to 5 years from a lithium battery module providing ultra-low power usage. Servicing can be done without powering down gauge or making the area non-hazardous.
- Electronics housed within a 1" corrosion resistant sealed tube running from the bottom to the top of the tank.
- Integrated product temperature measurement; no additional sensors are required. Temperature range is -40 °C to +90°C (-40 °F to +194 °F).
- Fully digital system with ¼" (6 mm) measurement increments ± ½" (3 mm) accuracy. The fixed reed positions inside the bar eliminates sender bar recalibration.

# \*

Polyethylene Sender Bar Model 900PT

#### **Configurable to your tank applications**

- A stainless steel bar option is suitable for portable, mobile and fixed location tanks.
- A polyethylene sender bar option is flexible and can be coiled up for shipping and to ease installation in tall tanks.
   Poly yields a lower cost per foot than stainless steel. Due to reduced rigidity, this version is best suited for fixed location tanks.
- Bar length can be customized to fit tall or short tanks.
- Several corrosion resistant float sizes and types available to facilitate easy installation with various fluids. Optional water/oil interface level available using a weighted float \*.
- Both weighted and welded in bottom anchors available to suit the application, including tank in-service kits.

# **SEELEVEL II** <sup>™</sup> Display Options

#### Integration choices ready for your application.

Depending on your requirements for level management and related equipment, multiple configurations are available for single, dual, quad or interface tank applications. Each model has select communication output and digit readout options.



#### **Model 900-D4**

**Readouts**: Four digits

Batteries: Four standard alkaline "AA" cells, lasts 3 to 5

years

**Configurations available**: Single, Dual, and Interface. Remote communication options: Analog 4-20 mA or 1-5 V outputs for each volume and temperature, and Modbus digital communications. These options allow remote monitoring via wired connections, which must

provide the required external power.





#### **Model 900-D6**

**Readouts**: Five digits

**Batteries**: Four to eight standard alkaline "D" cells or Lithium "AA" cells, lifetime can vary between one and five years depending on communication options and the frequency of reporting.

Configurations available: Single, Dual, Quad, and

Interface.

Remote Communication Options: Modbus, Wireless and WITS/Pason. These options allow remote monitoring in both wired (external power required) and stand-alone battery powered applications.



# **SEELEVEL** II ™ Display Operation

#### Control your data where and when you need it.

The **SEELEVEL** ■ <sup>™</sup> display receives the information from the sender bar via fiber optic, translates the signal into volume and temperature in accordance with the tank size. Data can be viewed easily on the LCD screen in the daytime as well as at night right on-site with the push of a button. Installation and servicing are simplified with built-in diagnostics.

#### **Higher accuracy increases efficiency**

 Accurately displaying fluid level in user-defined units and other data increases process efficiency by preventing extra costs due to unnecessary refilling of storage tanks, leakage detection and keeping a constant supply of products.

#### Accessible data and control

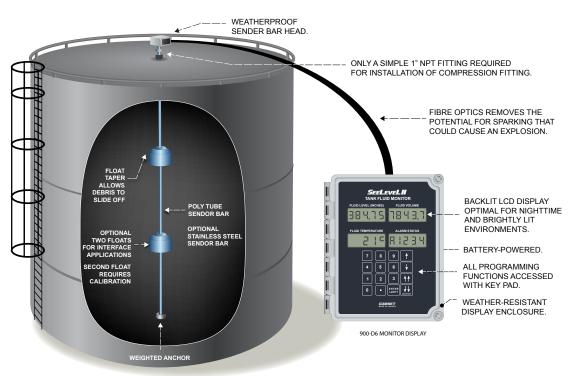
- Display monitors gauge functions, shows battery condition and diagnostic information.
- Field programmable display allows a user to configure the settings, test the alarms, setup and security code levels without additional equipment. The ability to turn off or on to limit features is ideal for rental tank applications.

#### **Protects for safer operations**

- The entire display is in a weatherproof fiberglass enclosure and is a Class I, Div 2 CSA certified system.
   Fibre optic connection meets many industry standard approvals.
- Four programmable alarm outputs for connecting to external horn or light alarms and to shut-down the pump preventing detrimental safety repercussions or costly damages by overfilling the tank.

#### Monitors in remote locations

- Battery-powered system requires no external power; ideal for portable applications, remote locations, and simple, low-cost fixed installations. This low-power technology provides 3 - 5 years of system operation.
- Garnet offers tank monitoring technologies that work in the most challenging and remote locations.
   Satellite, Cellular, Wireless, Modbus with 4-20 mA and WITS (Pason) are options that Garnet has available.



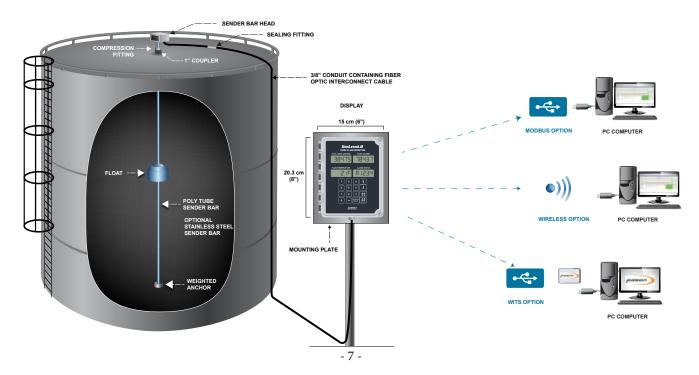
# **SEELEVEL II** <sup>™</sup> Communications

#### Automated telemetry for remote management.

Garnet's telemetry options provide a wide array of data transfer to organizations looking to take their existing field data operations and move it into their offices – anywhere in the world. By having your data available to you both at your desktop and on the go, you will be able to regulate logistics better, provide information for regulatory compliance to those that matter faster, and make it possible to reduce costs and save time.

# SEALING FITTING SEALING FITTING SEALING FITTING SEALING FITTING SEALING FITTING DISPLAY 15 cm (F) PIC CONTROLLER SYSTEM MODRIUS MODRIUS PLC CONTROLLER SYSTEM MODRIUS PLC CONTROLLER SYSTEM MODRIUS PLC CONTROLLER SYSTEM

#### **900-D6 Communications Options**



#### **GARNET** is your best solution.

**Reliable Performance** 

Garnet's range of storage tank monitors are ideal for remote locations operating reliably for years on battery power. Easy to install and virtually maintenance-free, the Seelevel™ line of storage tank gauges is industry's choice for accurate, reliable, trouble-free operation of your liquid management systems.

**No Compromising** 

Our history has a proven track record, one that our customers have come to rely upon. From our engineering designs through testing, to delivery of our products, we strive to ensure you receive a superb product that can be depended upon for many years to come.

**Value for Money** 

Garnet offers competitive pricing for single tanks, tank farms or any scalable operations where gauging and data are required. Our premium products provide longer life, ensuring your tank stays inservice without additional time or expense.

**Designed for You** 

Your time is valuable, so our products are designed to be simple to use and easy to integrate into your existing operations — increasing your productivity. We design our products your way, worry free.

**Partnership** 

Garnet works together with you to develop answers for your liquid level management challenges. That's why Garnet is your best solution.

#### Your satisfaction is our success.

At Garnet Instruments Ltd., our future is as reliable as our past. As a business partner with some of the largest tank dealers and tank farms in North America, we can assure you only the best service will be provided for your systems.

The relationship between you and Garnet does not end after we ship our product. Our company structure ensures you receive the service that you require. We work hard to ensure you have the confidence that we will be here to serve you.

Solving problems successfully means listening. We work with you to provide solutions.

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Liquid management solutions, your way.

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