

# TLS-350R Monitoring Systems

Add value to automated tank gauging with the advanced capabilities of Business Inventory Management.



Fuel Dispensing and Control • Site and Retail Management • Support Services

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## TLS-350R Interface Modules

The TLS-350R monitoring console contains three compartments in which individual interface modules can be installed. Interface modules may be factory-installed in the console upon initial ordering, or ordered separately as spare modules to expand an existing system.

### Low Power Compartment (Limit eight per console, unless otherwise noted)

Form No. Factory Installed Modules	Description	Feature Compatibility
329356-002	Four-Input Probe Interface Module (Maximum three per console. Includes terminal connector for one ground temperature thermistor for the volumetric line leak detector).	Series 8473 0.1 GPH Magnetostrictive Probe
329358-001	Eight-Input Interstitial/Liquid Sensor	Series 7943 Interstitial Sensor for Fiberglass Tanks and Interstitial Sensor for Steel Tanks Series 7943 Piping Sump Sensor Series 7943 Hydrostatic Sensor
329357-001	Five-Input Vapor Sensor Interface Module	Series 7943 Vapor Sensor
329399-001	Five-Input Groundwater Sensor Module	4SITE Series 7943 Groundwater Sensor
329956-001	Eight-Input Type A Sensor Interface Module	4SITE Series 7943 Solid State Discriminating Interstitial Sensor
329950-001	Six-Input Type B Sensor Interface Module	4SITE Series 7943 Solid State Dispenser Pan and Containment Sensors
330843-001	Six-Input Pressurized Line Leak Interface Module (One per console)	Series 8484 Pressurized Line Leak Detection System Requires TLS-350 Plus Version 7.0 or higher software

### High Power Compartment (Limit eight per console, unless otherwise noted)

Form No. Factory Installed Modules	Description	Feature Compatibility
329359-001	Four-Relay Output Interface Module	–
329360-001	Two-Input/Two-Relay Output Interface Module	–
329999-001	Pump Sense Interface Module	Accepts up to four inputs
330374-001	Three-Output Pressurized Line Leak Controller Interface Module (Two per console)	Series 8484 Pressurized Line Leak Detection System Requires TLS-350 Plus Version 7.0 or higher software

### Communications Compartment (Limit eight per console, unless otherwise noted)

Form No. Factory Installed Modules	Description	Feature Compatibility
330149-002	SiteFax Interface Module (Maximum three per console)	Allows hookup to most remote facsimile, modem or teletype equipment. Requires TLS-350 Plus Version 3.0 or higher software
330586-001	RS-485/232 Dual Port Communications Module	–
330148-001	RS-232 Interface Module with Auxiliary Port (Slot 4 only)	Provides two 25-pin D-connectors for data transmission to P.O.S. terminal, printing device or computer
329362-001	RS-232 Interface Module (Maximum three per console)	Provides a 25-pin D-connector for data transmission to P.O.S. terminal, printing device, or computer
330000-001	Remote Printer Interface Module	Provides a 25-pin D-connector for data transmission to a remote serial printer
330883-001	WPLLD Communications Module	–
330020-425	Ethernet – TCP/IP Communications Module	Provides connectivity to local and wide area networks (LAN/WANS)
Temperature Range – Operating: 32°F to 118°F (0°C to 45°C)		Storage: 15°F to 118°F (10°C to 45°C)



### Adjusted Delivery Reporting

Adjusted delivery reporting ensures that you get what you pay for. When a bulk delivery is made, the TLS-350R measures the amount of any fuel dispensed during the delivery and provides a report showing the volume increase, the amount of fuel dispensed during the delivery and the actual delivery amount.

### Periodic Variance Thresholds

The TLS-350R automatically calculates periodic variance thresholds based on the U.S. E.P.A. requirement of +/- (1% of monthly throughput +130 gallons) and includes the variances on a Periodic Reconciliation Report. The variance threshold is programmable so it can be set to local regulations if necessary.

The TLS-350R is available with an integral printer or can be connected to a remote printer. The system can be programmed to generate reports at the end of a shift, day, or period. Periodic reports are programmable to cover up to a 35-day cycle and can print in either column (summary) or row (line item) formats.

### Features

- Automatic Business Inventory Reconciliation
- AccuChart™ Automatic Tank Calibration
- Automatic Tank-To-Meter Mapping
- 0.1 GPH and 0.2 GPH In-Tank Leak Detection with Magnetostrictive Probes
- Electronic Line Leak Detection Capabilities
- Inventory Monitoring and Reporting
- Interstitial/Sump Leak Sensing Capabilities
- Vapor Well Monitoring Capability
- Groundwater Monitoring Capability
- Input/Output Capability
- Sump and Dispenser Monitoring Capabilities
- RS-232 Data Communications
- Ethernet/IP Communications
- Internal Auto-Dial Fax (SiteFax™)/modem communications
- Optional Integral Printer or Remote Printer Interface
- Emergency generator applications selectable via programming
- One system handles mix of standard and emergency generator tanks
- Records generator activity
- Complete inventory reports before and after generator operation
- Audible and Visual Alarm Capabilities
- Monitors up to 12 tanks
- Maximum Tank Capacity: 15,000 Gallons; 37,000 gallons with CSLD software enhancement
- Leak Testing and Reconciliation for Manifolder Tanks

### Standard Models

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Console Form Number: 848290-102

Description: TLS-350R Console without Integral Printer

Console Form Number: 848290-122

Description: TLS-350R Console with Integral Printer

Console Form Number: 330532-001

Description: Memory Expansion Module

(required to support BIR for manifolded tanks only)

## Veeder-Root's TLS-350R Monitoring System

Veeder-Root's TLS-350R Monitoring System adds value to automatic tank gauging with highly advanced, automatic inventory management capability – Business Inventory Reconciliation. This fully integrated system automatically collects metered sales information from electronic and mechanical dispensers and provides a comprehensive reconciliation with in-tank inventories and deliveries.

### AccuChart™

The TLS-350R uses AccuChart™, Veeder-Root's patented tank calibration algorithm, to minimize errors due to dynamics, such as tank tilt, deflection and end shape, to create an optimal tank chart for each tank in the system. The automatic calibration process is conducted through the typical operating levels in the tank as fuel is dispensed. Once enough valid data is analyzed, updated tank calibrations are made available. The updated calibration charts can also be obtained from the TLS-350R through an RS-232 interface using a computer.

### Automatic Tank-To-Meter Mapping

Manual methods of mapping tanks to meters have historically provided challenges to

installers and operators relative to inventory reconciliation. Automatic tank-to-meter mapping eliminates the possibility that product being dispensed through a meter is reconciled against the wrong product. When dispensing begins, the TLS-350R recognizes a reduction in in-tank inventory and associates the reduction with a dispensing event. This association allows for the construction of an accurate meter to tank mapping.

Technology that **simplifies** inventory management and saves you **valuable** time

Tank-to-meter mapping on average takes up to two days and depends on the level of station activity.

### Continuous Statistical Leak Detection (CSLD)

The TLS-350R is available with Continuous Statistical Leak Detection (CSLD) for 24-hour leak detection without tank shutdown. CSLD is advanced tank testing technology that continuously monitors fuel height and temperature information to detect idle times in the tank. During each idle period, data is collected and combined with information from other idle periods to form a highly accurate leak detection database. Sophisticated statistical analysis techniques in CSLD constantly evaluates all new and existing information in the database and discards invalid data. Test reports are provided automatically every 24 hours.



