Console Description	The TLS4B Automatic Tank Gauge is a non-expandable console ideally suited for customers seeking to streamline their inventory management using an affordable, web-enabled technology to eliminate manual dipping procedures. The TLS4B has 6 universal sensor or probe inputs (when using only two-wire devices).	

	Console Part # & Description	**Standard Hardware & Application Software**
TLS4B Consoles, Standard Hardware & Software	1. 0860196-020 TLS4B Console, Color Touch Screen Display, EDIM, UL 2. 0860196-010 TLS4B Console, No Display, EDIM, UL 3. 0860166-x20 TLS4B Console, Color Touch Screen Display, EDIM or IFSF, ATEX 4. 0860166-x10 TLS4B Console, No Display, EDIM or IFSF, ATEX	**Software** – 0333435-001 Application Software (must be ordered with Console) includes Web-enabled, Custom Alarm, On-Console Help, Extended Storage **Hardware** – Included with Console: Two Configurable RS-232/485 Serial Ports (Isolated), One Ethernet Port, Two External USB 2.0 Ports, Two Relay Outputs (120/240VAC 5A; 30VDC 5A; Fuse Ratings 5A, 250VAC Type T (Slo-Blo)), One Low Voltage Input (max. contact closure ratings 12VDC 0.015A Class I wiring is required for 12 volt closure circuits)

	Part # & Description	
TLS4B Optional Software	Static In-Tank Leak Detection (SLD), for USTs only	0333410-015
	Business Inventory Reconciliation (BIR)/Hourly Reconciliation Mode (HRM)/Accuchart	0333410-012
	Timed Sudden Loss Detection	0333410-018
	Vapor Collection Monitor	0333410-021
	Note: If software features are added to an existing console, the Feature Enhancement will be shipped with a kit that includes a wrist strap, manual, iButton holder and programmed iButton – 0333530-002.	

	Part # & Description	
Optional Printer for TLS4 Series Consoles	External Printer for TLS4 Series Consoles (Epson Model: TM-T88V)	0330020-832
	Wall Mounting Bracket for External Printer for TLS4 Series Consoles	0330020-839

Specifications

Operating Temperature	+32 to +122°F (0 to +50°C)
Storage Temperature	-40 to +158°F (-40 to +70°C)
Installation Location	NEMA 4 or indoors; must maintain Operating Temperature requirement stated above.
Relative Humidity	0-90% (non-condensing)
External Dimensions	13" x 8" x 3.5" (33.02cm x 20.32cm x 8.89cm)
Construction	16GA (0.060"/0.1524cm) powder coated steel
Console Power Wiring Requirements	AC Power Wiring – Wires carrying 120 or 240VAC from power panel to the console should be #14 AWG (or larger) wire for line, neutral & chassis ground (3); and 4 sq. mm, rated for at least 90C for barrier ground.
Probe & Sensor to Console Wiring Requirements	1. Wire Type – Shielded cable required regardless of conduit materiel or application. Shielded cable must be rated less than 100 picofarad per ft manufactured with a suitable material such as Carol C2534 or Belden 88760, 8760, or 8770. Cable must be oil and gas resistant. 2. Wire Length – maximum 1,000ft (304.8m) to meet intrinsic safety requirements. Improper system operation could result for runs over 1,000ft (304.8m). 3. Wire Gauges – Color coded – shielded cable used in all installations. Wires should be #14 - #18 AWG stranded copper wire and installed as Class 2 circuits. As an alternate method when approved by the local authority having jurisdiction, #22 AWG wire such as 88761 may be suitable with the following requirements: wire run is less than 750ft (228.6m), Capacitance does not exceed 100 pF/foot, Inductance does not exceed 0.2 uH/ft.

Specifications (continued)

System Power Requirements	Either AC input or DC input, but not both. 1. Universal AC power supply: 100 to 249VAC, 50/60Hz, 2A max. 2. DC power supply: +24VDC, 2A max. and +5VDC, 4A max. Um <= 250Vrms or 250VDC.
Display Specifications	7" (17.78cm) Color WVGA LCD touch screen display
Data Storage Features	SD card
Software Security Features	Centralized Device Management provides support for network-wide upgrades and backups.
Custom User Access	Front Panel Display control through user specific log-in; User defined roles to restrict access/functionality. Screen permissions can be limited to view, edit, perform.
System Security	1. Port availability control: SSH Port (22), HTTPS Port (443), Serial Command Port (10001) 2. Reassign Port Numbers (i.e., HTTPS on 50443) 3. System Integrator CVE Scans & Fixes 4. Periodic System Updates to protect against persistent threats
Customized Alarm Features	Customizable for all alarms
Approvals	UL cUL, ATEX, IECEx, NEPSI, FCC, FMC, PESO
Third Party Evaluations	Veeder-Root 8601 (nwglde.org)
Product Installation Guide	https://www.veeder.com/us/technical-document-library

System Compatibilities Guide

Feature/Console	TLS4B
CONSOLE DESIGN	
Modular/Expandable Features	N/A
LCD with Touch Screen	7" WVGA Color
Integral Roll Printer	N/A
Universal Power Supply	●
INVENTORY CONTROL	
Graphical Inventory Status	●
Complete Inventory Reports	●
Programmable Auto Report Times	●
Inventory Increase Report	●
Timed Sudden Loss Detection	Optional
CENTRALIZED DEVICE MANAGEMENT (CDM)	
CDM Software	Optional
CDM Backup Feature	Optional
CDM Change Management	Optional
BUSINESS INVENTORY RECONCILIATION (BIR)	
Shift-Based Reconciliation	Optional
Reconciliation by Tank	Optional
TANK CALIBRATION	
AccuChart™	Optional
Multi-Pass Tank Calibration	Optional
Single-Pass / Metered Drop	Optional
Limited Range Calibration	Optional
Supports Multiple Tank Charts per Tank	Optional
Supports Multiple Line Manifold Tanks	N/A
Graphical / Text Calibration Diagnostics	Optional
Automatic and Manual Meter Mapping	Optional
IN-TANK LEAK TEST	
0.1 GPH Tank Tightness Testing	Optional
0.2 GPH Tank Tightness Testing	Optional
Continuous Statistical Leak Detection	N/A
Selectable Test Rates	Optional
Programmable Automatic Test Schedules	Optional
PASS, FAIL, or INVALID Indicators	Optional
LINE LEAK DETECTION	
Integral Line Leak Detector	N/A
Programmable Line Test Features	N/A
INTERSTITIAL/SUMP LEAK SENSING	
Tank Annulus	●
Sump	●
Dispenser Pan	●
Mag Sump	●
Sensor Location Identifiers	●
VAPOR WELL MONITORING	
Hydrocarbon Vapor Detection	●
High Water Level Alarm	●
GROUNDWATER MONITORING	
Hydrocarbon Liquid Detection	●
Low Water Alarm	●
AIR VAPOR MONITORING	
Vapor Collection Monitor	Optional
ALARMS	
Leak	●
Overfill	●
High Level	●
Sudden Loss	Optional
High Water	●
Low Inventory	●
Programmable Alarm Limits	●

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Example Illustrations

Illustrations used in this guide for example sensor installations may contain components that are customer supplied and not included with the sensor. Please check with your Veeder-Root Distributor for recommended installation accessories.

Third Party Evaluations

Third party evaluations of the Veeder-Root sensors contained in this application guide can be found under the Veeder-Root vendor name on the National Work Group on Leak Detection Evaluations (NWGLDE) website:

 http://www.nwglde.org