


Console Description	<p>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).</p>														
TLS4B Consoles, Standard Hardware & Software	<table border="1"> <thead> <tr> <th data-bbox="402 537 928 579">Console Part # & Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="402 579 928 642">1. 0860196-020 TLS4B Console, Color Touch Screen Display, EDIM, UL</td> </tr> <tr> <td data-bbox="402 642 928 705">2. 0860196-010 TLS4B Console, No Display, EDIM, UL</td> </tr> <tr> <td data-bbox="402 705 928 768">3. 0860166-x20 TLS4B Console, Color Touch Screen Display, EDIM or IFSF, ATEX</td> </tr> <tr> <td data-bbox="402 768 928 886">4. 0860166-x10 TLS4B Console, No Display, EDIM or IFSF, ATEX</td> </tr> </tbody> </table>	Console Part # & Description	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	<table border="1"> <thead> <tr> <th data-bbox="928 537 1531 579">Standard Hardware & Application Software</th> </tr> </thead> <tbody> <tr> <td data-bbox="928 579 1531 695"> Software – 0333435-001 Application Software (must be ordered with Console) includes Web-enabled, Custom Alarm, On-Console Help, Extended Storage </td> </tr> <tr> <td data-bbox="928 695 1531 886"> 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) </td> </tr> </tbody> </table>		Standard Hardware & Application Software	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)				
Console Part # & Description															
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															
Standard Hardware & Application Software															
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)															
TLS4B Optional Software	<table border="1"> <thead> <tr> <th colspan="2" data-bbox="402 886 1531 928">Part # & Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="402 928 928 970">Static In-Tank Leak Detection (SLD), for USTs only</td> <td data-bbox="928 928 1531 970">0333410-015</td> </tr> <tr> <td data-bbox="402 970 928 1033">Business Inventory Reconciliation (BIR)/Hourly Reconciliation Mode (HRM)/Accuchart</td> <td data-bbox="928 970 1531 1033">0333410-012</td> </tr> <tr> <td data-bbox="402 1033 928 1075">Timed Sudden Loss Detection</td> <td data-bbox="928 1033 1531 1075">0333410-018</td> </tr> <tr> <td data-bbox="402 1075 928 1117">Vapor Collection Monitor</td> <td data-bbox="928 1075 1531 1117">0333410-021</td> </tr> <tr> <td colspan="2" data-bbox="402 1117 1531 1178"> 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. </td> </tr> </tbody> </table>			Part # & Description		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															
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.															
Optional Printer for TLS4 Series Consoles	<table border="1"> <thead> <tr> <th colspan="2" data-bbox="402 1178 1531 1220">Part # & Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="402 1220 928 1283">External Printer for TLS4 Series Consoles (Epson Model: TM-T88V)</td> <td data-bbox="928 1220 1531 1283">0330020-832</td> </tr> <tr> <td data-bbox="402 1283 928 1348">Wall Mounting Bracket for External Printer for TLS4 Series Consoles</td> <td data-bbox="928 1283 1531 1348">0330020-839</td> </tr> </tbody> </table>			Part # & Description		External Printer for TLS4 Series Consoles (Epson Model: TM-T88V)	0330020-832	Wall Mounting Bracket for External Printer for TLS4 Series Consoles	0330020-839						
Part # & Description															
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	<ol style="list-style-type: none"> Wire Type – Shielded cable required regardless of conduit material 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. Wire Length – maximum 1,000ft (304.8m) to meet intrinsic safety requirements. Improper system operation could result for runs over 1,000ft (304.8m). 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 Compatibilities Guide																																																																																																																
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.	<table border="1"> <thead> <tr> <th>Feature/Console</th> <th>TLS4B</th> </tr> </thead> <tbody> <tr> <td colspan="2">CONSOLE DESIGN</td> </tr> <tr> <td>Modular/Expandable Features</td> <td>N/A</td> </tr> <tr> <td>LCD with Touch Screen</td> <td>7" WVGA Color</td> </tr> <tr> <td>Integral Roll Printer</td> <td>N/A</td> </tr> <tr> <td>Universal Power Supply</td> <td>•</td> </tr> <tr> <td colspan="2">INVENTORY CONTROL</td> </tr> <tr> <td>Graphical Inventory Status</td> <td>•</td> </tr> <tr> <td>Complete Inventory Reports</td> <td>•</td> </tr> <tr> <td>Programmable Auto Report Times</td> <td>•</td> </tr> <tr> <td>Inventory Increase Report</td> <td>•</td> </tr> <tr> <td>Timed Sudden Loss Detection</td> <td>Optional</td> </tr> <tr> <td colspan="2">BUSINESS INVENTORY RECONCILIATION (BIR)</td> </tr> <tr> <td>Shift-Based Reconciliation</td> <td>Optional</td> </tr> <tr> <td>Reconciliation by Tank</td> <td>Optional</td> </tr> <tr> <td colspan="2">TANK CALIBRATION</td> </tr> <tr> <td>AccuChart™</td> <td>Optional</td> </tr> <tr> <td>Multi-Pass Tank Calibration</td> <td>Optional</td> </tr> <tr> <td>Single-Pass / Metered Drop</td> <td>Optional</td> </tr> <tr> <td>Limited Range Calibration</td> <td>Optional</td> </tr> <tr> <td>Supports Multiple Tank Charts per Tank</td> <td>Optional</td> </tr> <tr> <td>Supports Multiple Line Manifold Tanks</td> <td>N/A</td> </tr> <tr> <td>Graphical / Text Calibration Diagnostics</td> <td>Optional</td> </tr> <tr> <td>Automatic and Manual Meter Mapping</td> <td>Optional</td> </tr> <tr> <td colspan="2">IN-TANK LEAK TEST</td> </tr> <tr> <td>0.1 GPH Tank Tightness Testing</td> <td>Optional</td> </tr> <tr> <td>0.2 GPH Tank Tightness Testing</td> <td>Optional</td> </tr> <tr> <td>Continuous Statistical Leak Detection</td> <td>N/A</td> </tr> <tr> <td>Selectable Test Rates</td> <td>Optional</td> </tr> <tr> <td>Programmable Automatic Test Schedules</td> <td>Optional</td> </tr> <tr> <td>PASS, FAIL, or INVALID Indicators</td> <td>Optional</td> </tr> <tr> <td colspan="2">LINE LEAK DETECTION</td> </tr> <tr> <td>Integral Line Leak Detector</td> <td>N/A</td> </tr> <tr> <td>Programmable Line Test Features</td> <td>N/A</td> </tr> <tr> <td colspan="2">INTERSTITIAL/SUMP LEAK SENSING</td> </tr> <tr> <td>Tank Annulus</td> <td>•</td> </tr> <tr> <td>Sump</td> <td>•</td> </tr> <tr> <td>Dispenser Pan</td> <td>•</td> </tr> <tr> <td>Mag Sump</td> <td>•</td> </tr> <tr> <td>Sensor Location Identifiers</td> <td>•</td> </tr> <tr> <td colspan="2">VAPOR WELL MONITORING</td> </tr> <tr> <td>Hydrocarbon Vapor Detection</td> <td>•</td> </tr> <tr> <td>High Water Level Alarm</td> <td>•</td> </tr> <tr> <td colspan="2">GROUNDWATER MONITORING</td> </tr> <tr> <td>Hydrocarbon Liquid Detection</td> <td>•</td> </tr> <tr> <td>Low Water Alarm</td> <td>•</td> </tr> <tr> <td colspan="2">AIR VAPOR MONITORING</td> </tr> <tr> <td>Vapor Collection Monitor</td> <td>Optional</td> </tr> <tr> <td colspan="2">ALARMS</td> </tr> <tr> <td>Leak</td> <td>•</td> </tr> <tr> <td>Overfill</td> <td>•</td> </tr> <tr> <td>High Level</td> <td>•</td> </tr> <tr> <td>Sudden Loss</td> <td>Optional</td> </tr> <tr> <td>High Water</td> <td>•</td> </tr> <tr> <td>Low Inventory</td> <td>•</td> </tr> <tr> <td>Programmable Alarm Limits</td> <td>•</td> </tr> </tbody> </table>	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	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	•
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																																																																																																																	
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	•																																																																																																																	
Display Specifications	7" (17.78cm) Color WVGA LCD touch screen display																																																																																																																	
Data Storage Features	SD card																																																																																																																	
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	https://neiwpc.org/nwglde/																																																																																																																	
Product Installation Guide	https://www.veeder.com/us/technical-document-library																																																																																																																	

Notice

Veeder-Root makes no warranty of any kind with regard to this publication, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Veeder-Root shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this publication.

Veeder-Root reserves the right to change system options or features, or the information contained in this publication.

This publication contains proprietary information which is protected by copyright. All rights reserved. No part of this publication may be photocopied, reproduced, or translated to another language without the prior written consent of Veeder-Root.

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:

<https://neiwpsc.org/nwglde/>