Sensor Products

Application Guide



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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

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					Whe	ere U	sed					Cate	gory	,							Fuel	Com	patib	ility					
																	ASTM D975			ASTM D7547				ASTM D7467	ASTM D6751	ASTM D975			
Sensor Description	Part #	Page #	Dispenser Pan	Spill Containment	STP Sump	Convault Tank	Annular Space	Monitoring Well	Oil/Water Separator Tank	Discriminating	Non-Discriminating	Position Sensitive	Level Sensing	Static Testing	Hydrostatic	100% Gasoline	Diesel	Kerosene	Jet Fuel	Aviation Gas	E-15	E-85	E-100	Bio-Diesel 20	Bio-Diesel 100	Renewable (Green) Diesel	Diesel Exhaust Fuel (DEF)	Waste Oil	Motor Oil
Discr. Dispenser Pan	794380-322	1	Х	Х						Х						Х	Х	Х	Х	Х	Х	χ1		Х		Х		Х	Х
Discriminating Containment Sump	794380-352	2		х	Х					Х						х	Х	х	Х	х	х	x ¹		Х		Х		Х	Х
Solid-State (Optical) Discr. Dispenser Pan	794380-320	3	Х	х						Х						Х	Х	х	х	х	х	x ¹		Х	х			Х	х
Solid-State (Optical) Discr. Containment Sump	794380-350	4		Х	Х					Х						Х	Х	х	х	х	х	x ¹		Х		х		Х	Х
Mag. Discr. Level Indicating Containment Sump	857080-XXX	5	х	х	х					Х		х	Х	х		х	х	х	Х	х	Х	х	Х	х	х	Х	Х	х	х
Solid-State Non-Discriminating Dispenser Pan	794380-321	6	х	х							Х					Х	Х	х	х	х	Х	x ¹		Х	х	Х		Х	Х
Solid-State Non-Discriminating Containment Sump	794380-351	7		х	х						Х					Х	х	х	х	х	х	x ¹		х	х	Х		х	Х
Piping Sump-12' (3.66m) Cable	794380-208	8	Х	Х	Х						Х					Х	Х	Х	Χ	Х	Х			Х		Х		Х	Х
Non-Discriminating Standalone Dispenser Pan	847990-001	9	х	х	х						Х					Х	Х	х	х	х	х			Х		х		Х	Х
Position Sensitive	794380-323	10	Х	Х	Х						Х	Х				Х	Х	Х	Χ	Х	Х	Х	Х	Х		Χ		Х	Х
Solid-State Discr. Interstitial for Fiberglass Tanks	794380-343	11					Х			Х						Х	Х	х	Х	х	х			Х	х	Х	Х	Х	Х
Interstitial for Double-Wall Fiberglass Tanks	794390-409	12					Х				Х					Х	х	Х	Х	Х	Х			х		Х			
Solid-State Interstitial for Fiberglass Tanks, High Alcohol	794380-345	13					х				х					Х	Х	х	х	х	х	Х	Х	Х	х	Х	Х	Х	х
Interstitial for Steel Tanks	794390-4X0	14			Х		Χ				Χ					Х	Х	Х	Χ	Х	Χ			Х		Χ		Х	Х
Interstitial for Steel Tanks, Position Sensitive ²	794380-333	15		х			х				х	х				Х	Х	х	х	х	х	Х	Х	Х	х	Х		Х	Х
Interstitial for Steel Tanks, High Alcohol	794380-430	16					х				Х					Х	х	х	х	х	Х	х	Х	х	х	Х		Х	Х
MicroSensor	794380-344	17		Х			Х				Х					Χ	Х	Х	Х	Х	Х	Χ	Х	Х	Х	Х	Х	Х	Х
(Dual-Point) Hydrostatic Reservoir	794380-303	18					Х								Х	Х	Х	х	Х	х	Х	x ¹	x ¹	Х		Х		х	х
Single-Point Hydrostatic	794380-301	19					Χ								Χ	Χ	Χ	Χ	Х	Χ	Х	х1	x ¹	Χ		Х			
Single-Point Mini-Hydrostatic Reservoir (High Alcohol)	794380-304	20					Х								Х	Х	Х	х	Х	х	Х	Х	Х	Х	х	Х		Х	Х
Monitoring Well Vapor	794390-700	21						Χ								Χ			Х	Х	Х								
Groundwater	794380-62X	22						Х								Х	Х	Х	Х	Х	Х			Х		Х		Х	Х
Oil Water Separator	794690-XXX	23							Х							Х	Х	Х	Х	Х	Х			Х				Х	Х

¹ Single use only if sensor was exposed to E85 or E100 (Test per Sensor Operability Guide [P/N 577013-814] in E-10 or less)

NOTE: P/Ns with X included represent multiple part numbers.

² Small containment areas (i.e. spill buckets)



Sensor Description	Discriminating Dispenser Pan Sensor		oe of discriminating sensor is i ferentiate between, hydrocarbo	installed in a dispenser pan and will ons and other liquids.	detect the presence	of,		
Part Number	794380-322							
Category	✓ Discriminati ☐ Non-Discrim ☐ Position Ser	ninating	Level Sensing Static Testing Hydrostatic		40°C S Ta S +80°C QL, LONG 60 QL, LONG 60	US SIMPLE APPARATUS IP64		
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas 1Single use only		_		AEX Ia IIA EX Ia IIA TC = T4 SECURITE INTRINSEQUE Exia	ATTOC SERVICE		
	Recommended			Sensor Interface Modules				
Console Compatibility (International Only ²)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability		
TLS-450PLUS (8600 Series)	6A or Higher	222012 001	Universal Sensor	Up to 4 - TLS-4XX	16	Sold Separately		
TLS-450	4A or Higher	332812-001	Module (USM)	Up to 8 - TLS-4XX w/ opt. TLS-XB	16	Sold Separately		
TLS4 (8601 Series) ²		000000 750			10			
TLS4i (8601 Series)	6 A on Higher	330020-750	Universal Sensor Input/	1	12	Included		
7LS4B (8601 Series) ²	6A or Higher		Out-put Module (USIOM-AC)		_	included		
TLS4c (8601 Series)		330020-751	(USIOWI-AC)		6			
TLS-350/R/PLUS		329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately		
TLS-350J	124/324 or	329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately		
TLS-300i	Higher	330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included		
TLS-300C		330513-001	2 Probe / 8 Sensor Options					
	Normal	Sensor in Normal S	State - No liquid detected					
	Low Liquid	Liquid detected at	a minimum of 1.37" (3.48cm)					
Alarm Notification	High Liquid	Liquid detected at	a minimum of 7.66" (19.45cm)				
	Fuel Alarm	Permeable materia	al saturated with Fuel					
	Sensor Out	Sensor not commu	inicating to ATG/Console					
Installation Kit	330020-012	Universal Sensor N	Nounting Kit (Sold separately)					
Specifications			Example Installation					
Operating Principle		e, Reed Switch/Float						
Product Activation Height	Gas - 0.125" (3.17 Water - Low 1.37" High 7.66" (19.45	' (3.48cm),			nnel ockets, clamp, etc., from oversal sensor mounting	Li+		
Operating Temperature	+32 to +140°F (0	to +60°C)			versar sensor mounting	KIL		
Dimensions	` ,	gh, 2.2" (5.6cm) dia.	Cord grip	- Weath	herproof junction box wi 1.27cm) NPT threads (1	th 6 cubic		
Miscellaneous/Notes	Standard Cable L	ength: 12ft (3.66m)	Product line —		262cm ³) volume minimi			
Third Party Evaluation Links	TLS-3XX/TLS-450 TLS4 (8601 Series		Dispenser containment Seal Pubber grommet seal					
Product Link	Discriminating Dis	spenser Pan Sensor	sump		clamped on inside - or as recommended l			
Warranty with System	1 Yr Parts & Labo	r	IMPORTANT! DO NOT MOUNT SE	ENSOR TO	dispenser pan manuf			
Warranty (When purchased separately)	1 Yr Parts Only		FLEXIBLE PRODUC	T LINE. 1/	2" (1.27cm) Rigid condu console	uit		
Where Used (Typical)					Dispenser pan sensor	r*		
✓ Dispenser Pan ✓ Spill Containment ☐ STP Sump ☐ Convault Tank	Annular Space Monitoring We Oil/Water Sep	ell		ould: west point of the dispenser containmen er removable by pulling the sensor straig				



Sensor Description	Discriminating Containment Sump Sensor		iscriminating sensor is installe ates between, hydrocarbons ar	d in a containment sump area. It d id other liquids.	letects the presence o	of,
Part Number	794380-352					
Category	✓ Discriminating ☐ Non-Discrimin ☐ Position Sensi	ating	☐ Level Sensing ☐ Static Testing ☐ Hydrostatic		-40°C 5 18 5 -40°C USTI	US SIMPLE APPARATUS IPPAL
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	Bio-Diesel 100	☑ Green Diesel ☐ DEF ☑ Waste Oil ☑ Motor Oil ability Guide in E-10 or less)		ES IN DA EN	94380-900 MAD DOC 958600
Console Compatibility	Recommended		S	ensor Interface Modules		
(International Only ²)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability
TLS-450PLUS (8600 Series)	6A or Higher	000010 001	Universal Sensor	Up to 4 - TLS-4XX	16	0.110
TLS-450	4A or Higher	332812-001	Module (USM)	Up to 8 - TLS-4XX w/ opt. TLS-XB	16	Sold Separately
TLS4 (8601 Series) ² TLS4i (8601 Series)		330020-750	Universal Sensor Input	·	12	
,	6A or Higher		Out-put Module	1		Included
TLS4B (8601 Series) ²		330020-751	(USIOM-AC)		6	
TLS4c (8601 Series)						
TLS-350/R/PLUS		329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately
TLS-350J	124/324 or Higher	329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included
TLS-300C		330513-001	2 Probe / 8 Sensor Options			
	Normal	Sensor in Normal S	tate - No liquid detected	Where Used (Typical)		
	Low Liquid	Liquid detected at a	a minimum of 1.35" (3.4cm)	☐ Dispenser Pan	Annular Space	
Alarm Notification	High Liquid	Liquid detected at a	a minimum of 12.28" (31.19cm) Spill Containmer		
	Fuel Alarm	Permeable material	saturated with Fuel	STP Sump Convault Tank	Oil/Water Sepa	rator Lank
	Sensor Out	Sensor not commu	nicating to ATG/Console			
Installation Kit	330020-012	Universal Sensor M	ounting Kit (Sold separately)			
Specifications			Example Installation			
Operating Principle	product permeable	reed switch/float				
Product Activation Height	Gas - 0.125" (3.175 Water - Low 1.35" (High 12.28" (31.19d	3.4cm),	Submersible — pump	Containment — 1/2" (1.2 cord grij w/ cable	27cm) NPT p supplied	
Operating Temperature	+32 to +140°F (0 to	+60°C)	l	\ \ \	Weatherproof july	inction box
Dimensions	22.1" (56.1cm) high	, 2.2" (5.6cm) dia.	Containment sump	\	Seal-o	ff
Miscellaneous/Notes	Standard Cable Ler	igth: 12 ft (3.66m)	- Comp		17	
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		IMPORTA	NT!	Rigid co	onduit
Product Link	Discriminating Containment Sump	Sensor	DO NOT N	OUNT SENSOR TO PRODUCT LINE.	to cons	ole
Warranty with System	1 Yr Parts & Labor		1		Produc	et line
Warranty (When purchased separately)	1 Yr Parts Only				- Brackets, clamp, etc optional Universal So Mounting Kit	



	Pan Sensor	spenser	This type of discriminating sensor is installed in a dispenser containment sump area. It detects the presence of, and differentiates between, hydrocarbons and other liquids.								
Part Number	794380-320										
Category	✓ Discriminating☐ Non-Discrimin☐ Position Sensi	ating	☐ Level Sensing ☐ Static Testing ☐ Hydrostatic	-40°C \$18 - 40°C QL, DM1 0PD QL, 1, ZONE 0 AE is IN A	US SIMPLE APPARATUS 1954						
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	E-85¹ E-100 ✓ Bio-Diesel 20 ☐ Bio-Diesel 100	✓ Green Diesel DEF ✓ Waste Oil Motor Oil rability Guide in E-10 or less)	EX Is BA TC = T4 SECURITE INTRINSCOUE Exis MARIUA, NO. 576013-306 7 SERIAL I	94380-94580-94500-945000-94500-94500-94500-945000-945000-945000-945000-94500-945000-945000-945000-945000-945000-945000-945000-945000-945000-945000-945						
Console Compatibility	Recommended			Sensor Interface Modules							
(*International Only ²)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability					
TLS-450PLUS (8600 Series) TLS-450	6A or Higher 4A or Higher	332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/ opt. TLS-XB	8	Sold Separately					
TLS4 (8601 Series) ² TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-put Module	1	6	Included					
TLS4B (8601 Series) ² TLS4c (8601 Series)	o, cor riighei	330020-751	(USIOM-AC)		4						
TLS-350/R/PLUS	124/324 or Higher	329950-001	Type B Interface Module	Up to 8	6	Sold Separately					
TLS-300i				N/A	I	1					
TLS-300C				N/A							
	Normal	Sensor in Normal St	tate - No liquid detected								
	Low Liquid	Liquid detected at a	minimum of 1.37" (3.4cm)								
-	High Liquid		letected at a minimum of 7.66" (19.45cm)								
	Fuel Alarm	Permeable material									
	Sensor Out		nicating to ATG/Console								
Installation Kit	330020-012	Universal Sensor Mo	ounting Kit (sold separately)								
Specifications			Example Installation								
Product Activation Height	Gas - 0.125" (3.175 Water - Low 1.37" (High 7.66" (19.45cr	mm); 3.4cm),	Brackets, clamp, from Universal s	, etc., Weatherproof junction sensor threads (16 cubic incl	n box with 1/2" (1.27c	em) NPT					
Operating Temperature	-40 to +122°F (-40 t	· · · · · · · · · · · · · · · · · · ·	mounting kit —	7 / Cable Illei	r (2020m²) volume m Il-off						
Dimensions	11.6" (29.4cm) high	ı, 2.2" (5.6cm) dia.	U-channel								
Miscellaneous/Notes	Standard Cable Ler	ngth: 12ft (3.66m)									
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)			Cord grip	Rubber grommet s clamped on inside) -					
Product Link	Solid-State Discrimi Dispenser Pan Sens	•			or as recommende dispenser pan ma						
Warranty with System	1 Yr Parts & Labor										
Warranty (When purchased separately)	1 Yr Parts Only			Dispenser pan sensor*	1/2" (1.27cm) to console	Rigid conduit					
Where Used (Typical)					Dispenser pan						
✓ Dispenser Pan ✓ Spill Containment ☐ STP Sump ☐ Convault Tank	☐ Annular Space ☐ Monitoring Well ☐ Oil/Water Separ	ator Tank	Be positioned s	nsor should: o or the lowest point of the dispense so as to be removable by pulling the a true vertical position.	er pan.	ut of the pan.					



Sensor Description	Solid-State (Option Discriminating Co Sump Sensor			sensor is installed in a containmen te between, hydrocarbons and othe		t the					
Part Number	794380-350										
Category	✓ Discriminating ✓ Non-Discrimin ✓ Position Sens	ating	Level Sensing Static Testing Hydrostatic LISTED AP CLIONES CLIONES								
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas 1 Single use only (E-85¹ E-100 ✓ Bio-Diesel 20 ☐ Bio-Diesel 100	✓ Green Diesel DEF ✓ Waste Oil ✓ Motor Oil ability Guide in E-10 or less)	STATE STATE OF STATE							
Console Compatibility	Recommended			Sensor Interface Modules							
(*International Only ²)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability					
TLS-450PLUS (8600 Series)	6A or Higher	222012.001	Universal Sensor	Up to 4 - TLS-4XX Up to 8 - TLS-4XX	8	Sold Separately					
TLS-450	4A or Higher	332812-001	Module (USM)	w/ opt. TLS-XB	0	Join Ocharately					
TLS4 (8601 Series) ² TLS4i (8601 Series)		330020-750	Universal Sensor Input	1	6	In alredo d					
TLS4B (8601 Series) ² TLS4c (8601 Series)	6A or Higher	330020-751	Out-put Module (USIOM-AC)	'	4	Included					
TLS-350/R/PLUS	124/224 or Higher	329950-001	Type D Interfees Medule	Up to 8	6	Cold Congretaly					
TLS-350/R/PLUS	124/324 or Higher	329950-001	Type B Interface Module	ор tо о	0	Sold Separately					
TLS-300C				N/A							
. 20 0000	Normal	Sensor in Normal S	tate - No liquid detected								
	Low Liquid		minimum of 1.37" (3.48cm)								
Alarm Notification	High Liquid	Liquid detected at a	minimum of 10.3" (26.2cm)								
	Fuel Alarm	Permeable material	saturated with Fuel								
	Sensor Out	Sensor not commun	nicating to ATG/Console								
Installation Kit	330020-012	Universal Sensor M	ounting Kit (Sold separately)								
Specifications			Example Installation								
Operating Principle	Electrical conductiv	vity/optical									
Product Activation Height	Gas - 0.125" (3.175 Water - Low - 1.37" High - 10.3" (26.2ci	(3.4cm),									
Operating Temperature	-40 to +122°F (-40			Containment —	7 \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\						
Dimensions	22.1" (56.1cm) high	n, 2.2" (5.6cm) dia.	Submersible — pump	$\sqrt{\frac{1/2}{\text{cord griph}}}$	27cm) NPT o supplied						
Miscellaneous/Notes	Standard Cable Lei	ngth: 12ft (3.66m)	pump	w/ cable	e Weatherproof ju	nction box					
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)		Containment sump		Seal-of	ff					
Product Link	Solid-State Discrim Containment Sump										
Warranty with System	1 Yr Parts & Labor		IMPOPTANTI		Rigid co						
Warranty (When purchased separately)	1 Yr Parts Only		IMPORTANT! DO NOT MOUNT SENSOR TO FLEXIBLE PRODUCT LINE.								
Where Used (Typical)					Produc	t line					
☐ Dispenser Pan ☑ Spill Containment ☑ STP Sump ☐ Convault Tank	☐ Annular Space ☐ Monitoring Wel ☐ Oil/Water Separ				Brackets, clamp, etc optional Universal So Mounting Kit						



Sensor Description	Magnetostrictive Level Indicating Sump Sensor	-	This type of sensor is installed in a dispenser pan or containment sump and will detect the presence of, and differentiate between, fuel and other liquids.								
Part Number			"/60.96cm) / 857080-211 (12", e of performing a Sump Integri	/30.48cm), -212 (24"/60.96cm). ty Test.							
Category	✓ DiscriminatingNon-Discrimin✓ Position Sensi	ating	✓ Level Sensing ✓ Static Testing ☐ Hydrostatic			1					
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	☑ E-85 ☑ E-100	✓ Green Diesel ✓ DEF ✓ Waste Oil ✓ Motor Oil								
Console Compatibility	Recommended		S	ensor Interface Modules	Γ						
(*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability					
TLS-450PLUS (8600 Series) TLS-450	6A or Higher 4A or Higher	332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/ opt. TLS-XB	16	Sold Separately					
TLS4 (8601 Series) 1 TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input/		12	Included					
TLS4B (8601 Series) 1 TLS4c (8601 Series)	oA of Higher	330020-751	Out-put Module (USIOM-AC)	1	6	included					
TLS-350/R/PLUS	124/324 or Higher (-211 and -212 sensors require 126/326 or higher)	329356-004	Smart Sensor Interface Module	Up to 8	8	Sold Separately					
TLS-300i				N/A							
TLS-300C											
	Normal	Sensor in Normal St	ate - No liquid detected	Where Used (Typical)							
Alarm Notification	Water Alarm	Water detected at a	minimum of 1.614" (2.83cm)	✓ Dispenser Pan	Annular Space						
Alailli Notification	Fuel Alarm	Fuel detected 1.368	" (3.47cm)	Spill Containme	_						
	Sensor Comm. Alarm	Sensor not commur	nicating to ATG/Console	✓ STP Sump							
Installation Kit	330020-012	Universal Sensor Mo	ounting Kit (Sold separately)								
Specifications			Example Installation								
Operating Principle	Magnetostrictive p	robe with dual floats									
Product Activation Height	Water 1.614" (4.1cr Fuel 1.368" (3.47cr		Submersible —		— Weatherproof						
Operating Temperature	-40°F to +140°F (-4	0°C to +60°C)	pump	Mag Sensor	junction box						
Dimensions	2.4" (6.1cm) Diame 21.4" (54.4cm) Lon models), 33.4" (84.9 and -212 models)	g (-111 and -211	Containment sump		Seal-off	cm) Rigid					
Miscellaneous/Notes	Standard Cable Ler	ngth: 10ft (3.66m)			conduit to	console					
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)		IMPORTANT! DO NOT MOUNT SEI FLEXIBLE PRODUCT		Brackets, cl from option sensor mou	al Universal					
Product Link	Mag Sump Sensor				January 11100	anding Nit					
Warranty with System	1 Yr Parts & Labor			-	Product lin	ne					
Warranty (When purchased separately)	1 Yr Parts Only										



This Solid-State, Non-Discriminating Sensor is installed typically in a dispenser pan Solid-State - Non-Discriminating Sensor Description location to detect the presence of a liquid. Its optical liquid level technology requires no Dispenser Pan Sensor moving parts, allowing it to operate in sub-zero temperatures. 794380-321 Part Number Discriminating Level Sensing Static Testing Category ✓ Non-Discriminating Position Sensitive ☐ Hydrostatic ✓ Green Diesel ✓ Gas ✓ E-85¹ Diesel DEF ✓ Kerosene E-100 ✓ Waste Oil **Fuel Compatibility** ☑ Bio-Diesel 20 Jet Fuel ✓ Motor Oil ✓ Bio-Diesel 100 ✓ Aviation Gas ¹Single use only (Test per Sensor Operability Guide in E-10 or less) Sensor Interface Modules Recommended **Console Compatibility** Min. Console # of Sensor (*International Only¹) # of Modules per Console Availability Module Part # **Module Description** Software Inputs per Module Up to 4 - TLS-4XX TLS-450PLUS (8600 Series) 6A or Higher Universal Sensor 332812-001 Up to 8 - TLS-4XX 16 Sold Separately Module (USM) TLS-450 4A or Higher w/ opt. TLS-XB TLS4 (8601 Series) 1 330020-750 12 TLS4i (8601 Series) Universal Sensor Input 1 Included 6A or Higher Out-put Module TLS4B (8601 Series) (USIOM-AC) 330020-751 6 TLS4c (8601 Series) Type A Sensor TLS-350/R/PLUS Up to 8 8 Sold Separately 329956-001 124/324 or Higher Interface Module TLS-350J N/A TLS-300i TLS-300C Normal Sensor in Normal State - No liquid detected Alarm Notification Fuel Alarm Liquid detected - Approx. 1.0" (2.54cm) Sensor Out Sensor not communicating to ATG/Console Installation Kit 330020-012 Universal Sensor Mounting Kit (sold separately) **Specifications Example Installation** Optical - Looking at phase changes in Operating Principle the light beams by causing them to Brackets, clamp, etc., from Universal sensor Weatherproof junction box with 1/2" (1.27cm) NPT threads (16 cubic inch (262cm³) volume minimum) interact or interfere with one another mounting kit **Product Activation Height** Fuel or Water - Approx. 1" (2.54cm) Seal-off **U-channel Operating Temperature** -40 to +122°F (-40 to +50°C) 11.6" (29.4cm) high, 2.2" (5.6cm) dia. Dimensions Cord grip Miscellaneous/Notes Standard Cable Length: 12ft (3.66m) Rubber grommet seal clamped on inside -or as recommended by dispenser pan manufacturer TLS-3XX/TLS-450 Series Consoles - (C) Third Party Evaluation Links TLS4 (8601 Series) Consoles Solid-State - Non-Discriminating Product Link Dispenser Pan Sensoi Warranty with System 1 Yr Parts & Labor 1/2" (1.27cm) Rigid conduit Dispenser pan sensor* to console Warranty (When 1 Yr Parts Only Nog purchased separately) Dispenser pan Where Used (Typical) Convault Tank *Dispenser pan sensor should: Annular Space ✓ Dispenser Pan 1. Rest in the cup or the lowest point of the dispenser pan. ✓ Spill Containment Be positioned so as to be removable by pulling the sensor straight up out of the pan.
 Be mounted in a true vertical position. Monitoring Well STP Sump Oil/Water Separator Tank



Sensor Description	Solid-State - Nor Containment Sur		sump area to detect the pre	minating Sensor is installed typical sence of a liquid. Its optical liquid lowing it to operate in sub-zero ter	evel technology					
Part Number	794380-351									
Category	☐ Discriminating ✓ Non-Discrimin ☐ Position Sens	nating	Level Sensing Static Testing Hydrostatic		40°C Ta 5 40°C LISTER	US SIMPLE APPARATUS 1954				
Fuel Compatibility	Gas Diesel Kerosene Jet Fuel Aviation Gas	☑ Bio-Diesel 20 ☑ Bio-Diesel 100	E-851							
Console Compatibility	Recommended		,	Sensor Interface Modules	" 10					
(*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability				
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TLS-4XX	16	Sold Separately				
TLS-450	4A or Higher	002012 001	Module (USM)	Up to 8 - TLS-4XX w/ opt. TLS-XB	10	Join Scharately				
TLS4 (8601 Series) ¹		330020-750			12					
TLS4i (8601 Series)	6A or Higher	330020-730	Universal Sensor Input	1	12	Included				
TLS4B (8601 Series) ¹	or tor riighter	220020 751	Out-put Module (USIOM-AC)	1		Included				
TLS4c (8601 Series)		330020-751	, ,		6					
TLS-350/R/PLUS	124/324 or Higher	329956-001	Type A Sensor Interface Module	Up to 8	8	Sold Separately				
TLS-350J										
TLS-300i				N/A						
TLS-300C										
	Normal	Sensor in Normal St	ate - No liquid detected							
Alarm Notification	Fuel Alarm	Liquid detected - Ap	prox. 1.0" (2.54cm)							
	Sensor Out	Sensor not commun	nicating to ATG/Console							
Installation Kit	330020-012	Universal Sensor Mo	ounting Kit (Sold separately)							
Specifications			Example Installation							
Operating Principle	Optical - Looking a the light beams by interact or interfere	causing them to		4 (01) /4	07 NDT					
Product Activation Height	Fuel or Water - App	rox. 1" (2.54cm)	Submersible —	cord gri	27cm)NPT p supplied					
Operating Temperature	-40 to +122°F (-40	to +50°C)	pump	w/ cabl	Weatherproof ju	nction				
Dimensions	22.1" (56.1cm) high	n, 2.2" (5.6cm) dia.			box /					
Miscellaneous/Notes	Standard Cable Lei	ngth: 12ft (3.66m)	Containment sump		Seal-of	Т				
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)									
Product Link	Solid-State Non-Dis Containment Sump	•	IMPORTANT! DO NOT MOUNT FLEXIBLE PRODI		Rigid co to cons	onduit ole				
Warranty with System	1 Yr Parts & Labor				Produc	t line				
Warranty (When purchased separately)	1 Yr Parts Only				- Brackets, clamp, etc.					
Where Used (Typical) ☐ Dispenser Pan ☑ Spill Containmer ☑ STP Sump		Space			optional Universal Se Mounting Kit					



Sensor Description	Piping Sump Sensor	The Piping Sump Se	ensor is installed in a tank pipin	ng sump (STP Containment Sump) a	and will detect the pres	ence of a liquid.
Part Number	794380-208					
Category	☐ Discriminating ☑ Non-Discrimin ☐ Position Sensi	ating	Level Sensing Static Testing Hydrostatic			
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	☐ E-85 [☐ E-100 [☑ Green Diesel ☑ DEF ☑ Waste Oil ☑ Motor Oil			
Console Compatibility (*International Only ¹)	Recommended Min. Console	Module Part #	Module Description	Sensor Interface Modules # of Modules per Console	# of Sensor	Availability
	Software	module i di t "	module Becomption	•	Inputs per Module	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TLS-4XX Up to 8 - TLS-4XX	16	Sold Separately
TLS-450	4A or Higher		Module (USM)	w/ opt. TLS-XB		
TLS4 (8601 Series) 1		330020-750			12	
TLS4i (8601 Series)	6A or Higher		Universal Sensor Input	1		Included
TLS4B (8601 Series) ¹	Š	330020-751	Out-put Module (USIOM-AC)	'	6	iliciadea
TLS4c (8601 Series)		330020-751			6	
TLS-350/R/PLUS		329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately
TLS-350J	124/324 or Higher	329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included
TLS-300C		330513-001	2 Probe / 8 Sensor Options			
Alarm Notification	Normal	Sensor in Normal St	tate - No liquid detected			
	Fuel Alarm	Liquid detected at a	minimum of 1.84" (4.67cm)			
	Sensor Out	Sensor not commun	nicating to ATG/Console			
Installation Kit	330020-076	Piping Sump Sensor	r Mounting Kit is included (see	e example installation below).		
Specifications			Example Installation			
Operating Principle	Float/magnetic reed	d switch				
Product Activation Height	Liquid 1.84" (4.67cr	n)	IMPORTANT!			
Operating Temp	+32 to +140°F (0 to	+60°C)	DO NOT MOUNT FLEXIBLE PRODU	SENSUR TO	sting conduit piping	
Dimensions	12" (30.5cm) high, 1	.9" (4.8cm) dia.		6 60 13-40	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	
Miscellaneous/Notes	Standard Cable Len Installation kit 3300 (see example instal	20-076 included			to junction and seal-off	Product pipe
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		*Sump sensor should: 1. Rest on the base o			
Product Link	Piping Sump Sensor	r	Be positioned as couter wall as possi		S Comp	
Warranty with System	1 Yr Parts & Labor		3. Be mounted in a tr		nsor*	
Warranty (When purchased separately)	1 Yr Parts Only		4. Be installed only in	/:	ition	
Where Used (Typical)				Su	mp base	
✓ Dispenser Pan ✓ Spill Containme ✓ STP Sump ☐ Convault Tank						



Sensor Description	Non-Discriminating Standalone Dispenser Pan Sensor	containment. When fluid is of the dispenser without the new	ndalone Dispenser Pan Sensor is designed to detect liquid in a dispenser pan detected in the dispenser pan, this sensor shuts down (removes) AC power to eed for additional relays, circuitry, wiring, or an ATG System. The separate sures intrinsically-safe integrity in a Class 1 Div. 1 Group D; Class 1 Zone 0 IIA
Part Number	847990-001		
Category	☐ Discriminating ☑ Non-Discriminating ☐ Position Sensitive	☐ Level Sensing☐ Static Testing☐ Hydrostatic	
Fuel Compatibility	✓ Gas	✓ Green Diesel DEF ✓ Waste Oil esel 20 ✓ Motor Oil esel 100	
Console Compatibility	Not Required		
	Normal	Dispenser operational	
Alarm Notification	Liquid Detected	Remove power to the disper	nser
	Sensor Out	Remove power to the disper	nser
Installation Kit	330020-012	Universal Sensor Mounting I	Kit (Sold separately)
Specifications			Example Installation
Operating Principle	Reed switch/float		
Product Activation Height	Gasoline: 1.71" (4.34cm), water		Discourse Control United Services
Operating Temperature	+32 to +140°F (0 to +60°C) (fr	<u> </u>	Dispenser Control Interface
Dimensions Miscellaneous/Notes	 11.6" (29.4cm) high, 2.2" (5.6c Latching alarm circuitry ensity restarted until hazardous co Connects directly to dispen Controls most manufacture Cable length: 5ft (1.5m). Control interface dimension 2.2" (5.6cm) dia. 	sures dispenser can not be indition has been corrected. ser wiring. it's dispensers.	Neutral Existing conduit 1-1/2" (3.81cm) to 3/4" (1.9cm) NPT Reducer 3/4" (1.9cm) NPT nipple (customer
Third Party Evaluation Link	http://nwglde.org/evals/veede	er_root_p.html	supplied)
Product Link	Non-Discriminating Stand-Alor	ne Dispenser Pan Sensor	Junction box (in dispenser)
Warranty with System	1 Yr Parts & Labor		
Warranty (When purchased separately)	1 Yr Parts Only		*Dispenser pan sensor should: 1. Rest in the cup or the Optional Universal
Where Used (Typical) ✓ Dispenser Pan ✓ Spill Containmer ✓ STP Sump ☐ Convault Tank	☐ Annular Space Monitoring We ☐ Oil/Water Sep	ell	lowest point of the dispenser pan. 2. Be positioned so as to be removable by pulling the sensor straight up out of the pan. 3. Be mounted in a true vertical position.



Sensor Description	Position Sensiti	ve Sensor		containment sump or dispenser pa ydrocarbons and other liquids.	n and will detect the p	resence of,			
Part Number	794380-323								
Category	☐ Discriminating ☑ Non-Discrimin ☑ Position Sensi	ating	Level Sensing Static Testing Hydrostatic	Static Testing Static Testing					
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	=	Green Diesel DEF Waste Oil Motor Oil		TC = T4 SECURITE INTRINSEQUE Exis MANIMAL III. 576013-306 7. SERIAL III.	FORM NO. 94380-			
Console Compatibility	Recommended			Sensor Interface Modules					
(*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability			
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TLS-4XX Up to 8 - TLS-4XX	16	Sold Separately			
TLS-450	4A or Higher	332012-001	Module (USM)	w/ opt. TLS-XB	10	Join Jeparately			
TLS4 (8601 Series) 1		330020-750			12				
TLS4i (8601 Series)	6A or Higher		Universal Sensor Input Output Module	1		Included			
TLS4B (8601 Series) ¹		330020-751	(USIOM-AC)		6				
TLS4c (8601 Series)		000020 701			Ů				
TLS-350/R/PLUS		329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately			
TLS-350J	124/324 or Higher	329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately			
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included			
TLS-300C		330513-001	2 Probe / 8 Sensor Options						
	Normal		tate - No liquid detected						
Alarm Notification	Sensor Out			sensor not communicating to ATG/	'Console				
I	Fuel Alarm	'	ontainment area at approx. 1.	.5" (3.81cm)					
Installation Kit	330020-012	Universal Sensor Me	ounting Kit (Sold separately)						
Specifications	D 1 1 D 11	D 10 31 (EL 1	Example Installation						
Operating Principle Product Activation Height	Liquid - Approx. 1.5	e, Reed Switch /Float							
Operating Temperature	+32 to +140°F (0 to		Submersible — pump	Sensor 1/2" (1.27cm) NPT cord grip	Weatherproof				
Dimensions	12" (30.5cm) high,	<u> </u>		supplied w/ cable	junction box				
Miscellaneous/Notes	Standard Cable Ler		Containment sump		Seal-off				
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601Series)	Series Consoles			Rigid conduit to console				
Product Link	Position Sensitive S	Gensor	IMPORTANT! DO NOT MOUNT SENSOR T		Brackets, cla	mp. etc.			
Warranty with System	1 Yr Parts & Labor		FLEXIBLE PRODUCT LINE.		from optiona Universal ser	l ' '			
Warranty (When purchased separately)	1 Yr Parts Only				mounting kit Product line				
Where Used (Typical) Dispenser Pan	Annula	ult Tank ır Space	IMPORTANT! Housing mi position indicator against sump or you will have a 'S	t bottom of the —/ Sensor Out' alarm.	Served Served				
✓ Spill Containme ✓ STP Sump		oring Well ter Separator Tank			Incorrect Correct				



Sensor Description		cal)-Discriminating r for Double-Wall		al Sensor for Double-Wall Fiberglas ogy to detect liquid in the interstitia		ate			
Part Number	794380-343								
Category	✓ Discriminating✓ Non-Discrimin✓ Position Sens	nating	Level Sensing Static Testing Hydrostatic						
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas		✓ Green Diesel ✓ DEF ✓ Waste Oil ✓ Motor Oil						
Console Compatibility	Recommended		;	Sensor Interface Modules					
(*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability			
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TLS-4XX Up to 8 - TLS-4XX	16	Sold Separately			
TLS-450	4A or Higher	002012 001	Module (USM)	w/ opt. TLS-XB		colu copulatoly			
TLS4 (8601 Series) ¹		330020-750			12				
TLS4i (8601 Series)	6A or Higher		Universal Sensor Input Out-put Module	1		Included			
TLS4B (8601 Series) ¹	3	330020-751	(USIOM-AC)		6				
TLS4c (8601 Series)									
TLS-350/R/PLUS	124/324 or Higher	329956-001	Type A Sensor Interface Module	Up to 8	8	Sold Separately			
TLS-350J									
TLS-300i				N/A					
TLS-300C		_							
	Normal		tate - No liquid detected						
Alarm Notification	Liquid Alarm	Water detected							
	Fuel Alarm	Fuel or Fuel/Water of							
	Sensor Out	Sensor not commun	nicating to ATG/Console						
Specifications			Example Installation						
Operating Principle	Optical sensor and								
Product Activation Height Operating Temperature	Fuel or Water - < 0.1								
Dimensions	4.3" (11cm) length, width, 0.5" (1.3cm)	1.5" (3.8cm)			eal-off				
Miscellaneous/Notes	Standard Cable 25t 10ft (1.2 to 3m) I.D		Manhole — Riser		Rigid conduit to cons	ole			
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)			Weatherproof ju	unction box				
Product Link	Solid-State Discrim Interstitial Sensor	inating							
Warranty with System	1 Yr Parts & Labor			//					
Warranty (When purchased separately)	1 Yr Parts Only								
Where Used (Typical)			Sen	nsor must reach					
☐ Dispenser Pan ☐ Spill Containment ☐ STP Sump ✔ Convault Tank		Space ing Well er Separator Tank		soft must reach pottom of tank	Fiberglass tank				



Sensor Description	Interstitial Sensor Fiberglass Tanks	r for Double-Wall	The Non-Discriminating Interstitial Sensor for Double-Wall Fiber-Glass Tanks detects the presence of liquid in the interstitial space of the tank.				
Part Number	794390-409						
Category	☐ Discriminating ☑ Non-Discrimin ☐ Position Sens	ating	Level Sensing Static Testing Hydrostatic				
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	☐ E-85 ☐ E-100	✓ Green Diesel DEF ✓ Waste Oil Motor Oil				
	Recommended		;	Sensor Interface Modules			
Console Compatibility (*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TLS-4XX Up to 8 - TLS-4XX	16	Sold Separately	
TLS-450	4A or Higher		Module (USM)	w/ opt. TLS-XB	10	oola ocparatory	
TLS4 (8601 Series) ¹		330020-750			12		
TLS4i (8601 Series)	6A or Higher	000020 700	Universal Sensor Input Out-put Module	1	12	Included	
TLS4B (8601 Series) ¹	~	330020-751	(USIOM-AC)		6	moladea	
TLS4c (8601 Series)		330020 731			o l		
TLS-350/R/PLUS		329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately	
TLS-350J	124/324 or Higher	329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately	
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included	
TLS-300C		330513-001	2 Probe / 8 Sensor Options				
	Normal	Sensor in Normal St	ate - No liquid detected				
Alarm Notification	Liquid Alarm	Liquid detected					
	Sensor Out	Sensor not commun	nicating to ATG/Console				
Specifications			Example Installation				
Operating Principle	Reed Switch / Float	t					
Product Activation Height	0.28" (0.71cm)				を		
Operating Temperature	-4 to +140°F (-20 to	+60°C)	4 77 b		4755 40555 40555		
Dimensions	2.2" (5.6cm) length width, 0.6" (1.5cm)		Manhole		Seal-off		
Miscellaneous/Notes	Standard Cable 25f 10ft (1.2 to 3m) I.D		Rise	er Weatherproof j	Rigid conduit (to co	nsole)	
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		/				
Product Link	Non-Discriminating	Interstitial Sensor					
Warranty with System	1 Yr Parts & Labor		//	//			
Warranty (When purchased separately)	1 Yr Parts Only						
Where Used (Typical)				Sensor must reach			
☐ Dispenser Pan ☐ Spill Containmer ☐ STP Sump ☑ Convault Tank	Annular Space Monitoring W Oil/Water Se	/ell		Sensor must reach bottom of tank	Fiberglass tank		



Sensor Description	Fluid Interstitial	Solid-State Alternative Ethanol Fluid Interstitial Sensor for Double-Wall Fiberglass Tanks The Interstitial Sensor for Double-Wall Fiberglass Tanks with high alcohol product uses solid- state liquid level sensing technology to detect liquid in the interstitial space of the tank.					
Part Number	794380-345						
Category	☐ Discriminating ☑ Non-Discrimin ☐ Position Sensi	ating	☐ Level Sensing ☐ Static Testing ☐ Hydrostatic				
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	✓ E-100	✓ Green Diesel ✓ DEF ✓ Waste Oil ✓ Motor Oil		0		
	Recommended		;	Sensor Interface Modules			
Console Compatibility (*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TLS-4XX	16	Sold Separately	
TLS-450	4A or Higher	33201Z-UU1	Module (USM)	Up to 8 - TLS-4XX w/ opt. TLS-XB	10	Solu Separately	
TLS4 (8601 Series) ¹		220020 750			12	Included	
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input	1	12		
TLS4B (8601 Series) ¹	OA OF Fright	000000 751	Out-put Module (USIOM-AC)	1	,	included	
TLS4c (8601 Series)		330020-751	,		6		
TLS-350/R/PLUS	124/324 or Higher	329956-001	Type A Sensor Interface Module	Up to 8	8	Sold Separately	
TLS-350J		1			•	•	
TLS-300i				N/A			
TLS-300C							
	Normal	Normal Sensor in Normal State - No liquid detected					
Alarm Notification	Fuel Alarm	Liquid detected					
	Sensor Out	Sensor not commun	nicating to ATG/Console				
Specifications			Example Installation				
Operating Principle	Optical - looking at the light beams by interact or interfere	causing them to					
Product Activation Height	Fuel or Water <0.2" E85 <0.4" (1cm)	(0.5cm);					
Operating Temperature	-40 to +122°F (-40	to +50°C)	Manhole		eal-off		
Dimensions	4.3" (11cm) length, width, 0.5" (1.3cm)	,	Riser —	Weatherproof juno	Rigid conduit (to cons	sole)	
Miscellaneous/Notes	Standard Cable 25 10ft (1.2 to 3m) I.	ft (7.6m) fits 4 to D. fiberglass tanks					
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)						
Product Link	Solid-State Alternat Fluid Interstitial Ser			//			
Warranty with System	1 Yr Parts & Labor						
Warranty (When purchased separately)	1 Yr Parts Only		Sensor	r must reach om of tank	. Fiberglass tank		
Where Used (Typical) Dispenser Pan Spill Containmen STP Sump	Convault Annular S Monitorir Oil/Water	Space					



Sensor Description	Interstitial Sensor	for Steel Tanks	The Interstitial Sensor for Steel Tanks is non-discriminating and detects the presence of liquid between the double walls of the tank.				
Part Number	794390-420 (16'/-	4.88m cable); 79439	0-460 (30'/9.14m cable)				
Category	☐ Discriminating ☑ Non-Discrimin ☐ Position Sensi	ating	Level Sensing Static Testing Hydrostatic	entre de la constante de la co			
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	☐ E-85 ☐ E-100	✓ Green Diesel DEF ✓ Waste Oil ✓ Motor Oil				
	Recommended		,	Sensor Interface Modules			
Console Compatibility (*International Only 1)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX	16	Sold Separately	
TLS-450	4A or Higher		Module (OSM)	w/ opt. TLS-XB			
TLS4 (8601 Series) ¹		330020-750			12	Included	
TLS4i (8601 Series)	6A or Higher		Universal Sensor Input Out-put Module	1			
TLS4B (8601 Series) ¹		330020-751	(USIOM-AC)		6	moladou	
TLS4c (8601 Series)		330020 731					
TLS-350/R/PLUS		329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately	
TLS-350J	124/324 or Higher	329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately	
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included	
TLS-300C		330513-001	2 Probe / 8 Sensor Options				
	Normal	Sensor in Normal St	ate - No liquid detected	etected Where Used (Typical) Annular Space			
Alarm Notification	Fuel Alarm	Liquid detected		☐ Dispenser Pan ☐ STP S	Sump Monitori	ng Well	
	Sensor Out	Sensor not commun	nicating to ATG/Console	Spill Containment Conv	ault Tank 🔲 Oil/Wate	r Separator Tank	
Installation Kit	312020-928	2" (50mm) Interstitia	al Sensor Riser Cap and Adap	otor kit (sold separately)			
Specifications			Example Installation				
Operating Principle	Reed Switch / Float	t					
Product Activation Height	1.4" (3.56cm)			8 6 6 6 7	Weatherproof junctio	n box	
Operating Temperature	-4 to +140°F (-20 to) +60°C)			al-off		
Dimensions	2.5" (6.4cm) high, 1	l.5" (3.8cm) diameter		Manhole →	 Rigid conduit to Cor 	isole	
Miscellaneous/Notes	794380-420 (cable 794380-460 (cable 312020-928 (2" (50 and adapter kit)	30ft (9.1m));	1/2" (1.27cm) NP Appropriate re 1/2" (1.27cm) for cable cord	reducer with			
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		Lea	ader cable ———			
Product Link	Interstitial Sensor fo	or Steel Tanks		Riser ——			
Warranty with System	1 Yr Parts & Labor		Tank				
Warranty (When purchased separately)	1 Yr Parts Only		Sensor must rest on bottom of interstitial riser				



	Sensor for Steel T	e Interstitial Fanks	This type of sensor detects the presence of liquid in small containment areas (i.e., spill buckets) or double-wall steel tanks. In addition, it provides an alarm when the sensor is not positioned correctly on the bottom of the interstitial space.				
Part Number	794380-333						
Where Used (Typical)	□ Dispenser Pan			Category ☐ Discriminating ✓ Non-Discriminating			
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	☑ E-85 ☑ E-100	✓ Green Diesel DEF ✓ Waste Oil ✓ Motor Oil	Position Sensitive Level Sensing Static Testing Hydrostatic			
Console Compatibility	Recommended			Sensor Interface Modules	T		
(*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability	
TLS-450PLUS (8600 Series) TLS-450	6A or Higher 4A or Higher	332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/ opt. TLS-XB	16	Sold Separately	
TLS4 (8601 Series) 1 TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-put Module (USIOM-AC)		12		
TLS4B (8601 Series) 1 TLS4c (8601 Series)	oa or riighei	330020-751		1	6	Included	
TLS-350/R/PLUS	329358-001 329356-003 124/324 or Higher 330230-001	329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately	
TLS-350J		329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately	
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included	
TLS-300C		330513-001	2 Probe / 8 Sensor Options				
	Normal	Sensor in Normal St	ate - No liquid detected				
Alarm Notification	Fuel alarm	Not sitting correctly	on bottom of interstitial space or liquid detected				
	Sensor out	Sensor not commun	nicating to ATG/Console				
Installation Kit	312020-928	2" (50mm) Interstitia	al Sensor Riser Cap kit (Sold s	separately)			
Specifications			Example Installation				
Operating Principle	Reed Switch/Float						
	1.4" (3.6cm)			4 4	_ Weatherproof junction	on box	
Operating Temperature	-4 to +140°F (-20 to	+60°C)					
Dimensions	3.5" (8.9cm) high, 1 diameter	.75" (4.4cm)	Ma	hala → 1 / 1 1	al-off Rigid conduit to cons	ole	
Miscellaneous/Notes	Standard Cable Len 312020-928 (2" (50 adapter kit)		1/2"(1.27cm) NPT Appropriate reduct 1/2" (1.27cm) NPT	er with			
I I DIFO PARTY EVAILIATION I INKST	TLS-3XX/TLS-450 S TLS4 (8601 Series)		for cable cord grip	sor cable			
I Product Link	Position Sensitive II for Steel Tanks	nterstitial Sensor	Minimum riserdiameter 1 inch (2.54cm)		1		
Warranty with System	1 Yr Parts & Labor		(2.3)				
Warranty (When purchased separately)	1 Yr Parts Only		Sensor must rest on bottom of interstitial riser				



Sensor Description	Interstitial High A Steel Tanks	lcohol Sensor for	The Interstitial Sensor for between the double walls	Steel Tanks with high alcohol proof the tank.	oduct detects the pres	ence of liquid
Part Number	794380-430					
Category	☐ Discriminating ☑ Non-Discrimir ☐ Position Sens	nating	☐ Level Sensing ☐ Static Testing ☐ Hydrostatic	THE STATE OF THE S		
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas		✓ Green Diesel DEF ✓ Waste Oil ✓ Motor Oil			
Console Compatibility	Recommended		Sensor Interface Modules			
(*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability
TLS-450PLUS (8600 Series) TLS-450	6A or Higher 4A or Higher	332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/ opt. TLS-XB	16	Sold Separately
TLS4 (8601 Series) ¹		330020-750			12	
TLS4i (8601 Series)	6A or Higher	330020-730	Universal Sensor Input Out-put Module	1	12	lando de d
TLS4B (8601 Series) ¹	on or riigher	330020-751	(USIOM-AC)		6	Included
TLS4c (8601 Series)		330020 731			Ů	
TLS-350/R/PLUS		329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately
TLS-350J	124/324 or Higher	329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included
TLS-300C		330513-001	2 Probe / 8 Sensor Options			
	Normal		tate - No liquid detected			
Alarm Notification	Fuel Alarm	Water or Fuel detec				
Installation Kit	Sensor Out		nicating to ATG/Console			
	312020-928	2 (50mm) Interstiti	al Sensor Riser Cap kit (Sold s	separately)		
Specifications Operating Principle	Reed Switch/Float		Example Installation			
Product Activation Height	1.1" (2.8cm)				Weatherproof junc	tion box
Operating Temperature	-4 to +140°F (-20 to) +60°C)			_ Geal-off	
Dimensions	2.5" (6.4cm) high, 1.		Į	/anhole →	Rigid conduit to	console
Miscellaneous/Notes	Standard cable 15f 312020-928 2" (50d and adapter kit)	* **	1/2" (1.27cm) NF Appropriate red 1/2" (1.27cm) N for cable cord gi	ucer with		
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)					
Product Link	Interstitial High Alc Steel Tanks	ohol Sensor for	Leader cable			
Warranty with System	1 Yr Parts & Labor			Tank		
Warranty (When purchased separately)	1 Yr Parts Only			Tank		
Where Used (Typical) ☐ Dispenser Pan ☐ STI ☐ Spill Containment ☑ Conta	P Sump Mor	ular Space nitoring Well Water Separator Tank	Sensor must rest on bottom of interstitial riser			



Sensor Description	MicroSensor	MicroSensor The non-discriminating small, easy to install solid-state MicroSensor is designed to detect liquid in the interstitial space of a steel tank or a fill riser containment.						
Part Number	794380-344							
Category	☐ Discriminating ✓ Non-Discrimin ☐ Position Sensi	ating	Level Sensing Static Testing Hydrostatic	1				
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	☑ E-85 ☑ E-100	✓ Green Diesel ✓ DEF ✓ Waste Oil ✓ Motor Oil					
Canada Campatibility	Recommended		;	Sensor Interface Modules				
Console Compatibility (*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability		
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TLS-4XX Up to 8 - TLS-4XX	16	Sold Separately		
TLS-450	4A or Higher	332012 001	Module (USM)	w/ opt. TLS-XB	10	Sold Separately		
TLS4 (8601 Series) ¹		330020-750			10			
TLS4i (8601 Series)	6A or Higher	330020-730	Universal Sensor Input	1	12	Included		
TLS4B (8601 Series) ¹	3 .	330020-751	Out-put Module (USIOM-AC)	'	6	ilicidaea		
TLS4c (8601 Series)		330020-731			0			
TLS-350/R/PLUS	124/324 or Higher	329956-001	Type A Interface Module	Up to 8	8	Sold Separately		
TLS-350J								
TLS-300i				N/A				
TLS-300C								
	Normal	Sensor in Normal St	ate - No liquid detected					
Alarm Notification	Fuel Alarm	Liquid detected at a	minimum of 1" (2.54cm)					
	Sensor Out	Sensor not commun	nicating to ATG/Console					
Installation Kit	312020-928	2" (50mm) Interstiti	al Sensor Riser Cap and Adap	ter kit (Sold separately)				
Specifications			Example Installation					
Operating Principle	Optical							
Product Activation Height	1" (2.54cm)							
Operating Temperature	-40 to +122°F (-40 t	to +50°C)		4 . 6 . 7	Weatherproof juncti	on box		
Dimensions	Dia. 0.63" (16mm),	Length 2" (51mm)			- Seal-off			
Miscellaneous/Notes	Standard Cable Ler 312020-928 (2" (50 and Adapter kit)	ngth: 25ft (7.6m); mm) Riser cap	Mar 1/2" (1.27cm) NPT	nhole	 Rigid conduit to con 	sole		
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)		Appropriate reduce 1/2" (1.27cm) NPT	er with —				
Product Link	MicroSensor		for càble cord grip					
Warranty with System	1 Yr Parts & Labor		Sens	or cable —				
Warranty (When purchased separately)	1 Yr Parts Only		Minimum r 1 inch (2.5	riser diameter 4cm)		\neg		
Where Used (Typical) ☐ Dispenser Pan ☐ Spill Containment ☐ STP Sump ☑ Convault Tank	✓ Annular S		MicroSensor must rest on bottom of interstitial riser					



Sensor Description	Dual-Point Hydrostatic Reservoir Sensor (Brine-Filled Double-Wall Tank Sensor)	double wall stor between a high	Reservoir Sensor accurately detects fluid level change in the reservoir and interstice of a rage tank. The Dual-Point version is ideal for high groundwater areas, and can differentiate level alarm condition and a low level alarm condition. If an inner-wall leak occurs, the brine ank triggering a low level alarm. If an outer wall leak occurs, fluid seeps into the interstice h level alarm.				
Part Number	794380-303						
Category	Discriminating Non-Discrimin Position Sensi	ating	☐ Level Sensing☐ Static Testing☐ Hydrostatic		Ť		
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas 1 Single use only (**	E-851 E-100 Bio-Diesel 20 Bio-Diesel 100	Green Diesel DEF Waste Oil Motor Oil bility Guide in E-10 or less)				
Console Compatibility	Recommended		:	Sensor Interface Modules			
(*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability	
TLS-450PLUS (8600 Series) TLS-450	6A or Higher 4A or Higher	332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/ opt. TLS-XB	16	Sold Separately	
TLS4 (8601 Series) 1 TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input	1	12	Included	
TLS4B (8601 Series) 1 TLS4c (8601 Series)	o, cor riighei	330020-751	Out-put Module (USIOM-AC)		6		
TLS-350/R/PLUS		329958-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately	
TLS-350J	124/324 or Higher	329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately	
TLS-300i	_	330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included	
TLS-300C		330513-001	2 Probe / 8 Sensor Options				
	Normal	Float is in the Cente	r position (correct amount of	brine in reservoir)			
Alarm Notification	Low Liquid	Brine drops below 1	.2" (3cm)	Where Used (Typical)	✓ Annula	r Space	
	High Liquid	Brine rises above 13	.13" (33.4cm)			ring Well	
	Sensor Out	Sensor not commun	nicating to ATG/Console	Spill Containment Con	vault Tarik 🔝 Oli/Wa	ter Separator Tank	
Specifications			Example Installation				
Operating Principle	Reed Switch /Float						
Product Activation Height	Low 1.2" (3cm), High	· · · · · · · · · · · · · · · · · · ·					
Operating Temp	-13 to +122°F (-25 t	•		Manhole Wea	therproof junction box		
Dimensions Miscellaneous/Notes	 Vented riser cap Reservoir solutio ethylene glycol in 	ength: 12ft (3.65m) assembly included ns: Up to 50% water; up to 50% n water; salt brine				onsole	
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		Dual-Point Hydrostatic Sensor				
Product Link	Dual-Point Hydrosta	atic Reservoir Sensor		Float			
Warranty with System	1 Yr Parts & Labor		Brine level		Double-wall tank		
Warranty (When purchased separately)	1 Yr Parts Only						



Sensor Description	Single-Point Hydrostatic Reservoir Sensor (Brine-Filled Double-Wall Tank Sensor)	wall storage tar the brine seeps	Reservoir Sensor accurately detects fluid level change in the reservoir and interstice of a double- nk. The Single-Point version can be used in low groundwater locations. If an inner-wall leak occurs, into the tank triggering a fuel alarm. If the outer wall leaks, the brine seeps out of the tank tring a fuel alarm.				
Part Number	794380-301						
Category	☐ Discriminating ☐ Non-Discrimir ☐ Position Sens	nating	☐ Level Sensing ☐ Static Testing ☑ Hydrostatic			8	
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas 1 Single use only (Bio-Diesel 100	✓ Green Diesel □ DEF □ Waste Oil □ Motor Oil ability Guide in E-10 or less)		10		
0 10 (3.33)	Recommended			Sensor Interface Modules	_		
Console Compatibility (*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TLS-4XX	16	Sold Separately	
TLS-450	4A or Higher	332812-001	Module (USM)	Up to 8 - TLS-4XX w/ opt. TLS-XB	16	Sold Separately	
TLS4 (8601 Series) 1 TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input	1	12	Included	
TLS4B (8601 Series) 1 TLS4c (8601 Series)		330020-751	Out-put Module (USIOM-AC)	1	6	ilicidded	
TLS-350/R/PLUS		329958-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately	
TLS-350J	124/324 or Higher	329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately	
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included	
TLS-300C		330513-001	2 Probe / 8 Sensor Options				
	Normal	Float is in the UP pos	ition (correct amount of brine in	n reservoir) Where Used (Typical)	✓Annu	lar Space	
Alarm Notification	Fuel Alarm	Brine level below 1.7	74" (4.4cm)	Dispenser Pan		toring Well	
	Sensor Out	Sensor not commun	nicating to ATG/Console	Spill Containment .	☑ Convault Tank ☐ Oil/W	ater Separator Tank	
Specifications			Example Installation				
Operating Principle	Reed Switch /Float	:					
Product Activation Height	1.75" (4.4cm)						
Operating Temperature	-13 to +135°F (-25	to +57°C)		Manhole Weath	nerproof junction box		
Dimensions	6" (15cm) high, 2.5	" (6.4cm) dia.	-		T		
Miscellaneous/Notes	 Vented riser cap Reservoir solution ethylene glycol in 	water; up to 50% in water; salt brine				nsole	
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		Single-Poi Hydrostat		r		
Product Link	Single-Point Hydros Reservoir Sensor	static	F	Float	Double-wall tank		
Warranty with System	1 Yr Parts & Labor		Brine level _		/ /		
Warranty (When purchased separately)	1 Yr Parts Only						



Sensor Description	Single-Point Mini- Sensor for Double		The Single-Point Mini-Hydrostatic Sensor accurately detects fluid level change in the interstice reservoir of a double-wall sump. If a leak occurs in the sump interstice, the brine seeps out of the reservoir triggering a low level alarm.				
Part Number	794380-304						
Category	☐ Discriminating ☐ Non-Discrimin ☐ Position Sens	nating	☐ Level Sensing ☐ Static Testing ☑ Hydrostatic			7	
Fuel Compatibility	Gas Diesel Kerosene Jet Fuel Aviation Gas	E-15 E-85 E-100 Bio-Diesel 20 Bio-Diesel 100	✓ Green Diesel DEF ✓ Waste Oil ✓ Motor Oil				
Console Compatibility	Recommended		;	Sensor Interface Modules	ı		
(*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TLS-4XX Up to 8 - TLS-4XX	16	Cold Congretaly	
TLS-450	4A or Higher	332012-001	Module (USM)	w/ opt. TLS-XB	10	Sold Separately	
TLS4 (8601 Series) 1 TLS4i (8601 Series)		330020-750	Universal Sensor Input		12		
, ,	6A or Higher		Out-put Module	1		Included	
TLS4B (8601 Series) 1 TLS4c (8601 Series)		330020-751	(USIOM-AC)		6		
TLS-350/R/PLUS		329958-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately	
TLS-350J	124/324 or Higher	329356-003	4 Probe / 4 Sensor Interface Module		4	Sold Separately	
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included	
TLS-300C		330513-001	2 Probe / 8 Sensor Options				
	Normal	Float is in UP positi	on (correct amount of brine in	reservoir)			
Alarm Notification	Fuel Alarm	Float is in DOWN po	osition (low brine level in reservoir)				
	Sensor Out	Sensor not commu	nicating to ATG/Console				
Specifications			Example Installation				
Operating Principle	Reed Switch/Float						
Product Activation Height	0.79" (2cm)		<u> </u>				
Operating Temperature	-13 to +122°F (-25	to +50°C)	် ့ိ (© o	oncrete			
Dimensions	2.5" (6.4cm) high, 1	.5" (3.8cm) dia.	} .	pad		* - <u>a</u> - · · · · · · · · · · · · · · · · · ·	
Miscellaneous/Notes	Standard Cable Lei up to 50% ethylene to 50% propylene g brine solution of up	glycol in water; up ycol in water; salt	Double-wall sump Coupling and seals as required for conduit	Sensor in	interstitial fluid reserv	roir	
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		egress (customer supplied) —	Seal-off a (custome	nd junction box r supplied)		
Product Link	Single-Point Mini-H	ydrostatic Sensor	Rigid conduit to conso	le Use tie wraps to keep cable clear of			
Warranty with System	1 Yr Parts & Labor			sump components and lid			
Warranty (When purchased separately)	1 Yr Parts Only		Tank				
Where Used (Typical) Dispenser Pan Spill Containment STP Sump	Convault Annular S Monitorin Oil/Water	pace					



Sensor Description	Vapor Sensor	The Vapor Monitoring Well Sensor detects hydrocarbon vapor exceeding the programmed threshold limit in the monitoring well.					
Part Number	794390-700						
Category	☐ Discriminating ☐ Non-Discrimin ☐ Position Sens ☐ Level Sensing	nating itive	Static TestingHydrostatic✓ VaporGroundwaterOil/Water Separator				
Fuel Compatibility	✓ Gas ☐ Diesel ☐ Kerosene ✓ Jet Fuel ✓ Aviation Gas	✓ E-15 ☐ E-85 ☐ E-100 ☐ Bio-Diesel 20 ☐ Bio-Diesel 100	☐ Green Diesel ☐ DEF ☐ Waste Oil ☐ Motor Oil		the fire are a met att		1111111
Canada Campatibility	Recommended		;	Sensor Interface Mo	odules		
Console Compatibility (*International Only 1)	Min. Console Software	Module Part #	Module Description	# of Modules p	er Console	# of Sensor Inputs per Module	Availability
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TL Up to 8 - TL		Ω	Sold Separately
TLS-450	4A or Higher	332012-001	Module (USM)	w/ opt. TL		8	Sold Separately
TLS4 (8601 Series) ¹		330020-750				6	
TLS4i (8601 Series)	6A or Higher	330020-730	Universal Sensor Input	1		Ů,	Included
TLS4B (8601 Series) ¹	o or or riigher	220000 751	Out-put Module (USIOM-AC)			4	iliciadea
TLS4c (8601 Series)		330020-751				4	
TLS-350/R/PLUS	124/324 or Higher	329357-001	Vapor Sensor Interface Module	Up to	8	5	Sold Separately
TLS-350J							
TLS-300i				N/A			
TLS-300C							
	Short Alarm	A short has occurre	d in the sensor wiring or in the	e sensor.			
Alarm Notification	Water Alarm	The vapor sensor is immersed in water and is incapable of detecting fuel vapors.					
	Fuel Alarm	Fuel vapors are present in the area being monitored by the sensor.					
	Sensor Out Alarm	Sensor setup was p	erformed incorrectly; it is disc	connected, or, it is n	ot functioning p	roperly.	
Installation Kit	312020-939	4" (100mm) Vapor S	Sensor Riser Cap (Sold separa	ntely)			
Specifications			Example Installation				
Operating Principle	Adsistor						
Product Activation Height	Gasoline Vapor >50	00 ppm		- 124 - 3756 W			
Operating Temperature	-4 to +140°F (-20 to	+60°C)					
Dimensions (Sensor)	4.9" (12.4cm) long	1.1" (2.8cm) dia.		Manhala 7		SENTOSTA.	
Miscellaneous/Notes	Standard Cable 18	ft (5.5m)		Manhole		Rigid conduit to c	onsole
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)		Сар	and cord grips	Weatherp and seal-o	roof junction box off	
Product Link	Vapor Sensor			Į	Ц		
Warranty with System	1 Yr Parts & Labor			•			
Warranty (When purchased separately)	1 Yr Parts Only		Suspend vapor se 12" (30.48cm) abo	nsor		orated PVC monitoring nousing	
Where Used (Typical) Dispenser Pan Spill Containment STP Sump Convault Tank	☐ Annular Spa ☑ Monitoring \ ☐ Oil/Water Se		level reached by w known; or 12" (30. the bottom of the water in the well.	≀ater table. if l•	Vapor	r sensor	



Sensor Description	Groundwater Sensor	The Groundwater Sensor detects free hydrocarbons in the C5 to C16 range on the water table in up to 20ft (6.1m) deep monitoring wells.					
Part Number	794380-621 for	7-10ft (2-3m) wells;	794380-622 for 10-5ft (3-4.5	im) wells; 794380-624 for 15-20 ft	(4.5-6m) wells		
Category	☐ Discriminating ☐ Non-Discrimin ☐ Position Sens ☐ Level Sensing	nating itive	Static Testing Hydrostatic Vapor Groundwater Oil/Water Separator				
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	✓ E-15 ☐ E-85 ☐ E-100 ✓ Bio-Diesel 20 ☐ Bio-Diesel 100	✓ Green Diesel DEF ✓ Waste Oil ✓ Motor Oil				
Canada Campatibility	Recommended		,	Sensor Interface Modules			
Console Compatibility (*International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TLS-4XX Up to 8 - TLS-4XX	8	Sold Separately	
TLS-450	4A or Higher	332012-001	Module (USM)	w/ opt. TLS-XB	0	Solu Separately	
TLS4 (8601 Series) ¹		330020-750			6		
TLS4i (8601 Series)	6A or Higher	330020 730	Universal Sensor Input Out-put Module	1	0	Included	
TLS4B (8601 Series) ¹	OA OI TIIGIIEI	330020-751	(USIOM-AC)		4		
TLS4c (8601 Series)		330020-731					
TLS-350/R/PLUS	124/324 or Higher	329399-001	Groundwater Sensor Interface Module	Up to 8	5	Sold Separately	
TLS-350J							
TLS-300i				N/A			
TLS-300C							
	Normal		er - no hydrocarbons detected				
Alarm Notification	Water Out	Sensor not in water	•				
	Fuel Alarm	Permeable material					
	Sensor Out	Sensor not commun	nicating to ATG/Console				
Specifications			Example Installation				
Operating Principle	Electrical conductiv	vity					
Product Activation Height Operating Temperature	0.02" (0.5mm) +32 to +104°F (0 to	140°C)					
Dimensions (Water Float)	4.9" (12.4cm) long						
Miscellaneous/Notes	Locking cap includ 64" (162.6cm)	, ,	Cord grips –				
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		Sensor well cap w/ locking handle	Rigid Weatherproof jun	ction box		
Product Link	Groundwater Senso	or	F. day	o and seal off			
Warranty with System	1 Yr Parts & Labor		Extra sensor len should not exce	ed	VC monitoring well ho	usina	
Warranty (When purchased separately)	1 Yr Parts Only		2ft (60cm) Sen:	0,0	o monitoring from no	uog	
Where Used (Typical)			Jen.				
☐ Dispenser Pan ☐ Spill Containment ☐ STP Sump ☐ Convault Tank	☐ Annular ☑ Monitori ☐ Oil/Wate	•	Water floa	at bottom	d water float 2"- 4" (5 - of well. NOTE: Water ged or console will ind rm.	float must be	



Sensor Description	Oil / Water Separator Sensor (OWSS)	Separator tank. The on the TLS monitor	The Oil Water Separator Sensor (OWSS) allows you to utilize your existing Veeder-Root system for your Oil Water Separator tank. The OWSS facilitates operation of the tank by monitoring product thresholds, and will activate alarms on the TLS monitoring system when tank contents exceed a predetermined threshold. The probe also provides the conditions for these alarms and a full alarm history.					
Part Number	794690-xxx							
Category	☐ Discriminating ☐ Non-Discriminating ☐ Position Sensitive ☐ Level Sensing		Static Testing Hydrostatic Vapor Groundwater Oil/Water Separator					
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas		☐ Green Diesel ☐ DEF ☑ Waste Oil ☑ Motor Oil	•		-		
Console Compatibility	Recommended			Sensor Interface Modules				
(International Only ¹)	Min. Console Software	Module Part #	Module Description	# of Modules per Console	# of Sensor Inputs per Module	Availability		
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor	Up to 4 - TLS-4XX Up to 8 - TLS-4XX	16	Sold Separately		
TLS-450	4A or Higher	332012 001	Module (USM)	w/ opt. TLS-XB	10	Sold Separately		
TLS4 (8601 Series) 1		330020-750			12			
TLS4i (8601 Series)	6A or Higher	330020-730	Universal Sensor Input	1				
TLS4B (8601 Series) 1	oA of Fligher		Out-put Module (USIOM-AC)	1	_	Included		
TLS4c (8601 Series)		330020-751	,		6			
TLS-350/R/PLUS		329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately		
TLS-350J	124/324 or Higher	329356-003	4 Probe / 4 Sensor Interface Module	1	4	Sold Separately		
TLS-300i		330230-001	4 Probe / 8 Sensor Interface Module		8	Included		
TLS-300C		330513-001	2 Probe / 8 Sensor Options					
	Normal	Tank is properly set	tup with liquid					
Alarm Notification	Liquid Warning	Oil is present in tank	k					
	Liquid Alarm	Oil has reached its r	maximum volume, remove fro	m tank				
	Sensor Out	Sensor not commun	nicating to ATG/Console					
Specifications								
Operating Principle	Reed Switch/Float							
Product Activation Height	Custom-Based on	Tank Configuration						
Operating Temperature	0 to +140°F (0 to +							
Dimensions	Custom-Based on							
Miscellaneous/Notes			See Appendix B in this manual	for sensor sizing				
Product Link	Oil Water Separator	r Sensor						
Warranty with System	1 Yr Parts & Labor							
Warranty (When purchased separately)	1 Yr Parts Only							
Where Used (Typical)								
Spill Containment M	nnular Space Ionitoring Well il/Water Separator T	- Tank						

Appendix A - Sensor Type Programming Table

The table below is helpful when selecting Sensor Type (for TLS3 Series consoles) or Sensor Model (for TLS4/8601 and TLS-450 and TLS-450PLUS consoles) during sensor setup.

Sensor Type Programming Table for TLS Consoles

Sensor	Part Number	Sensor Category (Location)	TLS3 Series Sensor Type	TLS4/8601 Series TLS-450 and TLS-450PLUS Sensor Model
Discriminating Dispenser Pan and Sump - Standard	794380-322 (DPS), 794380-352 (CSS)	Sump/Pan	Liquid Sensor Setup: Sensor Type - Dual Float Discriminating	Device Setup Liquid Sensor: Model - Dual Float Discriminating
Solid-State Discr. Dispenser Pan and Containment Sump - Optical	794380-320 (DPO), 794380-350 (CSO)	Sump/Pan	3-Wire C.L. Setup: Sensor Mode - Standard	Device Setup Type B Sensor: Model - Ultra/Z-1 (Standard)
Mag Sump	857080-XXX	Sump/Pan	Smart Sensor Setup: Sensor Category- Mag Sensor	Device Setup MAG Sensor
Solid-State Dispenser Pan and Containment Sump	794380-321 (DP); 794380-351 (CS)	Sump/Pan	2-Wire C.L. Setup: Sensor Type - Ultra 2	Device Setup Type A Sensor: Model - Ultra 2
Piping Sump-12' (3.66m)	794380-208	Sump/Pan	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State
Position Sensitive High Alcohol Compatible!	794380-323 (12' Cable)	Sump/Pan	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State
Solid-State Discr. Interstitial for Double-Wall Fiberglass Tanks with 25' (7.62m) Cable	794380-343	Annular Space	2-Wire C.L. Setup: Sensor Type - Discrim Interstitial	Device Setup Type A Sensor: Model - Discrim. Interstitial
Interstitial for Double-Wall Fiberglass Tanks	794380-409	Annular Space	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State
Solid-State Interstitial High Alcohol for Double-Wall Fiberglass Tanks	794380-345	Annular Space	2-Wire C.L. Setup: Sensor Type - Ultra 2	Device Setup Type A Sensor: Model - Ultra 2
High Alcohol Compatible!			1: :10 0: 0 7	2 . 2
Interstitial for Steel Tanks	794380-4X0	Annular Space	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State
Position Sensitive Interstitial for Steel Tanks with 20' (6.1m) Cable High Alcohol Compatible!	794380-333	Annular Space	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State
Interstitial High Alcohol for Steel Tanks with 15' (4.57m) Cable High Alcohol Compatible!	794380-430	Annular Space	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State
MicroSensor High Alcohol Compatible!	794380-344	Annular Space	2-Wire C.L. Setup: Sensor Type - Ultra 2	Device Setup Type A Sensor: Model - Ultra 2
Hydrostatic Reservoir	794380-301 (1 float)	Annular Space	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State
	794380-303 (1 float)	Annular Space	Liquid Sensor Setup: Sensor Type - Dual Point Hydrostatic	Device Setup Liquid Sensor: Model - Dual-Point Hydrostatic
Single-Point Mini-Hydrostatic for Double-Wall Sumps	794380-304	Annular Space	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State
Vapor Monitoring Well	794390-700	Monitor Well	Vapor Sensor Setup	Device Setup Vapor Sensor
Groundwater	794380-62X	Monitor Well	Groundwater Sensor Setup	Device Setup Groundwater Sensor
Oil Water Separator	794690-XXX	Oil Water Separator Tank	Liquid Sensor Setup: Sensor Type - Dual Float Discriminating	Device Setup Liquid Sensor: Model -Dual Float Discriminating

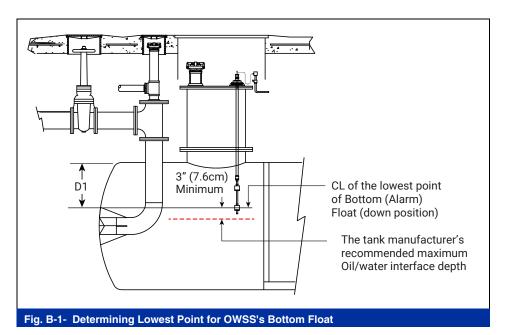
Appendix B - How To Order An Oil Water Separator Sensor (OWSS)

Sensor Sizing

To determine the correct sensor length for the oil water separator tank application use the manufacturer's tank chart to determine height-to-volume thresholds for warning and alarm conditions and make three measurements, including verifying fluid depths on the manufacturer's tank chart.

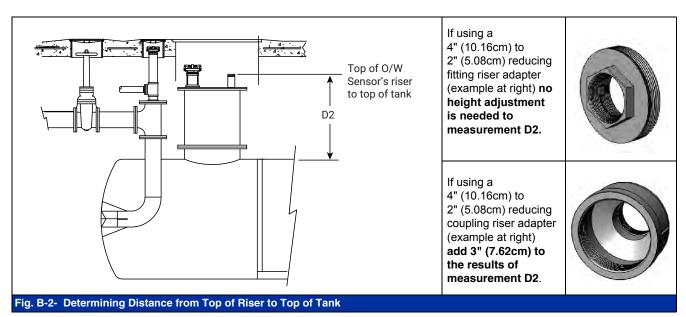
1. Determining the Lowest Point of the Bottom (Alarm) Float

Measure and record the distance from inside the top of the tank to the maximum depth of waste oil water interface in the tank as recommended by the tank's manufacturer (Fig.B-1). Subtract 3" (7.62cm) from this measurement to determine the lowest permissible point in the tank for the centerline of the sensor's bottom (alarm) float and **note** this measurement as D1.



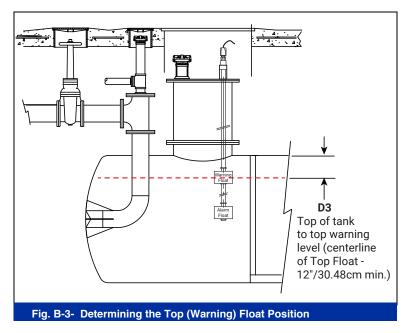
2. Determining Distance from Top of Riser to Top of Tank

Measure from the top of the riser down to the top of the tank and if using the riser reducing 4x2 fitting, **note this measurement as D2**. OR, if using the riser reducing 4x2 coupling, add 3" (7.62cm) to the measured distance and **note this measurement as D2** (Fig.B-2).



3. Determining the Top (Warning) Float Position

Consult the tank chart to determine the height of the top warning level (centerline of the Top Float). Measure the distance from the top of the tank to the centerline of the Top Float (Fig.B-3). **Note this measurement as D3.**



4. Determining Correct Sensor to Order

Use the D1, D2 and D3 measurements made in steps 1 - 3 to determine the part number of the sensor from the Veeder-Root Oil Water Separator Sensor matrix shown in Fig.B-4.

For example: D1 = 33" (83.82cm), D2 = 24.5" (62.23cm), D3 = 13" (33.02cm) D2 + D3 = Top Float position, i.e., 24.5" (62.23cm) + 13" (33.02cm) = 37.5" (95.25cm) (Dimension A in the Veeder-Root P/N matrix)

D1 - D3 = Bottom Float position, i.e., 33" (83.82cm) - 13" (33.02cm) = 20" (50.8cm) (Dimension B in the Veeder-Root P/N matrix)

Using the OWSS float positions calculated in the example above, the Top Float (Warning Float) would activate at 13" (33.02cm) below the top of the tank and the Bottom Float (Alarm Float) would activate at 33" (83.82cm) below the top of the tank. The correct part number for these example float positions would be 794690-053.

Round dimension A or B down to the nearest available option if necessary. Note: Doing so will impact the float Warnings and Alarms generated on the TLS system.

Alarm Conditions

Alarm Type	Alarm Condition	
Liquid Warning	Oil present in tank	
Liquid Alarm	Oil has reached its maximum volume, remove from tank	
Sensor Out Alarm	No communication to ATG	
Normal	Tank is properly setup with liquid	

Order OWSS part number 794690-XXX, where XXX equals the three digits where Dimensions A and B intersect in the part number matrix:

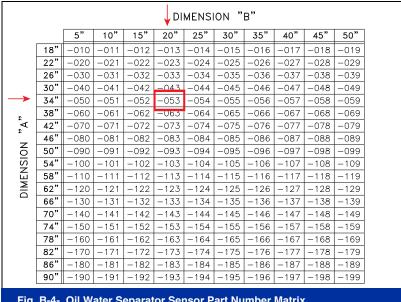


Fig. B-4- Oil Water Separator Sensor Part Number Matrix

Appendix C - Direct Burial Cable

The Veeder-Root direct burial cable system provides everything needed for an alternative wiring installation method for use with our probes and sensors. Installation of buried cable should only be done in those locations where existing conduit is not available, and where local codes permit the use of buried cable instead of conduit, and epoxy splices instead of junction boxes. Before considering buried cable runs, check with the local authority having jurisdiction to be sure that direct burial practices are acceptable at your location.

If you are unfamiliar with direct burial techniques, you should consider either of two Veeder-Root kits:

- Direct Burial Cable Site Preparation Kit (P/N 848100-500) which contains the Direct Burial Installation Manual, a splice kit installation manual and the 890-SL joint sealant instruction guide.
- Direct Burial Cable Demonstration Kit (P/N 848100-502) which contains one splice kit with installation instructions, a 890-SL joint sealant instruction guide, a 6" (15.24cm) piece of 2 conductor direct burial wire and filler rod.

After reviewing the contents of these kits, and after verifying local code requirements, you should be much more informed as to the applicability of this wiring method for your site.

Direct Burial Cable Specifications

2-CONDUCTOR, SHIELDED CABLE		3-CONDUCTOR, SHIELDED CABLE	
Item	Description	Item	Description
Primaries		Primaries	
Conductor	#18 AWG (19/30) tinned copper	Conductor	#18 AWG (19/30) tinned copper
Insulation Type	Fluoropolymer	Insulation Type	Fluoropolymer
Primary O.D.	0.063" (1.6mm) nominal	Primary O.D.	0.063" (1.6mm) nominal
Drain	#20 AWG (7/28) tinned copper, located under the tape	Drain	#20 AWG (7/28) tinned copper, located under the tape
Jacket		Jacket	
Insulation Type	Fluoropolymer	Insulation Type	Fluoropolymer
Final O.D.	0.161" (4.1mm)	Final O.D.	0.171" (4.34mm)
Color	Red tint	Color	Blue tint
UL Temp Rating	257°F (125°C)	UL Temp Rating	392°F (200°C)

Direct Burial Cable Components

Order equal lengths of filler rod and either type cable. Refer to Veeder-Root manual 576013-858 to estimate length.

- Filler rod P/N 848100-1XX, lengths of 100' to 2000' (30.5 to 610m), in increments of 100' (30.5m)
- Filler rod installation tool-P/N 848100-904, adjusts to 1/8" (0.32cm), 1/4" (6.4mm), 3/8" (9.5mm), or 1/2" (12.7mm) saw cuts
- 2-conductor cable P/N 848100-2XX, lengths of 100' to 2000' (30.5 to 610m), in increments of 100')
- 3-conductor cable P/N 848100-3XX, lengths of 100' to 2000', in increments of 100')
- 29oz. cartridge of 890-SL Sealant P/N 848100-800, 60 linear feet (18m) in 1/4" (6.4mm) wide cut
- 4.5 gallon (17 liter) can of 890-SL Sealant P/N 848100-805, 1200 linear feet (365m) in 1/4" (6.4mm) wide cut

- Sealant Cartridge Gun, Manual Driven P/N 848100-901 (for use with P/N 848100-800 cartridge)
- Sealant Bulk Gun, Air Driven P/N 848100-903 (for use with P/N 848100-805 4.5 gallon (17 liter) can)

Direct Burial Cable Installation Example

