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	2	Х	Х						Х						Х	Х	Х	Х	Х	Х	х1		Х		Х		Х	Х
Discriminating Containment Sump	794380-352	3		х	х					Х						Х	х	х	Х	х	х	x ¹		х		Х		Х	х
Solid-State (Optical) Discr. Dispenser Pan	794380-320	4	Х	х						х						Х	х	х	х	х	х	x ¹		Х	х			х	х
Solid-State (Optical) Discr. Containment Sump	794380-350	5		х	х					Х						х	х	х	Х	х	Х	x ¹		х		Х		х	х
Mag. Discr. Level Indicating Containment Sump	857080-XXX	6	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	7	Х	Х							Х					Х	х	х	х	х	х			Х	х	Х		Х	Х
Solid-State Non-Discriminating Containment Sump	794380-351	8		Х	Х						Х					Х	Х	Х	Х	Х	Х			Х	Х	Х		Х	Х
Piping Sump-12' (3.66m) Cable	794380-208	9	Х	Х	Х						Х					Х	Х	Х	Χ	Х	Χ			Х		Χ		Х	Х
Non-Discriminating Standalone Dispenser Pan	847990-001	10	Х	Х	Х						Х					Х	Х	х	х	х	х			Х		х		Х	Х
Position Sensitive	794380-323	11	Х	Х	Х						Х	Х				Х	Х	Х	Х	Х	Х	Х	Х	Х		Χ		Х	Х
Solid-State Discr. Interstitial for Fiberglass Tanks	794380-343	12					х			Х						Х	Х	Х	Х	Х	Х			х	Х	Х	Х	Х	Х
Interstitial for Double-Wall Fiberglass Tanks	794390-409	13					Х				х					х	х	х	Х	х	Х			Х		Х			
Solid-State Interstitial for Fiberglass Tanks, High Alcohol	794380-345	14					Х				х					х	х	х	х	х	х	Х	Х	Х	х	Х	Х	Х	Х
Interstitial for Steel Tanks	794390-4X0	15			Х		Х				Χ					Χ	Χ	Х	Χ	Х	Χ			Х		Χ		Х	Х
Interstitial for Steel Tanks, Position Sensitive ²	794380-333	16		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	17					х				Х					Х	х	х	х	х	х	х	Х	Х	х	Х		Х	Х
MicroSensor	794380-344	18		Х			Χ				Х					Х	Х	Х	Х	Х	Х	Χ	Х	Х	Х	Х	Х	Х	Х
(Dual-Point) Hydrostatic Reservoir	794380-303	19					Х								Х	Х	Х	х	Х	х	Х	x ¹	x ¹	Х		Х		х	х
Single-Point Hydrostatic	794380-301	20					Χ								Χ	Χ	Χ	Χ	Χ	Χ	Χ	x ¹	x ¹	Χ		Х			
Single-Point Mini-Hydrostatic Reservoir (High Alcohol)	794380-304	21					Х								Х	Х	Х	х	Х	х	Х	Х	Х	Х	х	Х		Х	Х
Monitoring Well Vapor	794390-700	22						Χ								Χ			Х	Х	Х								
Groundwater	794380-62X	23						Х								X	Х	Х	Х	Х	Х			Х		Х		Х	Х
Oil Water Separator	794690-XXX	24							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		pe 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 ≤ Ta ≤ +60°C CL1, DW1 GPD CL1, ZONE O	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	ON SERVICE STATE OF SER		
	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	222212 221	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	Join Seharately		
TLS4 (8601 Series) ²		000000 750			10			
TLS4i (8601 Series)	CA	330020-750	Universal Sensor Input/	1	12	localised and		
TLS4B (8601 Series) ²	6A or Higher		Out-put Module	1		Included		
TLS4c (8601 Series)		330020-751	(USIOM-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	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 materi	al saturated with Fuel					
	Sensor Out	Sensor not commi	unicating to ATG/Console					
Installation Kit	330020-012	Universal Sensor N	Mounting 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),			ickets, clamp, etc., from	Li+		
Operating Temperature	+32 to +140°F (0	to +60°C)	_		versal sensor mounting	KIL		
Dimensions	11.6" (29.4cm) hi	gh, 2.2" (5.6cm) dia.	Cord grip	/ Weat	herproof junction box wi 1.27cm) NPT threads (1	th		
Miscellaneous/Notes	Standard Cable L	ength: 12ft (3.66m)	Product line —		262cm³) volume minimi			
Third Party Evaluation Links	TLS-3XX/TLS-450 TLS4 (8601 Series		les Dispenser Seal-off					
Product Link	Discriminating Dis	spenser Pan Sensor			 Rubber grommet sea clamped on inside - or as recommended l 			
Warranty with System	1 Yr Parts & Labo	r	IMPORTANT! DO NOT MOUNT SE	INSOR 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)			7 4		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 e removable by pulling the sensor straig				



Sensor Description	Discriminating Containment Sump Sensor		iscriminating sensor is installe ates between, hydrocarbons ar	ed in a containment sump area. It d nd 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 ≤ Ta + 40°C CL I, DW1 GPD CL I, ZONE 0 AEX IAI IAI	US SIMPLE APPARATUS IP54 95100 E1
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 ability Guide in E-10 or less)		Ex ia IIA TC = T4 SECURITE INTRINSEQUE Exia MANUAL NO.	, GU
Console Compatibility	Recommended		S	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	16	Cald Canarataly
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			12	
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input	1	12	Included
TLS4B (8601 Series) ²	or or riigher		Out-put Module (USIOM-AC)	1		moladea
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			
	Normal	Sensor in Normal St	tate - No liquid detected	Where Used (Typical)		
	Low Liquid	Liquid detected at a	minimum of 1.35" (3.4cm)	☐ Dispenser Pan	Annular Space	
Alarm Notification	High Liquid	Liquid detected at a	n minimum of 12.28" (31.19cm	Spill Containmer STP Sump	nt Monitoring We	
	Fuel Alarm	Permeable material	saturated with Fuel	☐ Convault Tank	☐ Oil/ Water Sepa	ilatoi Talik
	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	product permeable,			Containment ─ 1/0" (1/		
Product Activation Height	Gas - 0.125" (3.175) Water - Low 1.35" (3 High 12.28" (31.196)	mm); 3.4cm), cm)	Submersible — pump	cump concor \ 1/2 (1.4	27cm) NPT p supplied ⁹ Weatherproof ju	inction box
Operating Temperature	+32 to +140°F (0 to	+60°C)		\	1 /	
Dimensions	22.1" (56.1cm) high	. ,	Containment sump		Seal-o	П
Miscellaneous/Notes	Standard Cable Len	igth: 12 ft (3.66m)	Y)	
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		IMPORTA	ANT!	Rigid co	
Product Link	Discriminating Containment Sump	Sensor		MOUNT SENSOR TO PRODUCT LINE.	to cons	
Warranty with System	1 Yr Parts & Labor				- Froduc	A IIIIC
Warranty (When purchased separately)	1 Yr Parts Only				- Brackets, clamp, etc optional Universal So Mounting Kit	



Sensor Description	Solid-State (Option Discriminating Discriminating Discriminating Discriminating Discrimination D			sensor is installed in a dispenser c and differentiates between, hydroca					
Part Number	794380-320								
Category	☑ Discriminating ☐ Non-Discrimin ☐ Position Sens	ating	☐ Level Sensing ☐ Static Testing ☐ Hydrostatic	40°C ≤ Ta ± 40°C CL, 1, 0M 1, 6PD CL, 1, 20NE 0					
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)		AEX IS IIA EX IS IIA TC = T4 SECURITE INTRINSCOUE EXIS MANUAL NO. 576013-306 7. SERIAL N. SERIAL N.	94380- FORM NO.			
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	332812-001	Universal Sensor	Up to 4 - TLS-4XX Up to 8 - TLS-4XX	8	Sold Separately			
TLS-450	4A or Higher	002012 001	Module (USM)	w/ opt. TLS-XB	,	ooid ocparately			
TLS4 (8601 Series) ² TLS4i (8601 Series)		330020-750	Universal Sensor Input	_	6				
TLS4B (8601 Series) ²	6A or Higher	330020-751	Out-put Module (USIOM-AC)	1	4	Included			
TLS4c (8601 Series)									
TLS-350/R/PLUS	124/324 or Higher	329950-001	Type B Interface Module	Up to 8	6	Sold Separately			
TLS-300i				N/A					
TLS-300C									
	Normal		tate - No liquid detected						
Alarm Notification	Low Liquid	•	minimum of 1.37" (3.4cm)						
Alaim Notification	High Liquid Fuel Alarm		a minimum of 7.66" (19.45cm))					
	Sensor Out		l saturated with fuel nicating to ATG/Console						
Installation Kit	330020-012		-						
	000020 012	Offiversal Serisor W	example Installation						
Specifications Operating Principle	Electrical conductiv	/ity/ontical	Example installation						
Product Activation Height	Gas - 0.125" (3.175 Water - Low 1.37" (High 7.66" (19.45c)	mm); 3.4cm),	Brackets, clamp from Universal s	, etc., Weatherproof junction threads (16 cubic incl	n box with 1/2" (1.27c	em) NPT			
Operating Temperature	-40 to +122°F (-40 t		mounting kit —	7	ıl-off				
Dimensions	11.6" (29.4cm) high	n, 2.2" (5.6cm) dia.	U-channel						
Miscellaneous/Notes	Standard Cable Ler	ngth: 12ft (3.66m)		Cord grip—					
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)			Cord grip	— Rubber grommet s	seal			
Product Link	Solid-State Discrim 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) Rigid cond							
Where Used (Typical)					Dispenser pan				
✓ Dispenser Pan ✓ Spill Containment ☐ STP Sump ☐ Convault Tank	Annular Space Monitoring Well Oil/Water Separ	ator Tank	*Dispenser pan sensor should: 1. Rest in the cup or the 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	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	40°C ≤ Ta ≤ +60°C CL, I, DIV.1 GPD CL, I, ZONE 0							
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas 1 Single use only (✓ E-15 ✓ E-85¹ ☐ E-100 ✓ Bio-Diesel 20 ☐ Bio-Diesel 100 Test per Sensor Oper	AEX IA IIA EX IA IIA TC = T4 SCOURTE INTRINSEQUE EXIA MANUAL NO. 576013-306 79 SERIAL NO. CORCUIT FOR HI	FORM NO. 4380-							
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	Sold Separately					
TLS4 (8601 Series) ² TLS4i (8601 Series)		330020-750	Universal Sensor Input	1	6	le alicede d					
TLS4B (8601 Series) ²	6A or Higher	330020-751	Out-put Module (USIOM-AC)	1	4	Included					
TLS4c (8601 Series)											
TLS-350/R/PLUS	124/324 or Higher	329950-001	Type B Interface Module	Up to 8	6	Sold Separately					
TLS-300i				N/A							
TLS-300C											
	Normal		tate - No liquid detected								
Alarm Notification	Low Liquid High Liquid	<u> </u>	a minimum of 1.37" (3.48cm) a minimum of 10.3" (26.2cm)								
	Fuel Alarm	<u> </u>	ial saturated with Fuel								
	Sensor Out		nicating to ATG/Console								
Installation Kit	330020-012		ounting Kit (Sold separately)								
Specifications			Example Installation								
Operating Principle	Electrical conducti	vity/optical	Example motalitation								
Product Activation Height	Gas - 0.125" (3.175 Water - Low - 1.37" High - 10.3" (26.2ci	imm); (3.4cm).									
Operating Temperature	-40 to +122°F (-40 to		1	Containment — 1/2" (1.6							
Dimensions	22.1" (56.1cm) high	n, 2.2" (5.6cm) dia.	Submersible —	cump concor \ I/Z (I.4	27cm) NPT o supplied						
Miscellaneous/Notes	Standard Cable Lei	ngth: 12ft (3.66m)	pump	w/ cable		nction box					
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)		Containment sump		Seal-of	f					
Product Link	Solid-State Discrim Containment Sump	•									
Warranty with System	1 Yr Parts & Labor				ご) Riaid co	nduit					
Warranty (When purchased separately)	1 Yr Parts Only		IMPORTANT! DO NOT MOUNT SENSOR TO FLEXIBLE PRODUCT LINE. Rigid conduit to console								
Where Used (Typical) ☐ Dispenser Pan ☐ Spill Containment ☐ STP Sump ☐ Convault Tank	Annular Space Monitoring Wel Oil/Water Sepan				Brackets, clamp, etc. optional Universal Se Mounting Kit	, from					
			l								



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	✓ Discriminating ☐ Non-Discrimin ✓ Position Sensi	ating	✓ Level Sensing ✓ Static Testing ☐ Hydrostatic									
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	☑ E-85 ☑ E-100	E-85									
Console Compatibility	Recommended		S	ensor 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)		330020-751	Out-put Module (USIOM-AC)	1	6							
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)								
Alaum Natification	Water Alarm	Water detected at a	minimum of 1.614" (2.83cm)	✓ Dispenser Pan	Annular Space							
Alarm Notification	Fuel Alarm	Fuel detected 1.368	" (3.47cm)	✓ Spill Containme	_							
	Sensor Comm. Alarm	Sensor not commur	nicating to ATG/Console	✓ STP Sump ☐ Convault Tank	arator Tank							
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 —		Manthamara							
Operating Temperature	-40°F to +140°F (-4	10°C to +60°C)	pump	Mag Sensor	Weatherproof 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 SEN FLEXIBLE PRODUCT		Brackets, cl from option sensor mou	al Universal						
Product Link	Mag Sump Sensor					ig int						
Warranty with System	1 Yr Parts & Labor			<u> </u>	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 ✓ Gas ✓ E-15 ✓ Green Diesel ✓ Diesel E-85 DEF **Fuel Compatibility** ✓ Kerosene E-100 ✓ Waste Oil ✓ Motor Oil ✓ Bio-Diesel 20 Jet Fuel ✓ Aviation Gas ✓ Bio-Diesel 100 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) 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. Be positioned so as to be removable by pulling the sensor straight up out of the pan.
 Be mounted in a true vertical position. ✓ Spill Containment Monitoring Well STP Sump Oil/Water Separator Tank



Sensor Description	Solid-State - Nor Containment Sui		sump area to detect the pre	minating Sensor is installed typicall sence of a liquid. Its optical liquid I lowing it to operate in sub-zero ten	evel technology					
Part Number	794380-351									
Category	☐ Discriminating ☑ Non-Discrimin ☐ Position Sens	nating	☐ Level Sensing☐ Static Testing☐ Hydrostatic		-40°C \$\frac{1a < 40°C}{c.1, DNL1 GPD} C.1, ZONE 0 AE is II IIA	US SIMPLE APPARATUS IP54				
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	✓ E-15 ☐ E-85 ☐ E-100 ✓ Bio-Diesel 20 ✓ Bio-Diesel 100	#85 □ DEF #100 ☑ Waste Oil #io-Diesel 20 ☑ Motor Oil #io-Diesel 100							
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	222012 001	Universal Sensor	Up to 4 - TLS-4XX	16	0-140				
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		220020 750			10					
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input	1	12	Included				
TLS4B (8601 Series) ¹	or or riigher	220000 751	Out-put Module (USIOM-AC)	1		inciuaea				
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 S	ate - No liquid detected							
Alarm Notification	Fuel Alarm	Liquid detected - Ap								
	High Liquid	Sensor not commu	nicating to ATG/Console							
Installation Kit	330020-012	Universal Sensor M	ounting Kit (Sold separately)							
Specifications			Example Installation							
Operating Principle	Optical - Looking a the light beams by interact or interfere	causing them to		1 1011 (1.4	NDT					
Product Activation Height	Fuel or Water - App	rox. 1" (2.54cm)	Submersible —	Containment — cord gri	27cm)NPT p supplied					
Operating Temperature	-40 to +122°F (-40	to +50°C)	pump	w/ cable	Weatherproof ju	nction				
Dimensions	22.1" (56.1cm) high	n, 2.2" (5.6cm) dia.	06-1-1		box / Saal of					
Miscellaneous/Notes	Standard Cable Ler	ngth: 12ft (3.66m)	Containment sump		Seal-of	1				
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 conso	nduit ole				
Warranty with System	1 Yr Parts & Labor				Produc	t line				
Warranty (When purchased separately)	1 Yr Parts Only				- Brackets, clamp, etc.	, from				
Where Used (Typical) ☐ Dispenser Pan ☑ Spill Containmer ☑ STP Sump		Space			optional Universal Se Mounting Kit					



Sensor Description	Piping Sump Sensor	The Piping Sump Se	nsor 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			-	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)	6A or Higher	330020-750	Universal Sensor Input		12			
TLS4B (8601 Series) ¹	o, corrugiler	000000 754	Out-put Module (USIOM-AC)	1	6	Included		
TLS4c (8601 Series)		330020-751	(333)					
TLS-350/R/PLUS		329358-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately		
TLS-350J	124/324 or Higher	124/324 or Higher 329356-003		4 Probe / 4 Sensor Interface Module	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	ate - 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.		(0) (0) (3)	55 € 50 € 50 € 50 € 50 € 50 € 50 € 50 €			
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 St TLS4 (8601 Series)		*Sump concor chould:					
Product Link	Piping Sump Sensor	r	Be positioned as outer wall as possi) 			
Warranty with System	1 Yr Parts & Labor		3. Be mounted in a tri		nsor*			
Warranty (When purchased separately)	1 Yr Parts Only		4. Be installed only in a dry sump. (installation examples)					
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 on the dispenser without the n	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 ✓ E-15 ✓ Diesel ☐ E-85 ✓ Kerosene ☐ E-100 ✓ Jet Fuel ✓ Bio-Di	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	Kit (Sold separately)					
Specifications			Example Installation					
Operating Principle	Reed switch/float							
Product Activation Height	Gasoline: 1.71" (4.34cm), wat	er: 1.62" (4.11cm)						
Operating Temperature	+32 to +140°F (0 to +60°C) (f	reezing liquids)	Dispenser Control Interface					
Dimensions	11.6" (29.4cm) high, 2.2" (5.6	•	Power 120 VAC — To dispenser					
Miscellaneous/Notes	Latching alarm circuitry en- restarted until hazardous co Connects directly to disper Controls most manufacture Cable length: 5ft (1.5m). Control interface dimension 2.2" (5.6cm) dia.	ondition has been corrected. nser wiring. er's dispensers.	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/veed	er_root_p.html	supplied)					
Product Link	Non-Discriminating Stand-Alo	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 Containme STP Sump Convault Tank	☐ Annular Space Int ☐ 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		-40°C < Ta < +60°C C.1, 10%1 GPD C.1, 10%1 GPD AEx is IIA Ex is IIA	US SIMPLE APPARATUS PO ON HE STORY OF S			
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	☑ E-85 [☑ E-100	☑ Green Diesel □ DEF ☑ Waste Oil ☑ Motor Oil		TC = 14 SECURITE INTRINSEQUE Exia MANUAL NO. 576013-306 7: SERIAL AS ORCUIT FOR H	FORM NO. 94380-7-2-3			
Console Compatibility	Recommended			Sensor Interface Modules	T	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	Sold Separately			
TLS-450	4A or Higher	332012-001	Module (USM)	w/ opt. TLS-XB	10	Joid Jeparately			
TLS4 (8601 Series)		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)					-				
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						
A1 N .: 6: .:	Normal		tate - No liquid detected						
Alarm Notification	Sensor Out	_		sensor not communicating to ATG/	'Console				
Installation Kit	Fuel Alarm	*	ontainment area at approx. 1.	.5 (3.81cm)					
	330020-012	Universal Sensor Mi	ounting Kit (Sold separately)						
Specifications	D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	D 10 3 1 (EL)	Example Installation						
Operating Principle Product Activation Height	Product Permeable 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,	•		supplied w/ cable	junction box				
Miscellaneous/Notes	Standard Cable Ler	, ,	Containment		Seal-off				
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601Series)				Rigid conduit to console				
Product Link	Position Sensitive S	Sensor	IMPORTANT! DO NOT MOUNT SENSOR TO Brackets, clamp, etc						
Warranty with System	1 Yr Parts & Labor		FLEXIBLE PRODUCT LINE.		from optiona Universal sen	isor			
Warranty (When purchased separately)	1 Yr Parts Only				mounting kit Product line				
Where Used (Typical)		IMPORTANTI Housing must compress							
✓ Dispenser Pan✓ Spill Containme✓ STP Sump	Annula	ult Tank or Space oring Well ter Separator Tank	IMPORTANT! Housing must compress position indicator against bottom of the sump or you will have a 'Sensor Out' alarm. Incorrect Correct						



Sensor Description		cal)-Discriminating r for Double-Wall		al Sensor for Double-Wall Fiberglas ogy to detect liquid in the interstitial		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	☐ E-85 ☐ E-100	✓ 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		Module (USM)	w/ opt. TLS-XB		,					
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	, and the second	330020-751	(USIOM-AC)		6						
TLS4c (8601 Series)											
TLS-350/R/PLUS	124/324 or Higher	329956-001	Type A Sensor Interface Module	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	Fuel or Water - < 0.1		- 0.4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5								
Operating Temperature	-40 to +122°F (-40 t										
Dimensions	4.3" (11cm) length, width, 0.5" (1.3cm)		V 4000	S	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	ınction 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	Fiberglass tank						
☐ Dispenser Pan☐ Spill Containment☐ STP Sump☐ Convault Tank		Space ing Well er Separator Tank		pottom of tank	i iuci giass (dilk						



Sensor Description	Interstitial Sensor for Double-Wall Fiberglass Tanks		The Non-Discriminating Inte	erstitial Sensor for Double-Wall Fibe erstitial space of the tank.	r-Glass Tanks detects	the	
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				
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	002012 001	Module (USM)	w/ opt. TLS-XB	10	Sold Separately	
TLS4 (8601 Series) ¹		330020-750			12	Included	
TLS4i (8601 Series)	6A or Higher	330020 730	Universal Sensor Input Out-put Module	1	12		
TLS4B (8601 Series) ¹	3 -	330020-751	(USIOM-AC)		6		
TLS4c (8601 Series)		330020-731			0		
TLS-350/R/PLUS	124/324 or Higher	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	tate - No liquid detected				
Alarm Notification	Liquid Alarm	Liquid detected	etected				
	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)						
Operating Temperature	-4 to +140°F (-20 to	•			2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Dimensions	2.2" (5.6cm) length width, 0.6" (1.5cm)	thick	Manhole		Seal-off		
Miscellaneous/Notes	Standard Cable 25f 10ft (1.2 to 3m) I.D		Rise	er Weatherproof	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	en .		
Dispenser Pan		/ell		Sensor must reach bottom of tank	Fiberglass tank		



Sensor Description	Solid-State Alter Fluid Interstitial S Double-Wall Fibe	Sensor for	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 10 133	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	JJZ01Z-UU1	Module (USM)	w/ opt. TLS-XB	10	Join Separately	
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		330020-751	Out-put Module (USIOM-AC)	ı	6	1	
TLS4c (8601 Series)		330020-731			Ŭ		
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 S	ate - 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 t		Manhole	The second secon	eal-off		
Dimensions	4.3" (11cm) length, width, 0.5" (1.3cm)		Riser Rigid conduit (to console) Weatherproof junction box				
Miscellaneous/Notes	` ′	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 botto	r must reach om of tank	Fiberglass tank		
Where Used (Typical) Dispenser Pan Spill Containmer STP Sump	Convault Annular S Monitorin 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	Strate -		
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	222012 001	Universal Sensor	Up to 4 - TLS-4XX	16	Cold Concretely
TLS-450	4A or Higher	332812-001	Module (USM)	Up to 8 - TLS-4XX w/ opt. TLS-XB	10	Sold Separately
TLS4 (8601 Series) ¹		330020-750			12	
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input	1	12	Included
TLS4B (8601 Series) ¹	oz or riighti	000000 754	Out-put Module (USIOM-AC)	l l		
TLS4c (8601 Series)		330020-751	, ,		6	
TLS-350/R/PLUS	124/324 or Higher	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	tate - No liquid detected Where Used (Typical) Annular Space			Snace
Alarm Notification	Fuel Alarm	Liquid detected		☐ Dispenser Pan ☐ STP Sump ☐ Monitoring Well		ng Well
	Sensor Out	Sensor not commun	nicating to ATG/Console	Spill Containment Conva	ult 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 / Floa	t				
Product Activation Height	1.4" (3.56cm)			4 7 7	Weatherproof junctio	n box
Operating Temperature	-4 to +140°F (-20 to	+60°C)		Sea	l-off	
Dimensions	2.5" (6.4cm) high, 1	.5" (3.8cm) diameter		Manhole →	 Rigid conduit to Cor 	nsole
Miscellaneous/Notes	794380-420 (cable 794380-460 (cable 312020-928 (2" (50 and adapter kit)	30ft (9.1m));	Appropriate reducer with 1/2" (1.27cm) NPT opening for cable cord grip			
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 Description	Position Sensitive Sensor for Steel			s the presence of liquid in small co addition, it provides an alarm when titial space.			
Part Number	794380-333						
Where Used (Typical)	☐ Dispenser Par ☑ Spill Containn ☐ STP Sump ☐ Convault Tank	nent Monitoring Monitoring Oil/Water Se		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)	1	12	1-11	
TLS4B (8601 Series) 1 TLS4c (8601 Series)	oA of Fligher	330020-751		'	6	- Included	
TLS-350/R/PLUS	124/324 or Higher	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	y on bottom of interstitial space or liquid detected				
	Sensor out	Sensor not commun	nicating to ATG/Console				
Installation Kit	312020-928	2" (50mm) Interstition	al Sensor Riser Cap kit (Sold s	separately)			
Specifications			Example Installation				
Operating Principle	Reed Switch/Float						
Product Activation Height	1.4" (3.6cm)			· A . STATE OF THE PARTY OF THE	_ 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)	Ма	unhala 🕕 #	al-off Rigid conduit to cons	ole	
Miscellaneous/Notes	Standard Cable Ler 312020-928 (2" (50 adapter kit)		1/2"(1.27cm) NPT Appropriate reduc 1/2" (1.27cm) NP1	er with			
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		for cable cord grip Sen	sor cable			
Product Link	Position Sensitive Infor Steel Tanks	Interstitial Sensor		Minimum riser ————————————————————————————————————			
Warranty with System	1 Yr Parts & Labor		(2.0				
Warranty (When purchased separately)	1 Yr Parts Only		Sensor must rest on bottom of interstitial riser				



Sensor Description	Interstitial High A Steel Tanks	Interstitial High Alcohol Sensor for Steel Tanks with high alcohol product detects the presence of liquid between the double walls of the tank.				
Part Number	794380-430					
Category	☐ Discriminating ☑ Non-Discrimir ☐ Position Sens	nating	☐ Level Sensing ☐ Static Testing ☐ Hydrostatic			
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas		✓ Green Diesel DEF ✓ Waste Oil ✓ Motor Oil			
0 10 (3.3)	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	Join Jeparately
TLS4 (8601 Series) ¹		330020-750			12	
TLS4i (8601 Series)	6A or Higher	330020 730	Universal Sensor Input Out-put Module	1	12	Included
TLS4B (8601 Series) ¹	OA OF Fligher	330020-751	(USIOM-AC)	·	6	ilicidaea
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			
	Normal	Sensor in Normal S	tate - No liquid detected			
Alarm Notification	Fuel Alarm	Water or Fuel detec	ted			
	Sensor Out	Sensor not commun	nicating to ATG/Console			
Installation Kit	312020-928	2" (50mm) Interstiti	al Sensor Riser Cap kit (Sold s	separately)		
Specifications			Example Installation			
Operating Principle	Reed Switch/Float			1 A .	• Weatherproof junc	tion box
Product Activation Height	1.1" (2.8cm)			· · · · · · · · · · · · · · · · · · ·		
Operating Temperature	-4 to +140°F (-20 to) +60°C)	N	√ Sanhole → Sanhole Sanhole	seal-off =	
Dimensions	2.5" (6.4cm) high, 1.	5" (3.8cm) diameter	1/2" (1.27cm) NF	PT cord grips	Rigid conduit to	console
Miscellaneous/Notes	Standard cable 15f 312020-928 2" (50 and adapter kit)	* **	Appropriate redi 1/2" (1.27cm) N for cable cord gi	ucer with		
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		Los	ader cable		
Product Link	Interstitial High Alc Steel Tanks	ohol Sensor for	Lea	Riser		
Warranty with System	1 Yr Parts & Labor			_		
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	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				
Fuel Compatibility	✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas	☑ E-85 ☑ E-100	✓ Green Diesel ✓ DEF ✓ Waste Oil ✓ Motor Oil				
0 10 13 35	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	222012 001	Universal Sensor	Up to 4 - TLS-4XX	16	Cold Concretely	
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		000000 750			10		
TLS4i (8601 Series)	CA Hi-b	330020-750	Universal Sensor Input		12		
TLS4B (8601 Series) 1	6A or Higher		Out-put Module (USIOM-AC)	1		Included	
TLS4c (8601 Series)		330020-751			6		
TLS-350/R/PLUS	124/324 or Higher	329958-001	Interstitial Sensor Interface Module	Up to 8	8	Sold Separately	
TLS-350J					l		
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	oter 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); Imm) Riser cap	Mar 1/2" (1.27cm) NPT	nhole	E Rigid conduit to cor	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 cable 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)		7	
Where Used (Typical) ☐ Dispenser Pan ☐ Spill Containment ☐ STP Sump ☑ Convault Tank	✓ Annular Space ☐ Monitoring Well ☐ Oil/Water Separator Tank		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 age 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 level alarm.			
Part Number	794380-303					
Category	Discriminating Non-Discrimin Position Sensi	ating	☐ Level Sensing ☐ Static Testing ☑ Hydrostatic		†	
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)			
Concolo 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		Universal Sensor	Up to 4 - TLS-4XX		
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		000000 750			10	
TLS4i (8601 Series)	CA 1111	330020-750	Universal Sensor Input	1	12	los alcodos d
TLS4B (8601 Series)	6A or Higher	000000 751	Out-put Module (USIOM-AC)	'	6	Included
TLS4c (8601 Series)		330020-751	(66.67.6)		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		Where Used (Typical)	_	r Space
	High Liquid	Brine rises above 13		☐ Dispenser Pan ☐ STP☐ Spill Containment ☑ Cont		ring Well ter Separator Tank
	Sensor Out	Sensor not commun	nicating to ATG/Console	Spill Containment 🖭 🕬		
Specifications			Example Installation			
Operating Principle	Reed Switch /Float					
Product Activation Height	Low 1.2" (3cm), Hig	· · · · · · · · · · · · · · · · · · ·				
Operating Temp	-13 to +122°F (-251			Manhole Wea	therproof junction box	
Dimensions Miscellaneous/Notes	Standard Cable I Vented riser cap Reservoir solutio ethylene glycol in	n water, up to 50% I in water, salt brine Vented Cap w/		d riser pipe vent tube	Seal-off ——————————————————————————————————	onsole
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)			Point ostatic Sensor	Reservoir	
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-k. The Single-Point version can be used in low groundwater locations. If an inner-wall leak occurs, nto the tank triggering a fuel alarm. If the outer wall leaks, the brine seeps out of the tank ring a fuel alarm.				
Part Number	794380-301						
Category	Discriminating Non-Discrimin Position Sens	ating	☐ Level Sensing ☐ Static Testing ☑ Hydrostatic			6	
Fuel Compatibility	Gas Diesel Kerosene Jet Fuel Aviation Gas	Bio-Diesel 100	☑ Green Diesel ☐ DEF ☐ Waste Oil ☐ Motor Oil rability Guide in E-10 or less)	The state of the s			
	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 7 30	Universal Sensor Input	1	12	Included	
TLS4B (8601 Series) ¹	on an anglia	330020-751	Out-put Module (USIOM-AC)	ı	6	included	
TLS4c (8601 Series)		330020 731	, ,		Ů		
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				
Al N-4:6:4:	Normal		sition (correct amount of brine in reservoir) Where Used (Typical) Annular Space				
Alarm Notification	Fuel Alarm	Brine level below 1.7	,	□ Dispenser Pan □ Spill Containment ✓		toring Well	
	Sensor Out	Sensor not commun	nicating to ATG/Console	Spin containment 🗸	CONTRACT TANK ON W	ater Separator Tank	
Specifications			Example Installation				
Operating Principle	Reed Switch /Float						
Product Activation Height	1.75" (4.4cm)	5700)		Mant-I- Weathe	erproof junction box		
Operating Temperature Dimensions	-13 to +135°F (-25 t		-	Manhole Weather			
Miscellaneous/Notes	Vented riser capReservoir solutionethylene glycol in	Length: 12ft (3.65m) assembly included ns: Up to 50% water; up to 50% n water; salt brine				nsole	
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		Single-Poi Hydrostat	ic Sensor Reservoir			
Product Link	Single-Point Hydros Reservoir Sensor	etatic	F	Float	Double-wall tank		
Warranty with System	1 Yr Parts & Labor		Brine level		/		
Warranty (When purchased separately)	1 Yr Parts Only				<u> </u>		



Sensor Description	Single-Point Mini- Sensor for Double			ostatic Sensor accurately detects flu ump. If a leak occurs in the sump int vel alarm.			
Part Number	794380-304						
Category	☐ Discriminating ☐ Non-Discrimin ☐ Position Sens	nating	☐ Level Sensing☐ Static Testing☐ Hydrostatic				
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			
(*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 TLS4 (8601 Series)	4A or Higher			w/ opt. TLS-XB			
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-put Module	1	12	Included	
TLS4B (8601 Series) 1		330020-751	(USIOM-AC)		6		
TLS4c (8601 Series) TLS-350/R/PLUS		329958-001	Interstitial Sensor	Up to 8	8	Sold Separately	
	124/324 or Higher		Interface Module 4 Probe / 4 Sensor	Op 10 0	-		
TLS-350J		329356-003	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		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)		4 . 4				
Operating Temperature	-13 to +122°F (-25	to +50°C)	Fact.	oncrete			
Dimensions	2.5" (6.4cm) high, 1	1.5" (3.8cm) dia.	V	pad		4 4	
Miscellaneous/Notes	Standard Cable Let up to 50% ethylene to 50% propylene g brine solution of up	glycol in water; up lycol in water; salt	Double-wall sump Coupling and seals as required for conduit		interstitial fluid reserv	oir	
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		egress (customer supplied) —	Seal-off al (customer	nd junction box r supplied)		
Product Link	Single-Point Mini-H	ydrostatic Sensor	Rigid conduit to conso				
Warranty with System	1 Yr Parts & Labor			keep cable clear of sump components			
Warranty (When purchased separately)	1 Yr Parts Only		Tank	and lid	# ###		
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 Testing ☐ Hydrostatic ☑ Vapor ☐ Groundwater ☐ Oil/Water Separator		<i>6</i> - 6	
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 STATE OF THE PARTY OF THE P		·
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	°	Sold Separately
TLS4 (8601 Series) ¹		220000 750			6	
TLS4i (8601 Series)	6 A or Higher	330020-750	Universal Sensor Input	1		Included
TLS4B (8601 Series) ¹	. 6A or Higher		Out-put Module (USIOM-AC)	1		included
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 th	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 pres	sent in the area being monitor	red by the sensor.		
	Sensor Out alarm	Sensor setup was p	erformed incorrectly; it is disc	connected, or, it is not functioning	properly.	
Installation Kit	312020-939	4" (100mm) Vapor S	Sensor Riser Cap (Sold separa	ately)		
Specifications			Example Installation			
Operating Principle	Adsistor					
Product Activation Height	Gasoline Vapor >50	00 ppm		9. p ha/s \ \ ////////////////////////////////	7/456 o . 3.	
Operating Temperature	-4 to +140°F (-20 to	+60°C)				
Dimensions (Sensor)	4.9" (12.4cm) long,	1.1" (2.8cm) dia.				
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	o and cord grips Weather and seal-	proof junction box -off	
Product Link	Vapor Sensor					
Warranty with System	1 Yr Parts & Labor					
Warranty (When purchased separately)	1 Yr Parts Only		Suspend vapor se 12" (30.48cm) abo	1 1 1 1	orated PVC monitoring housing	
Where Used (Typical) ☐ Dispenser Pan ☐ Spill Containment ☐ STP Sump ☐ Convault Tank	☐ Annular Space☑ Monitoring Well☐ Oil/Water Separator Tank		level reached by water table, if known; or 12" (30.48cm) above the bottom of the well, or any water in the well.			



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	5m) 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	moidaea	
TLS4c (8601 Series)		330020-731			۲		
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		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)	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)	Up to 8 - TLS-4XX w/ opt. TLS-XB	10	Solu Separately	
TLS4 (8601 Series) ¹		330020-750			12		
TLS4i (8601 Series)	6A or Higher	330020-730	Universal Sensor Input	1	12	la aluda d	
TLS4B (8601 Series) 1	OA OI TIIGIIEI	000000 754	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 s	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 tan	k				
	Liquid Alarm	Oil has reached its	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						
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 fonitoring Well il/Water Separator T	- Fank					

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!				
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 - 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

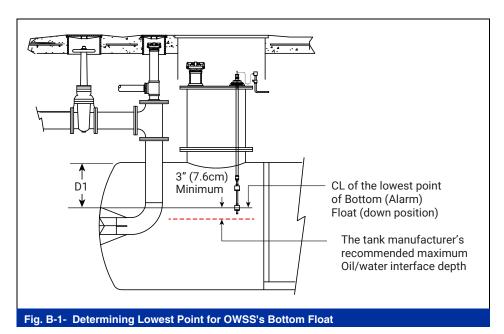
Appendix B - How To Order An Oil Water Separator Sensor (OWSS)

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.

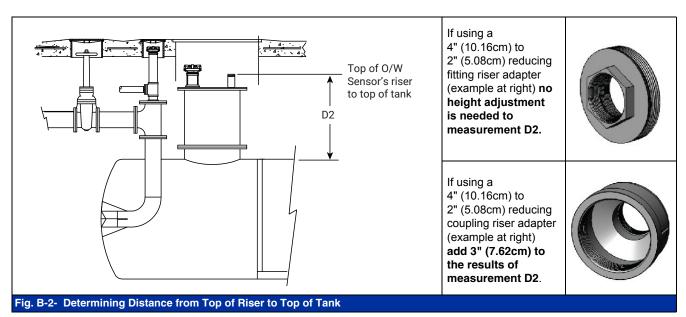
1. Determining the Lowest Point of the Bottom (Alarm) Float

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**.



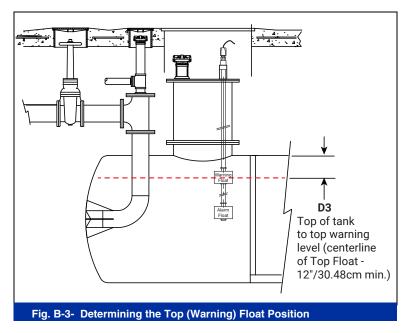
2. Determining Distance from Top of Riser to Top of Tank

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)

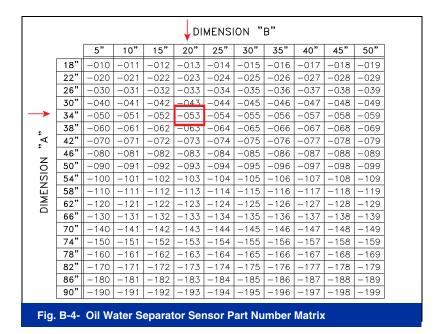
Using the OWSS float positions calculated in the example above, the Top Float (Warning Float) would activate at 13" (33.02cm) below the top of the tank and the Bottom Float (Alarm Float) would activate at 33" (83.82cm) below the top of the tank. The correct part number for these example float positions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



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

