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:

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Sensor Application Matrix

					Whe	ere l	sed					Cate	gory	1							Fuel	Con	patil	bility	1				
																	ASTM D975			ASTM D7547				ASTM D7467	ASTM D6751	ASTM D975			
Sensor Description	Form #	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
DPS Standard Dispenser Pan	794380-322	2	Х	Х						Х						Х	Х	Х	Х	Х	Х	X1		Х		Х		Х	х
CSS Standard Containment Sump	794380-352	3		х	Х					х						Х	х	Х	х	х	х	X ¹		х		х		х	х
DPO Optical Dispenser Pan	794380-320	4	Х	Х						Х						Х	Х	Х	Х	Х	Х	X ¹		Х		Х		Х	х
CSO Optical Containment Sump	794380-350	5		х	Х					х						х	х	Х	х	х	х	X1		х		х		х	х
MSS Mag Sump Sensor	857080-XXX	6	Х	Х	Х					Х		Х	Х	Х		Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х
SSDP Solid-State Dispenser Pan	794380-321	7	х	Х							х					х	х	х	х	х	х			х	х	х		Х	х
SSCS Solid-State Containment Sump	794380-351	8		х	Х						Х					х	х	Х	Х	Х	Х			х	х	х		х	х
Piping Sump	794380-208	9	Х	Х	Х						Х					Х	Х	Х	Х	Х	Х			Х		Х		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		Х		Х	Х
Interstitial for Fiberglass Tanks, Discriminating	794380-343	12					Х			Х						Х	Х	Х	Х	Х	Х			Х	Х	Х	Х	Х	х
Interstitial for Fiberglass Tanks	794390-409	13					Х				Х					Х	Х	Х	Х	Х	Х			х		Х			
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				Х					Х	Х	Х	Х	Х	Х			Х		Х		Х	Х
Interstitial for Steel Tanks, Posi- tion 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
Interstitial for Steel Tanks, High Alcohol, small footprint	794380-344	18		х			Х				х					х	х	Х	х	х	х	х	х	х	х	х	х	х	х
Hydrostatic Reservoir (Dual Point)	794380-303	19					Х								х	х	х	х	х	х	х	X1	X1	х		х		х	х
Single-Point Hydrostatic Sensor	794380-301	20					Х								х	х	х	Х	х	х	х	X1	X1	х		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
Vapor	794390-700	22						Х								Х			Х	Х	Х								
Groundwater	794380-62X	23						Х								Х	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

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

²Small Containment Areas (i.e. Spill Buckets)

Sensor Description	Discriminat- ing Dispenser Pan Sensor		nating sensor is installed in a c erentiate between, hydrocarbo	dispenser pan and will detect the ns and other liquids.	Sensor Matrix	•
Form Number	794380-322					
Where Used (Typical)	Dispenser Par Spill Containm STP Sump Convault Tank	nent Monitoring V		Category Discriminating Non-Discriminating Position Sensitive		
Fuel Compatibility	Gas Giesel Gies	✓ E–15 ✓ E–85 ¹ E–100 ✓ Bio–Diesel 20 □ Bio–Diesel 100 est per Sensor Operability Gu	Green Diesel DEF Waste Oil Motor Oil ide in E-10 or less)	Level Sensing Static Testing Hydrostatic		
Console Compatibility	Recommended		5	Sensor Interface Modules	1	
(International Only ²)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	-	, , , , , , , , , , , , , , , , , , , ,
² TLS4 (8601 Series)		330020-750			12	
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input/Out-	1		Included
² TLS4B (8601 Series)	J J J J J J J J J J J J J J J J J J J	330020-751	put Module (USIOM-AC)		6	
TLS4c (8601 Series)		330020-751			-	
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		te- No liquid detected			
	Low Liquid		minimum of 1.37" (3.48cm)			
	High Liquid	Liquid detected at a Permeable material s	minimum of 7.66" (19.45cm)			
	Fuel Alarm Sensor Out		cating to ATG / Console			
Installation Kit	330020-012		unting Kit (Sold separately)			
Specifications			Example Installation			
Operating Principle	Product Permeable	e, Reed Switch /Float	•			
Product Activation Height	Gas - 0.125" (3.13	75mm); Water - Iow igh 7.66" (19.45cm)		U-char		
Operating Temp	+32 to +140°F (0	to +60°C)			ackets, clamp, etc., from iversal sensor mounting	kit
Dimensions	11.6" (29.4cm) hig	gh, 2.2" (5.6cm) dia.				
Miscellaneous / Notes	Standard Cable Le	ngth: 12 Feet	Cord grip	→	herproof junction box wit ch N.P.T. threads (16 cu	
Third Party Evaluation Links	TLS-3XX/TLS-450 TLS4 (8601 Series		Product line Dispenser		volume minimum). Seal-off	
Product Link	Discriminating Dis	penser Pan Sensor	containment sump		– Rubber grommet sea clamped on inside -	I
Warranty with System	1 Yr Parts & Labor		IMPORTANT!		or as recommended to dispenser pan manufa	
Warranty (When purchased separately)	1 Yr Parts Only				2" Rigid conduit console — Dispenser pan sensor	
			Dispenser pan sensor shou 1. Rest in the cup or the lo		t sump.	

Be positioned so as to be removable by pulling the sensor straight up out of the pan.
 Be mounted in a true vertical position.

Sensor Description	Discriminating Containment Sump Sensor	21	nating sensor is installed in a c differentiates between, hydrod	Sensor Matrix	lack						
Form Number	794380-352										
Where Used (Typical)	 Dispenser Pan Spill Containmer STP Sump Convault Tank 	Annular Space	9	Category Discriminating Non-Discriminating Position Sensitive							
Fuel Compatibility	Gas Diesel Kerosene Jet Fuel Aviation Gas Single Use Only (Test	 ✓ E−85¹ □ E−100 		Level Sensing Static Testing Hydrostatic							
Console Compatibility	Recommended		:	Sensor Interface Modules							
(International Only ²)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability					
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately					
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB		cona coparatory					
² TLS4 (8601 Series)		330020-750			12						
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1	12	Included					
² TLS4B (8601 Series)	OA UI HIGHEI	330020-751	put Module (USIOM-AC)	I		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		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 Sta	te- No liquid detected								
	Low Liquid	Liquid detected at a	minimum of 1.35" (3.4cm)								
	High Liquid	Liquid detected at a	minimum of 12.28" (31.19cm)								
	Fuel Alarm	Permeable material s	saturated with Fuel								
	Sensor Out	Sensor not communi	cating to ATG / Console								
Installation Kit	330020-012	Universal Sensor Mo	unting Kit (Sold separately)								
Specifications			Example Installation								
Operating Principle	Product Permeable,	Reed Switch /Float									
Product Activation Height	Gas - 0.125" (3.175 1.35" (3.4cm), High			ntainment 1/2" NPT p sensor cord grip bo supplied bo w/cable /	eatherproof junction x						
Operating Temp	+32 to +140°F (0 to	0 +60°C)									
Dimensions	22.1" (56.1cm) high	n, 2.2" (5.6cm) dia.	Containment		/ Seal-off						
Miscellaneous / Notes	Standard Cable Len	gth: 12 Feet			k						
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)										
Product Link	Discriminating Cont Sump Sensor	ainment	DO NOT MOUNT SENSOR		to console						
Warranty with System	1 Yr Parts & Labor										
Warranty (When purchased separately)	1 Yr Parts Only			Brackets, clamp, etc., from optional Universal Sensor Mounting Kit							

Sensor Description	Discriminati	e - (Optical) Ing Dispenser Sensor		ensor is installed in a dispenser etects the presence of, and differen- s and other liquids.	Sensor Matrix	ck
Form Number	794380-320				-	
Where Used (Typical)	Dispenser Pan Spill Containmer STP Sump Convault Tank	Annular Space	ell	Category ✓ Discriminating □ Non–Discriminating □ Position Sensitive		
Fuel Compatibility	 ✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas ¹Single Use Only (Test 	 ✓ E-85¹ ☑ E-100 	,	Level Sensing Static Testing Hydrostatic		
Console Compatibility	Recommended			Sensor Interface Modules		
(*International Only ²)	Min. Console Software	Module Form #	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 332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/opt. TLS-XB	8	Sold Separately
² TLS4 (8601 Series) TLS4i (8601 Series)	-	330020-750 330020-750	Universal Sensor Input Out-		6	
² TLS4B (8601 Series)	6A or Higher	330020-751	put Module (USIOM-AC)	1		Included
TLS4c (8601 Series)	-	330020-751	+		4	
TLS-350/R/PLUS	124/324 or Higher	329950-001	Type B Interface Module	Up to 8	6	Sold Separately
TLS-300i	-			NA		
TLS-300C				NA		
Alarm Notification	Normal		ate- No liquid detected			
	Low Liquid		minimum of 1.37" (3.4cm)			
	High Liquid	Liquid detected at a Permeable material s	minimum of 7.66" (19.45cm)			
	Fuel Alarm Sensor Out		saturated with fuel icating to ATG / Console			
Installation Kit	330020-012		ounting Kit (Sold separately)			
Specifications	330020 012	Universal Concor me	Example Installation	1		
Operating Principle	Electrical conductivi	tv / ontical	Example motandaon			
Product Activation Height	Gas - 0.125" (3.175 1.37" (3.4cm), High	imm); Water - low	Brackets, clamp, etc from Universal sens	c., Weatherproof junction box	with 1/2-inch N.P.T.	
Operating Temp	-40 to +122°F (-40		mounting kit	Seal-off	,	
Dimensions	11.6" (29.4cm) high	ı, 2.2" (5.6cm) dia.	U-channel			
Miscellaneous / Notes	Standard Cable Leng	gth: 12 Feet				
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)				Rubber grommet seal clamped on inside - or as recommended by	
Product Link	Solid-State Discrimi Pan Sensor	nating Dispenser			lispenser pan manufac	lurer.
Warranty with System	1 Yr Parts & Labor				=	
Warranty (When purchased separately)	1 Yr Parts Only			Dispenser pan sensor*	 1/2" Rigid conduit to console 	
			*Dispenser pan sensor 1. Rest in the cup or the 2. Be positioned so as 3. Be mounted in a true	should: le lowest point of the dispenser pan. to be removable by pulling the senso e vertical position.	— Dispenser pan r straight up out of the	pan.

Sensor Description	Discriminatin	e - (Optical) g Containment Sensor		ensor is installed in a containment sence of, and differentiate between, ds.	Sensor Matrix	lack
Form Number	794380-350					
Where Used (Typical)	 Dispenser Pan Spill Containmer STP Sump Convault Tank 	Annular Space	9	Category Discriminating Non-Discriminating Position Sensitive		
Fuel Compatibility	Gas Diesel Kerosene Jet Fuel Aviation Gas 'Single Use Only (Test	 ✓ E−85¹ ☑ E−100 		Level Sensing Static Testing Hydrostatic		
Console Compatibility	Recommended			Sensor Interface Modules	1	
(*International Only ²)	Min. Console Software	Module Form #	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 332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/opt. TLS-XB	8	Sold Separately
² TLS4 (8601 Series) TLS4i (8601 Series)		330020-750 330020-750	Universal Sensor Input Out-		6	
² TLS4B (8601 Series)	6A or Higher	330020-751	put Module (USIOM-AC)	1		Included
TLS46 (8601 Series)		330020-751			4	
TLS-350/R/PLUS	124/324 or Higher	329950-001	Type B Interface Module	Up to 8	6	Sold Separately
TLS-300i		020000 001	Type D Interface Module		0	oold ooparatory
TLS-300C				NA		
Alarm Notification	Normal	Sensor in Normal Sta	ate- No liquid detected			
	Low Liquid	Liquid detected at a	minimum of 1.37" (3.48cm)			
	High Liquid	Liquid detected at a	minimum of 10.3" (26.2cm)			
	Fuel Alarm	Permeable material	saturated with Fuel			
	Sensor Out	Sensor not communi	icating to ATG / Console			
Installation Kit	330020-012	Universal Sensor Mo	unting Kit (Sold separately)			
Specifications			Example Installation			
Operating Principle	Electrical conductivi	ity / optical				
Product Activation Height	Gas - 0.125" (3.175 1.37" (3.4cm), High	imm); Water - Low - - 10.3" (26.2cm)		sensor supplied box	therproof junction	
Operating Temp	-40 to +122°F (-40			w/cable		
Dimensions	22.1" (56.1cm) high		Containment	<u> </u>	/ Seal-off	
Miscellaneous / Notes	Standard Cable Len	-	sump	\mathbf{F}	/	
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)	Consoles				
Product Link	Sump Sensor	inating Containment	IMPORTANT! DO NOT MOUNT SENSOR TO FLEXIBLE PRODUCT LINE.		Rigid conduit to console	
Warranty with System	1 Yr Parts & Labor				Product line	
Warranty (When purchased separately)	1 Yr Parts Only				, clamp, etc., from	
				optional Mounting	Universal Sensor J Kit	

Sensor Description	Level Indicatin	e Discriminating 1g Containment Sensor		ed in a dispenser pan or contain- ne presence of, and differentiate ds.	Sensor Matrix Back				
Form Number	857080-111 (12") Test), -112 (24") / 8570	he -211 and -212 sensors are ca	pable of performing	a Sump Integrity				
Where Used (Typical)				Category					
	 ✓ Dispenser Pan ✓ Spill Containmer ✓ STP Sump ✓ Convault Tank 	Annular Space	ell	Discriminating Non–Discriminating Position Sensitive					
Fuel Compatibility	Gas Diesel Kerosene Jet Fuel Aviation Gas		Green Diesel Gree	 ✓ Level Sensing ✓ Static Testing ☐ Hydrostatic 					
Console Compatibility	Recommended		1	Sensor Interface Modules	1				
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability			
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately			
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB					
¹ TLS4 (8601 Series)		330020-750			12				
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input/Out- put Module (USIOM-AC)	1		Included			
TLS4B (8601 Series)		330020-751	-		6				
TLS4c (8601 Series)	124/324 or Higher	330020-751							
TLS-350/R/PLUS	(-211 and -212 sensors require 126/326 or higher}	329356-004	Smart Sensor Interface Module	Up to 8	8	Sold Separately			
TLS-300i			•	NA	•				
TLS-300C									
Alarm Notification	Normal		ate- No liquid detected						
	Water Alarm		minimum of 1.614" (2.83cm)						
	Fuel Alarm	Fuel detected 1.368	" (3.47cm)						
	Sensor Comm Alarm	Sensor not commun	icating to ATG / Console						
Installation Kit	330020-012	Universal Sensor Mo	unting Kit (Sold separately)						
Specifications		I	Example Installation						
Operating Principle	Magnetostrictive pro	be with dual floats							
Product Activation Height	Water 1.614" (4.1cr (3.47cm)	n), Fuel 1.368"	Submersible — pump	Mag Sensor	Weatherproof junction box				
Operating Temp	-40°C to +60°C		Containment		/ Seal-off				
Dimensions	2.4" (6.1cm) Diame Long (-111 and -21 (84.8cm) Long (-112	1 models), 33.4"	sump		-1/2" Rigid conduit to console				
Miscellaneous / Notes	Standard Cable Len	gth: 10 Feet							
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)		DO NOT MOUNT SENSO FLEXIBLE PRODUCT LI		from optional sensor moun	Universal			
Product Link	Mag Sump Sensor				Product line				
Warranty with System	1 Yr Parts & Labor]	0					
Warranty (When purchased separately)	1 Yr Parts Only								

Sensor Description		n-Discriminating Pan Sensor	in a dispenser pan location to	inating sensor is installed typically o detect the presence of a liquid. Its y requires no moving parts, allowing peratures.	Sensor Matrix		
Form Number	794380-321						
Where Used (Typical)				Category			
	 Dispenser Pan Spill Containment STP Sump Convault Tank 	Annular Space	ell	 Discriminating Non-Discriminating Position Sensitive 			
Fuel Compatibility	Gas Gisel Kerosene Jet Fuel Aviation Gas	E-85	Green Diesel DEF Waste Oil Motor Oil	Level Sensing Static Testing Hydrostatic			
Console Compatibility	Recommended			Sensor Interface Modules			
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately	
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	10	Solu Separately	
¹ TLS4 (8601 Series)		330020-750			12		
TLS4i (8601 Series)	64 or Higher	330020-750	Universal Sensor Input Out-	1	12	Included	
¹ TLS4B (8601 Series)	6A or Higher	330020-751	put Module (USIOM-AC)		0	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							
Alarm Notification	Normal	Sensor in Normal Sta	ate- No liquid detected				
	Fuel Alarm	Liquid detected - App	prox. 1.0" (2.54cm)				
	Sensor Out	Sensor not communi	icating to ATG / Console				
Installation Kit	330020-012	Universal Sensor Mo	unting Kit (Sold separately)				
Specifications			Example Installation				
Operating Principle		phase changes in the ing them to interact another	Brackets, clamp, e from Universal se	etc., Weatherproof junction nsor threads (16 cubic inch		Р.Т.	
Product Activation Height	Fuel or Water - App	ox. 1" (2.54cm)	mounting kit	Sea	al-off		
Operating Temp	-40 to +122°F (-40	to +50°C)	U-channel				
Dimensions	11.6" (29.4cm) high	n, 2.2" (5.6cm) dia.		ord grip			
Miscellaneous / Notes	Standard Cable Len	gth: 12 Feet (3.66m)		ord grip	— Bubber grommet	seal	
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)				 Rubber grommet clamped on insid or as recomment dispenser pan mage 	led by	
Product Link	Solid-State - Non-D Dispenser Pan Sens	•					
Warranty with System	1 Yr Parts & Labor				1/2" Rigid co	onduit	
Warranty (When purchased separately)	1 Yr Parts Only			 Dispenser pan sensor* 	to console	niuult	
			*Dispenser pan senso	or should:	Dispenser par	1	
			 Rest in the cup or 	the lowest point of the dispenser p is to be removable by pulling the s	an. ensor straight up out	of the pan.	

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Sensor Description		n-Discriminating Sump Sensor	in a containment sump area	inating sensor is installed typically to detect the presence of a liquid. ogy requires no moving parts, zero temperatures.	Sensor Matrix	Back		
Form Number	794380-351							
Where Used (Typical)		_		Category				
	 Dispenser Pan Spill Containmed STP Sump Convault Tank 	Annular Spac Monitoring W Oil/Water Sep	ell	 Discriminating Non–Discriminating Position Sensitive 				
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	Level Sensing Static Testing Hydrostatic				
Console Compatibility	Recommended			Sensor Interface Modules				
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability		
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately		
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	10	Solu Separately		
¹ TLS4 (8601 Series)		330020-750			12			
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1	12	Included		
¹ TLS4B (8601 Series)	OA OI TIIghei	330020-751	put Module (USIOM-AC)	I	6	Included		
TLS4c (8601 Series)		330020-751			0			
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								
Alarm Notification	Normal		ate- No liquid detected					
	Fuel Alarm	Liquid detected - App						
	High Liquid		cating to ATG / Console					
Installation Kit	330020-012	Universal Sensor Mo	unting Kit (Sold separately)	1				
Specifications			Example Installation					
Operating Principle	Optical- Looking at p light beams by caus or interfere with one	•			atherproof junction			
Product Activation Height	Fuel or Water - Appr	ox. 1" (2.54cm)	pump	supplied box w/cable				
Operating Temp	-40 to +122°F (-40	to +50°C)	Containment	\ \ / ·	/ Seal-off			
Dimensions	22.1" (56.1cm) high		sump	$\overline{\mathbf{T}}$				
Miscellaneous / Notes		gth: 12 Feet (3.66m))			
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)	Consoles	IMPORTANT! DO NOT MOUNT SENSOR T		⊨ Rigid conduit to console			
Product Link	Solid-State Non-Dis Containment Sump				Product line			
Warranty with System	1 Yr Parts & Labor							
Warranty (When purchased separately)	1 Yr Parts Only			kets, clamp, etc., from nal Universal Sensor tting Kit				

Sensor Description	Piping Sump Sensor	The piping Sump Se will detect the prese	ensor is install in a tank piping s ence of a liquid.	Sensor Matrix	ack				
Form Number	794380-208	I			L				
Where Used (Typical)	 Dispenser Pan Spill Containmer STP Sump Convault Tank 	Annular Space	91	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					
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability			
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately			
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB					
¹ TLS4 (8601 Series)		330020-750			12				
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1		Included			
¹ TLS4B (8601 Series)		330020-751	put Module (USIOM-AC)	· ·	6	molauca			
TLS4c (8601 Series)	1	330020-751			U				
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		ate- No liquid detected						
	Fuel Alarm		minimum of 1.84" (4.67cm)						
	Sensor Out		icating to ATG / Console						
Installation Kit	330020-076	Sensor Mounting Kit	is included (see example instal	llation below).					
Specifications			Example Installation						
Operating Principle	Float/magnetic reed								
Product Activation Height	Liquid 1.84" (4.67cm			All All					
Operating Temp	+32 to +140°F (0 to		IMPORTANT! DO NOT MOUNT SENSO	DR TO	nduit				
Dimensions	12" (30.5cm) high, 1	. ,	FLEXIBLE PRODUCT LI	or piping					
Miscellaneous / Notes	Standard Cable Leng Installation kit 33002 example installation	20-076 included (see	Cable to juncti	on box					
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		and seal-		off				
Product Link	Piping Sump Sensor	·							
Warranty with System	1 Yr Parts & Labor		*Sump sensor should: 1. Rest on the base of the sump.						
Warranty (When purchased separately)	1 Yr Parts Only		 Be positioned as close to wall as possible. Be mounted in a true veri position. Be installed only in a dry 	tical (installation example	s)				
				Junip base					

Sensor Description	Non-Discriminating Standalone Dispenser Pan Sensor	a dispenser pan containmen shuts down (removes) AC po circuitry, wiring, or an ATG S	ndalone Dispenser Pan Sensor i t. When fluid is detected in the ower to the dispenser without th ystem. The separate sensor cor ss 1 Div. 1 Group D; Class 1 Zo	dispenser pan, this sensor ne need for additional relays, ntrol interface ensures intrin-	Sensor Matrix Back
Form Number	847990-001				
Where Used (Typical)	Spill Containment	inular Space onitoring Well /Water Separator Tank	Category Discriminating Non-Discriminating Position Sensitive		
Fuel Compatibility	✓ Gas ✓ E-15 ✓ Diesel E-85 ✓ Kerosene E-100 ✓ Jet Fuel ✓ Bio-Dii ✓ Aviation Gas Bio-Dii	✓ Green Diesel ☐ DEF ✓ Waste Oil esel 20 ✓ Motor Oil esel 100	Level Sensing Static Testing Hydrostatic		
Console Compatibility	Not Required				
Alarm Notification	Normal	Dispenser operational			
	Liquid detected	Remove power to the dispen	ser		
	Sensor out	Remove power to the dispen	ser		
Installation Kit	330020-012	Universal Sensor Mounting K	(it (Sold separately)		
Specifications			Example Installation		
Operating Principle	Reed switch/float				
Product Activation Height	Gasoline: 1.71" (4.34cm), wate	er: 1.62" (4.11cm)			
Operating Temp	+32 to +140°F (0 to +60°C) (f	reezing liquids)		Dispenser Co	ontrol Interface
Dimensions Miscellaneous / Notes	 11.6" (29.4cm) high, 2.2" (5.6) Latching alarm circuitry ensurestarted until hazardous cor Connects directly to dispense Controls most manufacturer¹ Cable length: 5 feet (1.5m). Control interface dimensions (5.6cm) dia. 	ures dispenser can't be ndition has been corrected. er wiring. s dispensers.	Power 120 Vac Neutral - Existing conduit 1-1/2" to 3/4" NPT Reducer 3/4" NPT nipple (Customer		nser g conduit NPT coupling
Third Party Evaluation Links	http://nwglde.org/evals/veeder	r_root_p.html	supplied)		
Product Link	Non-Discriminating Stand-Alor	ne Dispenser Pan Sensor	Junction box // // // // // // // // // // // // //		J
Warranty with System	1 Yr Parts & Labor				
Warranty (When purchased separately)	1 Yr Parts Only		Dispenser pan sensor s 1. Rest in the cup or the		Optional Universal
			 Invest point of the dispenser pan. Be positioned so as tr removable by pulling sensor straight up out the pan. Be mounted in a true vertical position. 	o be the	Sensor mounting kit

Sensor Description	Position Ser	nsitive Sensor		containment sump or dispenser pan of, and differentiate between, ds.	Sensor Matrix	Back
Form Number	794380-323		L		L	
Where Used (Typical)				Category		
	Dispenser Pan Spill Containmen STP Sump Convault Tank	Annular Space	11	 Discriminating Non-Discriminating Position Sensitive 		
Fuel Compatibility	 ✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas 	 ✓ E-85 ✓ E-100 	✓ Green Diesel ☐ DEF ✓ Waste Oil ✓ Motor Oil	Level Sensing Static Testing Hydrostatic		
Console Compatibility	Recommended			Sensor Interface Modules		
(*International Only ¹)	Min. Console Software	Module Form #	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 332812-001	Universal Sensor Module (USM)	Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/opt. TLS-XB	16	Sold Separately
¹ TLS4 (8601 Series)		330020-750				
TLS4 (8601 Series)	-	330020-750	Universal Sensor Input		12	
¹ TLS4B (8601 Series)	6A or Higher	330020-751	Output 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		4	Sold Separately
TLS-300i	-	330230-001	4 Probe / 8 Sensor Interface Module	1	8	Included
TLS-300C	1	330513-001	2 Probe / 8 Sensor Options	•		
Alarm Notification	Normal	Sensor in Normal Sta	ate - No liquid detected			
	Sensor Out alarm	Sensor not resting or	n bottom of containment or ser	nsor not communicating to ATG/Cons	ole	
	Fuel alarm	Liquid detected in co	ontainment area at approx. 1.5'	" (3.81cm)		
Installation Kit	330020-012	Universal Sensor Mo	unting Kit (Sold separately)			
Specifications			Example Installation			
Operating Principle	Product permeable,	reed switch /float				
Product Activation Height	Liquid - Approx. 1.5		Submersible —	Sensor — 1/2" NDT		
Operating Temp	+32 to +140°F (0 to	,	pump		Weatherproof junction box	
Dimensions	12" (30.5cm) high, 2	. ,	Containment	supplied w/cable	/ Sealoff	
Miscellaneous / Notes		gth: 12 Feet (3.66m).	sump	=\Fi , \ \ \ \		
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601Series) (-Rigid conduit to console	
Product Link	Position Sensitive S	ensor	IMPORTANT!		Brackets, clan	ıp. etc.
Warranty with System	1 Yr Parts & Labor		DO NOT MOUNT SENS FLEXIBLE PRODUCT L		from optional l	Jniversal
Warranty (When purchased separately)	1 Yr Parts Only				Product line	
			IMPORTANT! Housing r position indicator agair sump or you will have	nst bottom of the —/ a 'Sensor Out' alarm.	Incorrect	

Sensor Description	Solid-State (Optical) Discriminat- ing Interstitial Sensor for Double- Wall Fiberglass Tanks		The Discriminating Interstitial Sensor for double-wall fiberglass tanks uses solid-state liquid level sensing technology to detect liquid in the interstitial space of the tank.		Sensor Matrix Back	
Form Number	794380-343				•	
Where Used (Typical)	 Dispenser Pan Spill Containme STP Sump ✓ Convault Tank 	Annular Space Annular Space Monitoring W Oil/Water Sep	lell	or Tank		
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 	Position Sensitive Level Sensing Static Testing Hydrostatic		
Console Compatibility	Recommended			Sensor Interface Modules		
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB		cona coparatory
¹ TLS4 (8601 Series)		330020-750			12	
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1		Included
¹ TLS4B (8601 Series)	of the higher	330020-751	put Module (USIOM-AC)	I I	6	moladou
TLS4c (8601 Series)		330020-751			0	
TLS-350/R/PLUS	124/324 or Higher	329956-001	Type A Sensor Interface Module	Up to 8	8	Sold Separately
TLS-350J		I		I	I	
TLS-300i				N/A		
TLS-300C						
Alarm Notification	Normal	Sensor in Normal Sta	ate - No liquid detected			
	Liquid alarm	Water detected				
	Fuel alarm	Fuel or Fuel/Water de	etected			
	Sensor out	Sensor not commun	icating to ATG / Console			
Specifications			Example Installation			
Operating Principle	Optical sensor and	conductivity		I		
Product Activation Height	Fuel or Water - <0.7	1" (0.25cm)	and Carl	8/////////////////////////////////////		
Operating Temp	-40 to +122°F (-40	to +50°C)				
Dimensions	4.3" (11cm) length, 0.5" (1.3cm) thick	1.5" (3.8cm) width,	Manhole	Seal-off		
Miscellaneous / Notes	Standard Cable 25 1 10 foot [1.2 to 3m]		Riser Rigid conduit (to Console) Weatherproof junction box			
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)					
Product Link	Solid-State Discrim. Sensor	inating Interstitial				
Warranty with System	1 Yr Parts & Labor		Senso	pr must reach	ank	
Warranty (When purchased separately)	1 Yr Parts Only		boť	r must reach tom of tank	ain	

Sensor Description		or for Double-Wall uss Tanks	The Non-Discriminating Interstitial Sensor for double-wall fiber- glass tanks detects the presence of liquid in the interstitial space of the tank.		Sensor Matrix Back		
Form Number	794390-409				1		
				Category			
Where Used (Typical)	Dispenser Pan Spill Containmer STP Sump Convault Tank	Annular Space Monitoring We Oil/Water Sep	ell	 Discriminating Non-Discriminating Position Sensitive 			
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 0il ✓ Motor 0il 	Level Sensing Static Testing Hydrostatic			
Console Compatibility	Recommended			Sensor Interface Modules			
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately	
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	10	Solu Separately	
¹ TLS4 (8601 Series)		330020-750			12		
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1	12	Included	
¹ TLS4B (8601 Series)	OA OI HIGHEI	330020-751	put Module (USIOM-AC)		6	Included	
TLS4c (8601 Series)		330020-751			O		
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		8	Included	
TLS-300C		330513-001	2 Probe / 8 Sensor Options				
Alarm Notification	Normal	Sensor in Normal Sta	ate - No liquid detected				
	Liquid alarm	Liquid detected					
	Sensor out	Sensor not commun	cating to ATG / Console				
Specifications			Example Installation				
Operating Principle	Reed switch / float						
Product Activation Height	0.28" (0.71cm)						
Operating Temp	-4 to +140°F (-20 to	-					
Dimensions	2.2" (5.6cm) length, 0.6" (1.5cm) thick	, 1.3" (3.3cm) width,	Manhole	Seal-off			
Miscellaneous / Notes	Standard Cable 25 f 10 foot [1.2 to 3m] l		Riser	Weatherproof junction box	t (to Console)		
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)						
Product Link	Non-Discriminating	Interstitial Sensor	1 //				
Warranty with System	1 Yr Parts & Labor						
Warranty (When purchased separately)	1 Yr Parts Only		Sensor mus	t reach Fiberglass ta	ank		

Sensor Description	Fluid Intersti	ernative Ethanol tial Sensor for iberglass 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.		Sensor Matrix			
Form Number	794380-345							
Where Used (Typical)	☐ Dispenser Pan ☐ Spill Containmer ☐ STP Sump ☑ Convault Tank	Annular Spac Monitoring W Oil/Water Sep	ell	Category Discriminating Non-Discriminating				
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 0il ✓ Motor 0il 	 Position Sensitive Level Sensing Static Testing Hydrostatic 				
Console Compatibility	Recommended			Sensor Interface Modules				
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability		
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately		
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	10	oold ocparately		
¹ TLS4 (8601 Series)		330020-750			12			
TLS4i (8601 Series)	CA on Hinkor	330020-750	Universal Sensor Input Out-	1	12	Included		
¹ TLS4B (8601 Series)	6A or Higher	330020-751	put Module (USIOM-AC)	I		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	-							
Alarm Notification	Normal	Sensor in Normal Sta	ate - No liquid detected					
	Fuel alarm	Liquid detected						
	Sensor out	Sensor not commun	icating to ATG / Console					
Specifications		I	Example Installation					
Operating Principle		phase changes in the sing them to interact e another						
Product Activation Height	Fuel or Water<0.2" (1cm)	(0.5cm); E85 <0.4"		Seal-off				
Operating Temp	-40 to +122°F (-40	to +50°C)	Manhole 1		Concolo)			
Dimensions	4.3" (11cm) length, 0.5" (1.3cm) thick	1.5" (3.8cm) width,	Riser	Rigid conduit (to Weatherproof junction box	console)			
Miscellaneous / Notes	Standard Cable 25 1 10 foot [1.2 to 3m]							
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)							
Product Link	Solid-State Alternat Interstitial Sensor	ive Ethanol Fluid						
Warranty with System	1 Yr Parts & Labor		Sensor must rea bottom of tan	ach Ik Fiberglass tank				
Warranty (When purchased separately)	1 Yr Parts Only							

Sensor Description	Interstitial Senso	r 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.		Sensor Matrix Back		
Form Number	794390-420 (16'	cable); 794390-460	(30' cable)				
Where Used (Typical)	 Dispenser Pan Spill Containment STP Sump Convault Tank 	Annular Space	11				
Fuel Compatibility	 ✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas 	☐ E85 ☐ E100	Green Diesel DEF Waste Oil Motor Oil	Position Sensitive Level Sensing Static Testing Hydrostatic			
Console Compatibility	Recommended			Sensor Interface Modules	•		
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately	
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	10	oold ooparatoly	
¹ TLS4 (8601 Series)		330020-750			12		
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1		Included	
¹ TLS4B (8601 Series)	of the mighter	330020-751	put Module (USIOM-AC)		6	moladoa	
TLS4c (8601 Series)		330020-751			Ũ		
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				
Alarm Notification	Normal		ate - No liquid detected				
	Fuel alarm	Liquid detected					
	Sensor out		icating to ATG / Console				
Installation Kit	312020-928	2" (50mm) Interstitia	Il sensor riser cap kit (sold sepa	arately)			
Specifications			Example Installation				
Operating Principle	Reed switch / float						
Product Activation Height	1.4" (3.56cm)		-		erproof junction box		
Operating Temp	-4 to +140°F (-20 t		Manha				
Dimensions		.5" (3.8cm) diameter	Manho	Rigid	conduit (to Console)		
Miscellaneous / Notes	794380-420 (cable 794380-460 (cable 312020-928 (2" [50 adapter kit)	30 feet [9.1m]); 0mm] Riser cap and	Appropriate reducer with 1/2" NPT opening for cable cord grip				
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		Leader ca	ble			
Product Link	Interstitial Sensor fo	or Steel Tanks]	Riser	\Box		
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 1		The sensor detects the presence of liquid in small containment areas (i.e., spill buckets) of double wall steel tanks. In addition, it provides an alarm when the sensor is not positioned correctly on the bottom of the interstitial space.		Sensor Matrix Back		
Form Number	794380-333						
Where Used (Typical)	 Dispenser Pan Spill Containme STP Sump Convault Tank 	Annular Spac	ell	Category Discriminating Non-Discriminating Position Sensitive			
Fuel Compatibility	 ✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas 	✓ E-85✓ E-100	 ✓ Green Diesel □ DEF ✓ Waste 0il ✓ Motor 0il 	 Position Sensitive Level Sensing Static Testing Hydrostatic 			
Console Compatibility	Recommended			Sensor Interface Modules			
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately	
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	10	Juliu Jeparately	
¹ TLS4 (8601 Series)		330020-750			12		
TLS4i (8601 Series)	CA on Hinkor	330020-750	Universal Sensor Input Out-		12	الموادر المرا	
¹ TLS4B (8601 Series)	6A or Higher	330020-751	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		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 Sta	tate - No liquid detected				
	Fuel alarm	Not sitting correctly	on bottom of interstitial space of	or liquid detected			
	Sensor out	Sensor not communi	icating to ATG / Console				
Installation Kit	312020-928	2" (50mm) Interstitia	al sensor riser cap kit (sold sepa	arately)			
Specifications			Example Installation				
Operating Principle	Reed Switch /Float			1			
Product Activation Height	1.4" (3.6cm)		- - -	Weath	nerproof junction box		
Operating Temp	-4 to +140°F (-20 t	0 +60°C)	D		, <u>, ,</u> , ,,		
Dimensions	3.5" (8.9cm) High, 1 ter	1.75" (4.4cm) Diame-	Manhole	Rigid c	conduit (to Console)		
Miscellaneous / Notes	Standard Cable Len 312020-928 (2" [50 adapter kit)	gth: 20 Feet (6.09m);)mm] Riser cap and					
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		cord grip Sensor cat				
Product Link	Position Sensitive Ir Steel Tanks	nterstitial Sensor for		Riser			
Warranty with System	1 Yr Parts & Labor				/		
Warranty (When purchased separately)	1 Yr Parts Only		Sensor must rest on bottom of interstitial riser				

Sensor Description	Interstitial High A Steel Tanks	Icohol Sensor for	The Interstitial Sensor for steel tanks with high alcohol product detects the presence of liquid between the double walls of the tank.		Sensor Matrix Back		
Form Number	794380-430						
Where Used (Typical)	□ Dispenser Pan ✓ Annular Space □ Spill Containment □ Monitoring Well □ STP Sump □ Oil/Water Separator Tank ✓ Convault Tank		ell	Category Discriminating Non-Discriminating Position Sensitive			
Fuel Compatibility	 ✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas 		Green Diesel DEF Waste Oil Motor Oil	Level Sensing Static Testing Hydrostatic			
Console Compatibility	Recommended			Sensor Interface Modules			
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately	
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	10	oold ooparatory	
¹ TLS4 (8601 Series)		330020-750			12		
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1	12	Included	
¹ TLS4B (8601 Series)	OA OI HIghei	330020-751	put Module (USIOM-AC)	I	6	included	
TLS4c (8601 Series)		330020-751	•		0		
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				
Alarm Notification	Normal	Sensor in Normal Sta	ate - No liquid detected				
	Fuel alarm	Water or Fuel detected					
	Sensor out	Sensor not communi	icating to ATG / Console				
Installation Kit	312020-928	2" (50mm) Interstitia	Il sensor riser cap kit (sold sep	arately)			
Specifications			Example Installation				
Operating Principle	Reed switch / float						
Product Activation Height	1.1" (2.8cm)		<u> </u>	Weatl	nerproof junction box		
Operating Temp	-4 to +140°F (-20 to	0 +60°C)	<u>.</u> 4	Seal-off			
Dimensions	2.5" (6.4cm) high, 1	.5" (3.8cm) diameter	Manhole				
Miscellaneous / Notes	Standard cable 15 f 312020-928 (2" [50 adapter kit)		1/2" NPT cord g Appropriate reducer w	Irips	d conduit (to Console)		
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		1/2" NPT opening for o cord grip				
Product Link	Interstitial High Alco Tanks	hol Sensor for Steel	Leader cable	ə — — — — — — — — — — — — — — — — — — —			
Warranty with System	1 Yr Parts & Labor			Riser			
Warranty (When purchased separately)	1 Yr Parts Only			Tank—			
			Sensor must rest on bottom of interstitial riser				

Sensor Description	MicroSensor		ting small, easy to install solid- nterstitial space of a steel tank	state MicroSensor is designed or a fill riser containment.	Sensor Matrix Back	
Form Number	794380-344	•				
Where Used (Typical)	 Dispenser Pan Spill Containme STP Sump ✓ Convault Tank 	Annular Spac Monitoring W. Oil/Water Sep	ell	Category Discriminating Non-Discriminating		
Fuel Compatibility	 ✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas 	🗹 E-100	 ✓ Green Diesel ✓ DEF ✓ Waste Oil ✓ Motor Oil 	 Position Sensitive Level Sensing Static Testing Hydrostatic 		
Console Compatibility	Recommended			Sensor Interface Modules		
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX		
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	16	Sold Separately
¹ TLS4 (8601 Series)		330020-750			10	
TLS4i (8601 Series)	CA on Hinkor	330020-750	Universal Sensor Input Out-		12	Included
¹ TLS4B (8601 Series)	6A or Higher	330020-751	put Module (USIOM-AC)	1	6	Included
TLS4c (8601 Series)	-	330020-751	1		0	
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						
Alarm Notification	Normal		ate - No liquid detected			
	Fuel alarm	-	minimum of 1" (2.54cm)			
	Sensor out		icating to ATG / Console			
Installation Kit	312020-928	2" Cap Adapter Kit (S		1		
Specifications			Example Installation			
Operating Principle	Optical					
Product Activation Height	1" (2.54cm)		<u> </u>	P We	atherproof junction bo	X
Operating Temp Dimensions	-40 to +122°F (-40	-				
Miscellaneous / Notes	Dia. 0.63" (16mm), Standard Cable Len 312020-928 (2" [50 Adapter kit)	gth: 25 Feet (7.6m);	. Manhole 1/2" NPT Cord	Rigio	d conduit (to Console)	
Third Party Evaluation Links	TLS-350/TLS-450 S TLS4 (8601 Series)		Appropriate reducer w 1/2" NPT opening for	vith cable		
Product Link	MicroSensor		cord grip		/	
Warranty with System	1 Yr Parts & Labor		Sensor ca			
Warranty (When purchased separately)	1 Yr Parts Only		Minimum riser dia 1 inch (2.54cm) MicroSensor must rest on bottom of interstitial riser			

Sensor Description	Dual-Point Hydrostatic Reservoir Sen- sor (Brine Filled Double Wall Tank Sensor)	and interstice of a d groundwater areas, low level alarm cond	ouble wall storage tank. The Du and can differentiate between dition. If an inner-wall leak occu el alarm, if an outer wall leak occu	ts fluid level change in the reservoir ual-Point version is ideal for high a high level alarm condition and a urs, the brine seeps into the tank ccurs, fluid seeps into the interstice	Sensor Matrix Back		
Form Number	794380-303						
Where Used (Typical)	 Dispenser Pan Spill Containment STP Sump Convault Tank 	Annular Space	ell	Category Discriminating Non-Discriminating Position Sensitive			
Fuel Compatibility	Gas Diesel Kerosene Jet Fuel Aviation Gas	 ✓ E-85¹ □ E-100 	,	Level Sensing Static Testing Hydrostatic			
Console Compatibility	Recommended		-	Sensor Interface Modules	•		
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately	
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB			
¹ TLS4 (8601 Series)		330020-750			12		
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1		Included	
¹ TLS4B (8601 Series)	of the higher	330020-751	put Module (USIOM-AC)		6	included	
TLS4c (8601 Series)		330020-751			Ŭ		
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				
Alarm Notification	Normal		er position (correct amount of brine in reservoir)				
	Low liquid	Brine drops below 1.					
	High liquid	Brine rises above 13					
Specifications	Sensor out		icating to ATG / Console Example Installation				
•	Reed Switch /Float						
Operating Principle Product Activation Height	Low 1.2" (3cm), Hig	h 13 13" (22 Apm)	4				
Operating Temp	-13 to +122°F (-25		4	Manhole Weatherpro	of junction box		
Dimensions	-13 to +122 P (-23 17.3" (43.9cm) High		0 - - - - - - - - - - - 				
Miscellaneous / Notes	Standard Cable Le Vented riser cap a Reservoir solution	ength: 12 ft (3.65m) assembly included is: Up to 50% eth- iter; up to 50% pro- <i>v</i> ater; salt brine	Vented riser pi cap w/vent tub Dual-Point				
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		Hydrostatic Sensor				
Product Link		atic Reservoir Sensor	Brine level	Ο.	uble–wall tank		
Warranty with System	1 Yr Parts & Labor						
Warranty (When purchased	1 Yr Parts & Labor 1 Yr Parts Only						
separately)							

Sensor Description	Single-Point Hydrostatic Reservoir Sen- sor (Brine Filled Double Wall Tank Sensor)	and interstice of a de low groundwater loc	ervoir Sensor accurately detect ouble wall storage tank. The Sir cations. If an inner-wall leak ocr rm, or if the outer wall leaks, th el alarm.	Sensor Matrix Back		
Form Number	794380-301					
Where Used (Typical)	 □ Dispenser Pan □ Spill Containmen □ STP Sump ☑ Convault Tank 	Annular Spac Monitoring W Oil/Water Sep	ell	Category Discriminating Non-Discriminating		
Fuel Compatibility	 ✓ Gas ✓ Diesel ✓ Kerosene ✓ Jet Fuel ✓ Aviation Gas ¹Single Use Only (Tetration Contemport) 	 ✓ E-15 ✓ E-85¹ ✓ E-100 ✓ Bio-Diesel 20 ○ Bio-Diesel 100 est per Sensor Operability Gut 	Green Diesel DEF Waste Oil Motor Oil uide in E-10 or less)	 Position Sensitive Level Sensing Static Testing Hydrostatic 		
Console Compatibility	Recommended			Sensor Interface Modules		
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB		
¹ TLS4 (8601 Series)		330020-750			12	
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1		Included
¹ TLS4B (8601 Series)		330020-751	put Module (USIOM-AC)	1	6	moladea
TLS4c (8601 Series)		330020-751			Ū	
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	Namaal	330513-001	2 Probe / 8 Sensor Options			
Alarm Notification	Normal		sition (correct amount of brine in reservoir)			
	Fuel alarm Sensor out	Brine level below 1.7 Sensor not communi				
Crocifications			Example Installation			
Specifications Operating Principle	Reed Switch /Float					
Product Activation Height	1.75" (4.4cm)		-	We all a more of in	1	
Operating Temp	-13 to +135°F (-25	to +57°C)	0 9e- //	Manhole Weatherproof jur	ICUON DOX	
Dimensions						
Miscellaneous / Notes	 6" (15cm) high, 2.5" (6.4cm) dia. Standard Cable Length: 12 ft (3.65m) Vented riser cap assembly included Reservoir solutions: Up to 50% ethylene glycol in water; up to 50% propylene glycol in water; salt brine solution of up to 30% CaCl 		Vented riser pipe / cap w/vent tube Single–Point Hydrostatic Senso	cap w/vent tube		
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		Float	Reservoir	-wall tank	
Product Link	Single-Point Hydros Sensor	tatic Reservoir	Brine level			
Warranty with System	1 Yr Parts & Labor					
Warranty (When purchased separately)	1 Yr Parts Only					

Sensor Description	Single-Point Mini-Hydrostatic Sensor for Double Wall Sumps		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.		Sensor Matrix Back		
Form Number	794380-304						
Where Used (Typical)				Category			
	Dispenser Pan Spill Containme STP Sump Convault Tank	Annular Spac Monitoring W Oil/Water Sep	ell	Discriminating Non–Discriminating			
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	 Position Sensitive Level Sensing Static Testing ✓ Hydrostatic 			
Console Compatibility	Recommended			Sensor Interface Modules			
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately	
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	10	Solu Separately	
¹ TLS4 (8601 Series)		330020-750			12		
TLS4i (8601 Series)	64 or Higher	330020-750	Universal Sensor Input Out-	1	12	Included	
¹ TLS4B (8601 Series)	6A or Higher	330020-751	put Module (USIOM-AC)	I	<u>_</u>	included	
TLS4c (8601 Series)	-	330020-751	+		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				
Alarm Notification	Normal	-	n (correct amount of brine in reservoir)				
	Fuel alarm	-	sition (low brine level in reservo	pir)			
	Sensor out	Sensor not commun	Sensor not communicating to ATG / Console				
Specifications			Example Installation				
Operating Principle	Reed Switch /Float						
Product Activation Height	0.79" (2cm)		4 - A			ъ <u>ь</u>	
Operating Temp	-13 to +122°F (-25	-	<€oncre				
Dimensions	2.5" (6.4cm) high, 1						
Miscellaneous / Notes	up to 50% ethylene	gth: 8 Feet (2.43m); glycol in water; up to ol in water; salt brine % CaCl.	Double-wall sump Coupling and seals as required for conduit egress	Sensor in interstitial fluid reservoir			
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		(customer supplied)	Customer sup			
Product Link	Single-Point Mini-H	ydrostatic Sensor	Rigid conduit to TLS console	Use tie wraps to keep cable clear of sump			
Warranty with System	1 Yr Parts & Labor			components and lid			
Warranty (When purchased separately)	1 Yr Parts Only		Tank				

Sensor Description	Vapor Sensor	The Vapor Sensor de limit in the monitorir		eding the programmed threshold	Sensor Matrix Back		
Form Number	794390-700						
Where Used (Typical)	Dispenser Pan Spill Containme STP Sump Convault Tank	Annular Spac	ell	Category Discriminating Non-Discriminating Position Sensitive			
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	 Position Sensitive Level Sensing Static Testing Hydrostatic Vapor Groundwater Oil/Water Separator 			
Console Compatibility	Recommended			Sensor Interface Modules			
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX		Oold Oomenstele	
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	8	Sold Separately	
¹ TLS4 (8601 Series)		330020-750			6	Included	
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1	Ū		
¹ TLS4B (8601 Series)	of the higher	330020-751	put Module (USIOM-AC)	1	4	moludou	
TLS4c (8601 Series)		330020-751			т		
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							
Alarm Notification	Short alarm		I in the sensor wiring or in the s				
	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			nnected; or, it is not functioning prop	erly.		
Installation Kit	312020-939	4-inch (100mm) cap	and adapter kit (Sold separate	ly)			
Specifications			Example Installation				
Operating Principle	Adsistor						
Product Activation Height	Gasoline vapor >50						
Operating Temp	-4 to +140°F -(20 t		•				
Dimensions (Sensor) Miscellaneous / Notes	4.9" (12.4cm) long, Standard Cable 18 1		Manho	le Rigio	d conduit (to Console)		
Third Party Evaluation	TLS-350/TLS-450 S TLS4 (8601 Series)	Series Consoles	Cap and co	ord grips Weatherproof junct and seal-off	tion box		
Product Link	Vapor Sensor		-				
Warranty with System	1 Yr Parts & Labor		-	• • •			
Warranty (When purchased separately)	1 Yr Parts Only		Suspend vapor sensor 12 above highest level reache water table, if known; or 1	housing 2 inches	C monitoring well		
			above the bottom of the w or any water in the well.	Vapor sensor			

Sensor Description	Groundwater Sensor		ensor detects free hydrocarbons 20 feet deep monitoring wells.	s in the C5 to C16 range on the	Sensor Matrix Back		
Form Number	794380-621 (7 - 1	10 foot [2 - 3m] wel	lls); 794380-622 (10 - 15 fo	ot [3 - 4.5m] wells); 794380-624	(15 - 20 foot [4.5 -	6m] wells)	
Where Used (Typical)	Dispenser Pan Spill Containme STP Sump Convault Tank	Annular Spac	ell	Category Discriminating Non-Discriminating Descriminating			
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 	 Position Sensitive Level Sensing Static Testing Hydrostatic Vapor Groundwater Oil/Water Separator 			
Console Compatibility	Recommended		-	Sensor Interface Modules			
(*International Only ¹)	Min. Console Software	Module Form #	Module Description	# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability	
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	8	Sold Separately	
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	0	oold ocparatory	
¹ TLS4 (8601 Series)		330020-750			6		
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1	0	Included	
¹ TLS4B (8601 Series)	OA OF HIGHEI	330020-751	put Module (USIOM-AC)	I	4	included	
TLS4c (8601 Series)		330020-751	•		4		
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							
Alarm Notification	Normal		hydrocarbons detected.				
	Water out	Sensor not in water					
	Fuel alarm	Permeable material					
	Sensor out	Sensor not communi	icating to ATG / Console				
Specifications			Example Installation				
Operating Principle	Electrical conductiv	ity					
Product Activation Height	0.02" (0.5mm)						
Operating Temp	+32 to +104°F (0 to	,					
Dimensions (Water Float)	4.9" (12.4cm) long,		Cord grips				
Miscellaneous / Notes	(162.6cm)	ed; cable length 64"	Sensor well cap	Rigid conduit	, , , , , , , , , , , , , , , , , , ,		
Third Party Evaluation Links	TLS-3XX/TLS-450 S TLS4 (8601 Series)		Extra sensor length	and seal off			
Product Link	Groundwater Senso	or	should not exceed 2–feet (60cm)	• Perforated PVC monit	toring well housing		
Warranty with System	1 Yr Parts & Labor		· · /	0 0 Cuopand water float 2	411 (F 10om)		
Warranty (When purchased separately)	1 Yr Parts Only		Sensor Water float	Sensor Suspend water float 2'' – 4'' (5 – 10cm) above bottom of well. NOTE: Water float water float Water float Water float			

Sensor Description	Oil/Water Separator Sensor (OWSS)	system for your Oil V by monitoring produ tem when tank cont	ator Sensor (OWSS) allows you Nater Separator tank. The OWS ct thresholds, and will activate ents exceed a predetermined tl ese alarms and a full alarm his	Sensor Matrix Back					
Form Number	794690-XXX								
Where Used (Typical)	Dispenser Pan Spill Containmen STP Sump Convault Tank	Annular Space	911	Category Discriminating Non–Discriminating Position Sensitive					
Fuel Compatibility	 Gas Diesel Kerosene Jet Fuel Aviation Gas 	✓ E-15 Green Diesel E-85 DEF E-100 ✓ Waste Oil Ø Bio-Diesel 20 ✓ Motor Oil Bio-Diesel 100 ✓		 Isolation Sensitive Level Sensitive Static Testing Hydrostatic Vapor Groundwater Oil/Water Separator 					
Console Compatibility	Recommended	Sensor Interface Modules							
(International Only ¹)			# Of Modules Per Console	# Of Sensor Inputs Per Module	Availability				
TLS-450PLUS (8600 Series)	6A or Higher	332812-001	Universal Sensor Module	Up to 4 - TLS-4XX	16	Sold Separately			
TLS-450	4A or Higher	332812-001	(USM)	Up to 8 - TLS-4XX w/opt. TLS-XB	10	Sold Separately			
¹ TLS4 (8601 Series)		330020-750			12	Included			
TLS4i (8601 Series)	6A or Higher	330020-750	Universal Sensor Input Out-	1					
¹ TLS4B (8601 Series)	on or higher	330020-751	put Module (USIOM-AC)	,	6				
TLS4c (8601 Series)		330020-751							
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	Tank is properly setu	ıp with liquid						
	Liquid warning	Oil is present in tank							
	Liquid alarm	Oil has reached its maximum volume, remove from tank							
	Sensor out Sensor not communicating to ATG / Console								
Specifications									
Operating Principle	Reed switch / float								
Product Activation Height	Custom-Based on Tank Configuration								
Operating Temp Dimensions	0 to +140°F (0 to +60°C)								
Miscellaneous / Notes	Custom-Based on Tank Configuration								
Product Link	Standard Cable Length: 12 Feet- See Appendix B in this manual for sensor sizing Oil Water Separator Sensor								
Warranty with System	1 Yr Parts & Labor								
Warranty (When purchased separately)	1 Yr Parts Only								

Appendix A - Sensor Type Programming Table

The table below is helpful when selecting Sensor Type (for TLS-3XX Series consoles) or Sensor Model (for TLS4/8601 and TLS-450 and TLS-450PLUS consoles) during sensor setup.

Sensor	Form Number	Sensor Category (Location)	TLS-3XX Series Sensor Type	TLS4/8601 Series TLS-450 and TLS-450PLUS Sensor Model		
Discriminating Dispenser Pan and Sump Sensors - 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		
Discriminating Dispenser Pan and Sump Sensors - 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 Sensor	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	794380-208	Sump/Pan	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State		
Position-Sensitive Sensor High Alcohol Compatible!	794380-323	Sump/Pan	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State		
Discriminating Interstitial Sen- sor for Double-Wall Fiberglass Tanks	794380-343	Annular Space	2-Wire C.L. Setup: Sensor Type - Discrim Interstitial	Device Setup Type A Sensor: Model - Discrim. Interstitial		
Interstitial Sensors for Double- Wall Fiberglass Tanks	794390-409	Annular Space	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State		
Interstitial High Alcohol Sen- sor for Double-Wall Fiberglass Tanks High Alcohol Compatible!	794380-345	Annular Space	2-Wire C.L. Setup: Sensor Type - Ultra 2	Device Setup Type A Sensor: Model - Ultra 2		
Interstitial Sensors for Steel Tanks	794390-4X0	Annular Space	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State		
Position Sensitive Interstitial Sensor for Steel Tanks (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 Sen- sors for Steel Tanks (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		
Lludrootatia Decervoir	794380-301 (1 float)	Annular Space	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State		
Hydrostatic Reservoir	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 Sensor for Double Wall Sumps	794380-304	Annular Space	Liquid Sensor Setup: Sensor Type - Tri-State Liquid	Device Setup Liquid Sensor: Model - Tri-State		
Vapor	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		

Sensor Type Programming Table for TLS Consoles

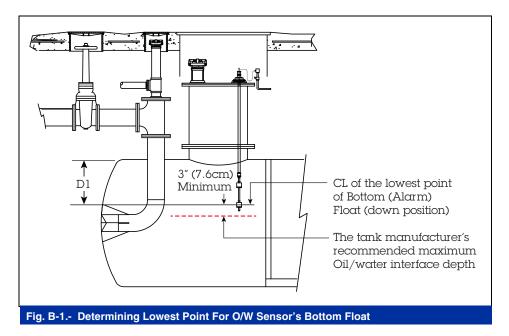
Appendix B - How To Order An Oil/Water Separator Sensor (OWSS)

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.

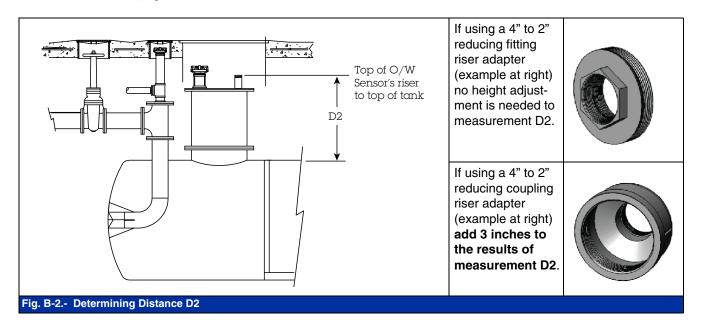
1. Determining The Lowest Point Of The Bottom (Alarm) Float

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 inches 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**.



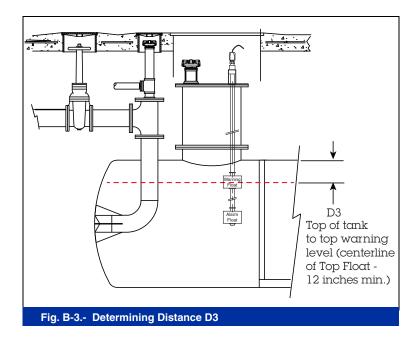
2. Determining Distance From Top Of Riser To Top Of Tank

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" 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 V-R Oil/Water Separator Sensor matrix shown in Fig.B-4.

For example: D1 = 33", D2 = 24.5, D3 = 13" D2 + D3 = Top float position, i.e., 24.5 + 13 = 37.5" (Dimension A in the V-R P/N matrix) D1 - D3 = Bottom float position, i.e., 33 - 13 = 20" (Dimension B in the V-R P/N matrix)

Using the OWSS float positions calculated in the example above, the top float (Warning) would activate at 13 inches below the top of the tank and the bottom float (Alarm) would activate at 33" below the top of the tank. The correct part number for these example float positions would be 764690-053.

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 764690-XXX, where XXX equals the three digits where Dimensions A and B intersect in the part number matrix:

								50"			
		5"	10"	15"	20"	25"	30"	35"	40"	45"	50"
	18"	-010	-011	-012	-013	-014	-015	-016	-017	-018	-019
	22"	-020	-021	-022	-023	-024	-025	-026	-027	-028	-029
	26"	-030	-031	-032	-033	-034	-035	-036	-037	-038	-039
	30"	-040	-041	-042	-043	-044	-045	-046	-047	-048	-049
\rightarrow	34"	-050	-051	-052	-053	-054	-055	-056	-057	-058	-059
	38"	-060	-061	-062	-063	-064	-065	-066	-067	-068	-069
"A"	42"	-070	-071	-072	-073	-074	-075	-076	-077	-078	-079
	46"	-080	-081	-082	-083	-084	-085	-086	-087	-088	-089
6	50"	-090	-091	-092	-093	-094	-095	-096	-097	-098	-099
<u>N</u>	54"	-100	-101	-102	-103	-104	-105	-106	-107	-108	-109
	58"	-110	-111	-112	-113	-114	-115	-116	-117	-118	-119
DIMENSION	62"	-120	-121	-122	-123	-124	-125	-126	-127	-128	-129
	66"	-130	-131	-132	-133	-134	-135	-136	-137	-138	-139
	70"	-140	-141	-142	-143	-144	-145	-146	-147	-148	-149
	74"	-150	-151	-152	-153	-154	-155	-156	-157	-158	-159
	78"	-160	-161	-162	-163	-164	-165	-166	-167	-168	-169
	82"	-170	-171	-172	-173	-174	-175	-176	-177	-178	-179
	86"	-180	-181	-182	-183	-184	-185	-186	-187	-188	-189
	90"	-190	-191	-192	-193	-194	-195	-196	-197	-198	-199

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 Site Demonstration kit (P/N 848100-502) which contains one splice kit with installation instructions, a 890-SL joint sealant instruction guide, a 6-inch piece of 2 conductor direct burial wire.

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.

2-CONDUCTOR, SHIELDED	D 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		blue tint			
UL temp rating	JL temp rating 257°F (125°C)		392°F (200°C)			

Direct Burial Cable Specifications

Direct Burial Cable Components

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

- Filler rod P/N 848100-1XX (lengths of 100 to 2000 feet [30.5 to 610m], in increments of 100 feet [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 feet (30.5 to 610m), in increments of 100 feet)
- 3-conductor cable P/N 848100-3XX (lengths of 100 to 2000 feet, in increments of 100 feet)
- 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 8481021 (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

