DMS 470/570 Series Leak Detection Systems for UST and AST Storage Tanks

- Low Cost
- U.L. Approved Intrinsically Safe
- Easily Maintained
- Audio/Visual Alarm

The DMS 470/570 monitoring systems are ideal for a number of UST and AST monitoring applications. The DMS 470 includes an audible bell while the DMS 570 uses a piezoelectric horn. Applications include vapor monitoring of monitoring wells surrounding single wall tanks, high/low product level alarms, vapor sensors for single wall piping and piping sump sensors for double wall piping.

Auxiliary Contacts

Auxiliary alarm contacts are also available for interfacing to remote alarms, computers, tank gauging systems, phone dialers, etc.

Specifications

Contact Design	SPDT (1 form C), one normally open, one normally closed
Contact Rating	120 VAC or 30 VAC, 10A, 1/3 h.p.
Sensitivity Range	0-50,000 ohms max. specific resistance
Remote Alarm Contact	Terminals; 7 N.C., 8 com, 9 N.O.
Primary Voltage	120 VAC (+10%/-15%) 60 Hz
Probe Voltage	Nominal 12 VAC @ 6ma RMS
Optional Auxiliary Contacts	One relay contact per channel
Optional "Check" Push Button Board*	Terminals: Size four (4) pan head screw with a clamping plate; will accept up to 14 AWG.
Enclosure Type	NEMA 3R; optional NEMA 4, Weather-proof; optional NEMA 4X, Fiberglass
Temperature	-40°F to +150°F (-40°C to +65.5°C)
Approval	U.L. Listed (U.L. 913) E120178

*For media discrimination in-storage tank

How to Order

Use the **Bold** characters from the chart below to construct a product code. One set of auxiliary contacts is standard with every four (4) channels supplied. A common test button is standard for every four (4) channels supplied. The fuel/water check buttons listed below are used to distinguish water or hydrocarbon when three wire sensors are used. Each sensor or detection point requires its own channel.

DMS XX X X X XX

Series
47 audible bell; **57** piezoelectric horn

Number of Channels
1 1 Channel; **2** 2 Channels; **3** 3 Channels; **4** 4 Channels;
8 8 Channels; **12** 12 Channels; **16** 16 Channels;

Fuel/Water Check Push Buttons
A No Check Buttons; **B** Check Buttons, 4; **C** Check Buttons, 8;
D Check Buttons, 12; **F** Check Button, 1;
G Check Buttons, 2; **H** Check Buttons, 3

Auxiliary Contacts
1 None; **2** Aux. Contacts, 4; **3** Aux. Contacts, 8; **4** Aux. Contacts, 12;
6 Aux. Contact, 1; **7** Aux. Contacts, 2; **8** Aux. Contacts, 3

Enclosure
N4 NEMA 4 option; **N4XFG** NEMA 4X fiberglass option

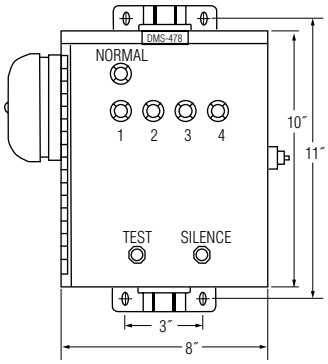
Applications

Above Ground Fuel Storage Tanks (AST)
- Leak Detection
- Overfill
- Refill

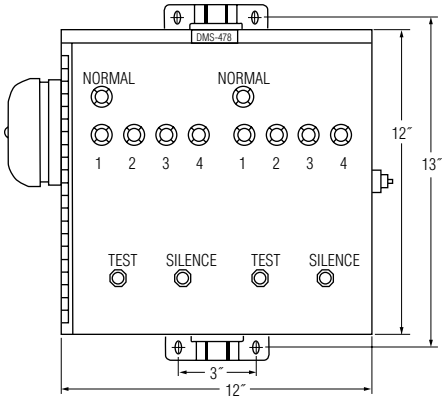
Underground Fuel Storage Tanks (UST)
- High Level Alarm
- Leak Detection
- Piping Sumps
- Monitoring Well

Dimensions

4 Channel



8 Channel



See Our Interstitial Tank Monitoring Products on page A-22.

Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - 800-352-6265 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

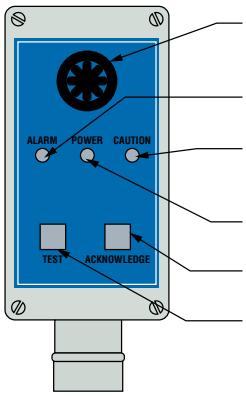
RA431 and TA73x Alarm Panels Scream Warning @ 97 dB

RA Features

- Can be used with conductivity probes
- Small footprint design
- Size 6 pan head screw connections

TA Features

- Intrinsically safe approved
- Auxiliary contact for remote annunciation or cutoff
- One or two channels
- Two conduit connection hubs



Adjustable sound level from 77 to 97 dB via moveable horn shutter

Red LED indicates fault condition is current

Yellow LED indicates fault condition has occurred even if fault has cleared itself (RA and TA731)

Green LED indicates panel has power

Acknowledge button allows direct alarm silencing

Test button allows alarm activation and system testing

RA-431 shown.
TA Series includes an additional 1/2″ NPT conduit connection for power.

Specifications

Supply Voltage	120 VAC +10%/-15%, 4.8 VA Max.
Indicators	Red, Green and Yellow Solid-State LED's
Audible Alarm	Field Adjustable From 77 to 97 dB @ 2 Feet
Enclosure	
TA Series	Polycarbonate
RA Series	NEMA 4 – Weather tight polycarbonate
Sensor Voltage	12 VAC or 12 VDC
Terminals	Size 6 Pan Head Screws with Captive Wire Clamping Plate
Temperature	-22°F to +150°F (-5.5°C to +65.5°C)
Sensitivity	0-26K Ohm Maximum Specific Resistance
Maximum Wire Run	1000 Feet (14 or 16 Gauge MTW or THHN Wire)
Conduit Connection	3/4″ FNPT, PVC Material
Listings	
TA Series	U.L. 913 Intrinsically Safe, File # E44570
RA Series	U.L. 508 Motor Control, File # E138209

How To Order

Select Part Number based on switch logic and number of channels.

RA Series

Used for non-hazardous liquid monitoring applications.

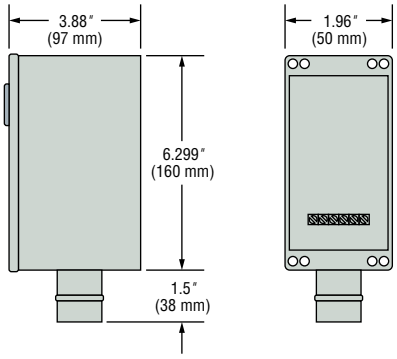
Interface Contacts	Part Number
N.O. Dry (Sensor Normally Dry)	**RA-431A-0**
N.C. Dry (Sensor Normally Wet)	**RA-431B-0**

TA Series

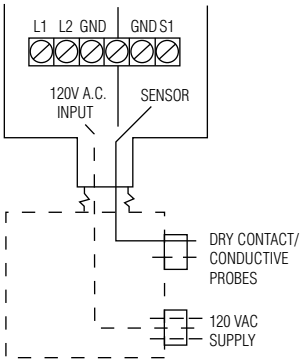
Intrinsically-safe for hazardous locations.

Interface Contacts	Number of Channels	Part Number
N.O. Dry (Sensor Normally Dry)	1	**TA-731A-0**
	2	**TA-732A-0**
N.C. Dry (Sensor Normally Wet)	1	**TA-731B-0**
	2	**TA-732B-0**

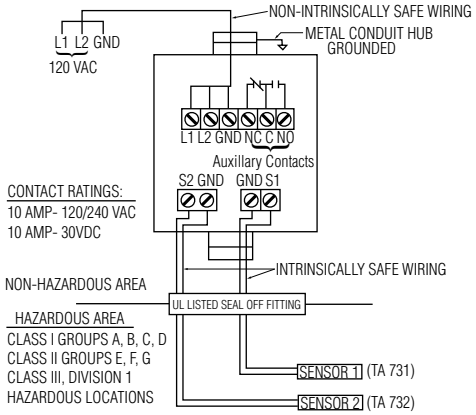
Dimensions



Wiring – RA Series



Wiring – TA Series



Specialty Switches – Continued

Portable Level Switch — Integral Mounting Magnet

Precisely monitors liquid level and is ideal for controlling filling operations and preventing overflows. Permanent magnet attaches unit securely to steel tank wall at exact level required.

LS-750 Series — Weighted for Suspension Cable

With a compact-sized float, slosh shield and weighted collar, the LS-750 provides liquid level detection for a wide variety of applications. Suspend in stand pipes or sumps for leak detection duty, or drop into wells for ground-water monitoring. Supplied with 25 feet of waterproof cable.

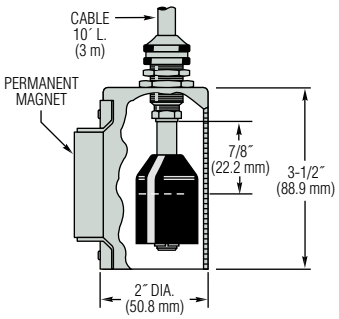
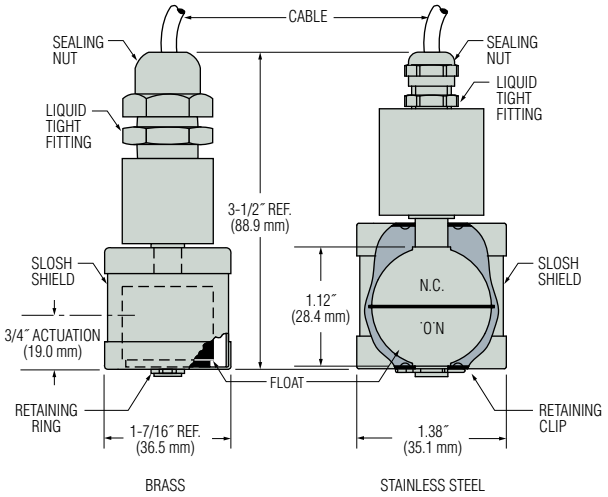
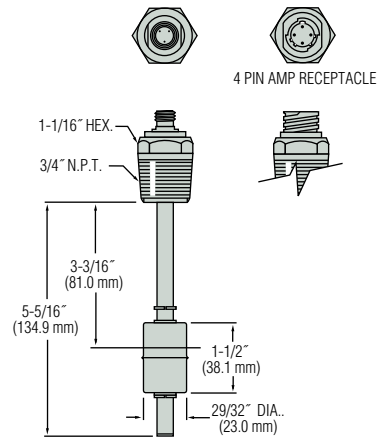
U.L. Recognized—
File No. E-45168.
CSA Listed-File No.
LR-30200.

LS-700F Series

Overfill Protection for Refrigerant Tanks.The LS-700F enables safe compliance with EPA directives to recover refrigerants. These units are designed to fit standard 30# and 50# D.O.T. approved refrigerant tanks. They provide 80% full shutoff capability when used as an integral part of a recovery system.

U.L. Recognized—
File No. SA8857.
CSA Listed-File No.
LR-30200-31.

Dimensions

Portable Level Switch	LS-750	LS-700F
		
SJO, 18/2 10´L., Neoprene	22 AWG, 2-Wire Cable	3- or 4-Pin, Quick-Connect Receptacle

†L_1 = Switch actuation level. In liquid with specific gravity of 1.0, switch actuation is approximately half the distance from end of stem to mounting, or at the halfway point of float travel.

How To Order — Select Part Number based on specifications required.

Series	Material			Min. Liquid Sp. Gr.	Operating Temperature	Pressure PSI, Max.	Switch*	Electrical Termination Option	Part Number
	Stem and Mounting	Float	Other Wetted						
Portable	Brass	Buna N	Aluminum, 316 S.S.	.85	Oil: -40°F to +230°F (-40°C to +110°C) Water: to 180°F (82°C)	10	SPST, 20 VA N.O., Dry	—	**15208**
LS-750	Brass	Buna N	Nylon, PVC, Beryllium Copper	.45		150	SPST, 20 VA N.C., Dry	PVC Cable Jacket	**149350** ⚡
	316 S.S.**	316 S.S.	PVDF, Viton®	.65	-40°F to 212°F (-40°C to +100°C)	375	SPST, 10 VA N.C., Dry	Teflon® Cable Jacket	**197433**
LS-700F	Brass	304 S.S.	—	.98	-40°F to +221°F (-40°C to +105°C)	400	SPST, 20 VA N.C., Dry	3-Pin	**128500** ⚡
								4-Pin	**144900** ⚡

*See "Electrical Data" on Page X-5 for more information.

⚡ – Stock Items.

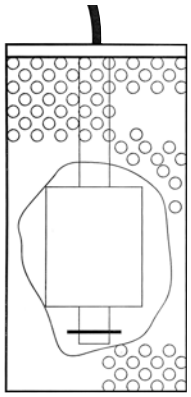
** Stainless steel is generally recognized as safe (GRAS) with FDA for food contact regulations.

Leak Detection Sensors

- Compact Size
- Low Cost
- Reliable
- Hydrocarbon Detection

Warrick® Leak Detection Sensors are designed for single wall piping, sump alarms and other small areas. Combine with Warrick Monitoring Panels for complete leak detection systems.

DLP-1 & DLP-2



Designed to detect presence of liquid in sumps, attached access pipes, annular spaces, or locations requiring a small float-operated sensor. Two models to fit 1-1/2″ and 2″ standard piping.

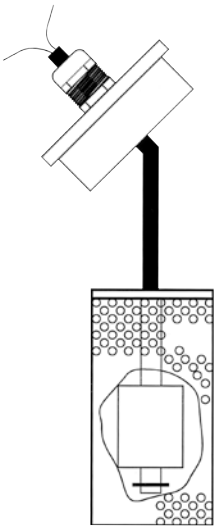
DWP-25

Designed for use in the annular space of double wall fiberglass tanks to detect the presence of conductive liquid. When combined with Warrick DMS or TA alarm panel, DWP-25 sensors can detect the presence of water or other conductive liquids in normally dry annular spaces.

DFP-25

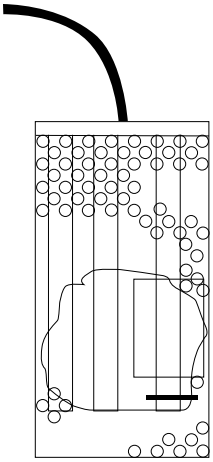
Designed for use in the annular space of double wall fiberglass tanks to detect hydrocarbon liquids. When hydrocarbons are present, a hydrocarbon wax pellet dissolves and closes a springloaded switch to signal a leak. This sensor is not reuseable after exposure to hydrocarbons.

SVP-2



Designed to monitor hydrocarbon vapors in wells or sumps by absorbing the vapors and triggering a switch. Should not be used where vapors are continuously present. Fits in standard 2″ pipe with cover.

DSP-2



Utilizes conductivity probes and a reed switch based float switch to detect the presence of liquid and differentiate between hydrocarbons and water. When combined with Warrick DMS or TA two- channel alarm panel, the DSP-2 can discriminate between water and hydrocarbon liquids causing fault condition.

How to Order

Order by Part Number (same as Series Name for these products).

Series	Body Components	Number of Sensor Wires	Wire Length	O.D.	Part Number
DLP-1*	Buna-N float, Stainless Steel and plastic housing	2 (N.O. in resting position)	16 ft.	1.22″	**DLP-1**
DLP-2*				1.88″	**DLP-2**
DSP-2*					**DSP-2**
DWP-25	Stainless Steel probes in plastic housing	2	25 ft.	.625″	**DWP-25**
DFP-25	Spring-loaded switch, plastic housing, wax pellet	2	25 ft.	.625″	**DFP-25**
SVP-2	Chemical-resistant plastic and Stainless Steel housing	2	16 ft.	2″	**SVP-2**

* EPA Approved when used with Warrick TA or DMS panel. See pages E-27 and E-28 respectively.

Applications

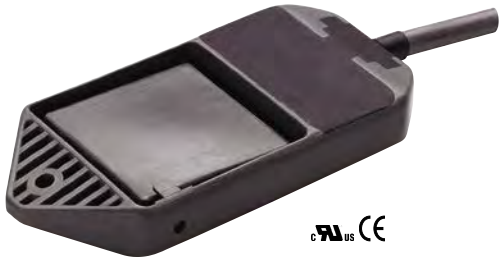
- Above Ground Storage Tanks
- Underground Storage Tanks
- Sumps
- Dry Annular Spaces

Order from: C A Briggs Company; 622 Mary Street; Suite 101 - Warminster, PA 18974
Phone: 267-673-8117 - 800-352-6265 - Fax: 267-673-8118; E-Mail: Sales@cabriggs.com - www.cabriggs.com

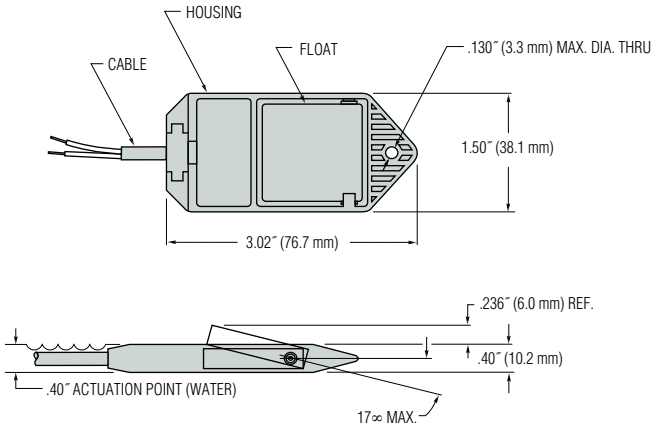
LS-10 Series – Slim Profile for Interstitial Liquid Sensing

The Gems LS-10 liquid sensor accurately detects the presence of liquid in fiberglass double-wall tanks, containment sumps and double-wall pipes. Dry contact switching ensures dependability throughout its long service life. This reusable sensor easily fits small, interstitial spaces and senses liquid hydrocarbons or water. The unit is unaffected by hydrocarbon vapor, thereby reducing the risk of false alarms.

The LS-10 sensor's rounded design makes it easy to remove, clean and reinstall after an alarm condition is triggered, or for maintenance.



Dimensions



Specifications

Wetted Materials:

Housing: Valox®

Float: Foamed Polyethylene with Solid Polyethylene Pin

Tape: UHB Double-Sided 3M Tape

Cable: PVC

Pressure: Atmospheric

Operating Temperature: -40°F to +176°F (-40°C to +80°C)

Accuracy: ±1/8 inch

Switch Rating: 10W, 50-100 VDC Resistive Only, N.C. (opens on rising)

Cable: Two (2) Conductor PVC Jacketed 25 ft. Extended

Approvals: UL Recognized

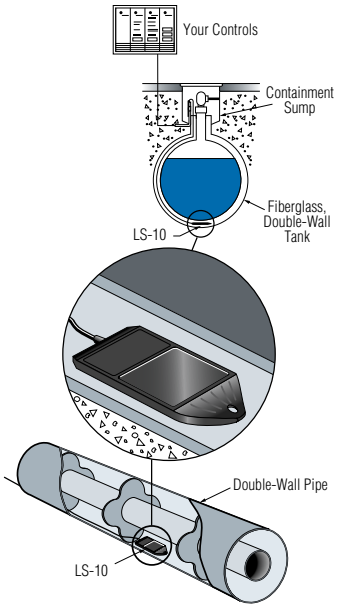
How to Order – Select Part Number based on mounting option

Series Number	Mounting Option	Part Number
LS-10	25´ PVC Jacketed Cable	**156000** ⚡

Note: The LS-10 sensor is a non-voltage producing device and does not contain energy storing components. However, since primary use is in hazardous locations, an appropriate intrinsically safe interface device is required for its use.

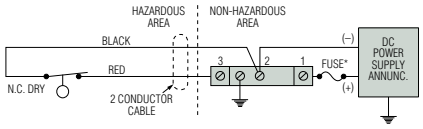
Typical Applications

- Fiberglass Double-Wall Tanks
- Double Wall Pipes
- Containment Sumps
- Piping Sumps

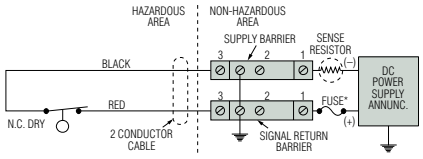


Typical Wiring Diagrams

Non-Isolated System–Single Zener Barrier

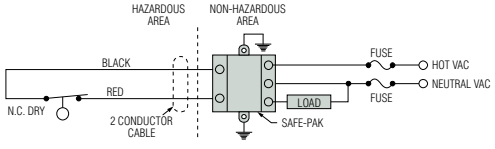


Isolated System - Dual Zener Barrier



If two signal lines must be maintained above ground potential, an individual zener barrier is required per single line.

Single Safe-Pak® Relay



Safe-Pak® is an intrinsically safe, solid state relay