



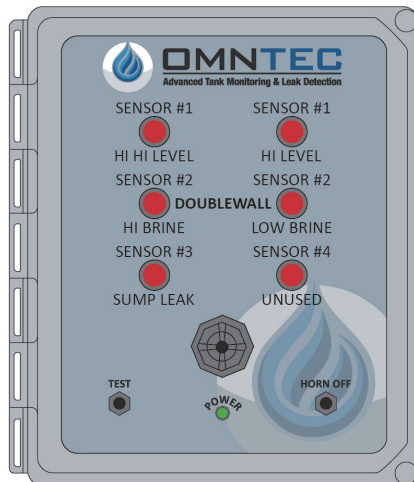
OMNTEC
Advanced Tank Monitoring & Leak Detection



1. Open the camera app
2. Focus the camera on the QR code by gently tapping the code
3. Follow the instructions on the screen to view PDF file

LU6-LF-HHR2L-CUL-6R

INSTALLATION GUIDE



SIX CHANNEL ALARM PANEL

Revision 2404

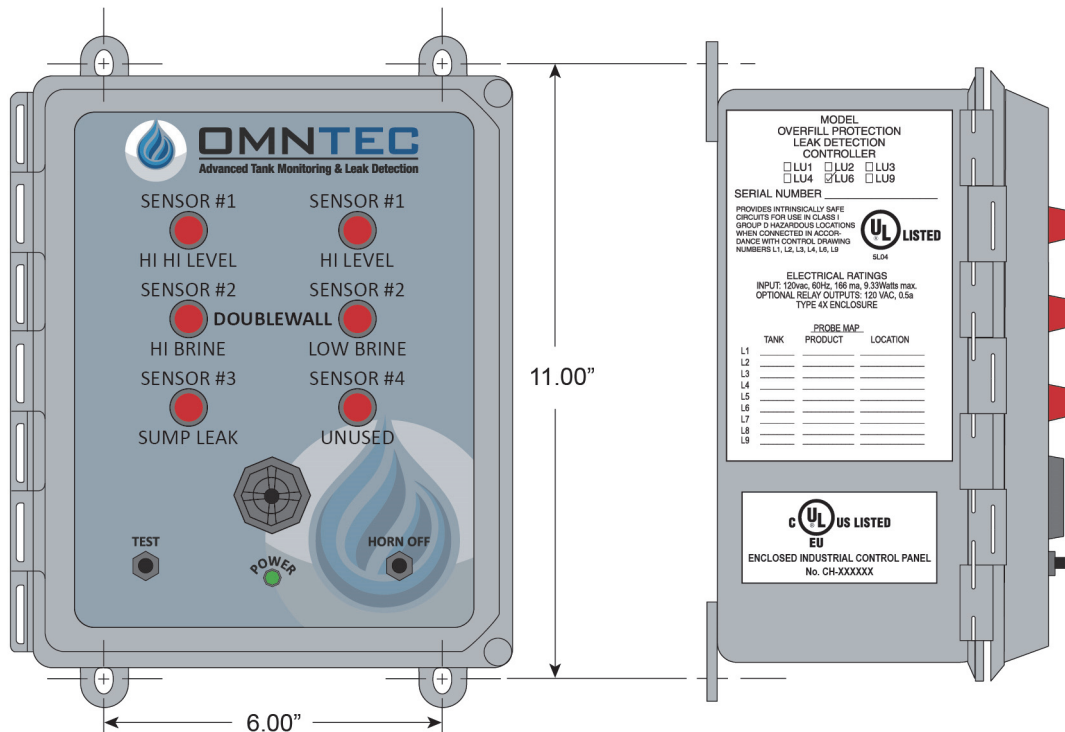
Document No. LU6-LF-HHR2L-CUL-6R

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LU6-LF-HHR2L-CUL-6R

SIX CHANNEL ALARM PANEL



LU6-LF-HHR2L-CUL-6R SPECIFICATIONS

POWER INPUT

85-125 VAC, 47-440 Hz
16 Watts maximum

POWER TO SENSORS

2 VDC @ 13 mA

RELAY OUTPUTS

(6) SPST normally open dry contacts 0.5 AMPS, 120 AC/DC switches when an alarm condition occurs

WEIGHT

6 LBS.

DIMENSIONS

(W) 9" x (H) 10.5"

SENSOR CABLE

Shielded 22 AWG UL-E118830 CM
Maximum length 2000 feet

ENCLOSURE

NEMA 4X

OPERATING TEMPERATURE

-40° to 140° F

UL LISTED & CUL LISTED

Intrinsically safe circuits for use in class I group D hazardous locations when connected in accordance with control drawings L1

AUDIO/VISUAL CONSOLE

AUDIBLE ALARM - 95 dB pulsing horn with 30 second timeout

RED LIGHT - Indicates liquid alarm

TEST BUTTON - When pressed will test system lights and horn

GREEN LIGHT - Indicates the power is on

HORN OFF BUTTON - Silences the audible alarm when pressed

SENSORS

(1) LF-2 Series Dual point Hi Hi/Hi liquid level float sensor, normally closed

(1) L Series Non product distinguishing optic leak sensors

(1) L-R-1 Hydrostatic doublewall leak sensor

OPTIONAL ACCESSORIES

RA-Series Audio/visual remote annunciator

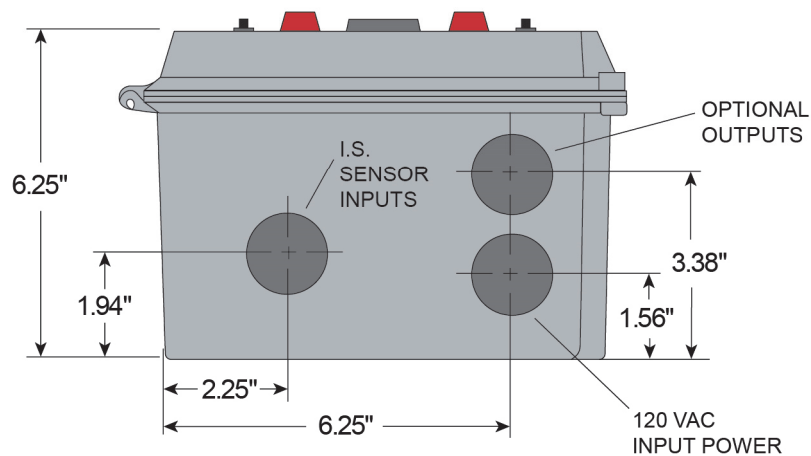
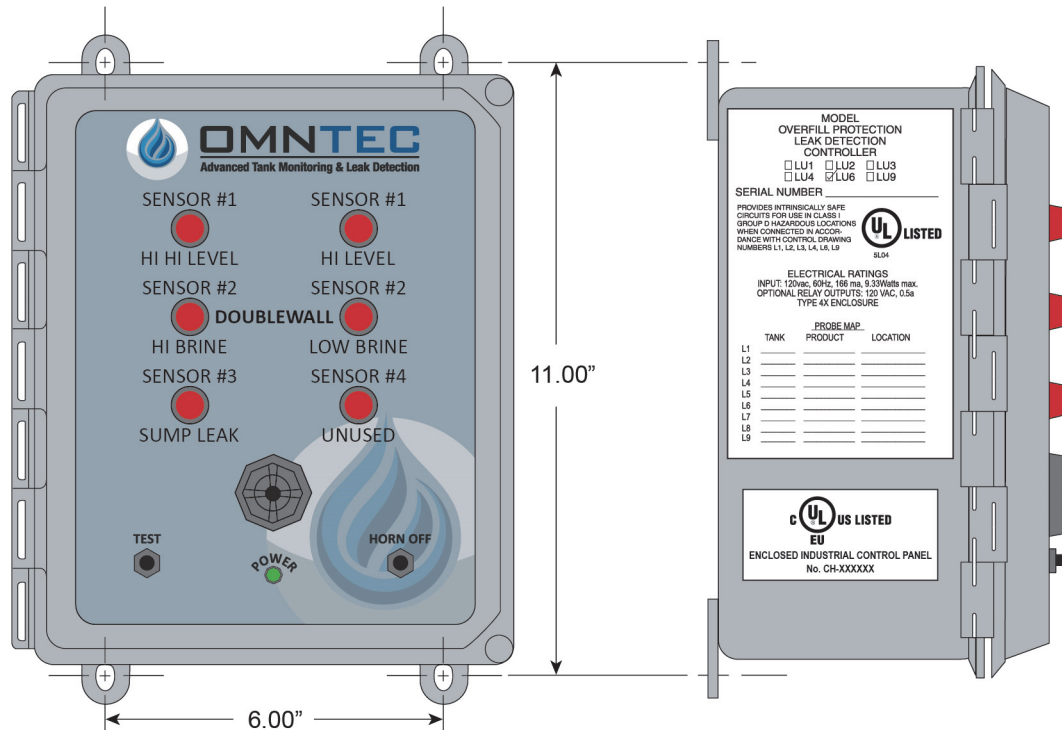
RLY-RA Series External relay box

LABELS

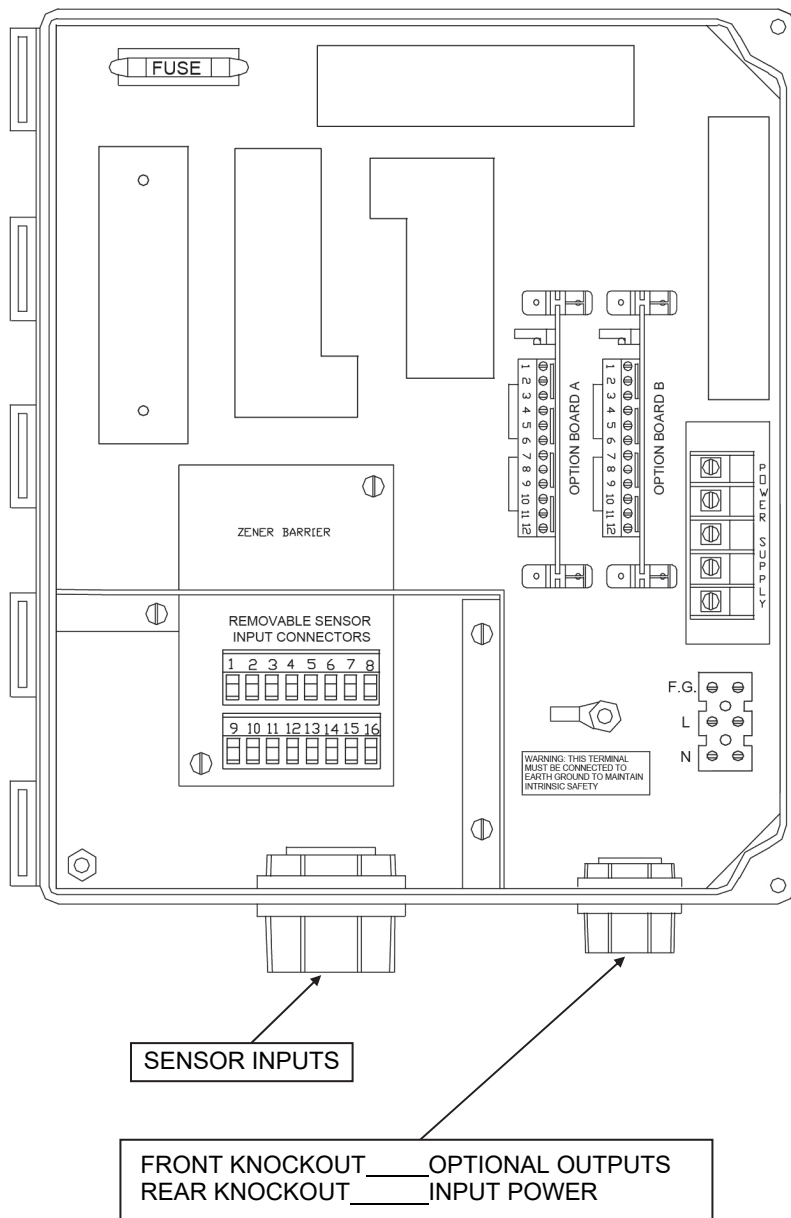
Provided with controller

LU6-LF-HHR2L-CUL-6R

DIMENSIONS FOR MOUNTING AND KNOCKOUTS



LU6-LF-HHR2L-CUL-6R CONTROLLER CONNECTION DIAGRAM



NOTE: To maintain proper shielding, BLACK sensor wires and SHIELD DRAINS should not be connected together at sensors.

COLOR CODE

CABLES FROM SENSORS TO REMOVABLE SENSOR INPUT CONNECTORS

1	UNUSED	SENSOR #1
2	WHITE	HI HI LEVEL
3	UNUSED	SENSOR #1
4	RED	HI LEVEL
5	RED	SENSOR #2
6	WHITE	HI LEVEL RESERVOIR
7	BLACK/GREEN	FROM SENSORS #1 & #2
8	SHIELD DRAIN	FROM SENSORS #3 & #4
9	BLACK	FROM SENSORS #3 & #4
10	SHIELD DRAIN	FROM SENSORS #3 & #4
11	UNUSED	SENSOR #2
12	GREEN	LOW LEVEL RESERVOIR
13	RED	SENSOR #3
14	WHITE	SUMP LEAK
15	RED	SENSOR #4
16	WHITE	UNUSED

WIRES TO OPTION BOARD A

WIRES FROM RA SERIES REMOTE

1	GREEN	- HORN
2	RED	+ HORN
3	BLACK	GROUND
4	WHITE	SENSOR #1 HI HI LEVEL
5	ORANGE	SENSOR #1 HI LEVEL
6	BLUE	SENSOR #2 HI LEVEL RESERVOIR

WIRES FROM RELAY OUTPUTS

7	COMMON	SENSOR #2
8	NORMALLY OPEN	HI LEVEL RESERVOIR
9	COMMON	SENSOR #1
10	NORMALLY OPEN	HI LEVEL
11	COMMON	SENSOR #1
12	NORMALLY OPEN	HI HI LEVEL

WIRES TO OPTION BOARD B

WIRES FROM RA SERIES REMOTE

1	GREEN	- HORN
2	RED	+ HORN
3	BLACK	GROUND
4	BROWN	SENSOR #2 LOW LEVEL RESERVOIR
5	YELLOW	SENSOR #3 SUMP LEAK
6	PURPLE	SENSOR #4 UNUSED

WIRES FROM RELAY OUTPUTS

7	COMMON	SENSOR #4
8	NORMALLY OPEN	UNUSED
9	COMMON	SENSOR #3
10	NORMALLY OPEN	SUMP LEAK
11	COMMON	SENSOR #2
12	NORMALLY OPEN	LOW LEVEL RESERVOIR

120 VAC

WIRES TO POWERSUPPLY

F.G.	FIELD GROUND
L	LINE
N	NEUTRAL

LF-SERIES SENSOR

LIQUID LEVEL FLOAT SENSORS

- Stainless Steel or Brass Mountings
- 1 to 6 Actuation Levels
- Lengths to over 11 feet
- U.L. Recognized, CSA Listed

LF series float sensors have multiple options including material of construction, mountings and float sizes. This allows for the LF sensor to be extremely versatile in a wide range of applications such as water, oils, chemicals and corrosive liquid.

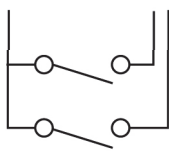
LF-* switches are U.L. Approved for Class I, Division 2, Groups A, B, C, D hazardous locations. FM Approved explosion proof junction box must be installed for Class I, Division I, Group D hazardous locations.

Specifications		
	BUNA N	Stainless Steel
Operating Temperature	Water: to 180 F Oil: -40 F to +230 F	40 F to +300 F
Stem & Mounting Material	Brass	316 Stainless Steel
Max Length (Lo)	120" (305 cm)	
Float Stops*	Beryllium Copper	316 Stainless Steel
Compatible Controllers	Consult factory	
Approvals	U.L. Recognized, CSA Listed	

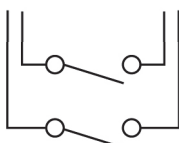
Specifications subject to change without notice, verify with manufacturer.



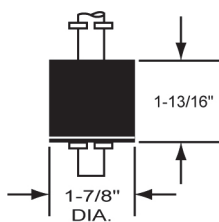
Group 1
Switch (N.O. or N.C.):
SPST: 50 VA



Group 2
Switch (N.O. or N.C.):
SPST: 50 VA

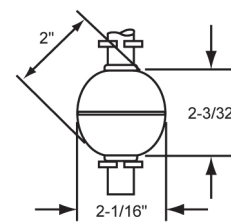


- For clarity, only two actuation levels are shown in each group diagram.
- Standard setup is Group 2 unless otherwise specified.



BUNA N Float

Consult factory for materials other than stainless steel and BUNA N.



Stainless Steel Float

LF-SERIES SENSOR

Switch actuation levels are determined following the guidelines below:

All units 72" or less overall unit length with Stainless Steel or Buna N floats.

A = 1-1/2" (38.1mm) minimum distance to highest level (2" (50.8mm), Type 5 only)

B = 2" (50.8mm) minimum distance from end of unit to lowest level

C = 3" (76.2mm) minimum distance between levels

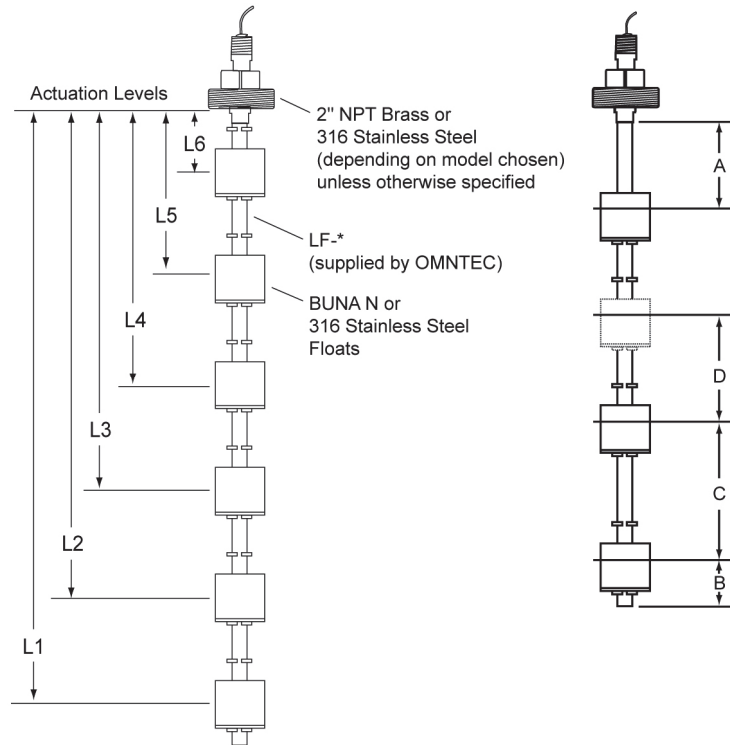
D = 1/4" (6.3mm) minimum distance between actuation levels (Note: One float for two levels can be used only when low level is N.C. dry and high level is N.O. dry)

* Actuation level distances and L_0 (overall unit length) are measured from inner surfaces of mounting plug or flange

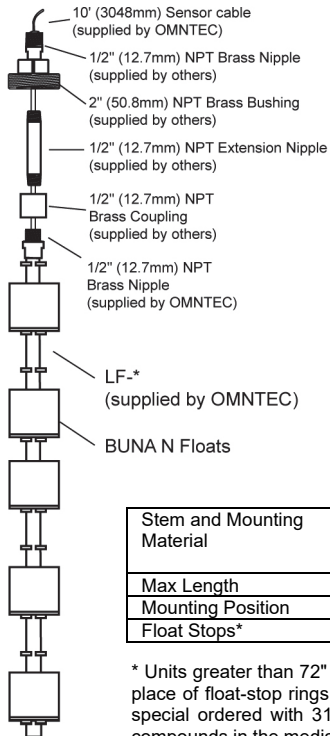
** Length Overall $L_0 = L_1 + \text{Dimension B}$. See mounting Types for Maximum Length values

Notes:

1. A, B and C dimensions based on a liquid specific gravity of 1.0
2. One float for two levels can be used only when 20VA switch is used
3. Actuation levels are calibrated on descending fluid level, with water as the calibrating fluid, unless otherwise specified
4. Tolerance on actuation levels is +/- 1/8" (3.2mm)

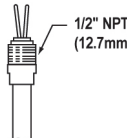
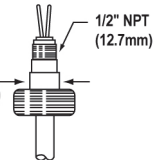
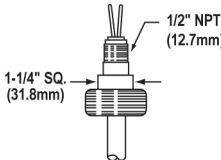
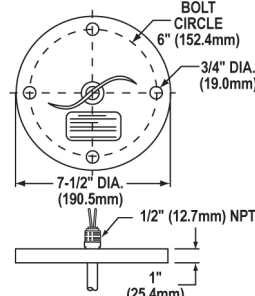


Optional Alternative Mounting for 1/2" NPT



Wiring Color Code

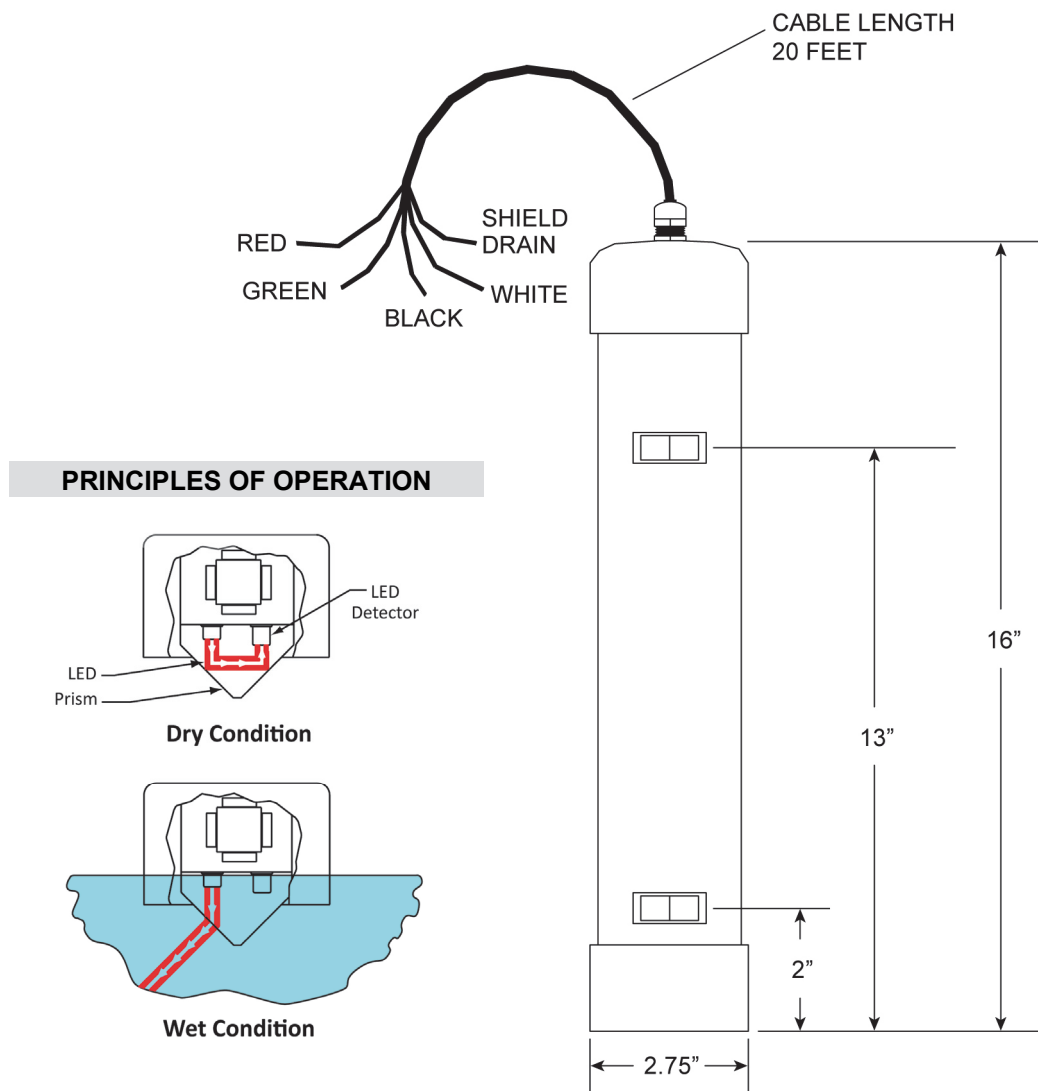
Wiring	Level 1	Level 2	Level 3	Level 4	Level 5
LF-1	black/red	-----	-----	-----	-----
LF-2	black/red	green/white	-----	-----	-----
LF-3	white/red	blue/green	black /orange	-----	-----
LF-4	black/red	green/white	blue/orange	yellow/brown	-----
LF-5	black/red	green/white	blue/orange	yellow/brown	purple/grey

(12.7mm) NPT Extension Nipple plied by others)	Type 1 ½" (12.7mm) NPT	Type 2 1-¼" (31.8mm) NPT	Type 3 2" (50.8mm) NPT	Type 4 3" (76.2mm), 150# Dia. Flange
(12.7mm) NPT s Coupling plied by others)			 Standard unless otherwise specified.	
(12.7mm) NPT s Nipple plied by OMNTEC)				
-* plied by OMNTEC)				
UNA N Floats				
Stem and Mounting Material	Brass or 316 Stainless Steel			
Max Length	36" (91.4 cm)	60" (152.4 cm)	140" (355.6 cm)	
Mounting Position	Vertical 30 Inclination			
Float Stops*	Brass Units: Beryllium Copper Grip Rings, Stainless Steel Units: S.S. ARMCO PH-15-7MO Grip Rings			

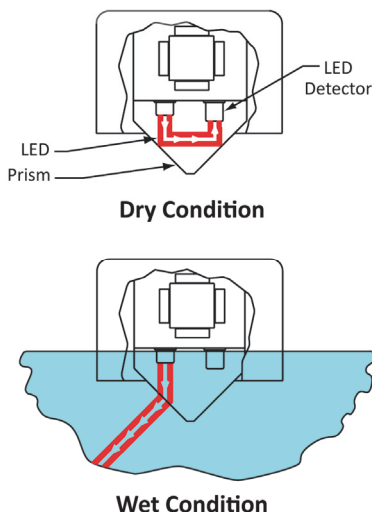
* Units greater than 72" (1828mm) overall length are supplied with collars with setscrews (made of same material as stem and mounting) in place of float-stop rings. Collars are optional on units less than 72" (1828mm) overall length. Units requiring 316 SS float stops must be special ordered with 316 SS collars instead of grip rings. In some instances, the use of concentration of chlorine and other corrosive compounds in the media require the use of collar type float stops. Consult factory for details.

L-R-1 SENSOR

RESERVOIR SENSOR



PRINCIPLES OF OPERATION



L-R-1 SPECIFICATIONS

SOLID STATE (NO MOVING PARTS)

OPERATING TEMPERATURE

-40 TO +140 F

POWER

2 VDC @ 13 mA

WEIGHT

2 pounds

RESPONSE TIME

Immediate

PRINCIPLES OF OPERATION

LIQUIDS (ex: fuel, water) – Photo optic

DRY CONDITION –

High level: Normally closed light beam

Low Level: Normally open light beam

ALARM CONDITION –

Hi level: Opens (refracts) normally closed light beam

Low level: Closes normally open light beam

SENSOR CABLE

Shielded 22 AWG UL-E118830 CM

Maximum length 2000 feet

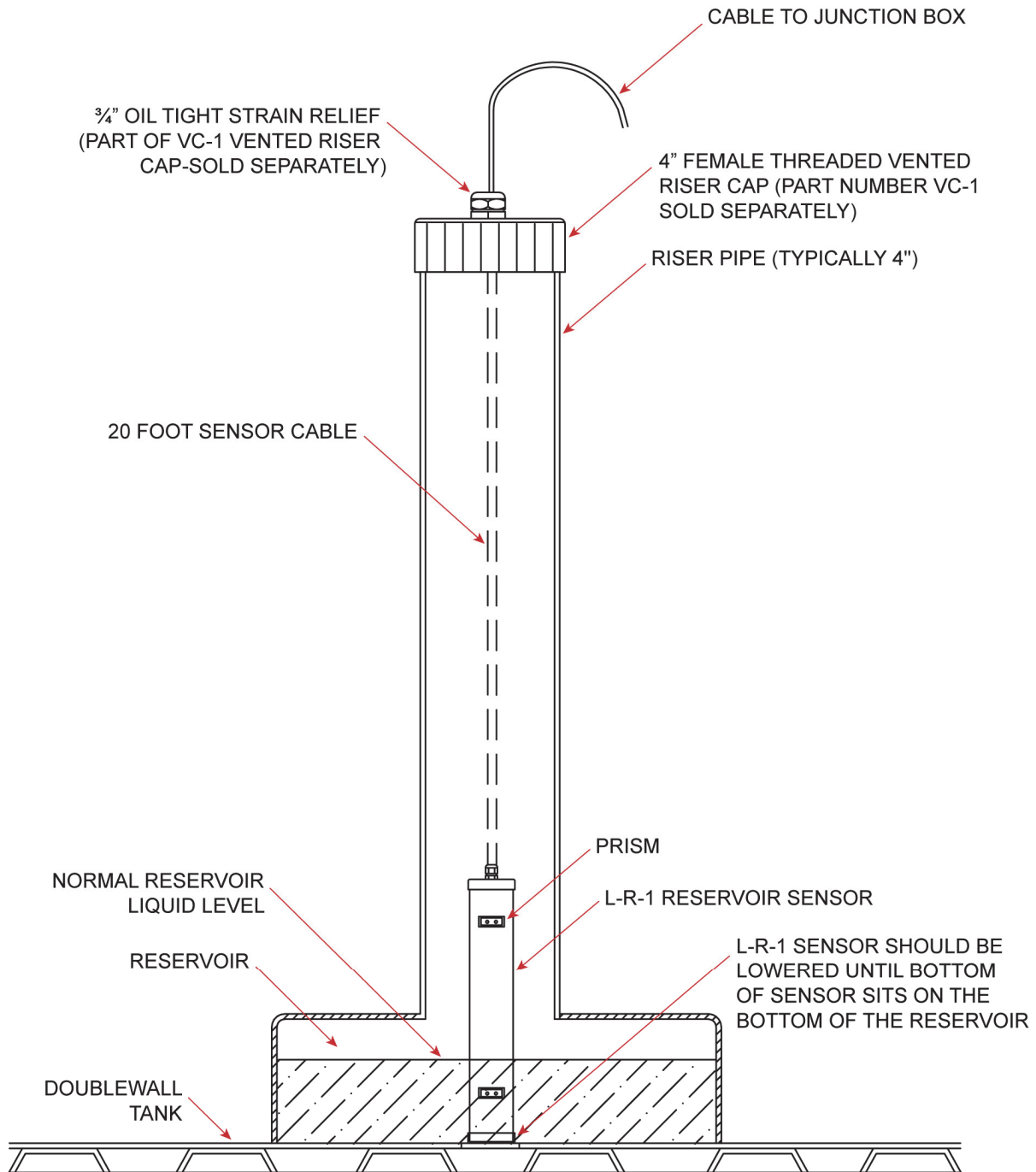


OMNTEC

Advanced Tank Monitoring & Leak Detection

L-R-1 SENSOR

TYPICAL RESERVOIR SENSOR INSTALLATION

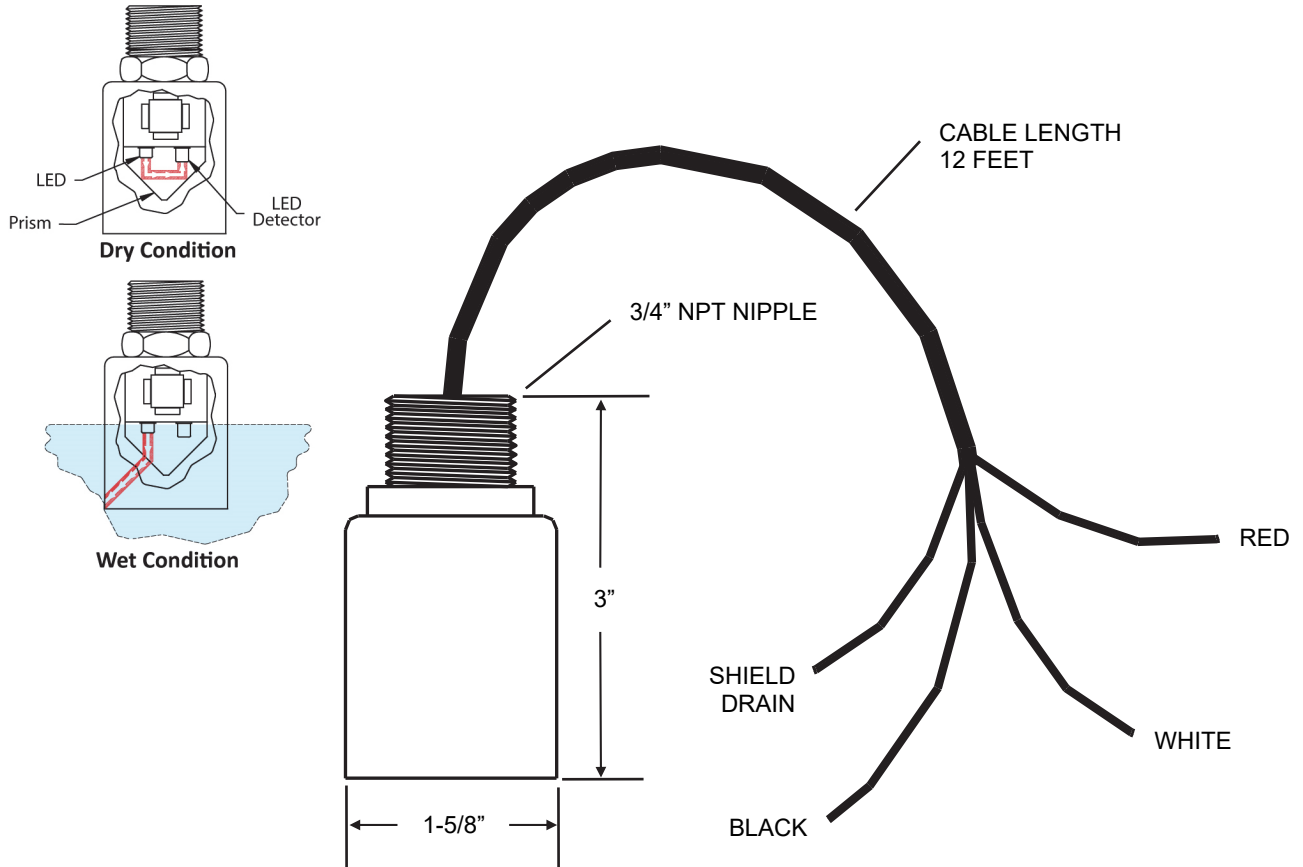




LS-ASC SENSOR

NON-PRODUCT DISTINGUISHING OPTIC SENSOR

PRINCIPLES OF OPERATION



LS-ASC SPECIFICATIONS

U.L. LISTED 5L04

Intrinsically safe Class I, Group D Hazardous Locations when connected in accordance with control drawing nos. L1, L2, L3, L4, L6, L9

OPERATING TEMPERATURE

-40 TO +140 F

POWER

2 VDC @ 13 mA

WEIGHT

1/2 pound

PRINCIPLES OF OPERATION

LIQUIDS (ex: fuel, water) – Photo optic

DRY CONDITION – Normally closed light beam

ALARM CONDITION – Opens (refracts) normally closed light beam

SENSOR CABLE

Shielded 22 AWG UL-E118830 CM

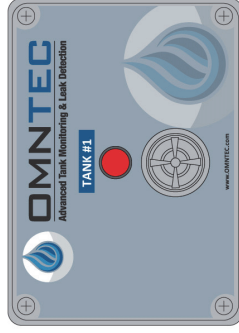
Maximum length 2000 feet

RESPONSE TIME

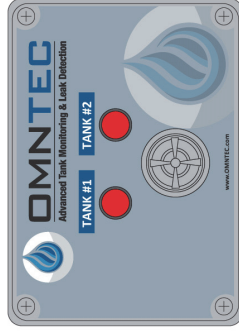
Immediate

RA-SERIES REMOTE HIGH-LEVEL ALARM

RA-1



RA-2



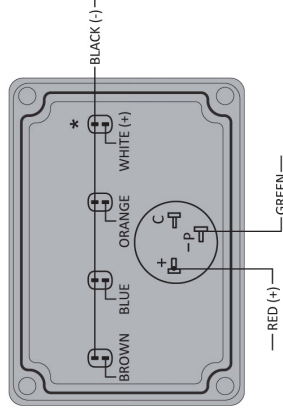
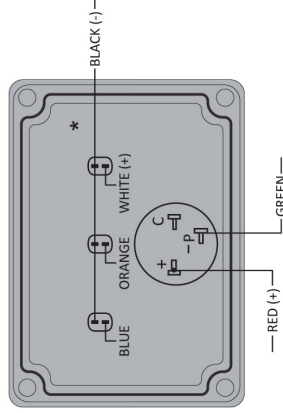
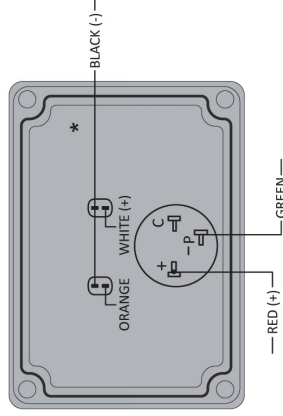
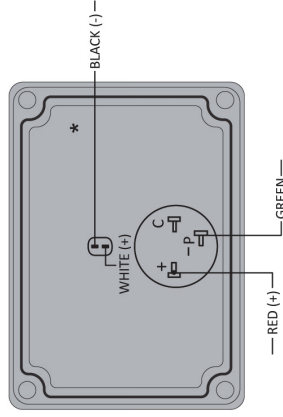
RA-3



RA-4

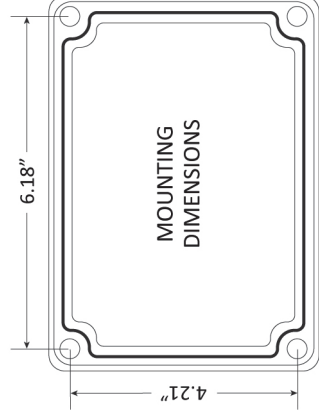
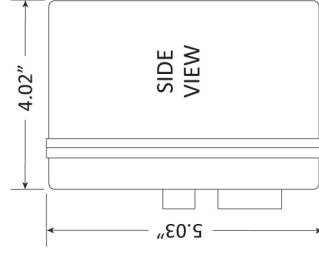


INTERNAL WIRING COLOR CODE



*Warning Label Placed Here

WARNING: LOW VOLTAGE INPUTS ONLY



SPECIFICATIONS

Audible Alarm	95 dB pulsing horn
Red Light	Liquid-high-level alarm
Response Time	Immediate
Power Input	12VDC @200mA maximum from controller
Wire	22 AWG minimum
Weight	1 lb.

Note: It is recommended that knockouts be placed in the bottom of enclosure.



LOG SHEET

OMNTEC Mfg., Inc., 2420 Pond Road, Ronkonkoma, NY 11779
Phone (631) 981-2001 Fax (631) 981-2007 www.OMNTEC.com
File Name: LU6-LF-HHR2L-CUL-6R rev2404.docx Page 12 of 13 Rev Date: 1-29-2024

WARRANTY

The seller OMNTEC Mfg., Inc. warrants to buyer defects when properly installed, and maintained by user. The seller's sole obligation is to repair or replace parts found to be defective, or non-conforming for one year and only after evaluation by factory. The liability of the seller shall not exceed the price paid for the components found to be defective. The above warranty is exclusive of all other warranties whether implied or expressed. Seller assumes no obligation for special or, indirect damages incurred by user.

All standard tank gauging systems are free of defects when properly installed and maintained by user. Warranty on tank gauging systems will only be effective after proper documentation has been submitted by the buyer to OMNTEC Mfg., Inc. The seller's sole obligation is to repair or replace parts found to be defective, or non-conforming for one year and only after evaluation by factory. Technical support must be contacted for a Return Material Authorization (RMA #) prior to sending any potentially defective parts. The liability of the seller shall not exceed the price paid for the components found to be defective. The above warranty is exclusive of all other warranties whether implied or expressed. Seller assumes no obligation for special or indirect damages incurred by user.

All standard replacement parts, "add-ons", or spare parts are free of defects when properly installed and maintained by user. The seller's sole obligation is to repair or replace parts found to be defective or non-conforming for 90 days and only after evaluation by factory. The liability of the seller shall not exceed the price paid for the components found to be defective. The above warranty is exclusive of all other warranties whether implied or expressed. Seller assumes no obligation for special or indirect damages incurred by user.

Equipment not covered by this warranty includes but is not limited to: custom equipment and control systems.