



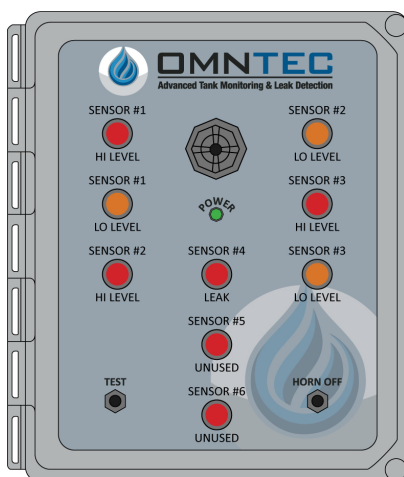
OMNTEC
Advanced Tank Monitoring & Leak Detection



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

LU9-3LF-HL01L

INSTALLATION GUIDE



NINE CHANNEL ALARM PANEL

Revision 2631

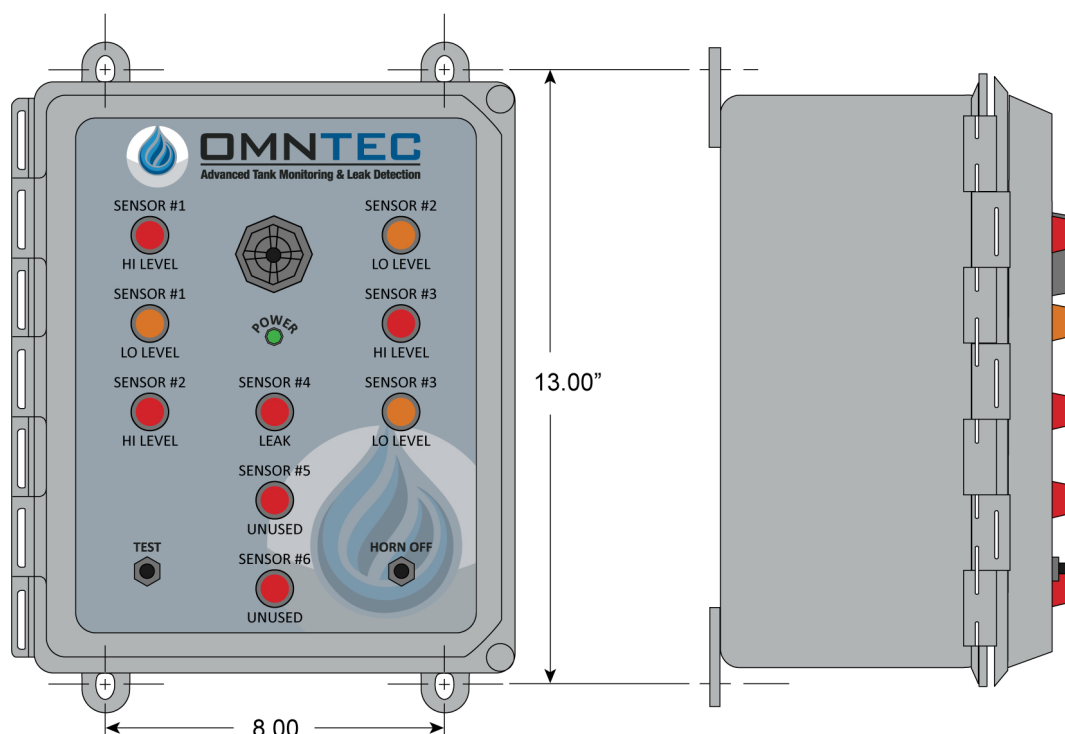
Document No. LU9-3LF-HL01L

TABLE OF CONTENTS

LU9-3LF-HLO1L SPECIFICATIONS	3
DIMENSIONS FOR MOUNTING AND KNOCKOUTS	4
LU9-3LF-HLO1L CONTROLLER CONNECTION DIAGRAM	5
LF-SERIES SENSOR	6
LS-ASC SENSOR.....	8
RLY-RA-9 RELAY WIRING DIAGRAM	9
RA-SERIES REMOTE HIGH-LEVEL ALARM	10
LOG SHEET	11
WARRANTY	12

LU9-3LF-HLO1L

NINE CHANNEL ALARM PANEL



LU9-3LF-HLO1L SPECIFICATIONS

POWER INPUT

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

POWER TO SENSORS

2 VDC @ 13 mA

WEIGHT

6 LBS.

DIMENSIONS

(W) 10.875" x (H) 12.25"

SENSOR CABLE

Shielded 22 AWG UL-E118830 CM
Maximum length 2000 feet

ENCLOSURE

NEMA 4X

OPERATING TEMPERATURE

-40° to 140° F

AUDIO/VISUAL CONSOLE

AUDIBLE ALARM - 95 dB pulsing horn with 30 second timeout

RED LIGHT - Indicates Hi Level alarm and Leak alarm

AMBER LIGHT - Indicates Lo Level 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

LF-2 Two-point liquid level float sensor, normally closed

LS-ASC Leak sensor

OPTIONAL ACCESSORIES

RA Series Remote annunciator

RLY-RA Series Relay (consult factory)

LABELS

Provided with controller

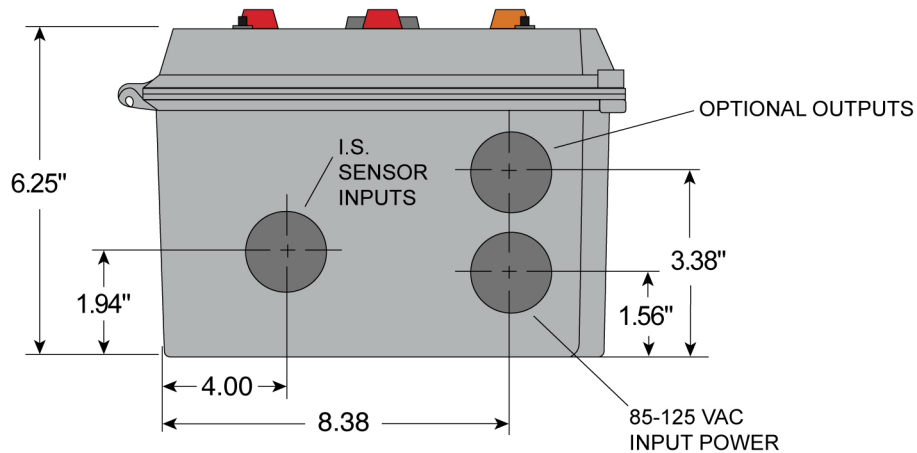
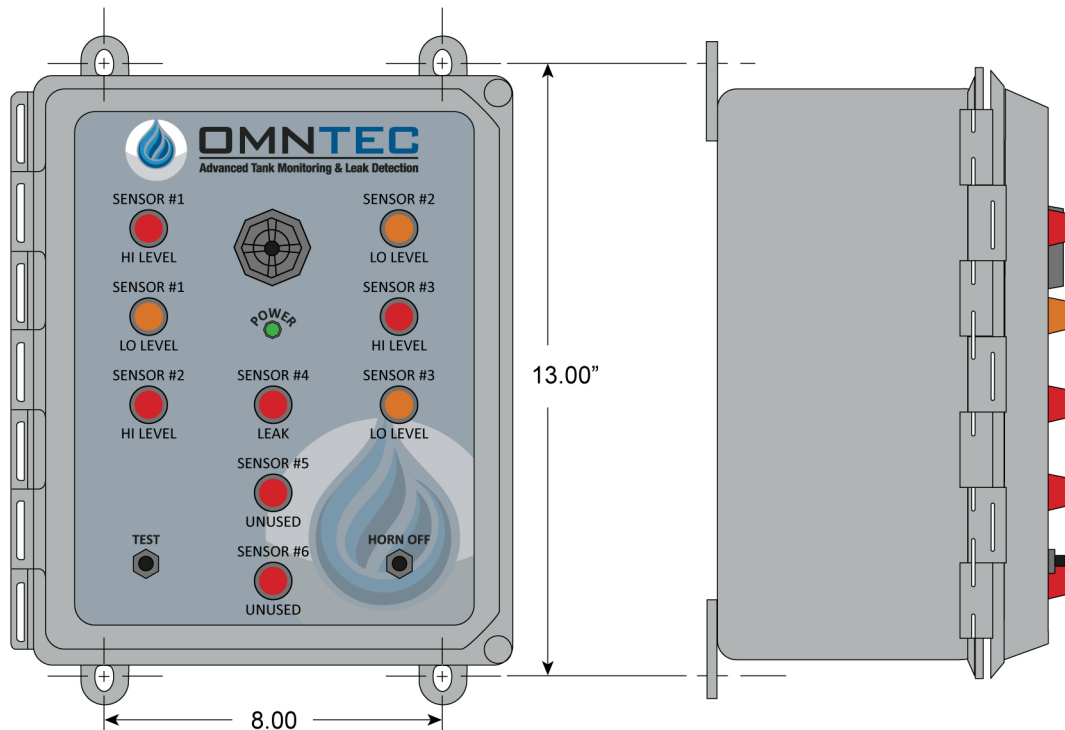


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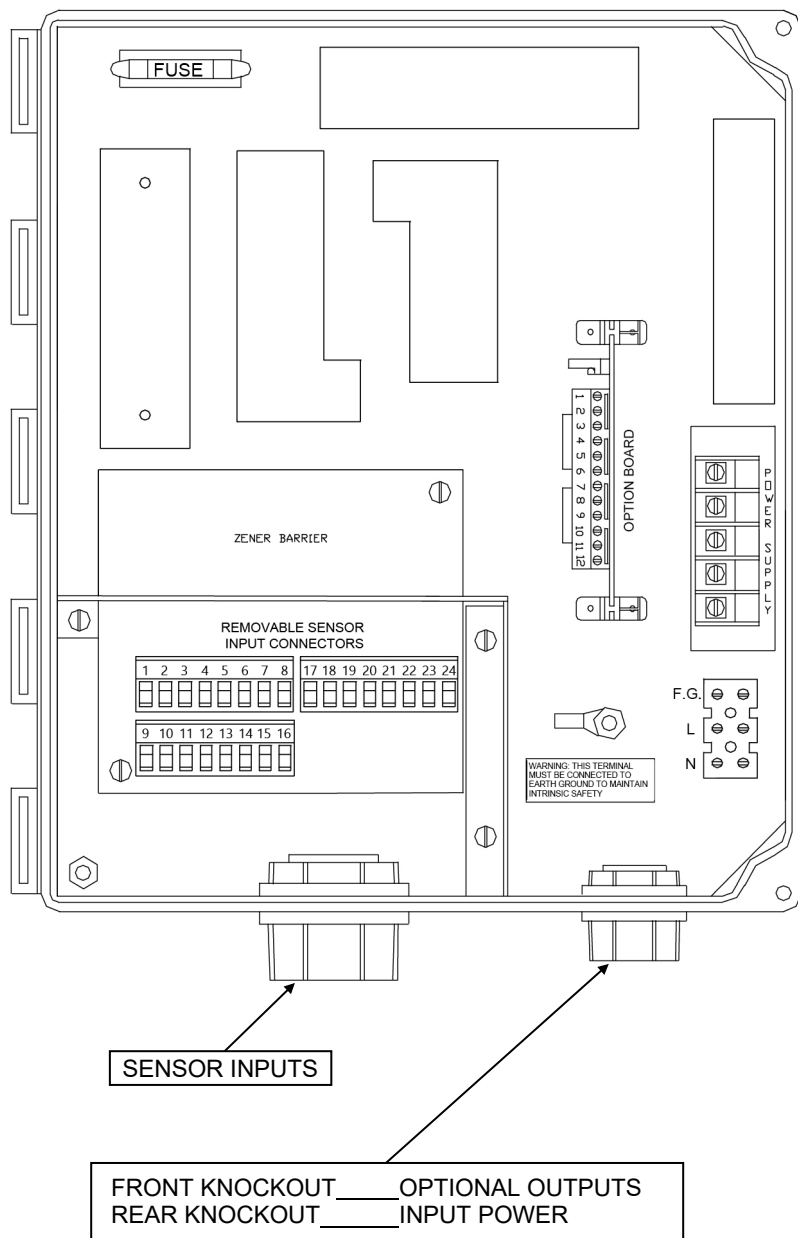
Advanced Tank Monitoring & Leak Detection

LU9-3LF-HLO1L

DIMENSIONS FOR MOUNTING AND KNOCKOUTS



LU9-3LF-HLO1L CONTROLLER CONNECTION DIAGRAM



COLOR CODE

CABLES FROM SENSORS TO REMOVABLE SENSOR INPUT CONNECTORS

1	UNUSED	SENSOR #1
2	WHITE	SENSOR #1
3	UNUSED	SENSOR #1
4	RED	SENSOR #1
5	UNUSED	SENSOR #2
6	WHITE	SENSOR #2
7	BLACK & GREEN	SENSOR #1 - #3
8	SHIELD DRAIN	SENSOR #1 - #3
9	BLACK	SENSOR #1 - #3
10	SHIELD DRAIN	SENSOR #2
11	UNUSED	SENSOR #2
12	RED	SENSOR #2
13	UNUSED	SENSOR #3
14	WHITE	SENSOR #3
15	UNUSED	SENSOR #3
16	RED	SENSOR #3
17	RED	SENSOR #4
18	WHITE	SENSOR #5
19	RED	SENSOR #5
20	WHITE	SENSOR #6
21	RED	SENSOR #6
22	WHITE	SENSOR #6
23	BLACK	SENSOR #4 - #6
24	SHIELD DRAIN	SENSOR #4 - #6

WIRES TO OPTION BOARD

WIRES FROM RA-SERIES REMOTE

1	GREEN	- HORN
2	RED	+HORN
3	BLACK	GROUND
4	WHITE	SENSOR #1 HI LEVEL
5	ORANGE	SENSOR #1 LO LEVEL
6	BLUE	SENSOR #2 HI LEVEL
7	BROWN	SENSOR #2 LO LEVEL
8	YELLOW	SENSOR #3 HI LEVEL
9	PURPLE	SENSOR #3 LO LEVEL
10	SLATE	SENSOR #4 LEAK
11	PINK	SENSOR #5 UNUSED
12	TAN	SENSOR #6 UNUSED

120 VAC

WIRES TO POWER SUPPLY

F.G.	FIELD GROUND
L	LINE
N	NEUTRAL

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

LF-SERIES SENSOR

LIQUID LEVEL FLOAT SENSORS

FEATURES

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

Stainless Steel or Brass Mountings

1 to 6 Actuation Levels

Lengths to over 11 feet

U.L. Recognized, CSA Listed

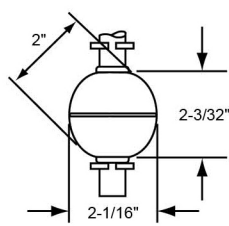
LF series float sensors have multiple options including material of construction, mountings and float sizes. This allows for the LF sensor to be extremely versatile in a wide range of applications such as water, oils, chemicals and corrosive liquid.

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.



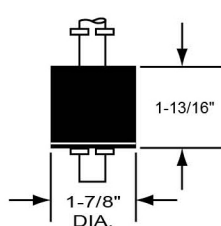
SPECIFICATIONS

	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	



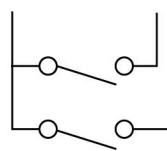
Stainless Steel Float

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

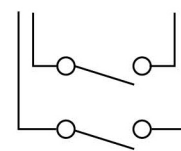


BUNA N Float

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

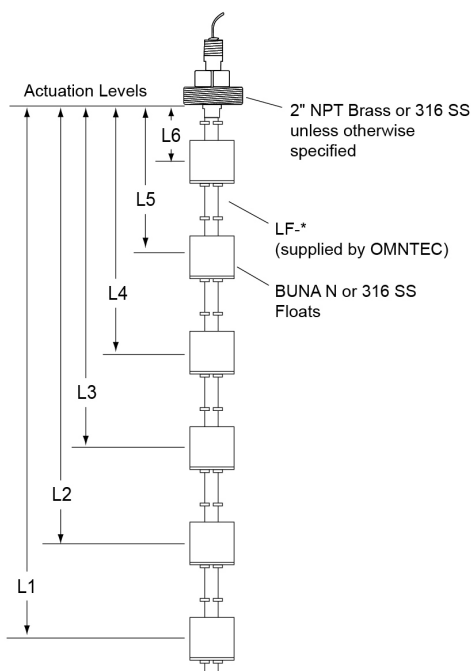


Group 2
Switch (N.O. or N.C.):
SPST: 50 VA



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

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)

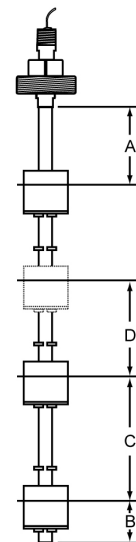
* Actuation level distances and L_0 (overall unit length) are measured from inner surfaces of mounting plug or flange.

** Length Overall $L_0 = L_1 + \text{Dimension B}$.

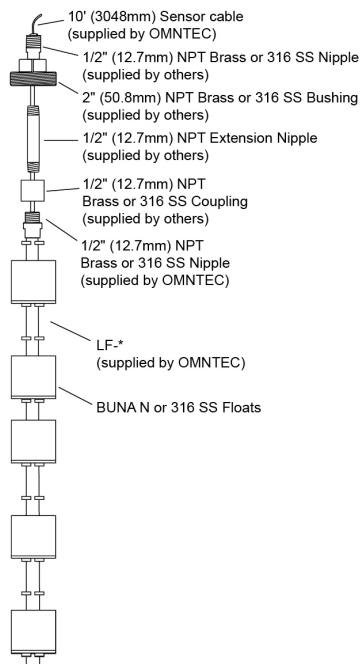
See mounting Types for Maximum Length values.

Notes:

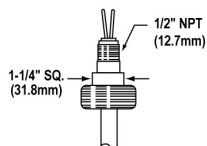
1. A, B and C dimensions based on a liquid specific gravity of 1.0.
2. One float for two levels can be used only when 20VA switch is used.
3. Actuation levels are calibrated on descending fluid level, with water as the calibrating fluid, unless otherwise specified.
4. Tolerance on actuation levels is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



Optional Alternative Mounting for 1/2" NPT



2" (50.8mm) NPT



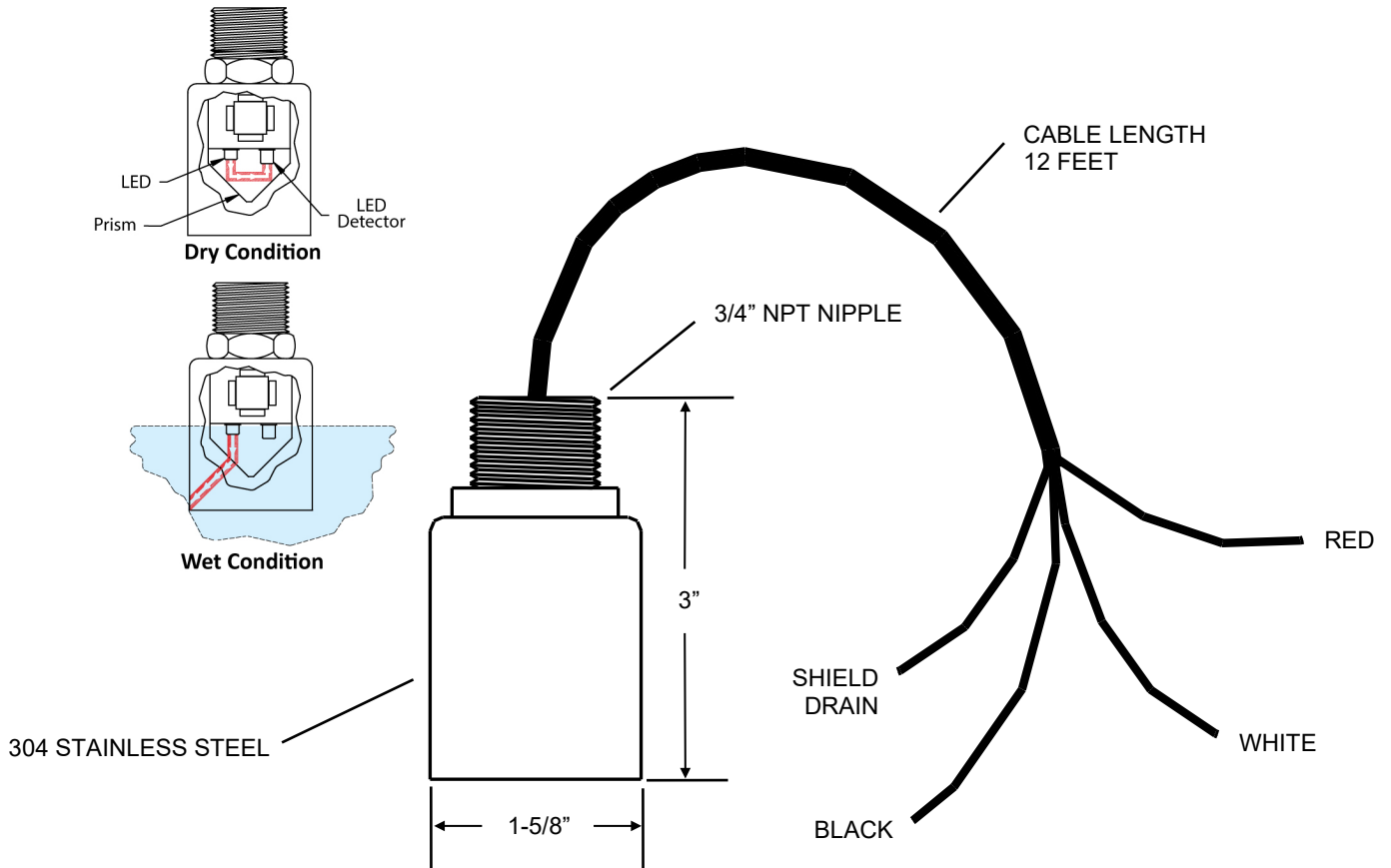
Stem & Mounting Material	Brass or 316 Stainless Steel
Max Length	140" (355.6 cm)
Mounting Position	Vertical 30 Inclinatio
Float Stops*	Brass Units: Beryllium Copper Grip Rings, Stainless Steel Units: S.S. ARMCO PH-15-7MO Grip Rings

* 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.

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

HOUSING

304 STAINLESS STEEL

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

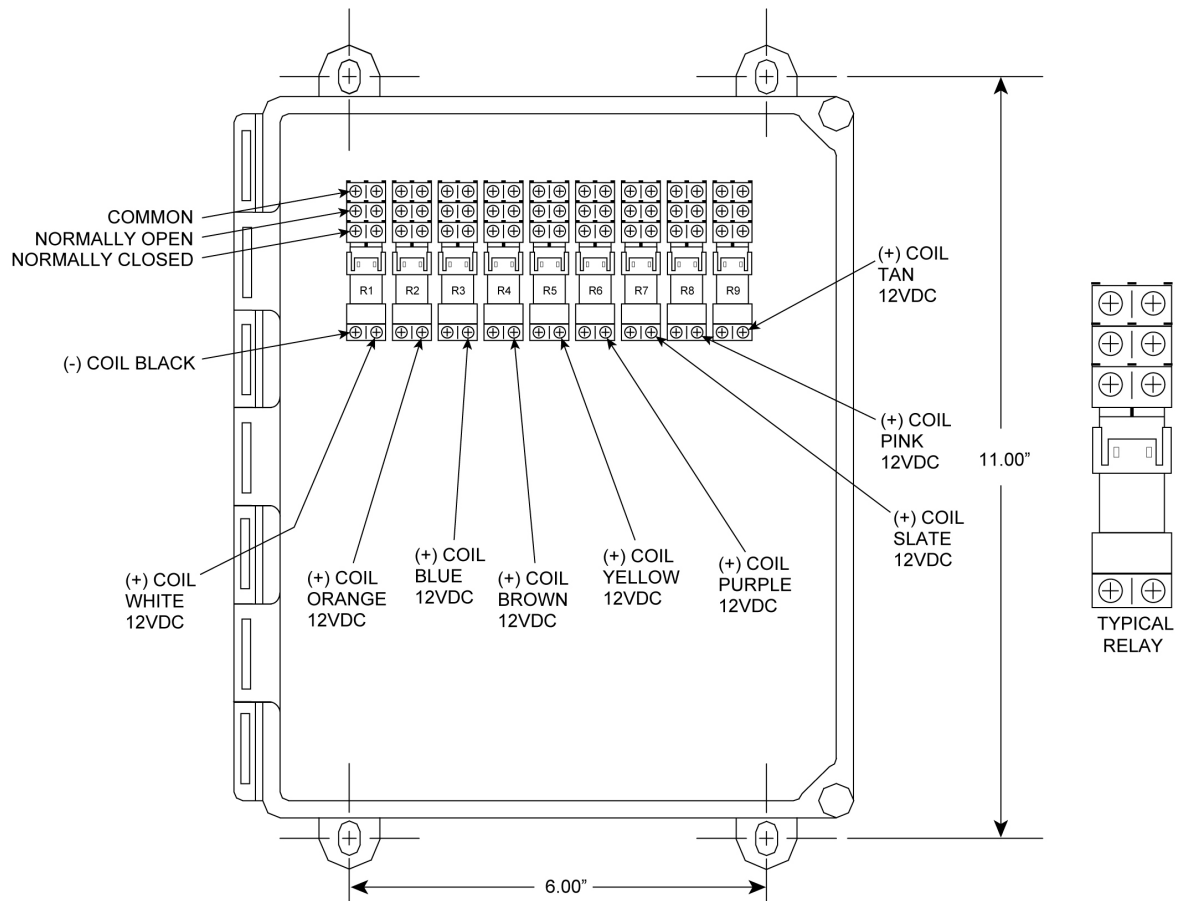
Immediate



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RLY-RA-9 RELAY WIRING DIAGRAM



Remote low voltage outputs 12VDC coil. Rated 120VAC 8amp. SPDT

RA-SERIES REMOTE HIGH-LEVEL ALARM

RA-1



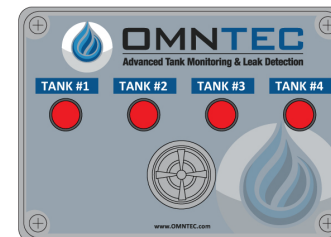
RA-2



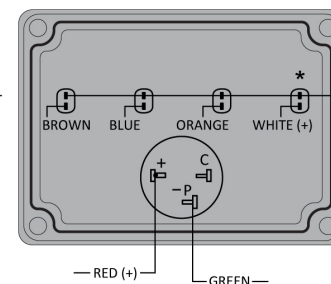
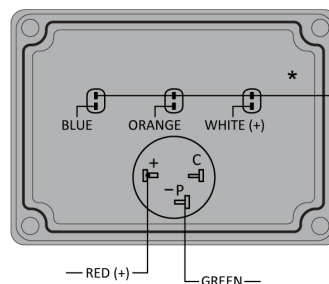
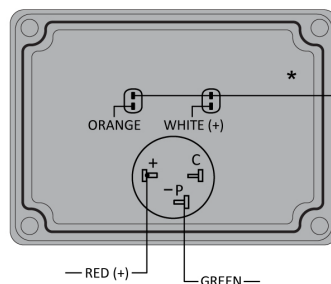
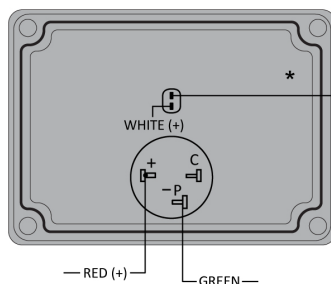
RA-3



RA-4

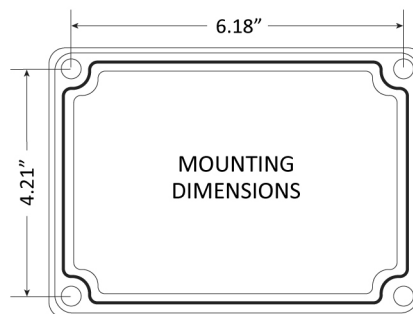
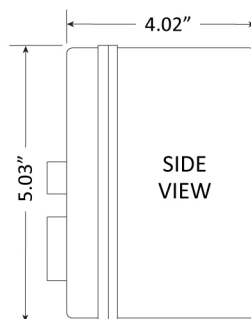


INTERNAL WIRING COLOR CODE



*Warning Label Placed Here

WARNING: LOW VOLTAGE INPUTS ONLY



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

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.



LOG SHEET

[illegible]

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.