

SPECIFICATIONS

POWER INPUT

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

POWER TO SENSORS

2 VDC @ 13 mA

RELAY OUTPUT

SPST normally open dry contacts 0.5 AMPS, 120 AC switches when an alarm condition occurs

WEIGHT

8.75 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

UL LISTED

Intrinsically safe circuits for use in class I group D hazardous locations when connected in accordance with control drawings L2PD4

AUDIO/VISUAL CONSOLE

AUDIBLE ALARM - 95 dB pulsing horn with 30 second timeout

RED LIGHT -Indicates either liquid alarm for L-series sensor or product alarm for PD-series sensor

AMBER LIGHT – indicates either lo level for L-2 series sensor or water alarm for PD-series sensor

TEST BUTTON- When pressed will actually test entire system electronics from control panel to sensors

GREEN LIGHT- indicates the power is on

HORN OFF BUTTON - Silences the audible alarm when pressed

SENSORS

- L-1 High level optic sensor
- L-2 Dual level high/low liquid optic sensor
- PD-series Product distinguishing liquid optic sensor
- L-R-1 Reservoir sensor

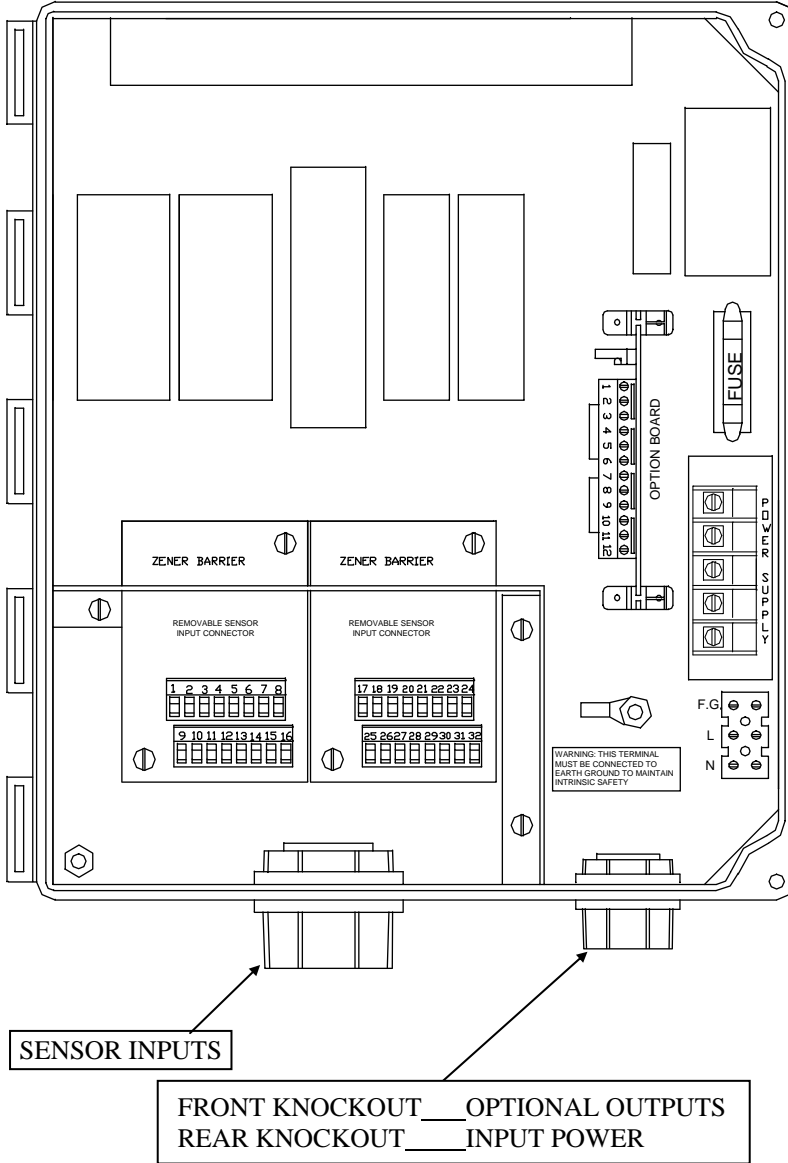
ACCESSORIES

- RA-1 Audio/visual remote annunciator
- RLY-RA Relay (consult factory)
- RA-1-NYS Remote annunciator with strobe (consult factory)

LABELS

Provided with controller

L3PD6 CONTROLLER CONNECTION DIAGRAM



COLOR CODE CABLES FROM SENSORS TO REMOVABLE SENSOR INPUT CONNECTORS

1	RED	L1
2	WHITE	SENSOR #1
3	RED	PD1
4	WHITE	SENSOR #2
5	GREEN	
6	RED	PD2
7	WHITE	SENSOR #3
8	GREEN	
9	BLACK	
10	SHIELD DRAIN	FROM SENSORS #1 - #5
11	GREEN	L1 SENSOR #1 *
12	RED	L2
13	WHITE	SENSOR #4
14	RED	PD3
15	WHITE	SENSOR #5
16	GREEN	
17	RED	PD4
18	WHITE	SENSOR #6
19	GREEN	
20	GREEN	L2 SENSOR #4 *
21	UNUSED	
22	RED	L3
23	WHITE	SENSOR #7
24	GREEN	
25	BLACK	
26	SHIELD DRAIN	FROM SENSORS #6- #9
27	RED	PD5
28	WHITE	SENSOR #8
29	GREEN	
30	RED	PD6
31	WHITE	SENSOR #9
32	GREEN	

WIRES TO OPTION BOARD

WIRES FROM REMOTE

1	GREEN	- HORN
2	RED	+ HORN
3	BLACK	GROUND
4	WHITE	L1
5	ORANGE	L2
6	BLUE	L3

WIRES FROM RELAY OUTPUTS

7	COMMON	L3, PD5 & PD6 (LEAK)
8	NORMALLY OPEN	
9	COMMON	L2, PD3 & PD4 (LEAK)
10	NORMALLY OPEN	
11	COMMON	L1, PD1 & PD2 (LEAK)
12	NORMALLY OPEN	

120VAC

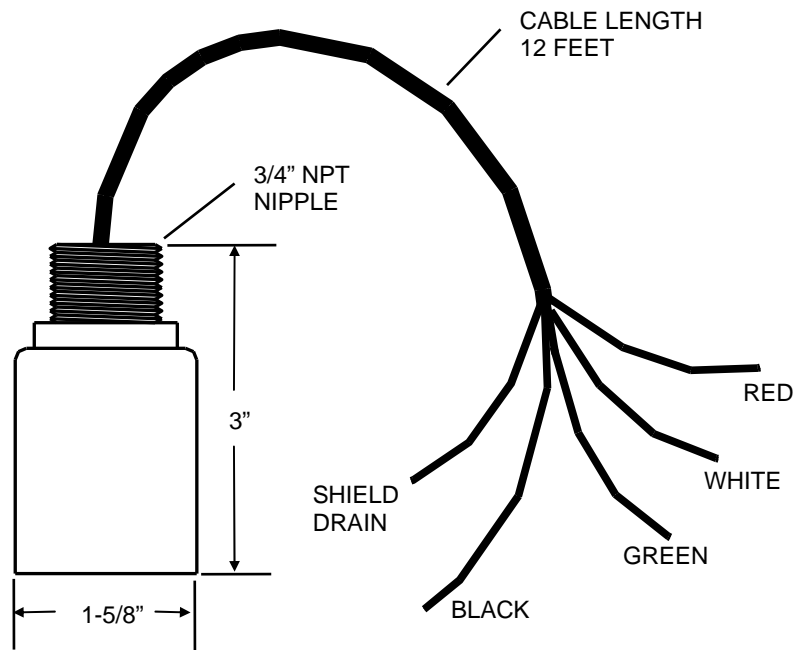
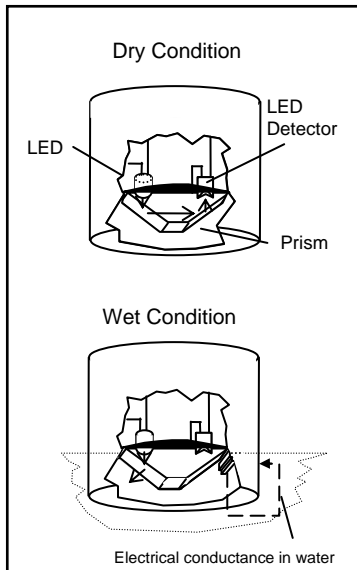
WIRES TO POWERSUPPLY

F.G.	FIELD GROUND
L	LINE
N	NEUTRAL

* USED ONLY FOR LOW LEVEL OPTION

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

Product distinguishing Optic Sensor



PDS SPECIFICATIONS

U.L. LISTED 5L04

Intrinsically safe Class I, Group D Hazardous Locations when connected in accordance with control drawing nos. L1PD2, L2PD4, L3PD6

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
 WATER DETECTION - conductance

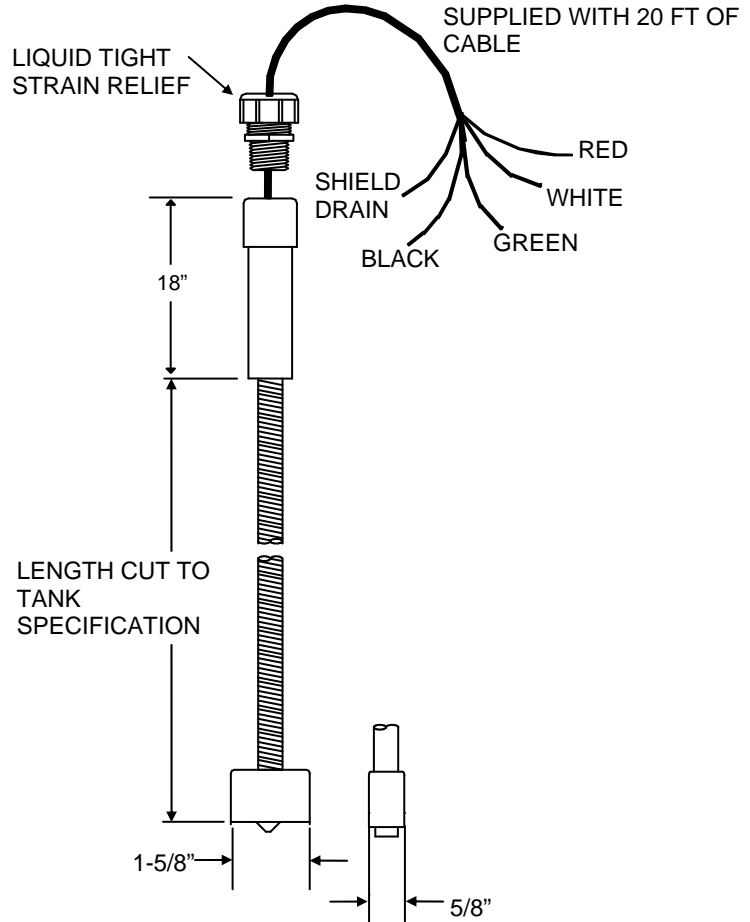
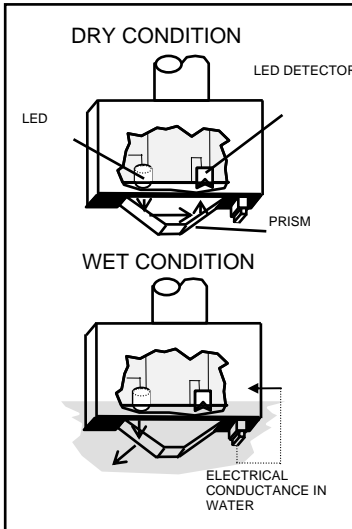
SENSOR CABLE

Shielded 22 AWG UL-E118830 CM
 Maximum length 2000 feet

RESPONSE TIME

Immediate

Product distinguishing Steel Tank Dry Interstitial Sensor



PDWF SPECIFICATIONS

U.L. LISTED 5L04

Intrinsically safe Class I, Group D Hazardous Locations when connected in accordance with control drawing nos. L1PD2, L2PD4, L3PD6

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
 WATER DETECTION - conductance

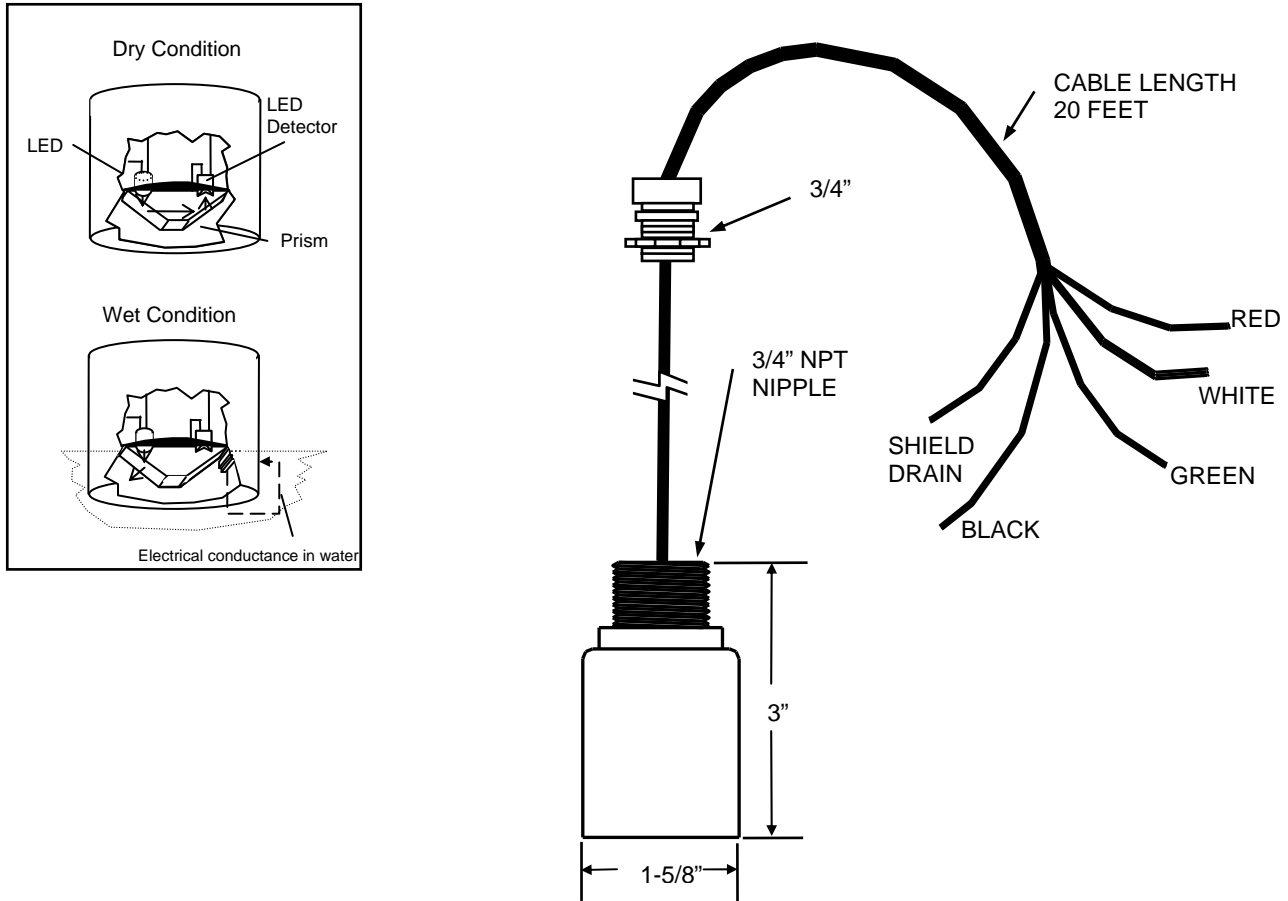
SENSOR CABLE

Shielded 22 AWG UL-E118830 CM
 Maximum length 2000 feet

RESPONSE TIME

Immediate

Product distinguishing Steel Tank Dry Interstitial Sensor



PDWS SPECIFICATIONS

U.L. LISTED 5L04

Intrinsically safe Class I, Group D Hazardous Locations when connected in accordance with control drawing nos. L1PD2, L2PD4, L3PD6

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
 WATER DETECTION - conductance

SENSOR CABLE

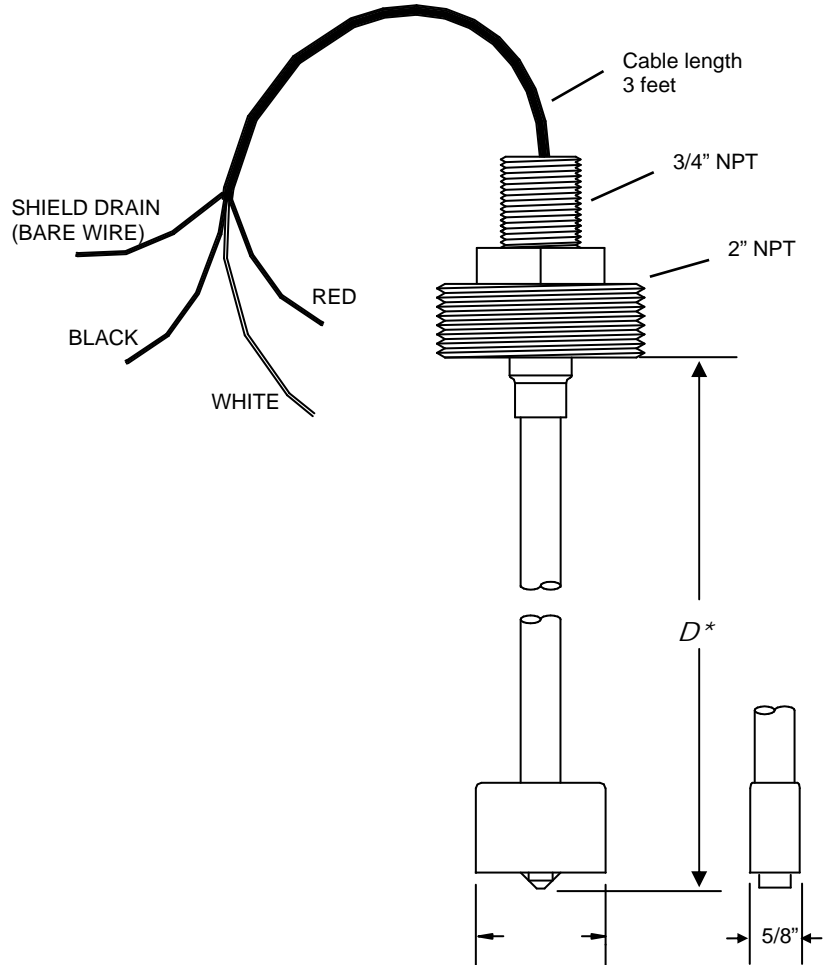
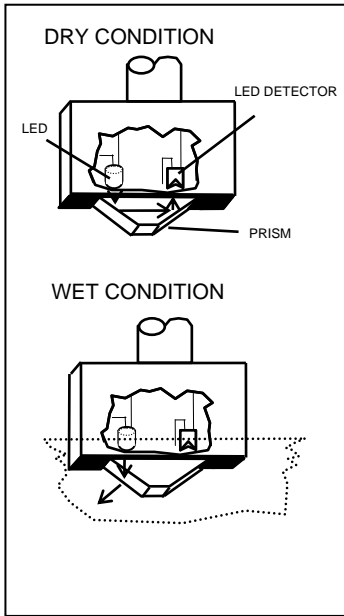
Shielded 22 AWG UL-E118830 CM
 Maximum length 2000 feet

RESPONSE TIME

Immediate

Liquid Level Optic Sensor

Principles of Operation



L-1 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

2 pounds

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

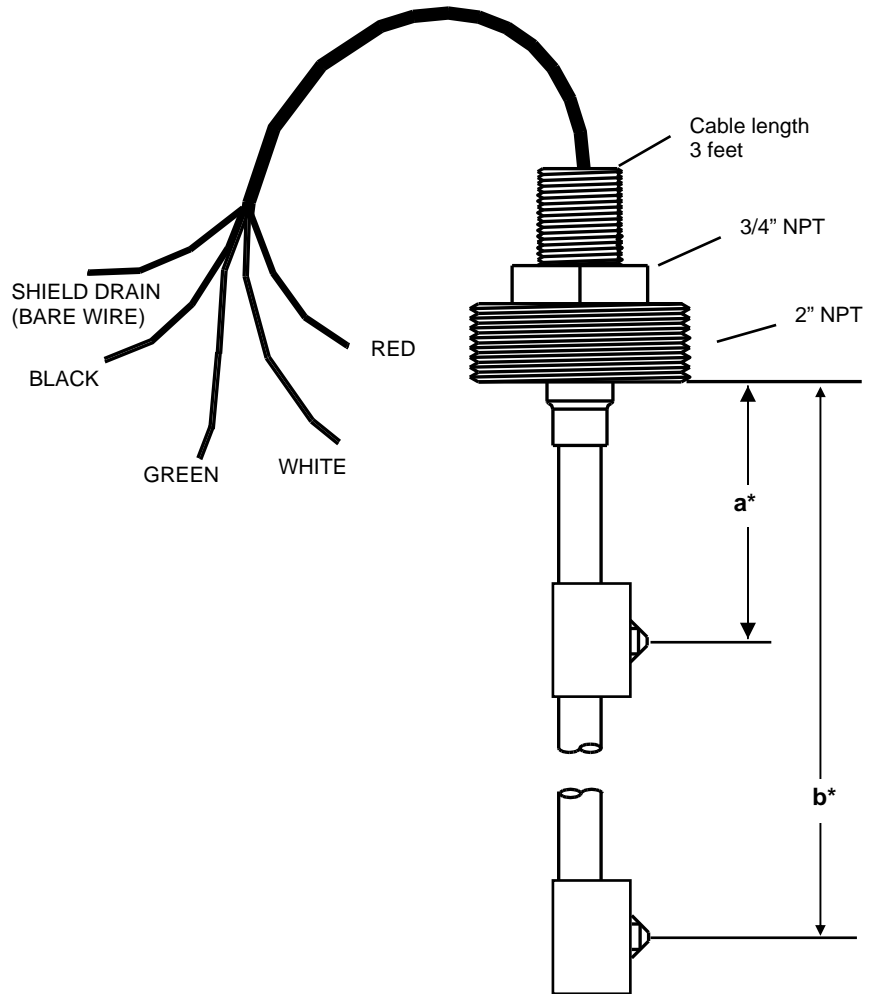
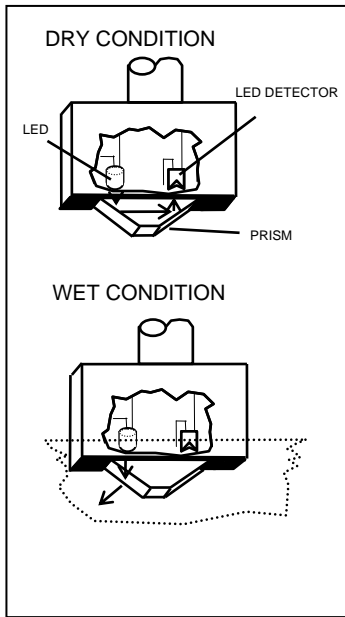
Shielded 22 AWG UL-E118830 CM
 Maximum length 2000 feet

RESPONSE TIME

Immediate

Dual Level Liquid Optic Sensor for High and Caution Level

Principles of Operation



L-2 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

2 pounds

PRINCIPLES OF OPERATION

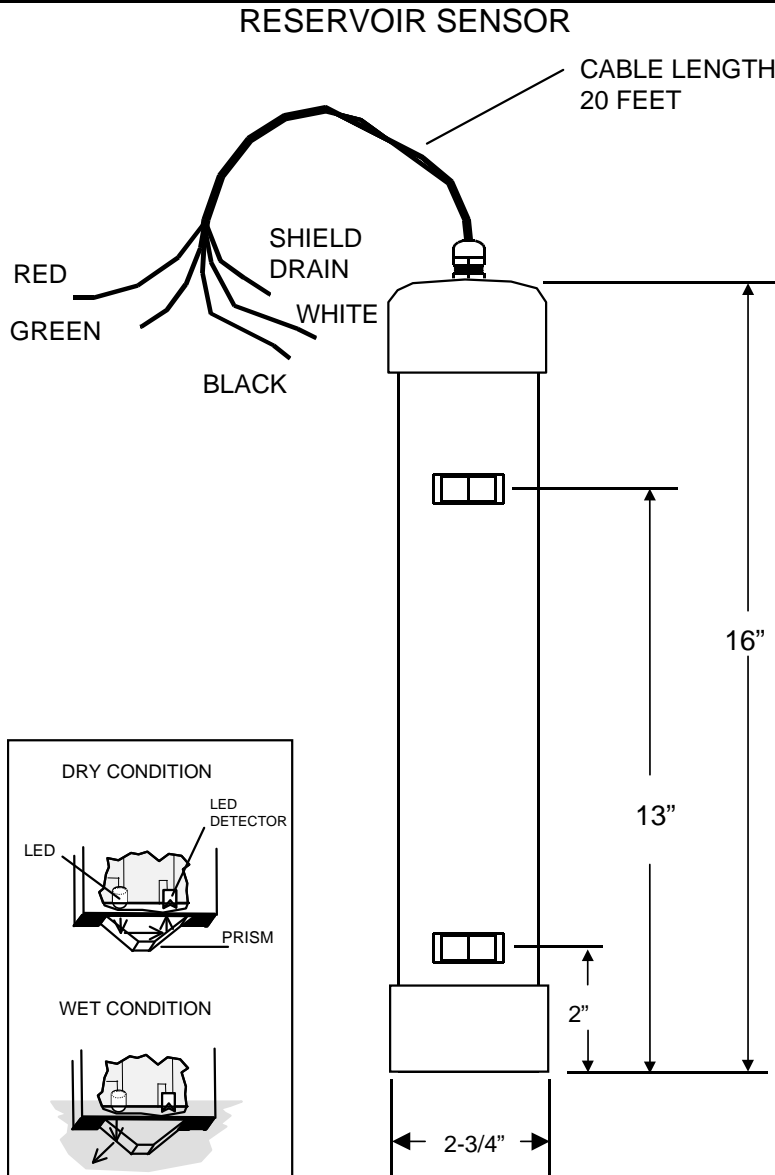
LIQUIDS (ex: fuel, water) – Photo Optic
 DRY CONDITION – Normally closed light beam
 ALARM CONDITION – Opens (refracts) normally closed light beam

SENSOR CABLE

Shielded 22 AWG UL-E118830 CM
 Maximum length 2000 feet

RESPONSE TIME

Immediate



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

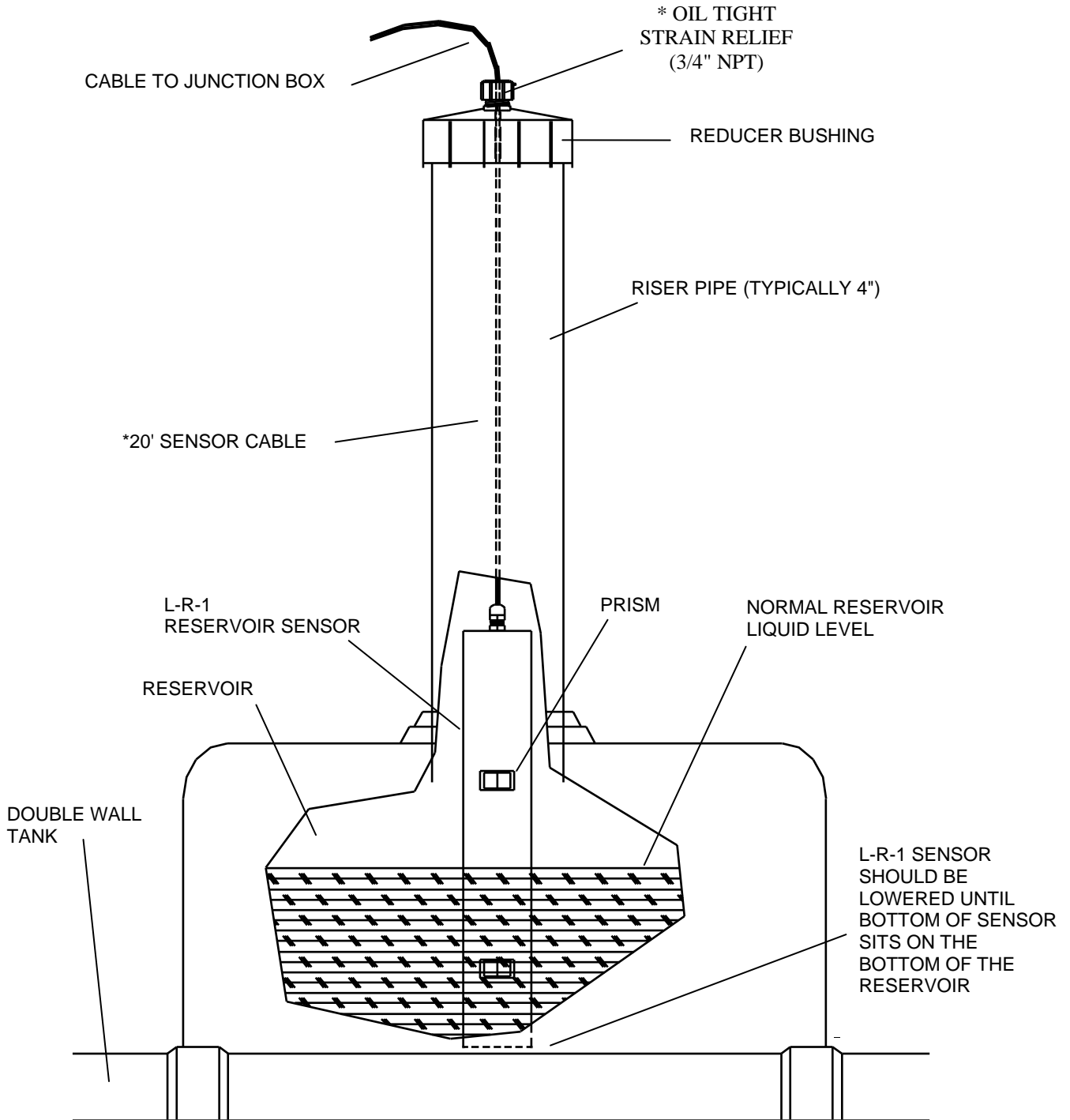
Low level: Closes normally open light beam

SENSOR CABLE

Shielded 22 AWG UL-E118830 CM

Maximum length 2000 feet

TYPICAL RESERVOIR SENSOR INSTALLATION



*SUPPLIED BY OMNTEC MFG., INC.

OMNTEC LPD-Series System Operation and Test Instructions

1. On the front panel the Green "SYSTEM DETECTING" light should be on indicating that system is up and running
2. If sensors are not in alarm, all Red and Amber lights should be off (see figure 1)
 - Optical sensors are solid state and use a normally closed light loop in a prism for sensing. When liquid is present at sensor, the normally closed loop opens, thus sending an alarm signal back to the alarm panel. The panel responds by turning on the appropriate light and sounding an audible alarm (see figure 2). The audible alarm will signal for 30 seconds. The visual alarm will remain on until alarm condition is cleared.
 - PD-series sensors contain a conductivity electrode that will send an alarm upon presence of water. In the unlikely event that the conductivity electrode does not detect water, the sensor will send a liquid alarm signal to the controller as described in 2a.

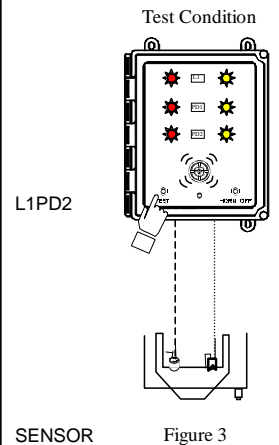
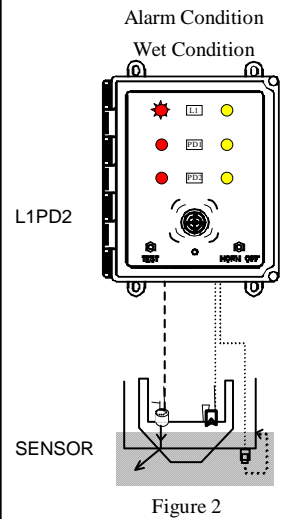
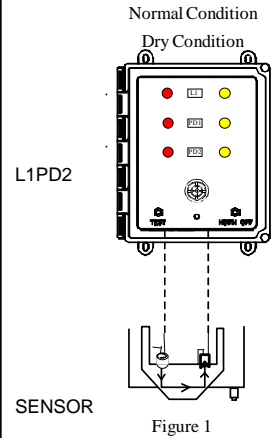
3. Sensors can be tested as follows:

- Since sensors work with normally closed loop of light be sure sensor is not exposed to light source of any kind
- Hit the test button on alarm panel and observe panel lights (see figure 3)
- If all lights illuminate and audible alarm sounds, system test is complete
- When test button is hit a signal is sent to sensor to turn its prism light off. What this does is put the sensor into a true alarm condition
- The sensor then responds as explained in part (2)
- Pressing Horn OFF button will silence audible alarm
- The conductivity portion of the sensor can be tested by submerging the sensor in water

4. System should be tested on at least a weekly basis

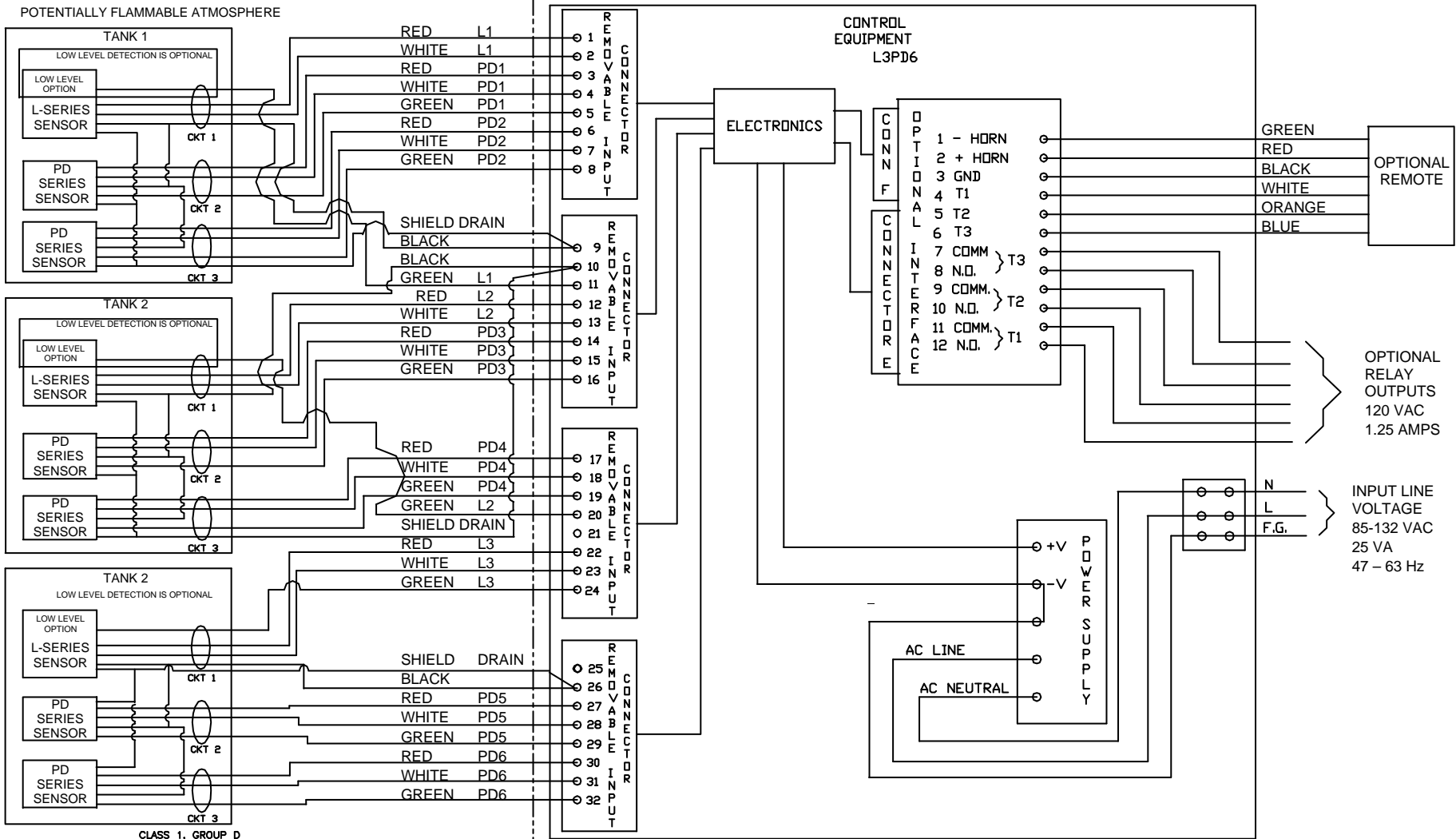
5. Every alarm, malfunction and test result should be recorded in a dated signed log

Note: If a reservoir or high/low sensor is being used follow same procedures as above to test its high level portion. To test low level sensor, it must either be lifted out of liquid, or liquid level must be lowered below sensor



----- Normal signal
 Alarm signal

L3PD6 Control Drawing



NOTES ON PROBES

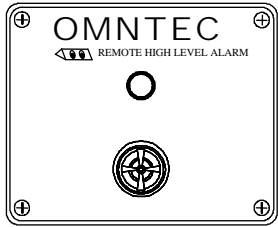
1. LOOP ALL SENSOR GROUNDS (BLACK WIRES) FOR EACH TANK. LOOP ALL SENSOR SHIELD DRAINS (BARE WIRES) AT EACH TANK.
2. LOW LEVEL DETECTION IS OPTIONAL. WHEN SPECIFIED, IT IS AN INTEGRAL PART OF THE HIGH LEVEL SENSOR. THE GREEN WIRE OF CIRCUIT 1 IS UTILIZED ONLY WHEN LOW LEVEL DETECTION IS PRESENT.
3. THE INTRINSICALLY SAFE FIELD WIRING SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 504 IN THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70.
4. ALL SENSORS ARE ELECTRONICALLY IDENTICAL AND MAY BE INTERCHANGED ALLOWING SYSTEM FLEXIBILITY.
5. SENSOR TO CONTROL UNIT CABLE WILL BE TWO PAIR OF #22 AWG WITH SHIELD AND DRAIN PVC JACKETED UL-118830 CM. CABLE LENGTH WILL BE LIMITED TO 2000 FEET MAXIMUM.

NOTES ON CONTROL EQUIPMENT

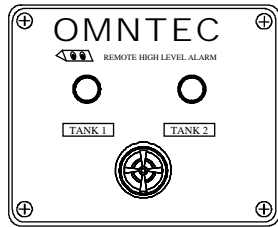
1. ALL WIRING MUST MEET LOCAL AND NATIONAL ELECTRICAL CODES. SYSTEM EARTH GROUND MUST BE CONNECTED TO TERMINAL F.G. TO INSURE INTRINSIC SAFETY AND MUST BE LESS THAN 1 Ω WITH RESPECT TO EARTH GROUND.
2. OPTIONAL REMOTE REQUIRES #22 AWG LOW VOLTAGE COMMUNICATION CABLE MINIMUM.

RA-Series Remote High Level Alarm

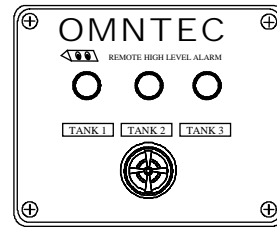
RA-1



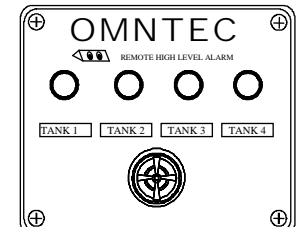
RA-2



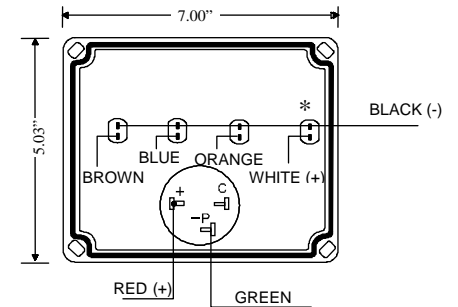
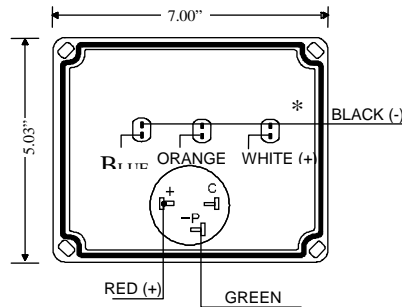
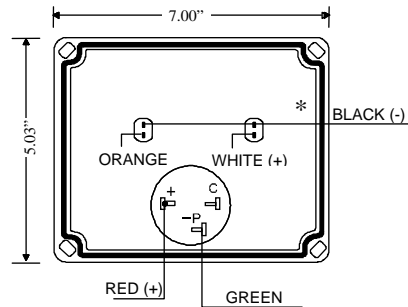
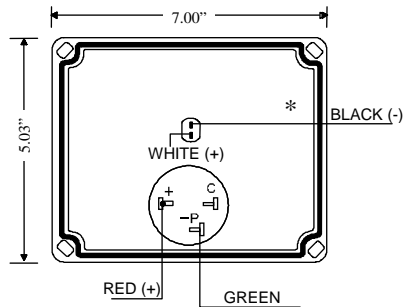
RA-3



RA-4



Internal Wiring Color Code

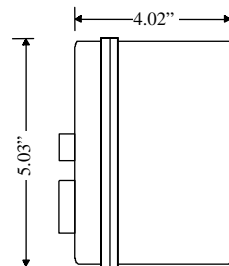


* **WARNING LABEL PLACED HERE:** Warning: Low voltage inputs only

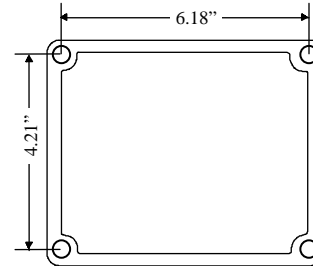
SPECIFICATIONS

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.

SIDE VIEW



MOUNTING DIMENSIONS



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

WARRANTY

The seller OMNTEC Mfg., Inc. warrants to buyer defects when properly installed, and maintained by user. The sellers 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 warrantees 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 sellers 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 warrantees 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 sellers 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 warrantees 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, pressure transducers, and control systems.