

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 1.25 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

Intrinsically safe circuits for use in class I group D hazardous locations when connected in accordance with control drawings L1PD2

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)

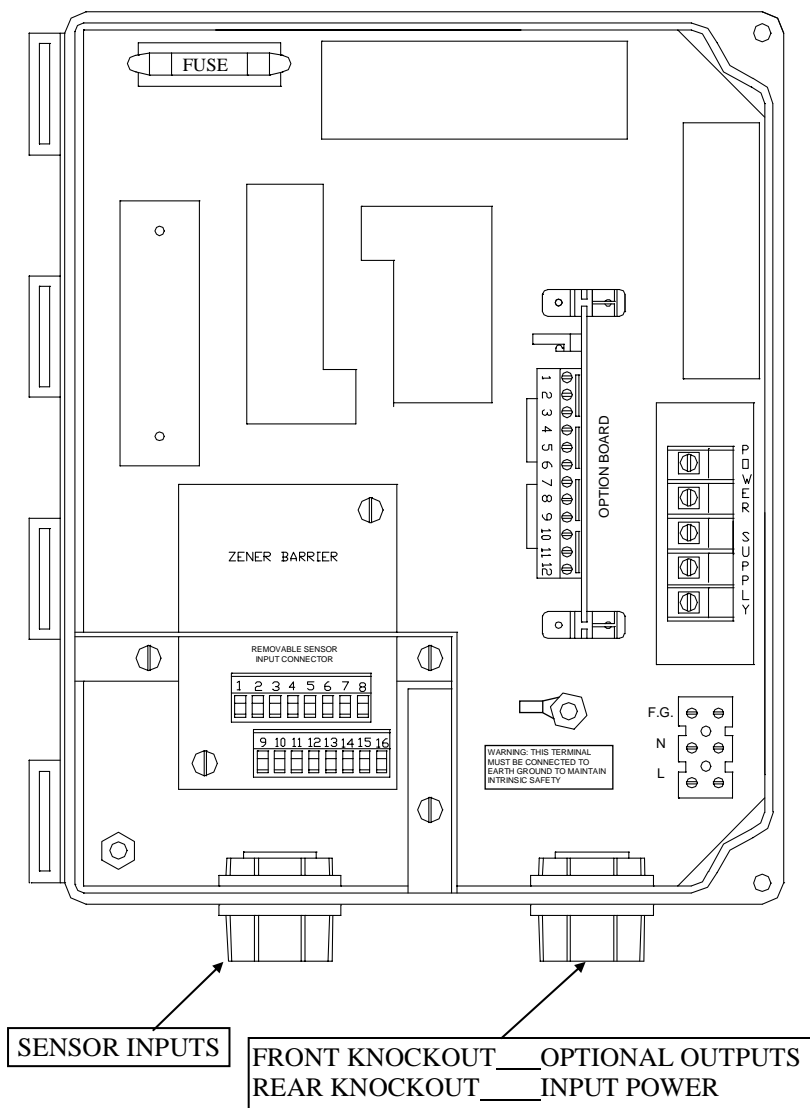
RA-1-NYS Remote annunciator with strobe (consult factory)

LABELS

Provided with controller

ELP21L1PD2

CONTROLLER CONNECTION DIAGRAM



COLOR CODE

CABLES FROM SENSORS TO REMOVABLE SENSOR INPUT CONNECTORS

1	RED	L1 SENSOR #1 (L.E.D.)
2	WHITE	L1 SENSOR #1 (RETURN 1)
3	RED	PD1 SENSOR #2 (L.E.D.)
4	WHITE	PD1 SENSOR #2 (RETURN 1)
5	GREEN	PD1 SENSOR #2 (RETURN 2)
6	RED	PD2 SENSOR #3 (L.E.D.)
7	WHITE	PD2 SENSOR #3 (RETURN 1)
8	GREEN	PD2 SENSOR #3 (RETURN 2)
9	BLACK	FROM SENSOR #1, #2 & #3
10	SHIELD DRAIN	FROM SENSOR #1, #2 & #3
11	GREEN	L1 SENSOR #1 (RETURN 2) *
12	UNUSED	
13	UNUSED	
14	UNUSED	
15	UNUSED	
16	UNUSED	

WIRES TO OPTION BOARD WIRES FROM REMOTE

1	GREEN	-HORN
2	RED	+HORN
3	BLACK	GROUND
4	WHITE	L1
5	ORANGE	PD1
6	BLUE	PD2

WIRES FROM RELAY OUTPUTS

7	COMMON	PD2 (LEAK)
8	NORMALLY OPEN	
9	COMMON	PD1 (LEAK)
10	NORMALLY OPEN	
11	COMMON	L1 (LEAK)
12	NORMALLY OPEN	

120VAC

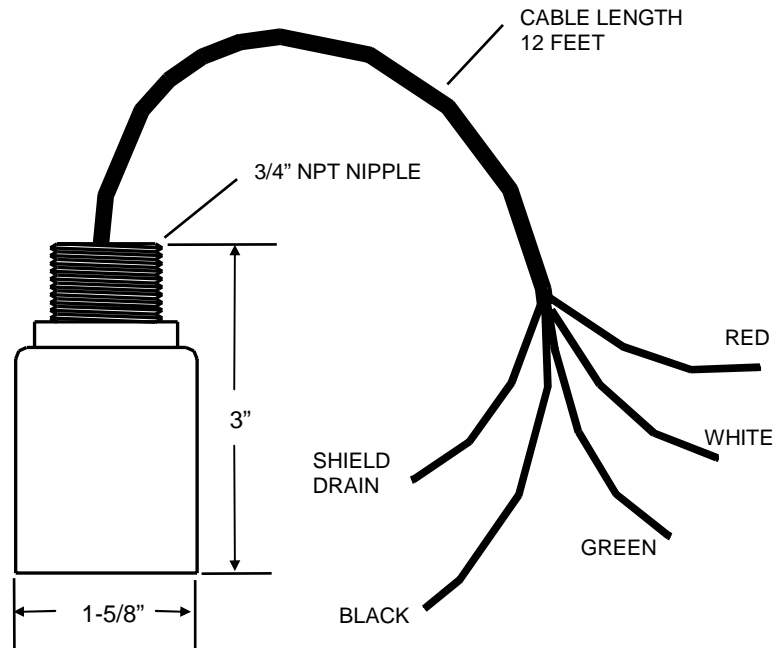
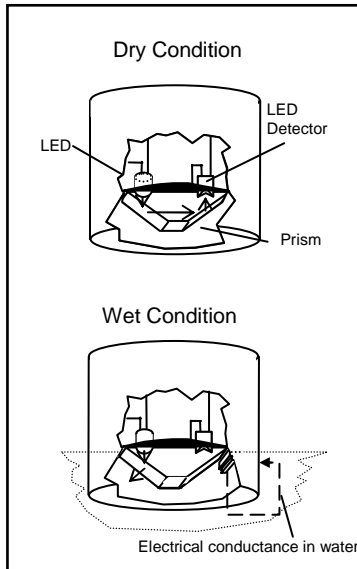
WIRES TO POWER SUPPLY

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



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

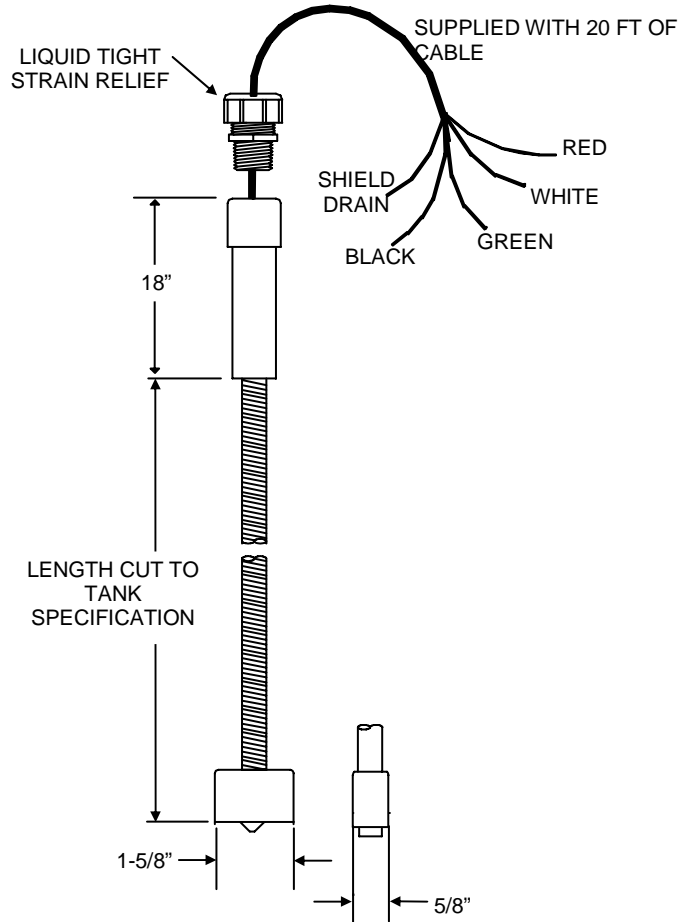
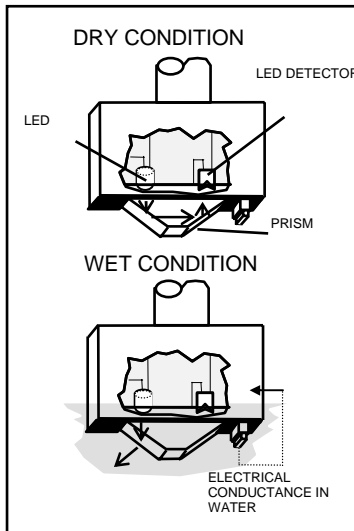
SENSOR CABLE

Shielded 22 AWG UL-E118830 CM
 Maximum length 2000 feet

RESPONSE TIME

Immediate

Product distinguishing Fiberglass tank dry interstitial sensor



SPECIFICATIONS

UL LISTED 5L04

Intrinsically safe class 1, group D hazardous locations when connected in accordance with control drawings L1PD2, L2PD4, L3PD6

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

WATER DETECTION - conductance

SENSOR CABLE

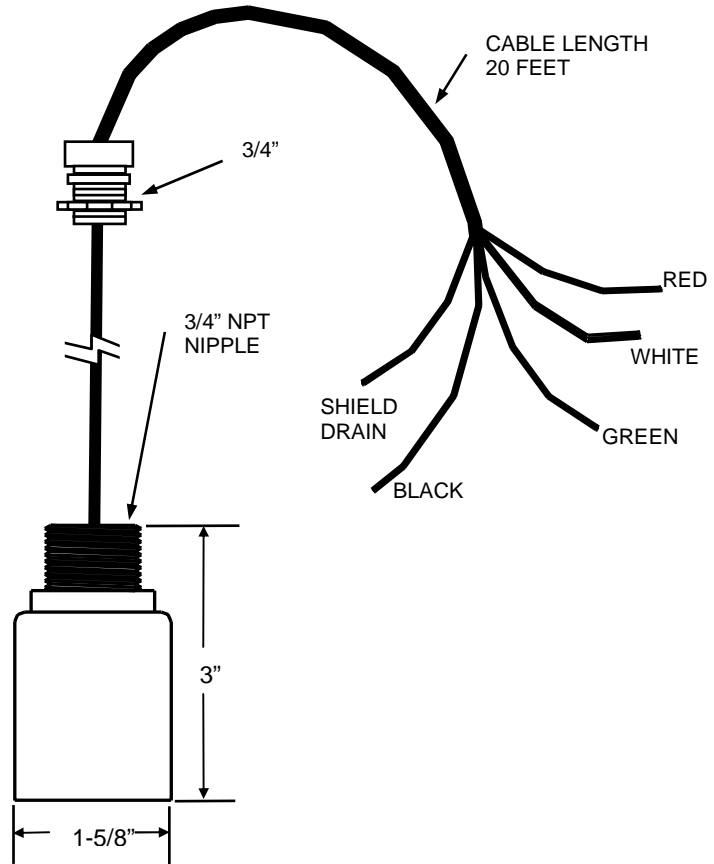
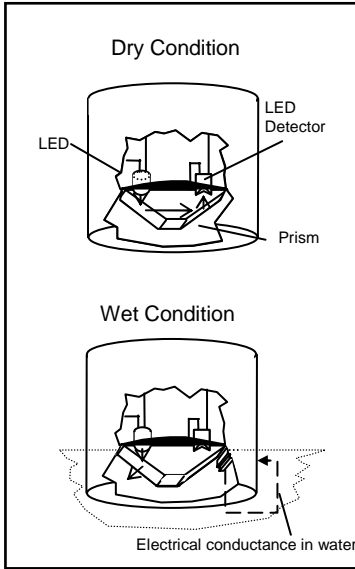
Shielded 22 AWG UL-E118830 CM

Maximum length 2000 feet

RESPONSE TIME

Immediate

Product Distinguishing Steel Tank Dry Interstitial Sensor



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

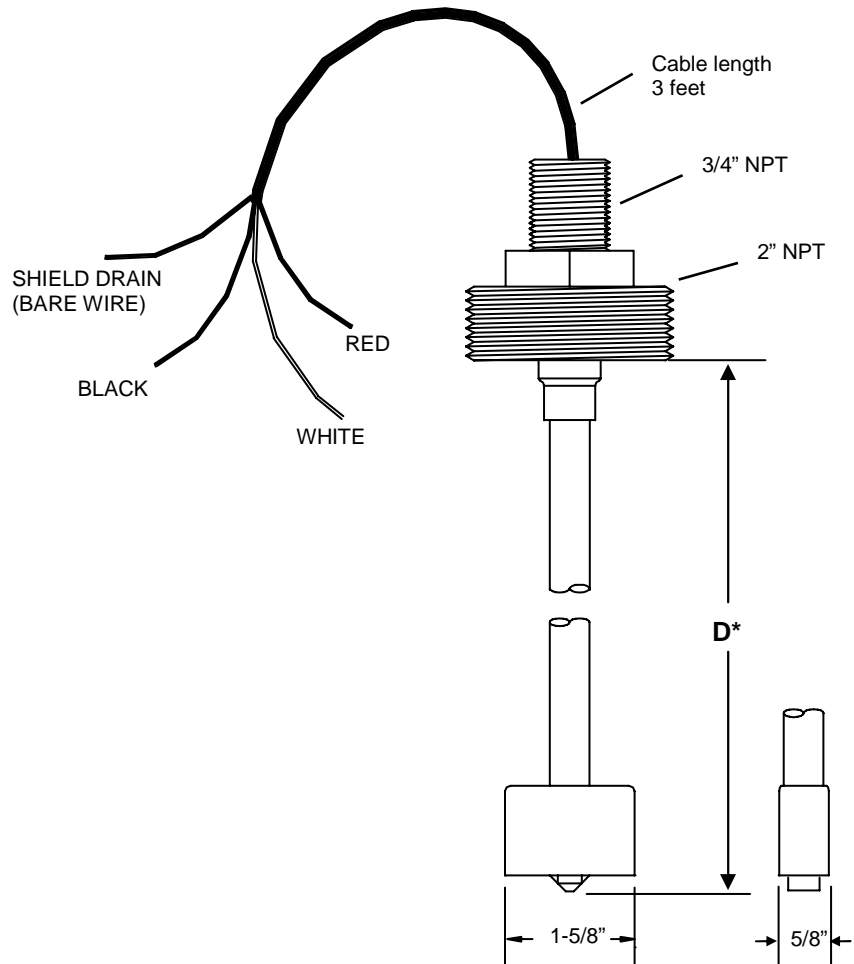
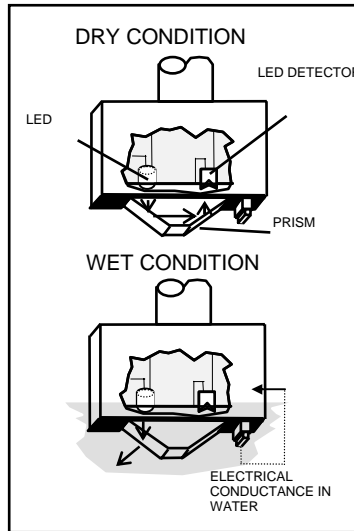
SENSOR CABLE

Shielded 22 AWG UL-E118830 CM
 Maximum length 2000 feet

RESPONSE TIME

Immediate

Liquid Level Optic Sensor



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

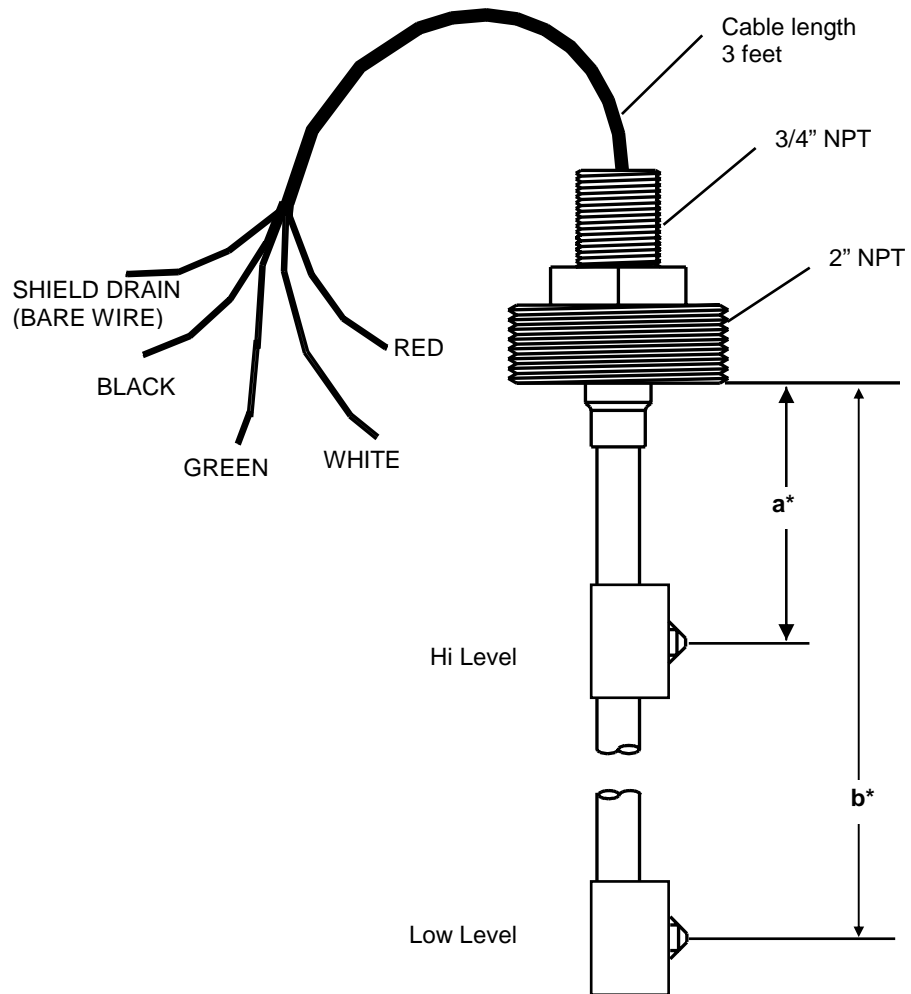
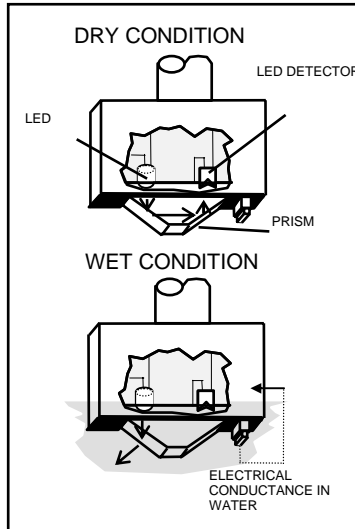
SENSOR CABLE

Shielded 22 AWG UL-E118830 CM
 Maximum length 2000 feet

RESPONSE TIME

Immediate

Dual Level Liquid Optic Sensor for Hi and Low Level



SPECIFICATIONS
Solid State (No moving parts)

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

2 pounds

PRINCIPLES OF OPERATION

LIQUIDS (ex: fuel, water) – Photo Optic

DRY CONDITION –

Hi 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

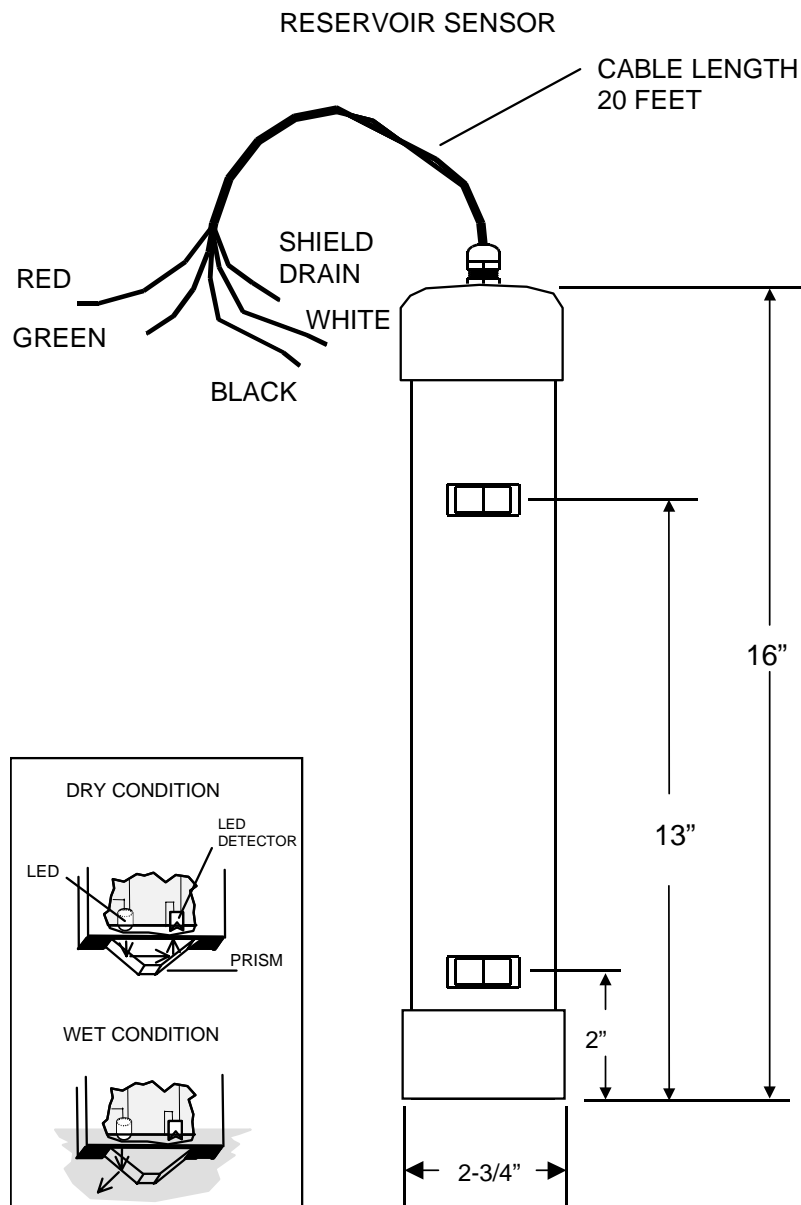
SENSOR CABLE

Shielded 22 AWG UL-E118830 CM

Maximum length 2000 feet

RESPONSE TIME

Immediate



OPERATING TEMPERATURE
-40 TO +140 F

RESPONSE TIME
Immediate

POWER
2 VDC @ 13 mA

WEIGHT
2 pounds

PRINCIPLES OF OPERATION

NON POLAR LIQUIDS (ex: fuel oil) – Photo Optic
NORMAL CONDITION –

- Hi level - Normally closed light beam
- Low level - Normally open light beam

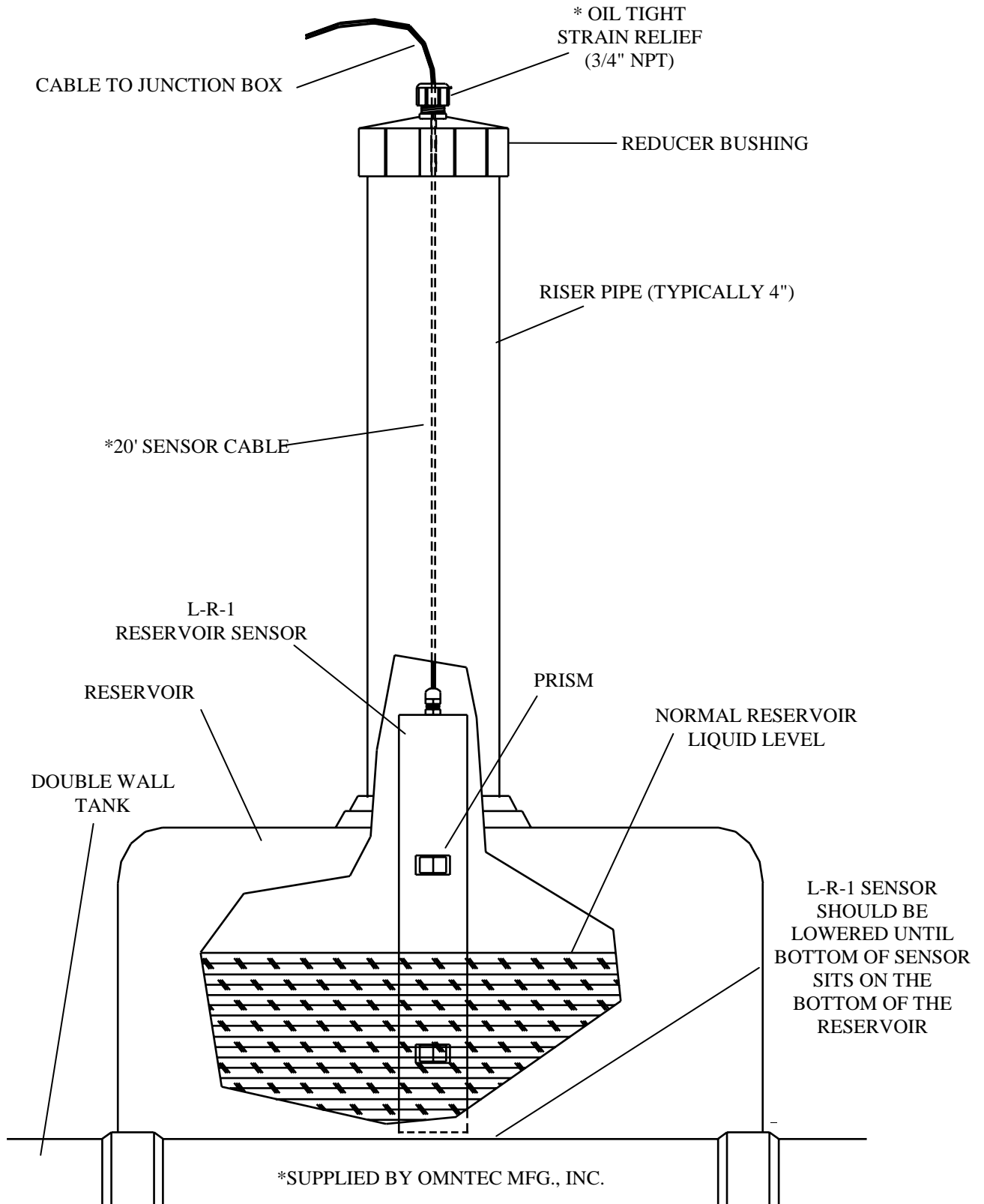
ALARM CONDITION –

- Hi level - Opens (refracts) normally closed light beam
- Low level - Closes normally open light beam

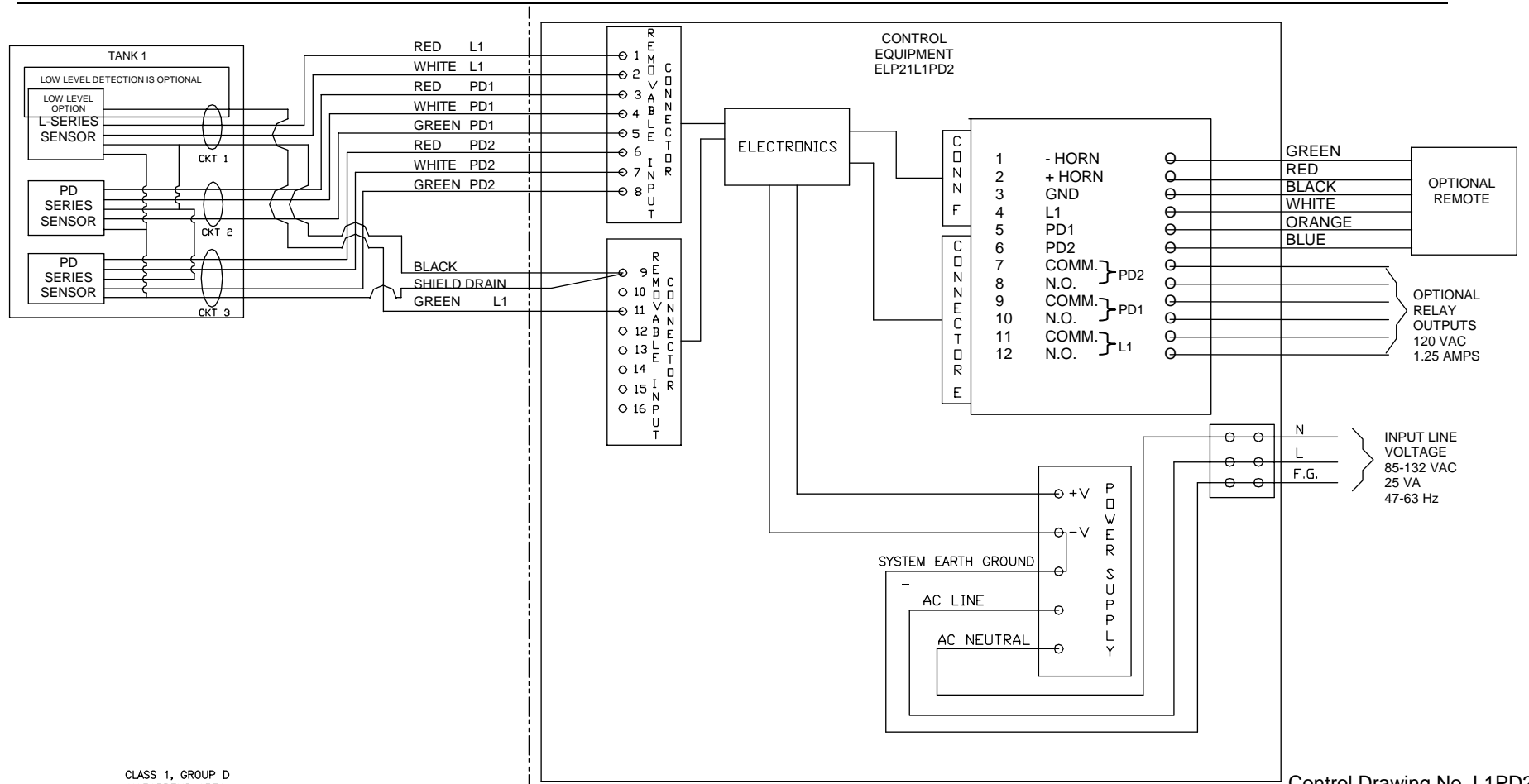
SENSOR CABLE

EC-4 or Belden 9940
Maximum length 2000 feet

TYPICAL RESERVOIR SENSOR INSTALLATION



ELP21L1PD2 System Control Drawing



CLASS 1, GROUP D
HAZARDOUS AREA

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.

NON-HAZARDOUS AREA

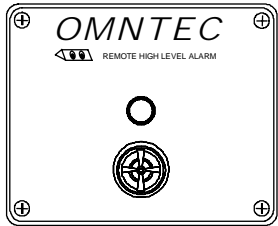
NOTES ON CONTROL EQUIPMENT

1. ALL WIRING MUST MEET LOCAL AND NATIONAL ELECTRICAL CODES.
2. 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.
3. OPTIONAL REMOTE REQUIRES #22 AWG LOW VOLTAGE COMMUNICATION CABLE MINIMUM.

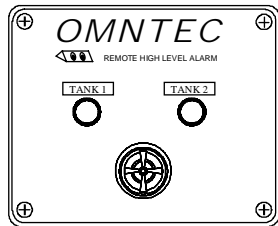
Control Drawing No. L1PD2

RA-Series Remote High Level Alarm

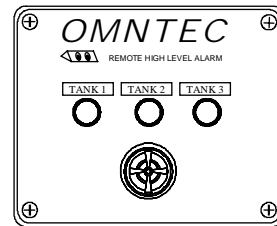
RA-1



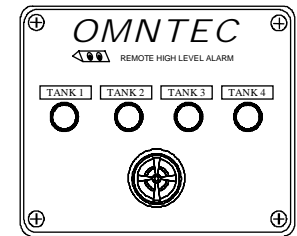
RA-2



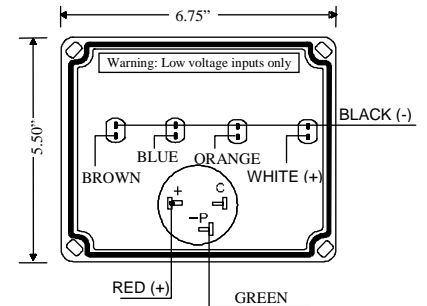
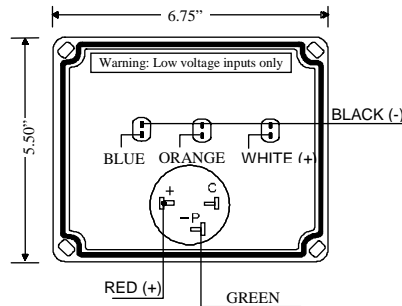
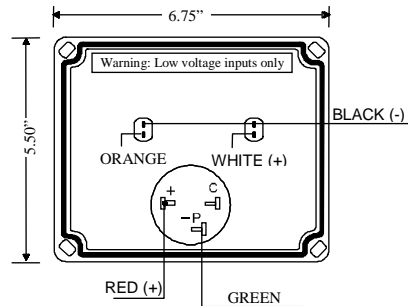
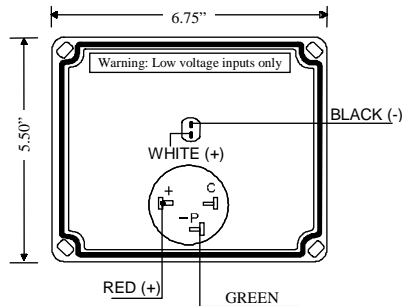
RA-3



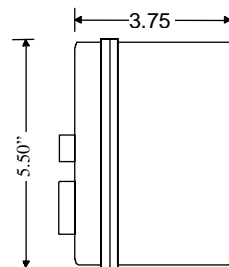
RA-4



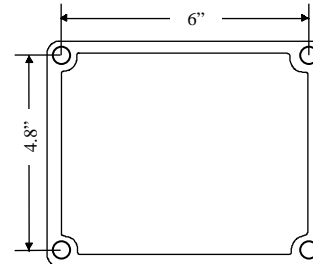
INTERNAL WIRING COLOR CODE



SIDE VIEW



MOUNTING DIMENSIONS



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 the enclosure

WARRANTY

The seller OMNTEC Mfg., Inc. warrants to buyer, for one year: That all components meet specifications herein. All components 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 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.