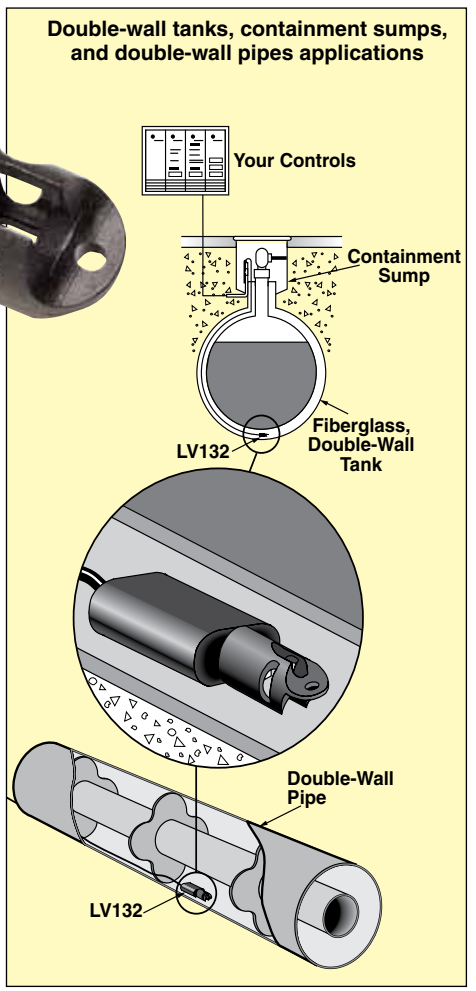
DISCRIMINATING LIQUID SENSOR
For Interstitial Applications

LV132 shown actual size.



LV132

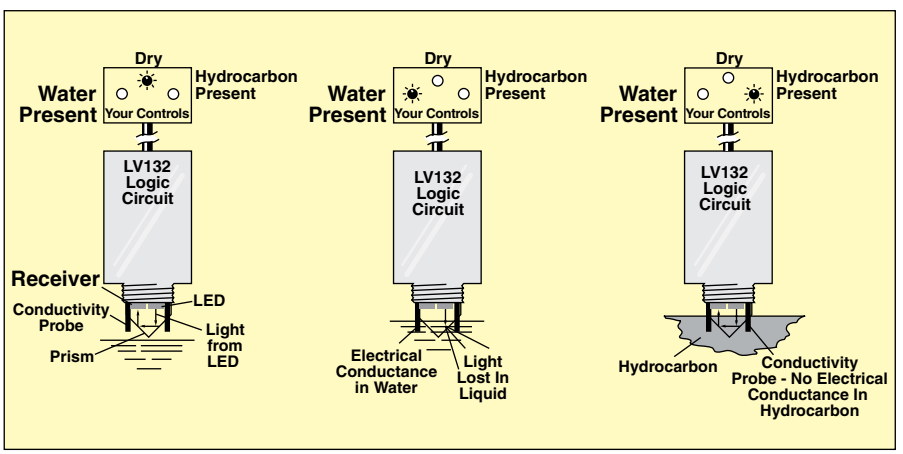
- **Three Distinct Outputs: Dry, Water Present, Fuel Present**
- **Compact—Fits Interstitial Spaces**
- **Unaffected by Vapors; Even at High Concentrations**
- **Easy Removal and Re-installation for Cleaning**
- **No Moving Parts—Long Life**

Proven electro-optic and conductive technologies are combined to deliver advanced capabilities in the LV132 discriminating liquid sensor. Internal logic discriminates between water and hydrocarbon-based liquids. No moving parts and solid-state switching encased in a rugged housing ensure dependable, long service.

A slim, compact form allows easy installation into interstitial areas of double-wall pipes and tanks using an integral pull ring to "snake" into place. Remove the pull ring and the LV132 installs into any tank or reservoir via ¼ FNPT fittings for high, low, or intermediate level detection. The LV132 sensor is easy to remove, clean, and reinstall after an alarm condition is triggered, or for maintenance.

The LV132 electro-optical/ conductivity sensor contains an infrared LED and a light receiver. Continuous light from the LED is directed into a prism which forms the tip of the sensor. Two probes extend from the prism to measure conductivity.

With no liquid present, light from the LED is reflected within the prism to the receiver. When rising liquid immerses the prism, the



Note: *The **LV132** 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 (I.S.) interface device is required for its use.*

light is refracted out into the liquid, leaving little or no light to reach the receiver. Simultaneously, the conductivity probes determine if the liquid is conductive (water-based) or non-conductive (hydrocarbon-based). Sensing the change in light intensity and measuring the liquid's conductivity level, the receiver actuates electronic switching within the unit. A logic circuit built into the sensor housing evaluates the two inputs and gives one of three output signals: Dry, Water Present, or Hydrocarbon Present.

LV132 shown actual size.

To Order	
Model No.	**Description**
LV132	Discriminating light sensor

Comes complete with 7.6 m (25") four (4) conductor PVC jacketed cable and operator's manual.

***Ordering Example: LV132** sensor.*

SPECIFICATIONS

Wetted Materials: Polysulfone, PVC, 316 Stainless Steel, Epoxy, Nylon
Operating Temperature: -17.8 to 80°C (0 to 176°F)
Current Consumption: 18 mA, Approximately
Output: TTL/CMOS Compatible. May sink up to 40 mA up to 30 Vdc
Repeatability: ± 1 mm
Cable: Four (4) Conductor PVC Jacketed (25 ft Extended)
Approvals: UL Classified for Class I, Group D Hazardous Locations
Weight: 340 g (0.75 lb)

Electrical Parameters

Entity Parameters for 10-28 Vdc Input

Terminal	V_{MAX}	I_{MAX}	C_i	L_i
Red/Black	38V	150 mA	0.052 µF	0
White/Black	38V	150 mA	0.052 µF	0
Green/Black	38V	150 mA	0.052 µF	0

$V_{MAX} \geq V_{OC}$ (Barrier)
$I_{MAX} \geq I_{SC}$ (Barrier)
$C_i + {}^{C}\text{cable} \leq {}^{C} A$ (Barrier)
$L_i + {}^{L}\text{ cable} \leq {}^{L} A$ (Barrier)

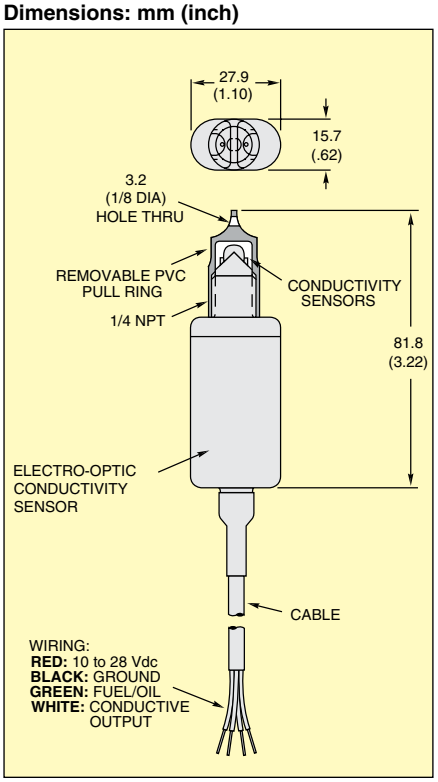
Definitions:
V_{OC} = Maximum Open Circuit Voltage
I_{SC} = Maximum Short Circuit Current
C_i = Internal Capacitance
L_i = Internal Inductance

Output Logic

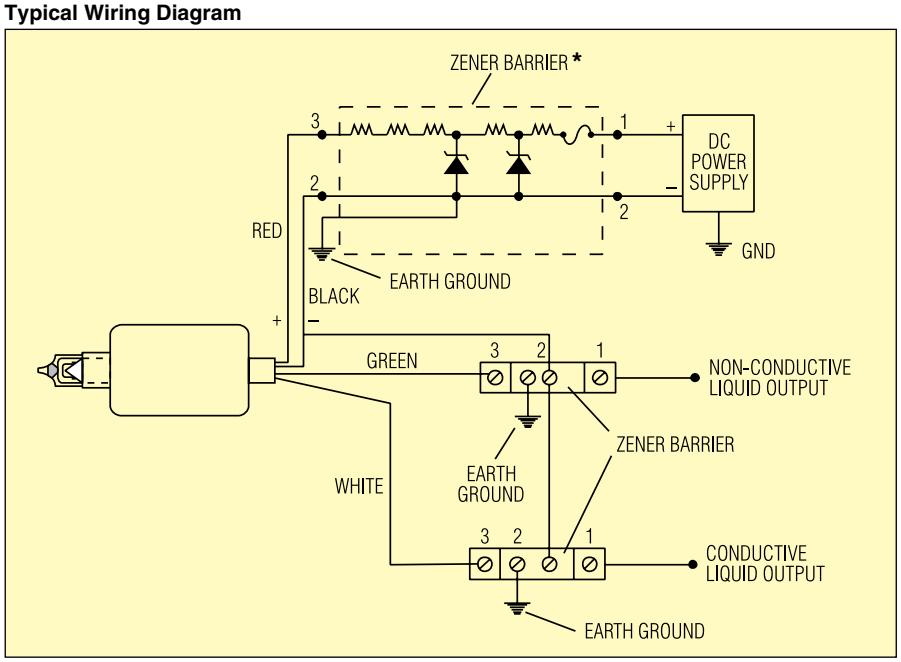
Probe Condition	Green Wire Hydrocarbon (Non-Conductive) Output (Logic State)	White Wire Water (Conductive) Output (Logic State)
Air	"0"	"1"
Water	"0"	"0"
Fuel	"1"	"1"

Not recommended for use in any liquid that crystallizes or leaves a solid residue.

Dimensions: mm (inch)



Typical Wiring Diagram



** Source voltage not greater than 250 Vac. Zener barriers must be installed in accordance with barrier manufacturer's instructions.*