

# SERVICE & OPERATING MANUAL

ORIGINAL INSTRUCTIONS

# VS

## Versa-Sense™ II

Electronic Leak Detector

### SPECIFICATIONS

#### 115 Volt Units

Power Supply: 100 VAC or 110-120VAC, 50 Milliamp, Current Draw

Output Supply: 110-120VAC, 100 Watt Power, Maximum (1 Amp)

#### 220Volt Units

Power Supply: 220-240VAC, 25 Milliamp, Current Draw

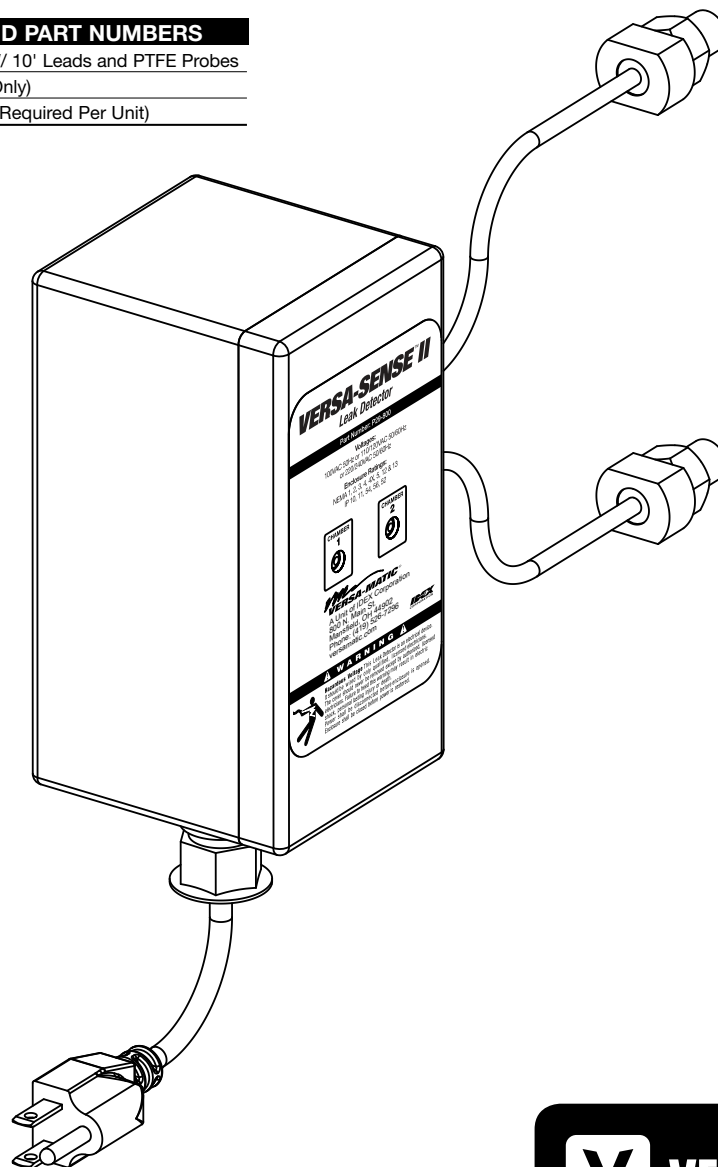
Output Supply: 220-240VAC, 100 Watt Power, Maximum (.5 Amp)

### ITEM PART DESCRIPTIONS AND PART NUMBERS

P29-800TF10 Electronic Leak Detector W/ 10' Leads and PTFE Probes

P29-800 Electronic Leak Detector (Unit Only)

P29-804 10' Lead and PTFE Probe (Two Required Per Unit)



**VERSAMATIC®**  
ACCESSORIES

# Versa-Sense II Electronic Leak Detector

The VERSA-SENSE II Electronic Leak Detector consists of modular control unit encased in a watertight enclosure and two detection probes. All of these items are wired together as noted on the schematic illustration Figure A and Figure D.

The VERSA-SENSE II Electronic Leak Detector senses pumped liquid entering the air chambers of the pump and works on the principle of conductance. The probes are installed into the bottom boss on the air chambers (E4, E2, E3, and U2 pump models.) When the diaphragm fails, the probe is exposed to the pumped liquid. This produces a low current change of 1.2 volts DC (<1 milliampere) which signals the control unit. One of the two indicator lights signal which diaphragm has failed, and which air chamber has been contaminated by pumped fluid.

**NOTE:** The VERSA-SENSE II Leak Detector will detect any moisture that pools at the bottom of the air chamber. Air supplies with high moisture content will deposit the moisture at the bottom of the pump's inner chamber. This will cause the probe to send false signals of diaphragm rupture to the control unit. When the leak detector is used to detect diaphragm failure it is recommended that an air line dryer be installed in the air line supply line to lessen the chance of false signals.

## ⚠ WARNING



**Hazardous voltage.** This Leak Detector is an electrical device. It should be wired by only qualified, licensed electricians. The cover should never be removed except by authorized, licensed electricians. Failure to heed this warning may result in electric shock, personal lasting injury or death.

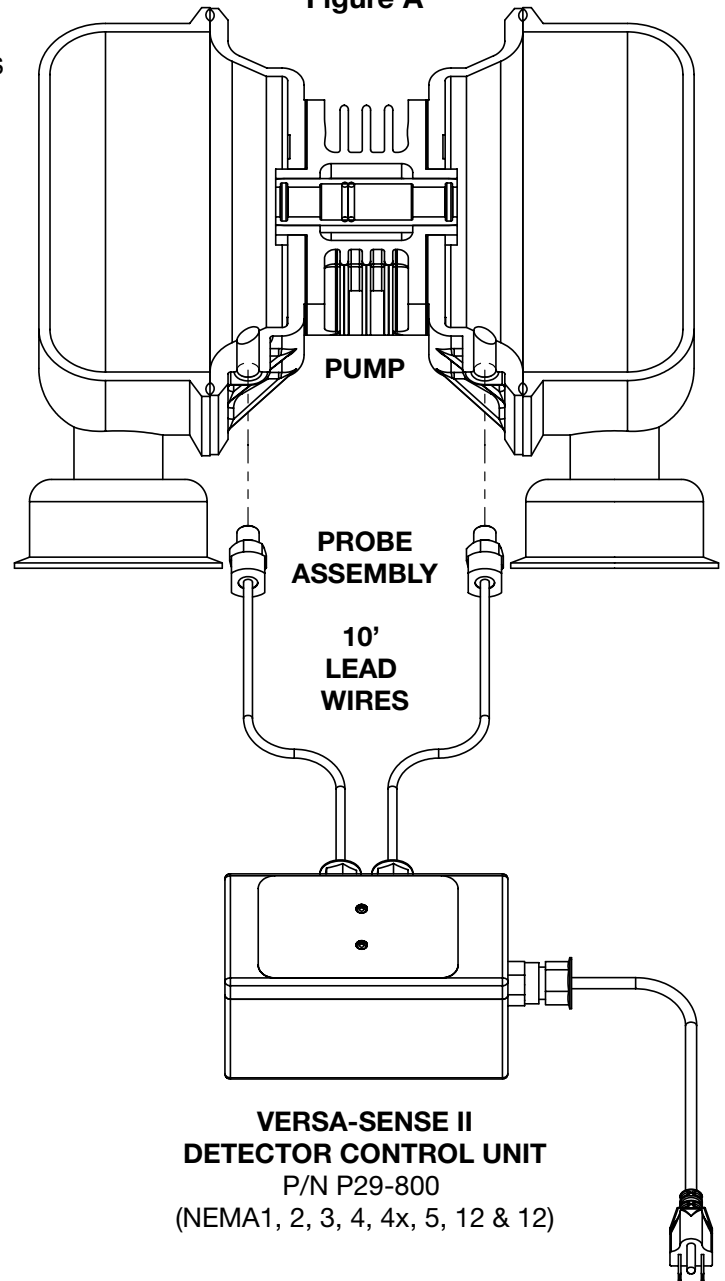
Power shall be disconnected before enclosure is opened.

Enclosure shall be closed before power is restored.

## Probe Installation

To install the probe, first back-twist the cable counter-clockwise to avoid wire twist when the probe is threaded clockwise into the 1/2-20 UNF boss ports. Apply PTFE tape or a small amount of thread sealant to the threads prior to insertion.

WIRING ILLUSTRATION  
Figure A



# Options

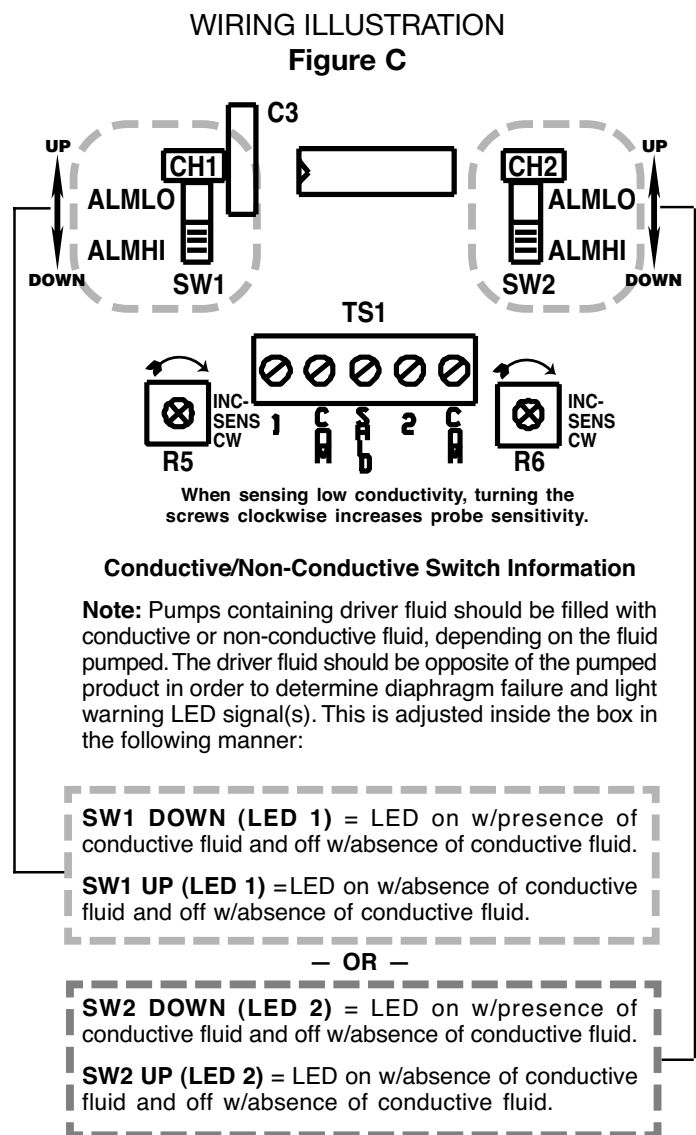
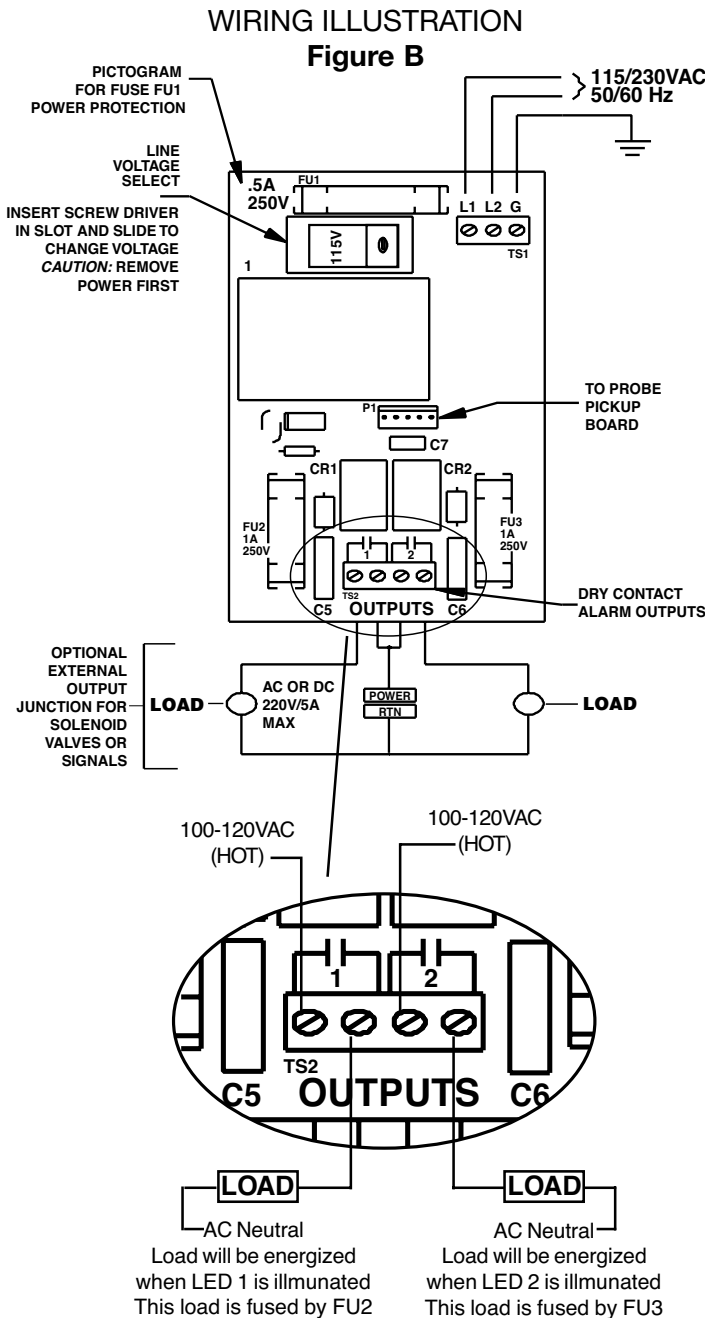
The control unit can be easily wired to an audible alarm or pump shutdown device. For example, you can connect the leak detector unit to a solenoid, which can shut the air supply off to the pump, or sound an alarm by routing the external device into the leak detector unit. The wires can enter through one of the three port holes in the leak detector unit. The output connection terminal has 100 watt power out put and each chamber has independent connections. If combining the two chambers, a four wire lead spliced before the external device would be necessary. (See output connection terminal Figure B.)

# Conductivity

The leak detector probes work under the principle of conductance. Not all pumped liquid is conductive. If the diaphragm fails, the pumped product will conduct (complete the circuit) and signal the box and the warning light will come on.

Sensitivity of the detector can be adjusted by the adjusting knobs R5 and R6. (See Figure C) These adjustment knobs work independently for each side (chamber). The can be moved with a small screw driver. These sensitivity knobs are also important in setting to detect conductance fluid at the sensitivity most required. The sensitivity range of the detector is adjustable from OHM (2,000 Micro MHO) to 100,000 OHM (10 Micro MHO).

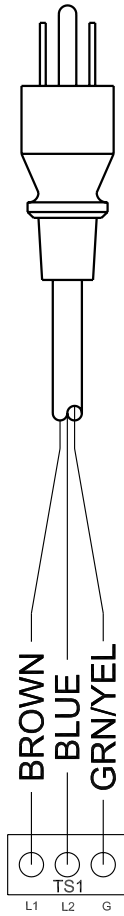
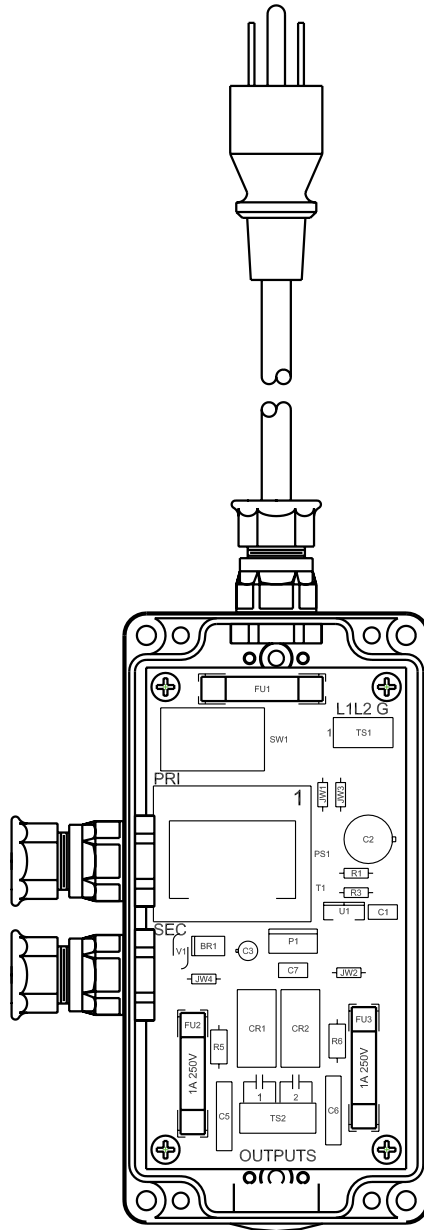
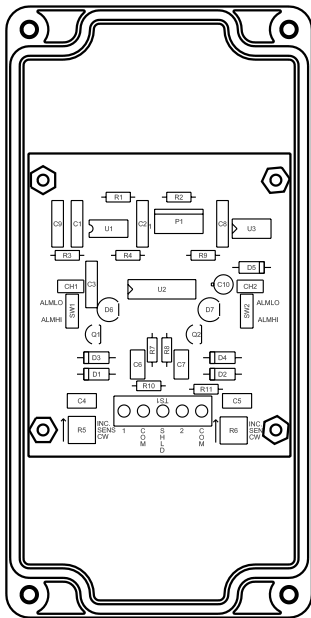
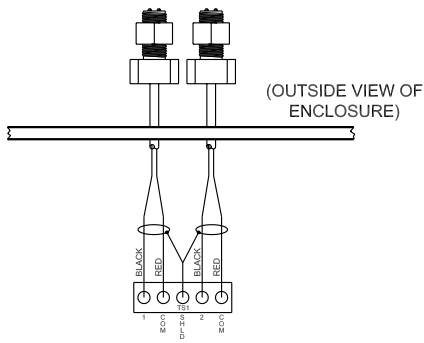
When sensing low conductivity, turn the screws clockwise increases probe sensitivity.



# Versa-Sense II Schematic

## Versa-Sense II Schematic

WIRING ILLUSTRATION  
Figure D



**! CAUTION !**  
**FOR 220 VOLT UNITS:**  
 Plug in only to 220 volt systems. Do not have power to the cord (do not have it plugged in) when connecting to the box terminals.

**! CAUTION !**  
**FOR 115 VOLT UNITS:**  
 Plug in only to 100 volt systems. Do not have power to the cord (do not have it plugged in) when connecting to the box terminals.