



Three Phase Voltage Monitor Model LPVRB

Protects 3-power system loads from:

- Loss of any Phase
- Low Voltage
- High Voltage
- Voltage Unbalance
- Phase Reversal
- Rapid Cycling

Additional Features:

- Compact Design
- UL and cUL listed
- CE Compliant
- Finger Safe terminals
- Standard Surface or DIN Rail Mount
- Standard 1-500 Sec. Variable Restart Delay
- Standard 2-8% Variable Voltage Unbalance
- One 10 Amp General purpose Form C relay
- Standard 1-30% Variable Trip Delay
- Optional Manual Reset

Trip Delay Time:

- Low, high and Unbalance Voltage:
 - 1-30 seconds adjustable
- * Note 50 Hz will increase all delay timers by 20%

Restart Delay Time:

- After fault - 1 - 500 seconds
- After a Complete Power loss
(When manual reset pins are shorted)

Output Contact Rating:

- 10 A General purpose @240 VAC
- Pilot Duty 480VA @ 240 VAC, B300

Power Consumption:

6 Watts (max)

Enclosure:

Polycarbonate

Wire Type:

Stranded or solid 12-20 AWG, one per terminal

Specifications:

- 3-phase Line Voltage: 190 - 480 VAC
- Frequency: 50* or 60Hz
- Low Voltage (% of set Point) *
- Trip: 90% ± 1%
- Reset: 93% ± 1%
- High Voltage (% of set Point)
- Trip: 110% ± 1%
- Reset: 107% ± 1%
- Voltage Unbalance (NEMA)
- Trip: 2-8%
- Reset: Trip setting minus 1% (5-8%)
Trip setting minus .5% (2-4%)

Standard Passed:

- Electrostatic Discharge (ESD)

Radio Frequency Immunity, Radiated:

- 150 MHz V/m, 10V/m

Fast Transient Burst:

- IEC 1000-4-5, Level 3, 3.5 kV input power & controls

Surge:

- IEC 1000-4-5, Level 3, 4kV line-to-line, Level 4, 4kV line-to-ground

Weight:

14 oz.

Terminal Torque:

6 in. lbs.

ANSI/IEEE:

- C62.41 Surge and Ring Wave

- Compliance to a level of 6kV line-to-line

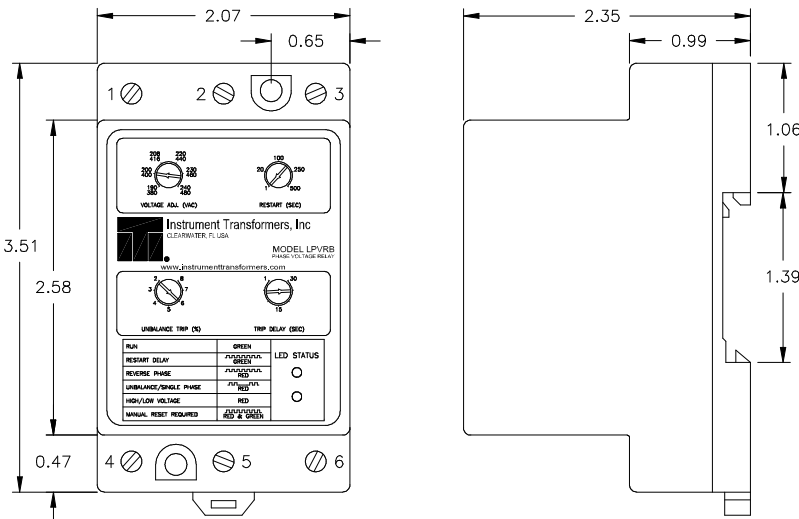
Hi-Potential Test:

- Meets UL508 (2 x rated V +1000V for 1 minute)

Class Protection:

IP20, NEMA 1 (Finger Safe)

• The Model LPVRB is designed to protect 3-phase loads from damaging power conditions. Its wide operating range combined with UL and CE compliance insures worldwide acceptance.



FEATURES
Four adjustment pots provide versatility for all kinds of applications.
Provides the versatility needed to handle global applications.
Diagnostic LEDs indicate trip status and provide simple trouble shooting.
Microcontroller based based circuitry provides better accuracy and higher than analog designs.
Transient protected to meet IEEE and IEC standards and operate under tough conditions.
Will detect single phase condition regardless of regenerated voltages.

Environmental:

- Ambient Operating: -20°C to +70°C (-4 to +158 °F)
- Ambient Storage: -40°C to +85°C (-4 to +176 °F)
- Relative Humidity: 10-95%, non-condensing per IEC 2-3

Special Options:

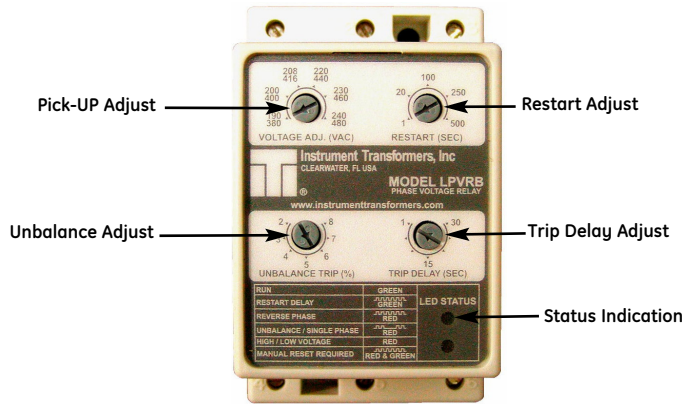
- Manual Reset: External momentary push button required

Safety Marks:

UL508, IEC 60947-6-2



For Complete information on warranty, liability terms, returns, and cancellations, please refer to the Instrument Transformers, Inc Standard Conditions of Sale.



MODEL NUMBER	NOMINAL Vac	Hz.
LPVRB	480V/120V	60
LPVRB	380V/416V	50
LPVRB-120	120V	60

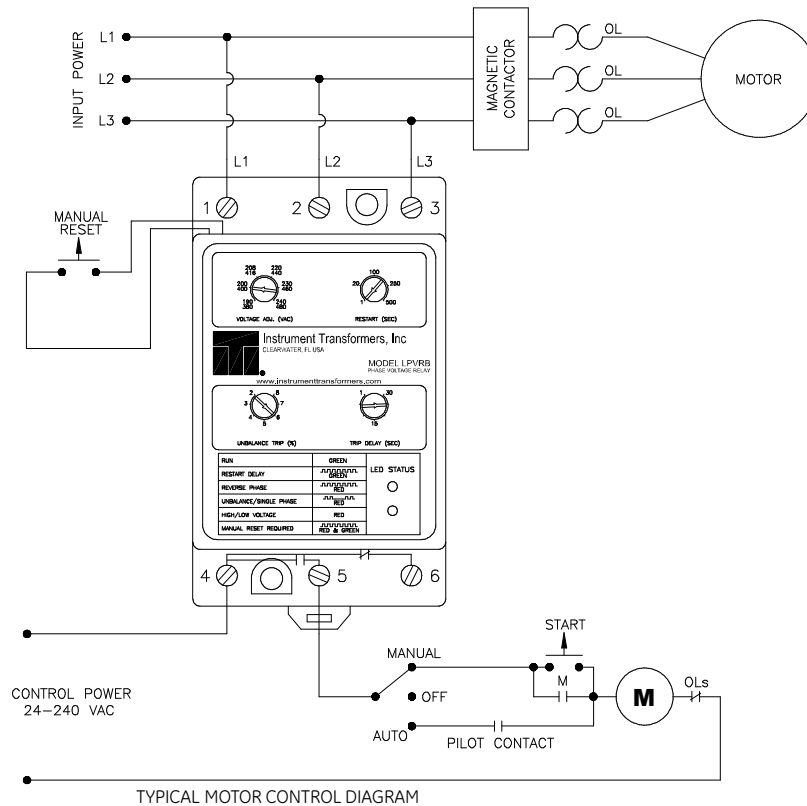
LPVRB Operation with Options

A unique microcontroller-based voltage and phase sensing circuit constantly monitors the three phase voltages to detect harmful power line conditions. When a harmful condition is detected, the LPVRB's output relay is deactivated after a specified trip delay. The output relay reactivates after power line conditions return to an acceptable level for a specified amount of time (Restart Delay) or after a manual reset. The trip and restart delays prevent nuisance tripping due to rapidly fluctuating power line conditions.

The Model **LPVRB** automatically senses whether it is connected to a 190 to 240V 60 Hz system, a 440 to 480V 60 Hz system, or a 380 to 416V 50 Hz system. An adjustment is provide to set the normal line voltage from 190-240 or 380-480 VAC. Other adjustments include a 1-30 second trip delay, a 1-500 second restart delay, and a 2-8% voltage unbalance trip adjustment.

Two LEDs indicate the status of the Model LPVRB; Run Light, Under Voltage, Over Voltage, Phasing Fault/Reverse Phase, and Manual Reset. The LPVRB ships with a jumper installed for automatic restart. A connector with 12" wires is included for manual reset switch.

LPVRB Typical Wiring Diagram



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