



Voltage Presence Indicator

Maximize safety with visual live-voltage indication.

Nucleus Voltage Presence Indicator (VPI) is an electrical safety device that provides real-time visual verification of voltage presence through high-intensity LEDs. Used primarily in industrial control panels and power distribution boards to verify the de-energized state of the equipment and aids task-qualified personnel in performing mechanical LOTO and assists in performing mechanical LOTO in accordance with established electrical safety practices as outlined in NFPA 70E Article 120.6 (3) and (4). Additionally, it detects phase unbalance early to avoid equipment shutdowns and maximize efficiency.



System Functionality

- Quick voltage detection with self-powered circuit design that supports continuous monitoring.
- Supports mechanical LOTO and detects voltage unbalance >15%
- Alerts personnel of backfeed voltage in neutral/ground lines, preventing unintentional contact.

Wide Operating Compatibility

- Works seamlessly with single-phase and three-phase AC/DC configurations.
- Operates from 20 V-1500 V (1000V AC / 1500V DC) range.
- Compatible with 50, 60, and 400 Hz frequencies.

Certified Safety & Compliance

- Globally certified — meets UL, CSA, IEC, and BIS safety standards.
- CAT III/CAT IV rated — ensures operation in transient surges up to 8 kV.
- Closed-door voltage verification — enables safe operation without energy exposure.

Simplified & Rugged Design

- High-intensity, redundant LEDs — provide reliable visibility in bright daylight or low-light conditions.
- Standard 30 mm knockout punch, epoxy-potted housing — easy retrofit installation and protection from moisture and contaminants.
- 14 AWG leads (8 ft long) — supports wiring up to 100 A busbars.



Certifications Pending

Specification	Details
Voltage Range	Voltage Indicator: AC single-phase and three-phase: 20-1000 VAC, 50/60/400 Hz, DC Voltage: 40-1500 VDC
Maximum Voltage	1000 VAC and 1500 VDC
Detection Thresholds	20 VAC and 40 VDC
Temperatures	Operating Temperature: -40 °C to +55 °C Storage Temperature: -45 °C to +85 °C
Altitude	Up to 2000 meters (6600 feet)
Pollution Degree	2
Terminations	4-Wire leads: 8 ft, 14 AWG, 90° C @ 1000 V, UL 1032, PVC insulated w/ nylon jacket
Voltage Category Ratings	CAT III @ 1000 VAC max, CAT IV @ 600 VAC max
Indicators	8 Bright Redundant LEDs
Housing	UL Approved material, totally encapsulated including LEDs for environmental protection
Dimensions	Indicator Module - 48.28 mm x 95.71 mm (HØ x D), standard 30 mm Ø mounting hole