



Voltage Presence Indicator + Test Ports

Dual-function design for safer operation and faster testing.

Nukleus Voltage Presence Indicator + Test Ports (VPI+TP) is an electrical safety device that provides real-time visual verification of voltage presence through high-intensity LEDs, while its integrated touch-safe, high-impedance test ports enable voltage measurements with portable test instrument, without exposing personnel to live circuit parts.

Designed to support task-qualified and qualified electrical personnel in performing electrical and mechanical LOTO in accordance with NFPA 70E Article 120.6 (3), (4), & (7)—including compliant “Live-Dead-Live” verification.

VPI+TP also helps detect conditions such as backfeed voltage and voltage unbalance early, supporting safer and reliable operation.



Operational Safety

- Self-Powered circuit design supports both electrical and mechanical LOTO procedures.
- High-impedance test ports reduce the risk of shock and arc flash hazards by limiting test current to <3.5 mA
- Backfeed voltage & voltage unbalance indication.

Wide Operating Compatibility

- Works seamlessly with three-phase and single-phase AC/DC configurations.
- Operates from 20 V–1500 V (1000 VAC / 1500 VDC) 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 during transient surges up to 8 kV.
- Closed-door voltage verification — enables safe operation without energy exposure.

Rugged Industrial Design

- Dust cap — shields test ports while maintaining LED visibility.
- High-intensity LEDs — provide reliable visibility in bright daylight and 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.

www.nukleustek.com



Certifications Pending

Specification	Details
Voltage Range	<p>Test Ports: AC single-phase and three-phase: 0–1000 VAC @ 50/60/400 Hz, DC Voltage: 0–1500 VDC</p> <p>Voltage Indicator: AC single-phase and three-phase: 20–1000 VAC, 50/60/400 Hz, DC Voltage: 40–1500 VDC</p>
Maximum Voltage	1000 VAC and 1500 VDC
Detection Thresholds	20 VAC and 40 VDC
Output Accuracy	-7% of applied voltage when measured with a 10 MΩ input impedance voltmeter connected between any two (2) test ports.
Internal Resistance	Test Ports: (4) 100 kΩ × 2, 1W 1% tolerance resistors in series encapsulated between each input wire and the respective test ports.
Single fault failure current	Maximum single-component failure fault current at 1000 VAC or 1500 VDC is <3.5mA with a momentary short between any two (2) test ports.
Temperatures	<p>Operating Temperature: -40 °C to +55 °C</p> <p>Storage Temperature: -45 °C to +85 °C</p>
Altitude	Up to 2000 meters (6600 feet)
Terminations	4-Wire leads: 8 ft, 14 AWG, 90 °C @ 1000 V, UL-1032, PVC-insulated with nylon jacket
Voltage Category Ratings	CAT III @ 1000 VAC max, CAT IV @ 600 VAC max; Pollution Degree: 2
Indicators	8 Bright Redundant LEDs
Housing	UL-approved material, totally encapsulated including LEDs for environmental protection
Dimensions	Indicator module - 85.51 mm x 107.46 mm (HØ x D), standard 30 mm Ø mounting hole