

Quality Assurance & Testing Standards Statement

Commitment to Quality

Every switchboard manufactured at our facility is built, tested, and labeled to the UL 891 standard for Switchboards. Beyond physical construction, each unit undergoes rigorous factory tests to ensure electrical integrity and operational safety before shipment. Our facility also maintains ISO 9001 certification ensuring all internal processes are rooted in quality.

Our Testing Protocols

To ensure the highest level of reliability and safety, we perform the following mandatory performance tests and inspections to meet or exceed UL 891 specifications:

- **Dielectric Voltage-Withstand :** To verify insulation integrity, we subject all primary current paths to a test of 2000V AC for 60 seconds. This confirms no insulation breakdown, or arcing occurs between phases or to the ground.
- **Grounding and Bonding Continuity:** We perform continuity verification to ensure all dead-metal parts are effectively bonded to the ground bus for safe fault-current redirection.
- **Contact Resistance (Micro-Ohm) Testing:** As an added precision benchmark, we measure resistance across all bolted bus joints and circuit breaker contacts. This ensures ultra-low resistance paths to prevent localized overheating and maximize efficiency.
- **Control Wiring Verification:** All secondary control circuits undergo point-to-point verification and functional checks to ensure wiring matches approved schematics, and all pilot devices are fully operational. Primary and secondary voltage are applied to all circuits.
- **Ground Fault Protection Testing:** For units equipped with ground fault protection, we perform primary current injection testing to verify the system operates reliably and trips within specified time-current parameters.
- **Circuit Breaker Operational Testing:** All circuit breakers are secondary injection tested to ensure they function within their specified trip curve parameters. This verifies the electronic trip units and integrated protection components respond accurately to overcurrent and fault conditions. If equipped, ERMS or MMS systems are configured and tested.
- **Mechanical & Functional Audit:** Every circuit breaker, switch, and interlocking mechanism is manually cycled to ensure proper mechanical operation and that all frames and trip ratings match the project design.

- **Torque Standardization:** All electrical connections are torqued to specific UL-required manufacturer values using grade 5 minimum hardware. Critical connections are marked with a visual indicator to confirm final inspection and secure seating.
- **Clearance and Creepage Verification:** We perform a physical audit of the internal layout to ensure all live components meet minimum spacing requirements, preventing arc-tracking over surfaces or through the air.
- **Final Visual & Structural Inspection:** A comprehensive final audit of the interior and exterior verifies the integrity of the metalwork, finish, and gasketing, ensuring the assembly is free of debris or contaminants prior to shipment.
- **Relay and Power Meter Testing and Configuration:** All power meters and relays are configured with system parameters and tested with primary current and voltage.
- **Sequence of Operations Verification:** If equipped, sequence of operation devices such as SKRUs, ATO schemes, relay-based controls, and other automation systems are tested and confirmed to match specifications.

This process ensures that when our equipment arrives on-site, it meets the rigorous safety and performance benchmarks required for modern electrical infrastructure.