

Pole Capacitor Bank

Guide Specification

General

This specification is for an automatic, medium voltage, pole-mounted three-phase power capacitor bank consisting of ____kVAR at ____kV RMS and ____Hertz.

The capacitor bank shall be automatically switched based on one of the following parameters, or systems: current, power factor, reactive power, temperature, time or voltage.

All components for the pole mounted capacitor bank shall be mounted to the pole frame. The power capacitor bank shall be supplied fully assembled and ready for use. All exceptions to this specification shall be clearly stated in your bid. If no exceptions are taken, the bid should include the phrase "NO EXCEPTIONS HAVE BEEN TAKEN."

The electrical ratings for the power capacitor bank shall be compatible with the following power system ratings:

- Basic insulation level (BIL) ____kV crest
- Maximum system voltage ____kV rms
- Nominal system voltage ____kV rms
- Short circuit current (sym) available at the pole bank.
- Line-to-ground ____kA rms
- Three-phase ____kA rms

Pole Bank Construction

The capacitor bank shall be assembled to a heavy-duty all aluminum frame designed for pole mounting, and with 4 lifting eyes for balanced lift. The frame shall be designed for a level self-supporting stand for ground staging and transport, and shall accommodate up to 6 capacitors, 3 switches, the junction box, and the CPT.

Switches shall be Trinetics CSD, VS, UltraVac, UltraVacLT, or SmartClose type with manual handle for manual CLOSE/OPEN operation, 120V motor for automatic operation, wildlife guards, and 5-pin receptacle for switch cable connection. Switch rating shall be ____A, ____kV, and ____kV BIL.

The junction box assembly shall consist of a weather proof molded assembly with removable captive cover and shall accommodate terminal blocks knockouts and weather proof seals for 3-switch

cables, the control cable and the LV wiring. Switch cables shall consist of 3–6ft 16/3 SO cables with 5-point molded connectors. The control cable when provided shall be 35 ft, 12/5 SO cable, with 4-jaw or 6-jaw meter socket.

All high voltage wiring shall have suitable weatherproof cover to provide protection from bird and animal contact.

Capacitors shall be all propylene film type, Trinetics capacitors with stainless steel tanks and non-PCB oil insulation. Basic capacitor construction shall also include 15 sheets of 5mil thick insulation.

Control when provided shall be selected from one of the following controls or other specified control:

- ProCap 150T: Volt-time control
- ProCap C1600: Volt-time-temperature control with multiple schedules and data logging
- ProCap C2000: VAR control with voltage override neutral unbalance protection and data logging

The control power transformer (CPT) when provided shall be constructed with one high voltage bushing, one low voltage secondary terminal and two ground terminals. The CPT shall be rated ____kV/120V, 0.5kVA, and ____BIL, and shall internally fused on the high voltage side.

Quality System

The manufacturer shall be ISO-9001 certified.

The Manufacturer's quality system shall meet all applicable industry standards.

Submittals

The manufacturer of the power capacitor bank shall provide upon request:

- Bill of material
- Component data sheets
- Control circuit schematics
- Installation & maintenance instructions
- MSDS of the oil used in capacitors and oil switches
- Outline drawings
- Power circuit schematic

