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PORTABLE MINE POWER CENTRES

GENERAL

Startco Engineering Ltd. is the leading Canadian manufacturer of custom-built, portable mine power centres. Our portable mine power centres are skid-mounted, metal-enclosed, and typically consist of the following:

- a) Three-pole, high-voltage, load-interrupter switch with or without power fuses.
- b) Dry-type power transformer.
- c) Secondary power-distribution breakers.
- d) Control and protection specific to the application.

Startco's application-engineering department will assist with your design. All designs are reviewed by our engineers prior to quoting.

1. CODES, STANDARDS, & REGULATIONS

Portable mine power centres are designed and built to meet or exceed CSA standard CAN3-M421-93. All units are approved by the SaskPower Electrical Inspection Division. Where required, Startco will cooperate with the local authority to obtain the necessary approval. Startco has worked with the local authorities in most Canadian provinces.

2. ENCLOSURE

- Standard, mine duty-NEMA 12 except louvered doors on transformer section.
- Portable, tub type, flat bottom.
- Approximate overall dimensions: 190"L x 60"W x 72"H.
- Approximate weight: 15000 lbs.
- Main frame 4" x 2" x 1/4", Class G40.21 50W 1987, HSS rectangular tubing.
- A36 hot-rolled, mild-steel plate, sized as follows:
 - 1/2" flat base plate.
 - 1/4" removable top covers as applicable.
 - 3/16" outer skin and internal partitions.
- Plated steel hinges, latches, and hardware.

- Finish: entire enclosure sandblasted and finished with Ameron “Amercoat 450HS” two component, Aliphatic Polyurethane.
- Colour: standard all white interior and exterior.
- Cover plates or cable connectors are supplied for incoming and outgoing cables.
- All component mounting holes are drilled and tapped. Components are mounted with machine grade bolts.

3. DOORS

Access doors are 10 ga and have concealed hinges, hardware, and over-centre latches. Key-interlocked systems, provisions for padlocking. All hardware is stainless steel when equipment is in wet or humid environments.

Transformer doors have pressed-in louvers, rolled edges, and are hinged and bolted.

All other doors are formed, gasketed, and hinged.

Where applicable, doors have wired-glass viewing windows. Replaceable, Lexan viewing windows are optional.

4. WIRING

All wiring and buswork is copper. Extra-flexible cable with crimp lugs and bolted connections are used for all 5 to 15-kV wiring. High-voltage wiring is secured to withstand both thermal and mechanical stresses. Low-voltage wiring is RW90 which is 1000-V rated. Control wiring is #14 TEW and is colour coded to its use. Wiring to components is terminated with compression lugs. Wires are bundled and tied into custom harnesses for neatness, reliability, and ease of duct or bundle maintenance. Control wiring is labeled with slide-on markers or heat shrink permanent markers.

A continuous copper grounding bus extends the full length of the enclosure and is fitted with necessary hardware for customer connections.

5. NAMEPLATES

Doors, receptacles, assemblies, and major components are labeled with Lamicaid nameplates. Customer equipment numbers are added to a sidewall if desired. All high-voltage compartments are labeled with appropriate warning labels.

6. HIPOT AND HV TESTING

Power centres are given an extensive quality assurance inspection. Control operation is verified and all functions are tested.

7. DOCUMENTATION

Complete documentation is included with each power centre. This includes three sets of prints and three sets of manuals containing schematics, layouts, wiring diagrams, bill of material, spare-parts list, and technical information on any purchased equipment. The drawings are done on AutoCAD and are available on diskette upon request.

8. COMPONENTS

These are the standard features of a Startco portable mine power centre. These features do not describe the components used. Customers usually specify components consistent with their existing spare parts inventory. Startco's standard components are as follows:

- S&C load-break switch.
- Hammond transformers.
- Startco ground-fault and pilot-monitor relays.
- Startco solid-state starters.
- Startco microprocessor based motor protection.
- Westinghouse breakers.