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General

The secondary bus enclosure with current transformers shall be 600-volt class, suitable for use on systems that do not exceed 600 volts to ground (nor 1000 volts phase-to-phase). Each phase bus shall be designed for and include (or accept) a 600-volt class current transformer (G. E. JAD-O or equal). The phase bus(es) and the full size neutral bus shall be constructed for connection to the electrical system with two-hole and/or four-hole NEMA Standard bolt-on cable terminal lugs (terminal lugs shall be supplied by the user). Tamper resistance shall meet the Enclosure Security requirements of ANSI Standard C57.12.28 (Pad-Mounted Equipment - Enclosure Integrity) to resist unauthorized entry, protect authorized and unauthorized persons, and provide positive safety features when installed in areas accessible to the general public. The enclosure shall be constructed for outdoor installation in areas subject to heavy precipitation and in areas of windblown contamination. The equipment shall be completely assembled prior to shipment.

Enclosure Construction

The enclosure shall be tamper-resistant, all-welded construction utilizing 11-gauge minimum sheet steel. Corner plates and braces shall be used as necessary to assure rigidity. The enclosure top shall be cross-kinked to provide watershed and rigidity. The enclosure shall be open bottom with a 1-inch flange inside, all around. The door(s) shall be furnished with a stainless steel door holder that will latch the door open 100 degrees and 140 degrees and resist accidental closing. Door(s) shall be provided with provisions for padlocking and a recessed hex-head (or penta-head) security bolt to prevent unauthorized entry (coordinated to prevent installation of the padlock until the security bolt is tightened *when closing the door(s)* and to prevent a wrench from operating the security bolt until the padlock is removed *when opening the door(s)*). The security bolt shall be made captive with a stainless steel washer compressed to an oval shape to severely discourage removal. Hinges shall be stainless steel (with stainless steel pins not less than 0.3125-inch diameter) and shall be welded to both the enclosure and the door(s) to maintain door alignment for the life of the equipment. The enclosure shall be non-ventilated to minimize the entrance of airborne contamination, insects, rodents or reptiles. The protective finish shall include necessary grinding, cleaning, phosphatizing, rust-inhibiting vinyl phenolic primer, and a top coat of Pad-Mount Green vinyl phenolic enamel (Munsell color 7GY 3.29/1.5). Total average thickness of paint (after baking) shall be not less than 5 mils. The protective coating shall meet the Enclosure Coating System requirements of ANSI Standard C57.12.28 (Pad-Mounted Equipment—Enclosure Integrity). Removable lift provisions, adequate to withstand handling with normal utility equipment, shall be provided on the outside of the enclosure. Threaded openings for lift provision bolts shall be blind holes to prevent the entrance of wire or other foreign objects into the enclosure when lift provisions are removed.

Bus and Bus Mountings

Bus shall be aluminum (Alternate #1 - bare copper, Alternate #2 - tin plated copper) with all burrs and sharp corners removed prior to installation. It shall be punched with 0.5625-inch diameter holes on 1.75-inch centers to accommodate both two-hole and four-hole NEMA Standard cable terminal lugs. The bus shall be constructed to allow installation and provide support for 600-volt class current transformers (G. E. JAD-O or equal) utilizing the correct number of 0.25-inch by 4-inch primary bars with 10.875-inch outboard centerline mounting holes. The current transformers shall be mounted in a manner which will allow installation or field replacement without the removal of cables which may be bolted to the bus. A minimum of two insulators shall be provided for each bus. The insulators shall be cycloaliphatic epoxy and shall be mounted in a manner which will allow field replacement with standard tools without removal of cables which may be bolted to the bus. Insulators and bus bars shall be installed with stainless steel mounting hardware to provide long life and reduced maintenance. All components shall be arranged to allow visual inspection without de-energizing or removing the equipment from service.

Barrier Option

When Option B11 is specified, a clear polycarbonate barrier not less than 0.25-inch nominal thickness shall be provided (and installed) which divides the utility access compartment from the consumer access compartment. The clearance from the barrier to each wall shall not exceed two inches. The clearance from the barrier to the bottom of the enclosure shall not exceed twelve inches. Openings to accommodate bus bars extending through the barrier shall provide not less than 0.5 inches clearance nor more than 2 inches clearance from the bus bar in every direction.

Grounding Provisions

Two high-conductivity bronze eyebolt-type ground lugs that accept #6 thru #2/0 copper conductor shall be installed in the cable terminating compartment (located on each side of the door opening in an accessible position).

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Accessory Equipment

An anodized aluminum nameplate shall be installed inside one door on the cable compartment. It shall be located at the top corner farthest from the cables when the door is open. The nameplate will provide Type of Equipment, Model Number, Amps Continuous, kV Maximum, BIL, Serial Number, Date Manufactured and Weight of Equipment.

When specified, one “Caution - Keep Out - High Voltage” warning sign (Elliott #7201-CHV80-187) shall be provided on the outside of each door.

When specified, four anchor bolt brackets, Elliott #6102-A81-7 or approved equal, shall be supplied with each secondary bus enclosure to provide a means of clamping the equipment to the concrete pad.

Packaging

Each secondary bus enclosure shall be bolted to a solid-top wood pallet (to prevent the forks of a forklift truck from entering the open bottom of the equipment) to prevent hidden damage. The equipment shall be wrapped with cardboard or other suitable material to minimize damage to the finish during shipment.

Drawings

When specified, drawings shall be furnished for each secondary bus enclosure which include:

1) enclosure dimensions and location of components.
2) proposed cable training layout and dimensions.
3) proposed pad dimensions and location of anchor bolts.