



**.1 General Information**

- .1 Group motor starters in mechanical or electrical rooms in a motor control centre. Obtain permission from FMGT if loose starters have to be used.
- .2 Motor control centre are to be install on a concrete housekeeping pad..

**.2 Shop Drawings**

- .1 Submit shop drawings that indicate:
  - .1 Outline dimensions
  - .2 Configuration of identified compartments.
  - .3 Floor anchoring method and dimensioned foundation template.
  - .4 Cable entry and exit locations.
  - .5 Dimensioned position and size of busbars and details of provision for future extension.
  - .6 Schematic and wiring diagrams.

**.3 Supply Characteristics**

[347/600] [120-/208] V, 60Hz, wye connected, 3 phase, 4 wire, grounded neutral.

**.4 Vertical Section Construction**

- .1 Independent vertical sections fabricated from rolled flat steel sheets bolted together to form rigid, completely enclosed assembly.
- .2 Each vertical section divided into compartment units, minimum 305 mm high, or as indicated.
- .3 Each unit to have complete top and bottom steel plate for isolation between units.
- .4 Horizontal wireways, equipped with cable supports, across top and bottom, extending full width of motor control centre, isolated from busbars by steel barriers.
- .5 Vertical wireways c/w doors for load and control conductors extending full height of vertical sections, and equipped with cable tie supports. Installation wiring to units accessible with doors open and units in place.
- .6 Openings, with removable coverplates, in side of vertical sections for horizontal wiring between sections.
- .7 Incoming cables to enter at [top] [bottom] with terminals.
- .8 Provision for outgoing cables to exit via top or bottom with terminals.
- .9 Removable lifting means.
- .10 Provision for future extension of both ends of motor control centre including busbars without need for further drilling, cutting or preparation in field.
- .11 Divide assembly for shipment to site, complete with hardware and instructions for re-assembly, as recommended by the manufacturer.

**.5 Sills**

- .1 Continuous 75 mm channel iron floor sills for mounting bases with 19 mm diameter holes for bolts.

**.6 Busbars**

- .1 Main horizontal and branch vertical, three phase and neutral high conductivity tin plated copper busbars in separate compartment [bare] self-cooled, extending entire width and



**Construction Standards**

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height of motor control centre, supported on insulators and rated as required using standard products.

- .2 Branch vertical busbars for distribution of power to units in vertical sections.
- .3 No other cables, wires, equipment in main and branch busbar compartments.
- .4 Brace buswork to withstand effects of symmetrical short-circuit current as required.
- .5 Bus supports: with high dielectric strength, low moisture absorption, high impact material and long creepage surface designed to discourage collection of dust.

**.7 Ground Bus**

- .1 Copper ground bus extending entire width of motor control centre.
- .2 Vertical ground bus strap, full height of section, tied to horizontal ground bus, engaged by plug-in unit ground stab.

**.8 Motor Starters And Devices**

- .3 Refer to Section 26 29 10 Motor Starters to 600 V.

**.9 Starter Unit Compartments**

- .1 Units EEMAC size 5 and smaller, circuit breaker units 225A and smaller, plug-in type with self-disconnect. Guide rail supports for units to ensure that stabs make positive contact with vertical bus. Provision for units to be installed or removed, off load, while buses energized.
- .2 Unit mounting:
  - .1 Engaged position - unit stabbed into vertical bus.
  - .2 Withdrawn position - unit isolated from vertical bus but supported by structure. [Terminal block accessible for electrical testing of starter].
  - .3 Provision for positive latching in either engaged or withdrawn position and padlocking in withdrawn position.
  - .4 Stab-on connectors free floating tin plated clips, self-aligning, backed up with steel springs.
- .3 External operating handle of circuit switch interlocked with door to prevent door opening with switch in "on" position. Provision for [3] padlocks to lock operating handle in "off" position and lock door closed.
- .4 Hinge unit doors on same side.
- .5 Overload relays manually reset from front with door closed.
- .6 Pushbuttons and indicating lights mounted on door front.
- .7 Devices and components by one manufacturer to facilitate maintenance.
- .8 Pull-apart terminal blocks for power and control to allow removal of starter units without removal of field wiring.

**.10 Equipment Identification**

- .1 Motor control centre main nameplate: size No. 7, engraved "MCC ##" on the first line, "[347/600V] [120/208V] 3 phase, 4 wire" on the second line.  
Individual compartment nameplates: size No. [5], engraved as indicated.