Seismic Certification of Model 6 MCCs

Model 6 Motor Control Centers that are seismically certified have been qualified to the site-specific seismic requirements of the listed model building codes and/or standards. Optional construction features may be required, depending on the location of the installation and the particular code and/or standard of interest. Seismic certificates of compliance and equipment labels are provided with all seismically certified MCCs. To maintain the validity of this certification, the installation instructions provided in this section must be followed.

Responsibility for Mitigation of Seismic Damage

For the purposes of the model building codes, Model 6 Motor Control Centers are considered nonstructural building components. Equipment capacity was determined from tri-axial seismic shake table test results as defined in the International Code Counsel Evaluation Service (ICC ES) Acceptance Criteria for Seismic Qualification Testing of Nonstructural Components (AC156).

Unless otherwise indicated, an equipment importance factor of 1.5 (I_P = 1.5) was used, indicating that equipment functionality was verified before and after shaker table seismic simulation testing. This importance factor is indicative of critical facilities where maximizing the probability of post event functionality is a priority.

AC156 is published by the ICC ES and has been recognized by the Building Seismic Safety Council (BSSC) as an appropriate methodology in the 2003 National Earthquake Hazard Reduction Program (NEHRP) commentary. The National Institute of Building Sciences established the BSSC in1979 to develop and promote regulatory provisions for earthquake risk mitigation at the national level.

Incoming and outgoing cable and conduit must also be considered as related but independent systems. They must be designed and restrained to withstand the forces generated by the seismic event without increasing the load transferred to the equipment. For applications where seismic hazard exists, bottom entry and/or exit of cable and conduit is preferred.

If the spectral acceleration value (S_s as defined by the International Building Code or NFPA 5000) is in excess of 2.67g (such as the New Madrid seismic area), then the equipment must also be braced at the top using a lateral restraint system. A lateral restraint system is also required in situations where horizontal motion at the top of the MCC is not be desirable (such as applications where top entry and/or exit of conduit are used). This system must be capable of transferring the loads created to the load-bearing path of the building structural system.

Seismic qualification of nonstructural components by Schneider Electric is just one link in the total chain of responsibility required to maximize the probability that the equipment will be intact and functional after a seismic event. During a seismic event, the equipment must be able to transfer the loads that are created through the mounting pad and anchorage to the load-bearing path of the building structural system.

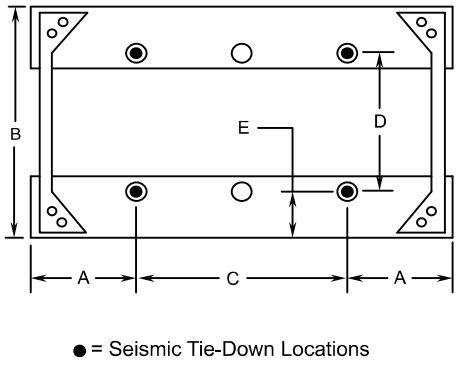
The structural civil engineer or design engineer of record is responsible for detailing the equipment connection and anchorage requirements (including the lateral restraint system if appropriate) for the given installation. The installer and manufacturers of the anchorage and lateral restraint system are responsible for assuring that the mounting requirements are met. Schneider Electric is not responsible for the specification and performance of these systems.

ENGLISH

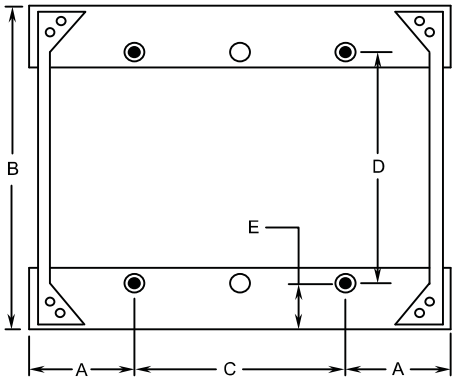
Securing Structures to Floor—Seismic Hazard[1] Designated Locations

Each section must be anchored per detail supplied by engineer of record to the load-bearing path of the building structural system. For floor mounting locations, see Figure 14 (NEMA Type 1, Type 1 Gasketed, and Type 12 enclosures) or Figure 16 on page 26 (NEMA Type 3R enclosures). Use 0.50 in. or 0.75 in. grade 5 or higher bolts and Belleville washers. Torque bolts to the value specified by the manufacturer of the anchor.

Figure 14: NEMA Type 1, Type 1 Gasketed, and Type 12 Seismic Tie-Down Locations



● = Seismic Tie-Down Locations



15 in. (381 mm) Section Dimensions

Letter	Section Width	Dimension
A	N/A	5.00 in. (127 mm)
B	N/A	15.00 in. (381 mm)
C	20.00 in. (508 mm)	10.00 in. (254 mm)
	25.00 in. (635 mm)	15.00 in. (381 mm)
	30.00 in. (762 mm)	20.00 in. (508 mm)
	35.00 in. (889 mm)	25.00 in. (635 mm)
D	N/A	9.98 in. (253 mm)
E	N/A	2.50 in. (64 mm)

N/A = Not applicable

20 in. (508 mm) Section Dimensions

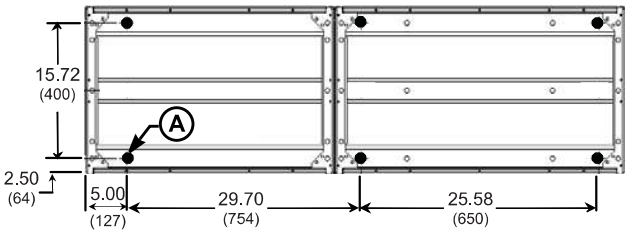
Letter	Section Width	Dimension
A	N/A	5.00 in. (127 mm)
B	N/A	20.00 in. (508 mm)
C	20.00 in. (508 mm)	10.00 in. (254 mm)
	25.00 in. (635 mm)	15.00 in. (381 mm)
	30.00 in. (762 mm)	20.00 in. (508 mm)
	35.00 in. (889 mm)	25.00 in. (635 mm)
D	N/A	14.98 in. (380 mm)
E	N/A	2.50 in. (64 mm)

N/A = Not applicable

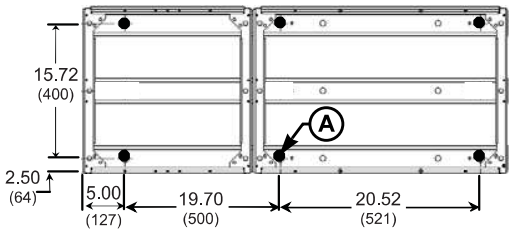
NOTE: The dimensions shown are tie-down locations within individual MCC sections. Refer to factory supplied drawings to determine appropriate anchor locations for the equipment pad.

Figure 15: Seismic Tie-Down Locations for 18-Pulse AC Drive MCC Sections

65 in. (1651 mm) Wide X 20 in. (508 mm) Deep



50 in. (1270 mm) Wide X 20 in. (508 mm) Deep



Ⓐ Structure anchoring locations (typical of 9)

Dual dimensions: Inches (mm)

[1] Seismic hazard for site specific locations as defined by the current edition of the International Building Code or NFPA 5000 or relevant local building code or consulting engineer of record.