

Panelboard seismic application guidelines

Equipment representing the products listed below were subjected to seismic testing in accordance with the 2012 International Building Code (IBC) and the 2013 California Building Code (CBC). The results of these tests exceeded the requirements as stated within the IBC and CBC and demonstrated the ability to function after the test. All installation guidelines covered in this document as well as the instruction and operations literature provided with the equipment must be followed to ensure installation suitable for a seismic application.

Certificates for various types of distribution and control equipment along with an application paper, *"Earthquake Requirements and Seismic Capabilities for Eaton's Electrical Distribution and Control Equipment"* can be found at www.eaton.com/seismic.

Mounting surface and mounting requirements

Proper mounting of the equipment is the single most important factor in withstanding a seismic event. The mounting surface must be designed to withstand the reaction loads imposed on it by the equipment during a seismic event. The mounting bolts, quantity and torque values contained in **Table 1** represent the mounting characteristics for the specimens tested. The anchoring system should be put in place prior to equipment installation to reduce effort associated with anchoring. Wall plan drawings provided for the specific product should be utilized to identify anchoring locations.

Table 1. Equipment hardware and floor plan information (as tested)

Panelboard type	Enclosure type	Bolt type and size	Torque	Bolt quantity	Wall plan drawing #
PRL1a, 1aF, 2a, 2aF, 3a, 3E and F-16	NEMA® 1	SAE grade 5, ½-13	60 lb ft	4	1A32158
PRL1a, 1aF, 2a, 2aF, 3a, 3E and F-16	NEMA 12/3R	SAE grade 5, ½-13	60 lb ft	4	1A84756
PRL1a-LX and 2a-LX	NEMA 1	SAE grade 5, ½-13	60 lb ft	4	1A32472
PRL4	NEMA 1	SAE grade 5, ½-13	60 lb ft	4	1A32157
PRL4	NEMA 12/3R	SAE grade 5, ½-13	60 lb ft	4	6589C50
PRL5P	NEMA 1	SAE grade 5, ½-13	60 lb ft	4	47-35168
PRL5P	NEMA 12/3R	SAE grade 5, ½-13	60 lb ft	4	CE24213



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Displacement

Not applicable for wall-mounted equipment.

Center of gravity

For seismic calculations, the following dimensions should be used to locate the center of gravity for the equipment.

Table 2. Equipment center of gravity

Axis	PRL1a, 1aF, 1a-LX, 2a, 2aF, 2a-LX, 3a, 3E and F-16	PRL 4 and 5P
Vertical	67 percent of overall enclosure height as taken from the bottom of the enclosure	67 percent of overall enclosure height as taken from the bottom of the enclosure
Left to right	Centerline of product	Centerline of product
Front to back	3 inches from rear mounting plane of enclosure	7 inches from rear mounting plane of enclosure

Equipment weight

The maximum weight of the products is given below. For job-specific weights, see order-specific drawings.

Table 3. Equipment weight

Panelboard type	Panelboard height <=48" width <=20"	Panelboard height <=48" width >20"	Panelboard height >48" width <=20"	Panelboard height >48" width >20"
PRL1a, 2a and F-16	187 lbs.	218 lbs.	392 lbs.	424 lbs.
PRL1aF and 2aF	NA	252 lbs.	NA	457 lbs.
PRL1a-LX and 2a-LX	NA	NA	213 lbs.	NA
PRL3a and 3E	240 lbs.	271 lbs.	504 lbs.	535 lbs.
PRL4	NA	NA	NA	904 lbs.
PRL5P	NA	NA	NA	1,000 lbs.

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Printed in USA
Publication No. TD01415001E / BC-183
October 2013