

Canadian Electrical Code: Marina Ground-Fault Protection Requirements

Changes in the 2018 Code

Application Note
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CE Code Section 78 has been extensively re-written, including the title, for the 2018 Code cycle. There is a new requirement for low-level ground-fault protection for marine wharves, docking facilities, fixed and floating piers, and boathouses. Now, ground-fault protection that has a maximum 30-mA trip value is required for all defined branch circuits, regardless of voltage and current ratings.

The new requirement is contained within the expanded Rule 78-052 Branch circuits and feeders. In full the subrules are:

1. Each receptacle that supplies shore power to boats shall be supplied by an individual branch circuit that supplies no other equipment.
2. Ground fault protection shall be provided to de-energize all normally ungrounded conductors of each feeder for distribution equipment in or on fixed or floating piers, docking facilities, and boathouses, with the ground fault setting sufficient to allow normal operation of the distribution equipment, but in no case greater than 30 mA.
3. Branch circuits installed in or on fixed or floating piers, docking facilities, and boathouses shall not be required to have additional ground fault protection where such protection is provided in accordance with Subrule 2).



Note: Rule 78-052 replaces 2015 CE Code Rule 78-054 Branch circuits, which stated in full:

Each receptacle that supplies shore power to boats shall be supplied by an individual branch circuit that supplies no other equipment.

CE Code Appendix B, which are notes that clarify the Rules of the Code, states: It is the intent of Rule 78-052 2) to ensure that ground fault protection is provided for branch circuits and feeder circuits installed in or on fixed or floating piers, docking facilities, and boathouses, with a setting low enough for safe operation but not exceeding 30 mA.

Appendix B goes on to state: There may be instances where the panelboard or distribution equipment supplying power to the branch circuit is installed in a location that is not in or on the fixed or floating pier, docking facility, or boathouse. In such cases, Rule 78-052 3) requires additional ground fault protection to be installed at the branch circuit level, thus fulfilling the requirements of Rule 78-052 2).

Note: In 2018, the 2015 CE Code subrule requiring GFCI receptacle protection has been retained, but moved to the new General subsection as Rule 78-050 5) stating:

All receptacles rated at 125 V, 15 A or 20 A installed in conformance with Subrule 1) shall be protected by a ground fault circuit interrupter of the Class A type.

Bender MarinaGuard ground-fault panels, acting in conjunction with shunt-trip circuit breakers, provide 30-mA ground-fault protection for one or up to twelve feeders or branch circuits (MG 1.2 and MG-T.2). They can be field-adjusted to a lower setting for enhanced protection and they are housed in lockable non-metallic NEMA 4X enclosures suitable for marine environments. MarinaGuard control voltage is protected by an internal branch-rated circuit breaker and, when supplied by a feeder tap, is resistant to tampering and bypassing by unauthorized persons.

