

## Tech Note 061924\_01

**Date:** June 19, 2024  
**Product:** M3 Platform, Relay Modules  
**Subject:** Faults, Product Damage

Blue Ridge Relay Modules are designed, manufactured, tested, and certified to comply with the following Underwriters Laboratories (UL) safety standards and intended to be installed in accordance with the National Electrical Code (NFPA 70):.

- UL 916: Applies to Energy Management Equipment rated 600 volts or less.
- UL 924: Applies to emergency lighting and power equipment.
- UL 508: Applies to industrial control Equipment, rated 1,500 volts or less.
- Blue Ridge products **are not** designed, manufactured, tested, or listed to provide overcurrent protection in any application.

### Relay Output Specifications:

120-277VAC, 50/60Hz  
Magnetic Ballast 20A  
Electronic Ballast/Driver 16A  
Tungsten Ballast 20A

Short Circuit Current Rating (SCCR) 5kA (Circuit Breaker)  
10kA (Circuit Breaker + 30A Fuse)

The purpose of the listing standards is to prevent a shock or fire outside the enclosure. The standards do not require the assembly's survival. Typically, acceptable damage might render an assembly or a component inoperable.

Blue Ridge products depend entirely on the source panel board and its respective circuit breakers (provided by others) for adequate protection per the National Electrical Code (NFPA 70). Adequate overcurrent protection depends on the circuit breaker's interrupt rating (IR) and the available fault current for the specific installation location. Circuit wire length and the presence and concentration of other upstream electrical service equipment will affect the available fault current.

Blue Ridge products control electrical loads by responding to low-voltage (Class-II) sensors or transducers, sequencing or cycling the loads through program-based logic and communicating via a (Class-II) Network. This requires designers and installers to be cognizant of the physical application environment and published product ratings.

Our experience, spanning over five years of production and tens of thousands of Relay Modules, is that switching failures are event-driven due to circuit faults. No evidence or data we have received or recorded indicates that any spontaneous product failure has occurred due to our products' design, manufacturing, or materials.

The following information is required to diagnose and determine the root cause of a fault and prevent future product damage.

1. Is the product installed in a NEMA 1 location?
2. Has the same circuit faulted before?
  - Provide panel board and circuit breaker identification
3. Did any breakers trip?
  - Provide panel board and circuit breaker identification
  - Provide circuit breaker identification and ratings
4. When power was restored and the relay bypassed, were any fixtures or other equipment not functioning?
5. Is the product installed in the same electrical room as its respective breaker panel? Is there any other upstream electrical equipment in the same room? If so, provide the specified short circuit current rating (SCCR)
  - Provide (if available) a one-line diagram showing the layout of all the electrical components and the designs available fault currents (AFC) that serve the product.
  - Provide circuit wire length between product and serving panel board.
  - Provide (if available) a schedule and available fault currents (AFC) for the panel board that the product controls.
6. Have the breakers serving the circuits controlled by the product been inspected/tested before energizing?
7. Were circuit continuity and ground fault tests performed before energizing the controlled circuits? If so, is a checkout/test report available?

Please contact our technical support team with any questions:

[techsupport@brtint.com](mailto:techsupport@brtint.com)

770-790-4880 ext.3