

UL and CSA Testing

Freedom Series

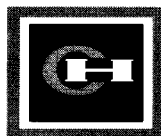
The following test descriptions and primary criteria are used to meet or exceed UL (Underwriters Laboratories) and CSA (Canadian Standards Association). UL directs its attention to verifying that an electrical product will not present an electrical or fire hazard to personnel or property when properly installed. The UL listing mark is significant to market acceptance of products in the United States. CSA sets standards, guidelines and specifications outlining safety or performance requirements for products, processes and services. The CSA symbol is a certification indicating that a product has passed the safety or performance tests specified in the standards.

The entire family of Freedom Series starters, both NEMA and IEC, have been tested and approved by UL and CSA. The following are the file numbers for the Freedom Series:

UL Listed: UL File # E1491, Guide # NLDX – Open and NEMA 1, 4 and 12 enclosed.

CSA Certified: CSA File # LR353, Class # 321104 – Open and NEMA 1 enclosed.

Test Description	Primary Criteria	Test Standard	
		Eaton	Other
Temperature Over/under voltage	65°C Terminal 85%, 100% rated		UL508
Overload Ac motor, hp rated devices General purpose – current rated device Lighting Temperature – indicating/regulating (HVAC, refrigeration, etc.)	Make/Break 6X device rating, 50 operations 1.5X device rating, 50 operations 1.5X device rating, 50 operations 1.5X device rating, 50 operations		UL873
Endurance Test Ac motor General Lighting CSA elevator UL873 temperature regulation equipment	Make/Break 2X device rating, 1,000 operations 1X device rating, 6,000 operations 1X device rating, 6,000 operations 2X device rating, 500,000 operations 250,000 operations CSA		
Dielectric Withstand	2X rated voltage + 1,000, 1 minute		
Short Circuit Short circuit High fault withstand Group fuse	Based on device hp rating, 2 ops (1000 – 42,000 amps) 100K amp closed and conduct 5K, 2 operations, 45mm		



Cutler-Hammer

