

STANDARD INFORMATION

Standard: UL 845 / CSA C22.2 No. 254

Standard ID:

Motor Control Centers [UL 845:2021 Ed.6+R:28Feb2025]

Motor Control Centres [CSA C22.2#254:2021 Ed.2+U1]

Previous Standard ID:

Motor Control Centers [UL 845:2021 Ed.6]

Motor Control Centres [CSA C22.2#254:2021 Ed.2]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **February 28, 2027**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

Overview of Changes:

- Trip-out Performance of Circuit Breakers
- Short-time and Short-circuit Current Ratings of Motor Control Center Units
- Short Circuit Test Performance

Specific details of new/ revised requirements are found in table below

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</i>
5	Info	Characteristics
5.4	Info	Short-circuit
5.4.1	Info	Short-circuit and short-time current withstand ratings of motor control center units
		<i>New clause added;</i>
5.4.1.4		A main or feeder unit containing a low-voltage power circuit breaker, or a main lug only unit may be assigned a short-time current rating if tested in accordance with 9.15A. The rating shall be the applicable rating from Table 3 and the duration shall be one of the values from Table 45. The rating shall not be greater than the short time current rating or duration of the low-voltage power circuit breaker.
5.4.4	Info	Rating of bus structure
		<i>New clause added;</i>
5.4.4.1		The bus structure (horizontal and vertical bus) of a motor control center shall have a short-circuit current rating. The rating shall be the applicable rating from Table 3.
		<i>New clause added;</i>
5.4.4.2		The bus structure (horizontal and vertical bus) of a motor control center may additionally have a short-time current rating if tested in accordance with 8.3.10A. The current shall be the applicable rating from Table 3 and the duration shall be one of the values from Table 45.



CLAUSE	VERDICT	COMMENT
6	Info	Markings and product information
6.3	Info	Marking
		<i>New clause added;</i>
		A motor control center section provided with a short-time current rating shall be marked:
		"Short-time current rating ___A rms symmetrical, ___ V maximum, ___ seconds.
6.3.11A		When protected by a circuit breaker with a short-time trip response, the short-time response of the circuit breaker shall be coordinated with the short-time current rating of the motor control section" or the equivalent. This marking shall be an integral part of a marking containing the manufacturer's name or other required marking.
		An individual section need not be marked with the short-time current rating provided that the section is part of a motor control center line-up having an unspliced common main bus and that one of the sections is marked as required above.
		NOTE For dc rated assemblies, replace "rms symmetrical" with "DC".
		<i>New clause added;</i>
6.3.11B		A motor control center main or feeder unit with a low-voltage power circuit breaker or a main lug only unit tested in accordance with 9.15A may be marked:
		"Unit short-time current rating ___ A rms symmetrical*, ___ V maximum, ___ seconds ", or the equivalent.
		NOTE For dc rated assemblies, replace "rms symmetrical" with "DC".
8	Info	Construction and performance requirements
8.3	Info	Performance requirements
		Short-time current rating test (optional)
8.3.10A		A motor control center marked with a short-time current rating shall be tested under the conditions described in 9.10A and shall withstand the short-time current for the specified duration. The results shall be considered acceptable if the motor control center is substantially in the same mechanical condition as prior to the test, and if the criteria in 8.3.10 are met.



CLAUSE	VERDICT	COMMENT
		<i>New clause added;</i>
8.3.15A		Short-time current performance (optional) – motor control center main and feeder units with low-voltage power circuit breakers and main lug only units After a motor control center unit has been tested in accordance with Clause 9.15A, the results shall be considered acceptable if the unit complies with the acceptance criteria shown in Table 32.
		<i>New clause added;</i>
8.3.16A		Dielectric voltage-withstand performance (after short-time current performance – motor control center units with low-voltage power circuit breaker) The samples that have been subjected to the short-time current performance – motor control center units with low-voltage power circuit breaker shall withstand the test potential without breakdown when tested in accordance with Clause 9.16A.
8.3.17	Info	Trip-out performance of circuit-breakers (after high available unit short-circuit test other than main and feeder units)
8.3.17.1	Info	Magnetic trip-out (Type D and Type E controllers)
		<i>New clause added;</i>
8.3.17.1.1		The tripping current of a Type E controller provided with an adjustable instantaneous trip (release function) shall be no greater than 130 % of the marked tripping current when tested as described in Clause 9.17.1.
		<i>New clause added;</i>
8.3.17.1.2		The tripping current of a Type D controller with an adjustable instantaneous trip (release function) shall be tested in accordance with Clause 9.17.1 unless all the following criteria are met: a) The instantaneous-trip circuit-breaker has an electronic trip unit; b) The instantaneous-trip circuit-breaker has an interrupting rating equal to or greater than the short-circuit current rating of the Type D controller; c) The instantaneous-trip circuit-breaker did not experience coil burnout during the short-circuit testing of the instantaneous-trip circuit-breaker when tested individually in accordance with Annex C, Item 7; and d) The instantaneous-trip circuit-breaker is installed in a compartment having dimensions greater than or equal to the required enclosure size of the circuit breaker. Consideration shall also be given to the distance from the vents of the circuit breaker to the nearest wall or other obstruction, and reduction of the compartment volume by other components inside the combination motor unit.



CLAUSE	VERDICT	COMMENT
8.3.17.1.3		<p><i>New clause added;</i></p> <p>The tripping current shall be no greater than 130 % of the marked tripping current.</p>
8.3.22		<p><i>New clause added;</i></p> <p>Short-circuit performance – main and feeder units</p> <p>After a main or feeder unit has been tested in accordance with Clause 9.23, the results shall be considered acceptable if the unit complies with the acceptance criteria shown in Table 32.</p>
8.3.23		<p><i>New clause added;</i></p> <p>Dielectric voltage-withstand performance (after short-circuit test – main and feeder units)</p> <p>The main and feeder unit samples that have been subjected to the short-circuit test shall withstand the test potential without breakdown when tested in accordance with Clause 9.24.</p>
9	Info	<p>Motor control center tests</p> <p><i>New section added;</i></p> <p>Short-time current tests – bus structure</p>
9.10A		<p>Representative ac-rated motor control center samples, as selected according to Clause 9.10A.3, shall:</p> <p>See standard for details.</p>
9.11A		<p><i>New section added;</i></p> <p>Dielectric voltage-withstand test (after short-time current test – bus structure)</p> <p>A motor control center bus assembly that has been subjected to the short-time withstand test shall:</p> <p>See standard for details.</p>
9.15A		<p><i>New section added;</i></p> <p>Short-time current tests for main, main lug only and feeder units (optional)</p> <p>Short-time current tests shall:</p> <p>See standard for details.</p>



CLAUSE	VERDICT	COMMENT
		<i>New clause added;</i>
9.16A		Dielectric voltage-withstand test The main and feeder unit shall be subjected to: See standard for details.
		<i>New clause added;</i>
9.23		Short-circuit tests for main and feeder units Short-circuit tests shall be conducted on representative units mounted in their intended manner within motor control center vertical sections. See standard for details.
		<i>New clause added;</i>
9.24		Dielectric voltage-withstand test (after short-circuit tests for main and feeder units) The main and feeder unit shall be subjected to a 50 or 60 Hz essentially sinusoidal potential of twice the rated potential but not less than 900 V: See standard for details.