

STANDARD INFORMATION

This SUN establishes Continued Certification for currently Listed UL 1995 / CSA C22.2 No. 236, UL 484, CSA C22.2 No. 117, UL 474, and CSA C22.2 No. 92 Listing Reports and introduces UL 60335-2-40 / CSA C22.2 No. 60335-2-40 as the superseding standard.

Superseded Standard Number:

- UL 1995 / CSA C22.2 No. 236 – 4th Edition **Heating and Cooling Equipment**
- UL 1995 / CSA C22.2 No. 236 – 5th Edition **Heating and Cooling Equipment**
- UL 484 – 9th Edition **Room Air Conditioners**
- CSA C22.2 No. 117 – 2nd Edition **Room Air Conditioners**
- UL 474 – 10th Edition **Dehumidifiers**
- CSA C22.2 No. 92 – 2nd Edition **Dehumidifiers**

Superseding Standard Number: UL 60335-2-40 / CSA C22.2 No. 60335-2-40

Standard Name: Household and Similar Electrical Appliances - Safety - Part 2-40: Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers

Standard Edition and Issue Date: 3rd Edition dated November 1, 2019

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **January 1, 2024**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement:

Electric heat pumps, hot water heat pumps, air conditioners, dehumidifiers, and hydronic fan coils units, their maximum rated voltages being not more than 300 V for single phase appliances and 15 000 V for all other appliances certified to UL 1995 / CSA C22.2 No. 236, UL 484, CSA C22.2 No. 117, UL 474, and CSA C22.2 No. 92 are transitioning to UL 60335-2-40 / CSA C22.2 No. 60335-2-40. This change was driven by the need for global harmonization and coverage for alternative refrigerants rather than driven by safety issues with currently certified equipment. Due to this, Intertek is implementing a Continuing Certification Process for existing products certified to these standards.

- No action is needed for products certified to UL 484, CSA C22.2 No. 117, UL 474, or CSA C22.2 No. 92, as long as the appliance is not modified after the effective date in a manner that changes construction, components, or technical specifications.
- Appliances certified to UL 1995 / CSA C22.2 No. 236 must meet the following requirements prior to the effective date of January 1, 2024 to allow continuation of certification. Any modifications after the effective date in a manner that changes construction, components, or technical specifications will require the certification to be transferred to UL 60335-2-40 / CSA C22.2 No. 60335-2-40.



**REQUIREMENTS OF UL 1995 AND CSA C22.2 NO. 236 CERTIFICATIONS SEEKING CONTINUATION
BEYOND JANUARY 1, 2024:**

1. Prior to January 1, 2024, equipment certified to UL 1995 must be updated to the 5th Ed. with revisions through August 17, 2018. Per the modified scope of UL 1995 5th Ed., the U.S. includes stationary equipment rated 7200V or less, self contained cord connected for indoor use rated 250V or less, single phase and rated 24 A or less.
2. Electric heat pumps, hot water heat pumps, air conditioners, dehumidifiers, and hydronic fan coils units utilizing refrigerants classified A2, A2L, or A3 per ASHRAE 34 shall not be certified to UL 1995 or CSA C22.2 No. 236. Equipment utilizing these refrigerants must be certified to UL 60335-2-40 / CSA C22.2 No. 60335-2-40.
3. Prior to January 1, 2024, equipment certified to CSA C22.2 No. 236 rated 600V up to 7200V must be updated to the 5th Ed. with revisions through August 17, 2018.
4. Prior to January 1, 2024, equipment certified to CSA C22.2 No. 236 rated less than 600V will remain certified to the 4th Edition. Any equipment that incorporates Electric Heat, Ultraviolet (UV) Lamps, or Photovoltaic components must be evaluated and tested to the 5th Ed. of CSA C22.2 No. 236 with revisions through August 17, 2018. Certifications will remain to the 4th Ed., but will have applicable testing done to the 5th Ed.
 - a. See addendum to this notice below for details on clauses that must be evaluated and tested for equipment with these capabilities.



ADDENDUM – CSA C22.2 NO. 236 5TH ED. REQUIRED EVALUATION AND TESTS

CLAUSE	VERDICT	COMMENT
		Scope
1		Scope changes for products rated under 600 Volts will now use UL60335-2-40.
		Reference publications
3		Component standard requirements updated and incorporated in this Section.
4	Info	Installation and operating instructions
4.4		Clause was revised to include/cover transcritical system.
4.5(new)		Added requirements for equipment with solar PV systems.
4.6(new)		Added requirements for equipment with UV lamp systems.
4.7(new)		Added requirements for equipment with UV lamp systems.
4.8(new)		Added requirements for heat recovery units.
4.9(new)		
5	Info	Enclosures
5.4 c)(new)		Added requirement for polymeric enclosures exposure to UV-C radiation.
7	Info	Openings in enclosures
7.7(new)		Added requirement for enclosures containing UV radiation lamp systems.
8	Info	Enclosures, doors, and covers
8.5(new)		Added requirements for doors, covers and panels giving access to UV radiation lamp systems.
8.6(new)		
9	Info	Accessibility of parts
9.7-9.12 (new)		Added requirements for units employing UV radiation lamp systems.
15	Info	Mechanical assembly – field assembly
15.2		Added requirements for factory specified field installed integral UV systems.
15.3(new)		
16	Info	Auxiliary devices
16.10(new)		Added requirements for units that are designed for possible installation of duct mounted UV radiation lamp systems.
16.11(new)		Additional requirements for heat recovery unit.
19	Info	Terminal parts and leads for field wiring connections
19.33(new)		Additional requirements for equipment intended for cord connection.
19.34(new)		
19.35(new)		
19.36		Updated requirement mandating length requirement for ELV circuit leads per clause 19.12
20	Info	Internal wiring



CLAUSE	VERDICT	COMMENT
20.6(new) 20.7(new)		Additional requirements for PV source circuit wiring.
20.9(new)		Additional requirement for ampacity determination of adjustable speed drives.
23	Info	Motors
23.12		Added reference to CSA C22.2 No. 0.8 and CSA-ISO/IEC 16085 for compliance
23.13		Added reference to CAN/CSA E60730-1 and CAN/CSA E60730-2-9 for compliance
23.14		Added reference to CSA C22.2 No. 0.14 for compliance.
24	Info	Grounding and bonding
24.13(new)		Additional of equipotential bonding terminal requirements for heat pump pool and spa heaters.
26	Info	Switches and controllers
26.10		Clause was revised to indicate requirements for motor controllers that also serve as disconnects.
26.11 (new)		Additional requirement for controller of a motor-compressor on a unit that uses water as a heat exchange medium.
28	Info	Capacitors
28.3		Additional requirement stating electrolytic types of motor starting capacitors required to comply with supplement SA of UL 810.
30	Info	Electric heaters
30.14		Deleted the Exception for heater elements with switching devices rated for 250,000 endurance cycles; <i>“A heater element circuit that incorporates a switching device controlled by both the automatically resetting temperature-limiting control and a temperature regulating control complies if the switching device is rated for 250,000 endurance cycles.”</i>
30.17-30.25		Clauses were revised to indicate that a manually resettable or replaceable backup protective device is now required (no exceptions).
32	Info	Control circuits
32.8(new)		Addition of new clause to indicate requirements for fuses.



CLAUSE	VERDICT	COMMENT
32.10(new)		Addition of new clause to indicate requirements for fuse holders.
32.11(new)		Addition of new clause to indicate requirements for circuit breakers.
34	Info	Refrigerant, hot water, and steam coils
34.6		Clause was revised which makes the clause applicable to pressure vessels which the internal or external design pressure is greater than 15 psig (103.4 kPA gauge).
34.8		Clause was revised to add letter c) for transcritical systems.
34.9(new)		Addition of new clause to indicate that for transcritical systems the maximum normal working pressure is the marked design pressures for each system pressure range.
34.30(new)		Addition of new clauses to indicate requirements for equipment intended to utilize carbon dioxide (R744) in a transcritical system.
30.34(new)		
34.32		Clauses were revised to include transcritical systems to criteria.
34.33		
		Condensing and compressor units employing flammable refrigerants
35(new)		Addition of new section for condensing and compressor units employing flammable refrigerants intended to be used in refrigerator or freezer applications.
36	Info	Heat pump water heating and heat recovery equipment
36.1		Revision of clause to cover heat recovery equipment.
36.10		Clauses were revised to include criteria for heat recovery units.
36.14		
36.17(new)		Addition of new clauses to indicate requirements for heat recovery units.
36.18(new)		



CLAUSE	VERDICT	COMMENT
37(new)		
38(new)		
39(new)		Addition of new sections for requirements of heating and cooling equipment related to PV equipment or utility interactive inverters.
40(new)		
41(new)		
42(new)		
44	Info	
44.3 f)		Addition of “Exceptions” in this clause to indicate marking requirements for motor or motor-compressor controlled by an adjustable speed drive.
44.3 k)		Revision of clause to indicate marking requirements for transcritical systems employing an intermediate pressure section.
44.3 z), z1), z2) (new)		Addition of marking requirements for equipment with UV radiation lamp systems.
44.13 c), 44.14 a), 44.14 b)		Clauses revised to include marking requirements for motor's MOC and motor – compressor’s MRC.
Figure 44.1 Figure 44.2	Info	Referenced exceptions 1 and 2 of 44.3 (f) in LOAD1 and 2 for variable speed equipment
45	Info	Other markings
45.13		Clause was revised to include transcritical systems to criteria.
45.17(new)		
45.18(new)		
45.19(new)		Addition of marking requirement for units related to PV equipment or utility interactive inverters.
45.20(new)		
45.21(new)		
45.22(new)		
45.23(new)		



CLAUSE	VERDICT	COMMENT
45.24(new)		Addition of marking requirements for equipment with removable Ultraviolet (UV) radiation doors or barriers
46	Info	General test parameters
Table 46.1 Table 46.2		Operation tests Revision of table to add UV leakage test to applicable equipment.
Table 46.5		Added Class E Insulation Class to table. Item D, 1. - Corrected Column 1 Temperature from 305 F to 197 F and corrected Column 2 Temperatures from 177 C to 122 C and 350 F to 251 F.
Table 46.6		Test voltages Addition of Note (b) to this table to indicate input testing shall be conducted at nameplate rated voltage.
53	Info	Electric heater tests
53.13		Added formula to determine when to de-energize heat sources other than refrigerant heat during testing.
68	Info	Accelerated aging tests
68.2(new)		Addition of new clause to indicate test requirements for non-metallic sealing gaskets or protective barrier tape that may be exposed to UV.
71	Info	Fatigue test analysis
71.9		The number of test cycles was revised from 250,000 to 500,000.
71.11		Clause was revised to include transcritical systems to criteria.
71.12		Addition of new clause to indicate requirements for equipment intended to utilize carbon dioxide (R744) in a transcritical system. Added low side of transcritical system to letter c)
71.13		Added letter d) to clause for portions that operate between low side and high side of transcritical system.
71.14		
71.15		Addition of new clauses to indicate requirements for transcritical systems.



CLAUSE	VERDICT	COMMENT
74	Info	Regulating relief valve endurance test
74.1		Addition of transcritical system to clause.
75	Info	Leakage current test – cord-connected products
75.2(new)		Addition of new clause to indicate leakage current limits specific for coolant distribution equipment for use in Information Technology Equipment (ITE) rooms.
78	Info	Power supply cords
Table 78.1		Addition of Note 2 and Note 3 to indicate power supply cord length requirements for coolant distribution equipment and systems installed in an ITE room.
78.3(new)		Addition of new clause to indicate power supply cord length requirements for computer room air conditioners
82(new)		Heat pump pool heaters Addition of new section that specifically covers heat pump pool heaters
85	Info	Pressure tests for leakage and strength
Table 85.1		Added R744 Cascade and Transcritical to Table Added notes b) and c)
89(new)		Ultraviolet radiation exposure test Addition of new section that specifically covers UV radiation exposure.
90(new)		Controls – end product test parameters Addition of new section that specifically covers controls.