



UL 1004-3

STANDARD FOR SAFETY

Thermally Protected Motors

1004-3

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UL Standard for Safety for Thermally Protected Motors, UL 1004-3

Second Edition, Dated February 27, 2015

Summary of Topics

This new edition of ANSI/UL 1004-3 includes the following changes in requirements:

Removal of the cheesecloth requirement from the locked-rotor temperature and endurance tests

Revised running heating test for direct drive fan air-over motors

The revised requirements are substantially in accordance with Proposal(s) on this subject dated November 7, 2014.

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FEBRUARY 27, 2015



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UL 1004-3

Standard for Thermally Protected Motors

First Edition – September, 2008

Second Edition

February 27, 2015

This ANSI/UL Standard for Safety consists of the Second Edition.

The most recent designation of ANSI/UL 1004-3 as an American National Standard (ANSI) occurred on February 25, 2015. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, or effective date information.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <http://csds.ul.com>.

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INTRODUCTION

1 Scope

1.1 This Standard is intended to be read together with the Standard for Rotating Electrical Machines – General Requirements, UL 1004-1. The requirements in this Standard supplement or amend the requirements in UL 1004-1. The requirements of UL 1004-1 apply unless modified by this Standard.

1.2 This Standard applies to motors that rely upon a device (thermal motor protector) to prevent overheating under at least one operating condition. These motors shall be identified as thermally protected motors.

1.3 This Standard applies to motors protected either by electromechanical thermal motor protectors or solid-state thermal motor protectors.

1.4 This Standard applies to impedance protected motors where the manufacturer has provided a supplementary thermal motor protector.

1.5 The requirements in this Standard are intended to evaluate a specific motor/protector combination. When the motor, the protector, or the motor/protector combination is changed, the combination shall be reevaluated.

1.6 This Standard applies to motors provided with coordinated protection where Locked Rotor protection is provided by one means and Running Heating protection is provided by another as required by 7.11.

2 Glossary

2.1 For the purpose of this standard, the following definitions apply.

2.2 AUTOMATICALLY RESET PROTECTOR – A device that is calibrated to open the motor circuit upon reaching a certain temperature and automatically closes the circuit once the device has cooled to a lower temperature.

2.3 INTENTIONALLY WEAK TRACE (IWT) – A trace or conductive path provided on a printed-wiring board that is specifically designed to open under overcurrent conditions in order to provide a protective function for circuitry and components.

2.4 MANUALLY RESET PROTECTOR – A device that is calibrated to open the motor circuit upon reaching a certain temperature and requires a manual action to reclose the motor circuit.

2.5 PRIMARY PROTECTOR – A protector that is expected to operate during the abnormal testing of a motor sample.

2.6 SELF-HOLDING PROTECTOR – A device that is calibrated to open the motor circuit upon reaching a certain temperature but requires both cool down below the calibration point and removal of power for resetting of the protector.