UL 2272

Outline of Investigation for Electrical Systems for Self-Balancing Scooters

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Summary of Topics

The second issue of the Outline of Investigation for Electrical Systems for Self-Balancing Scooters, UL 2272, contains revisions to the Overcharge Test, the Crush Test and the Partial Immersion Test.

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CONTENTS

INTRODUCTION

1 Scope 5
2 Components 5
3 Units of Measurement 5
4 Undated References 5
5 Glossary 5

CONSTRUCTION

6 Non-Metallic Materials 8
7 Metallic Parts Resistance to Corrosion 9
8 Enclosures 9
9 Wiring and Terminals 10
10 Chargers 12
11 Fuses 12
12 Lighting 12
13 Electrical Spacings and Separation of Circuits 12
14 Insulation Levels and Protective Grounding 14
15 Protective Circuits and Safety Analysis 15
16 Cells 16
17 Motors 17
18 Manufacturing and Production Line Testing 17

PERFORMANCE

19 General 18
20 Tolerances 19
21 Post Test Cycle 20
22 Results Criteria 20

ELECTRICAL TESTS

23 Overcharge Test 20
24 Short Circuit Test 21
25 Overdischarge Test 22
26 Temperature Test 23
27 Imbalanced Charging Test 25
28 Dielectric Voltage Withstand Test 26
29 Isolation Resistance Test 28

MECHANICAL TESTS

30 Vibration Test 28
31 Shock Test 30
32 Crush Test 31
33 Drop Test 32
34 Mold Stress Relief Test 33
35 Motor Overload Test 33
36 Motor Locked Rotor 34

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37 Strain Relief Tests (Cord Anchorages) 35
37.1 General 35
37.2 Strain relief pull test 35
37.3 Push-back test 36

ENVIRONMENTAL TESTS

38 Water Exposure Tests 36
38.1 IPX4 Code rating 36
38.2 Partial immersion 37
39 Thermal Cycling Test 38
40 Label Permanence Test 39

MARKINGS

41 General 39

INSTRUCTIONS

42 General 40

APPENDIX A

Standards for Components A1

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INTRODUCTION

1 Scope

1.1 These requirements cover the electrical drive train system including the battery and charger system combinations for electric-powered self-balancing scooters as defined in this outline of investigation.

1.2 This outline of investigation is intended for evaluation of the safety of the electrical drive train system and battery and charger combination and does not evaluate the performance or reliability of these devices. In addition, it does not evaluate the overall safety of the self-balancing scooters.

2 Components

2.1 A component of a product covered by this outline of investigation shall comply with the requirements for that component. See Appendix A for a list of standards covering components generally used in the products covered by this outline of investigation.

3 Units of Measurement

3.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

4 Undated References

4.1 Any undated reference to a code or standard appearing in the requirements of this outline of investigation shall be interpreted as referring to the latest edition of that code or standard.

5 Glossary

5.1 BATTERY – A generic term for one or more cells electrically connected in series and/or parallel with or without monitoring and protection circuitry for charging and discharging.

5.2 BATTERY PACK – Batteries that are ready for use in a self-balancing scooter, contained in a protective enclosure, with protective devices, with a battery management system, and monitoring circuitry and that may be removable by the user for charging separately from the scooter.

5.3 BATTERY SYSTEM – Battery system includes the battery, charger and monitoring and protection circuit for charging and discharging of the battery.

5.4 CAPACITY, RATED – The total number of ampere-hours that can be withdrawn from a fully charged battery at a specific discharge rate to a specific end-of-discharge voltage (EODV) at a specified temperature as declared by the manufacturer.

5.5 CASING – The container that directly encloses and confines the electrolyte, and electrodes of a cell.

5.6 CELL – The basic functional electrochemical unit (sometimes referred to as a battery) containing an electrode assembly, electrolyte, separators, container, and terminals. It is a source of electrical energy by direct conversion of chemical energy.

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