# IEC 62849

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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

colour inside

## Performance evaluation methods of mobile household robots

**Méthodes d'évaluation de l'aptitude à la fonction des robots mobiles à usage domestique**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# PERFORMANCE EVALUATION METHODS OF MOBILE HOUSEHOLD ROBOTS

## FOREWORD

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International Standard IEC 62849 has been prepared by IEC technical committee 59: Performance of household and similar electrical appliances.

The text of this standard is based on the following documents:

| FDIS | Report on voting |
|---|---|
| 59/655/FDIS | 59/656/RVD |

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,
- replaced by a revised edition, or
- amended.

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## INTRODUCTION

This standard will cover the generic performance test methods for mobile household robots within one document. However this current version is applicable for indoor floor supported wheeled or wheel-track robots with focus on mobility and power consumption related performance. As the needs for manipulation related performance grows, it will be added into this generic performance standard.

# PERFORMANCE EVALUATION METHODS OF MOBILE HOUSEHOLD ROBOTS

## 1 Scope

This International Standard applies to mobile household robots and provides performance testing and evaluation methods for common features of various mobile household robots.

This standard is neither concerned with safety nor with performance requirements.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC TS 62885-1, *Surface cleaning appliances – Part 1: General requirements on test material and test equipment*

IEC 62929:2014, *Cleaning robots for household use – Dry cleaning: Methods of measuring performance*

ISO 554, *Standard atmospheres for conditioning and/or testing – Specifications*

ISO 2768-1:1989, *General tolerances – Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

**3.1**
**household robot**
actuated mechanism with a degree of autonomy, operating within the household and similar environment, to perform intended tasks

Note 1 to entry: Operating includes travel and/or robot body movement.

**3.2**
**mobile household robot**
household robot able to travel under its own control

**3.3**
**capability of homing function**
capability of a mobile household robot to return to the charge station(s) for charging or after completion of the work task or called by user