

Primary batteries —

Part 3: Watch batteries

The European Standard EN 60086-3:2005 has the status of a British Standard

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National foreword

This British Standard is the official English language version of EN 60086-3:2005. It is identical with IEC 60086-3:2004. It supersedes BS EN 60086-3:1996 which will be withdrawn on 1 March 2008.

The UK participation in its preparation was entrusted to Technical Committee CPL/35, Primary batteries, which has the responsibility to:

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- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;
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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 24, an inside back cover and a back cover.

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Primary batteries
Part 3: Watch batteries
(IEC 60086-3:2004)

Piles électriques
Partie 3: Piles pour montres
(CEI 60086-3:2004)

Primärbatterien
Teil 3: Uhrenbatterien
(IEC 60086-3:2004)

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 35/1212/FDIS, future edition 2 of IEC 60086-3, prepared by IEC TC 35, Primary cells and batteries and ISO TC 114, Horology, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60086-3 on 2005-03-01.

This European Standard supersedes EN 60086-3:1996.

This current revision of EN 60086-3 is the result of a reformatting initiative aimed at making this part more user-friendly, less ambiguous and, from a cross-reference point of view, fully harmonized with other parts of EN 60086.

The following dates were fixed:

- | | | |
|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2005-12-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2008-03-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60086-3:2004 approved by CENELEC as a European Standard without any modification.

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INTRODUCTION

The technical content of this part of IEC 60086 provides specific requirements and information for primary watch batteries. This part was prepared through joint work between IEC TC35 and ISO TC114 to benefit primary battery users, watch designers and battery manufacturers by ensuring the best compatibility between batteries and watches.

This part will remain under continual scrutiny to ensure that the publication is kept up to date with the advances in both battery and watch technologies.

NOTE Safety information can be found in IEC 60086-4 and IEC 60086-5.

PRIMARY BATTERIES –

Part 3: Watch batteries

1 Scope

This part of IEC 60086 specifies dimensions, designation, methods of tests and requirements for primary batteries for watches. In several cases, a list of test methods is given. When presenting battery electrical characteristics and/or performance data, the manufacturer should specify which test method was used.

2 Normative references

The following referenced documents are indispensable for the application 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 60086-1:2000, *Primary batteries – Part 1: General*

IEC 60086-2:2000, *Primary batteries – Part 2: Physical and electrical specifications*

IEC 60086-5:2000, *Primary batteries – Part 5: Safety of batteries with aqueous electrolyte* ¹

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*

IEC 61429:1995, *Marking of secondary cells and batteries with the international recycling symbol ISO 7000-1135*

ISO 2859 (all parts), *Sampling procedures for inspection by attributes*

ISO 3951:1989, *Sampling procedures and charts for inspection by variables for percent non-conforming*

NOTE Further references are given in the Bibliography.

3 Terms and definitions

For the purposes of this document, the definitions given in IEC 60086-1 and the following definitions apply.

3.1

capacitive reactance

part of the internal resistance that leads to a voltage drop during the first seconds under load

3.2

capacity

electric charge (quantity of electricity) which a cell or battery can deliver under specified discharge conditions

NOTE The SI unit for electric charge is the coulomb (1 C = 1 As) but, in practice, capacity is usually expressed in ampere hours (Ah).

¹ A new edition of IEC 60086-5 is due to be published shortly.

3.3

electromotive force (e.m.f.)

voltage at the terminals of a battery without load (the effects of polarization and internal resistance do not influence this voltage)

3.4

fresh battery

undischarged battery 60 days maximum after date of manufacture

3.5

ohmic drop

part of the internal resistance that leads to a voltage drop immediately after switching the load on

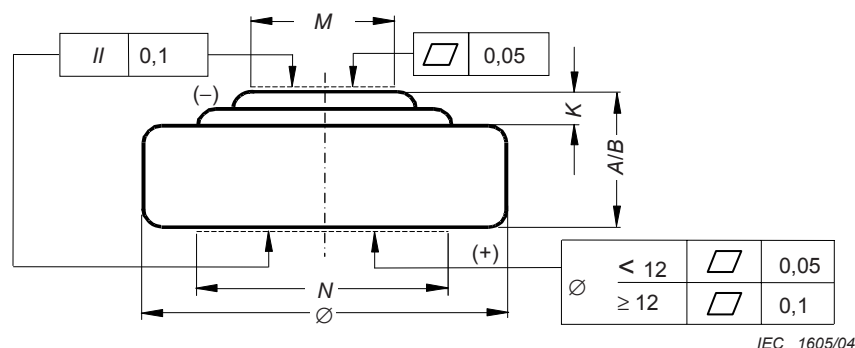
4 Physical requirements

4.1 Dimensions and size codes

Dimensions and tolerances of batteries for watches shall be in accordance with Figure 1, Table 1 and Table 2. The dimensions of the batteries shall be tested in accordance with 7.1.

The symbols used to denote the various dimensions in Figure 1 are in accordance with IEC 60086-2, Clause 5.

Dimensions in millimetres



Key

- A maximum overall height of the battery
- B minimum distance between the flats of the positive and negative contacts
- K minimum projection of the flat negative contact
- M minimum diameter of the flat negative contact
- N minimum diameter of the flat positive contact
- $\varnothing$ maximum and minimum diameter of the battery

Figure 1 – Dimensional characteristics