

This is a preview of "BS EN 60601-2-22:201...". Click [here](#) to purchase the full version from the ANSI store.

BS EN 60601-2-22:2013



BSI Standards Publication

Medical electrical equipment

Part 2-22: Particular requirements for
basic safety and essential performance
of surgical, cosmetic, therapeutic and
diagnostic laser equipment

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

raising standards worldwide™



This is a preview of "BS EN 60601-2-22:201...". [Click here to purchase the full version from the ANSI store.](#)

This British Standard is the UK implementation of EN 60601-2-22:2013. It is identical to IEC 60601-2-22:2007+A1:2012. It supersedes BS EN 60601-2-22:1996, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/76, Optical radiation safety and laser equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2013.

Published by BSI Standards Limited 2013.

ISBN 978 0 580 53695 3

ICS 11.040.55; 11.040.60; 31.260

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 28 February 2013.

Amendments issued since publication

Amd. No.	Date	Text affected
-----------------	-------------	----------------------

This is a preview of "BS EN 60601-2-22:2013...". Click here to purchase the full version from the ANSI store.

EUROPÄISCHE NORM

January 2013

ICS 11.040.01; 31.260

Supersedes EN 60601-2-22:1996

English version

Medical electrical equipment - Part 2-22: Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment (IEC 60601-2-22:2007 + A1:2012)

Appareils électromédicaux -
Partie 2-22: Règles particulières pour la
sécurité de base et les performances
essentiels des appareils chirurgicaux,
esthétiques, thérapeutiques
et de diagnostic à laser
(CEI 60601-2-22:2007 + A1:2012)

Medizinische elektrische Geräte -
Teil 2-22: Besondere Festlegungen für die
Sicherheit einschließlich der wesentlichen
Leistungsmerkmale für chirurgische,
kosmetische, therapeutische
und diagnostische Lasergeräte
(IEC 60601-2-22:2007 + A1:2012)

This European Standard was approved by CENELEC on 2012-11-29. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

This is a preview of "BS EN 60601-2-22:201...". [Click here to purchase the full version from the ANSI store.](#)

The texts of document 76/359/FDIS, future edition 3 of IEC 60601-2-22, and document 76/444/CDV, future amendment 1 to edition 3 of IEC 60601-2-22, prepared by IEC/TC 76 "Optical radiation safety and laser equipment" were submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60601-2-22:2013, based on IEC 60601-2-22:2007 + A1:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-08-29
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-11-29

This document supersedes EN 60601-2-22:1996.

EN 60601-2-22:2013 includes the following significant technical changes with respect to EN 60601-2-22:1996:

This third edition takes account of the recently published new editions of the General Standard EN 60601-1 and Group safety publication EN 60825-1. Additionally, it addresses technical and safety issues which have arisen in the time following the previous second edition.

This standard is to be read in conjunction with EN 60601-1:2006.

In this standard, the following print types are used:

- requirements and definitions: roman type.
- *test specifications: italic type.*
- informative material appearing outside of tables, such as notes, examples and references: in smaller type. Normative text of tables is also in a smaller type.
- TERMS DEFINED IN CLAUSE 3 OF THE GENERAL STANDARD, IN THIS PARTICULAR STANDARD OR AS NOTED: SMALL CAPITALS.

In referring to the structure of this standard, the term

- "clause" means one of the seventeen numbered divisions within the table of contents, inclusive of all subdivisions (e.g. Clause 7 includes Subclauses 7.1, 7.2, etc.),
- "subclause" means a numbered subdivision of a clause (e.g. 7.1, 7.2 and 7.2.1 are all subclauses of Clause 7).

References to clauses within this standard are preceded by the term "Clause" followed by the clause number. References to subclauses within this particular standard are by number only.

In this standard, the conjunctive "or" is used as an "inclusive or" so a statement is true if any combination of the conditions is true.

The verbal forms used in this standard conform to usage described in Annex H of the ISO/IEC Directives, Part 2. For the purposes of this standard, the auxiliary verb:

- "shall" means that compliance with a requirement or a test is mandatory for compliance with this standard;
- "should" means that compliance with a requirement or a test is recommended but is not mandatory for compliance with this standard;
- "may" is used to describe a permissible way to achieve compliance with a requirement or test.

This is a preview of "BS EN 60601-2-22:201...". [Click here to purchase the full version from the ANSI store.](#)

An asterisk (*) as the first character of a title or at the beginning of a paragraph or table title indicates that there is guidance or rationale related to that item in Annex AA.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standards IEC 60601-2-22:2007 + A1:2012 were approved by CENELEC as a European Standard without any modification.

The Bibliography of EN 60601-1:2006 applies, except as follows:

In the Bibliography of EN 60601-1:2006, the following note has to be added for the standard indicated:

IEC 60664-3:2003	NOTE	Harmonised as EN 60664-3:2003 (not modified).
------------------	------	---

This is a preview of "BS EN 60601-2-22:201...". [Click here to purchase the full version from the ANSI store.](#)

(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Annex ZA of EN 60601-1:2006 applies, except as follows:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
<i>Add to Annex ZA of EN 60601-1:2006 the following new references:</i>				
IEC 60825-1	2007	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	2007
IEC 60947-3	-	Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units	EN 60947-3	-
IEC 61010-1	-	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements	EN 61010-1	-

This is a preview of "BS EN 60601-2-22:201...". Click [here](#) to purchase the full version from the ANSI store.

ANNEX E (informative)

Coverage of Essential Requirements of EU Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Annex I of the EU Directive 93/42/EEC, except the following:

- ER 1 to ER 7.1
- ER 7.4
- ER 7.5, Paragraph 2 and 3
- ER 13.6 (q)

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive[s] concerned.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

This is a preview of "BS EN 60601-2-22:2013...". Click here to purchase the full version from the ANSI store.

CONTENTS

INTRODUCTION	6
201.1 Scope, object and related standards.	7
201.2 Normative references	9
201.3 Terms and definitions	9
201.4 General requirements.....	11
201.5 General requirements for testing ME EQUIPMENT.....	11
201.6 Classification of ME EQUIPMENT and ME SYSTEMS	11
201.7 ME EQUIPMENT identification, marking and documents.....	11
201.8 Protection against electrical HAZARDS from ME EQUIPMENT	13
201.9 Protection against MECHANICAL HAZARDS of ME EQUIPMENT and ME SYSTEMS.....	14
201.10 Protection against unwanted and excessive radiation HAZARDS	14
201.11 Protection against excessive temperatures and other HAZARDS	15
201.12 Accuracy of controls and instruments and protection against hazardous outputs ... 16	
201.13 HAZARDOUS SITUATIONS and fault conditions	17
201.14 PROGRAMMABLE ELECTRICAL MEDICAL SYSTEMS (PEMS)	18
201.15 Construction of ME EQUIPMENT	18
201.16 ME SYSTEMS.....	19
201.17 Electromagnetic compatibility of ME EQUIPMENT and ME SYSTEMS.....	19
Annexes	19
Annex D (informative) Symbols on marking.....	19
Annex AA (informative) Particular guidance and rationale	22
Bibliography.....	24
Index of defined terms used in this particular standard.....	25
Table D.1 – General symbols	19