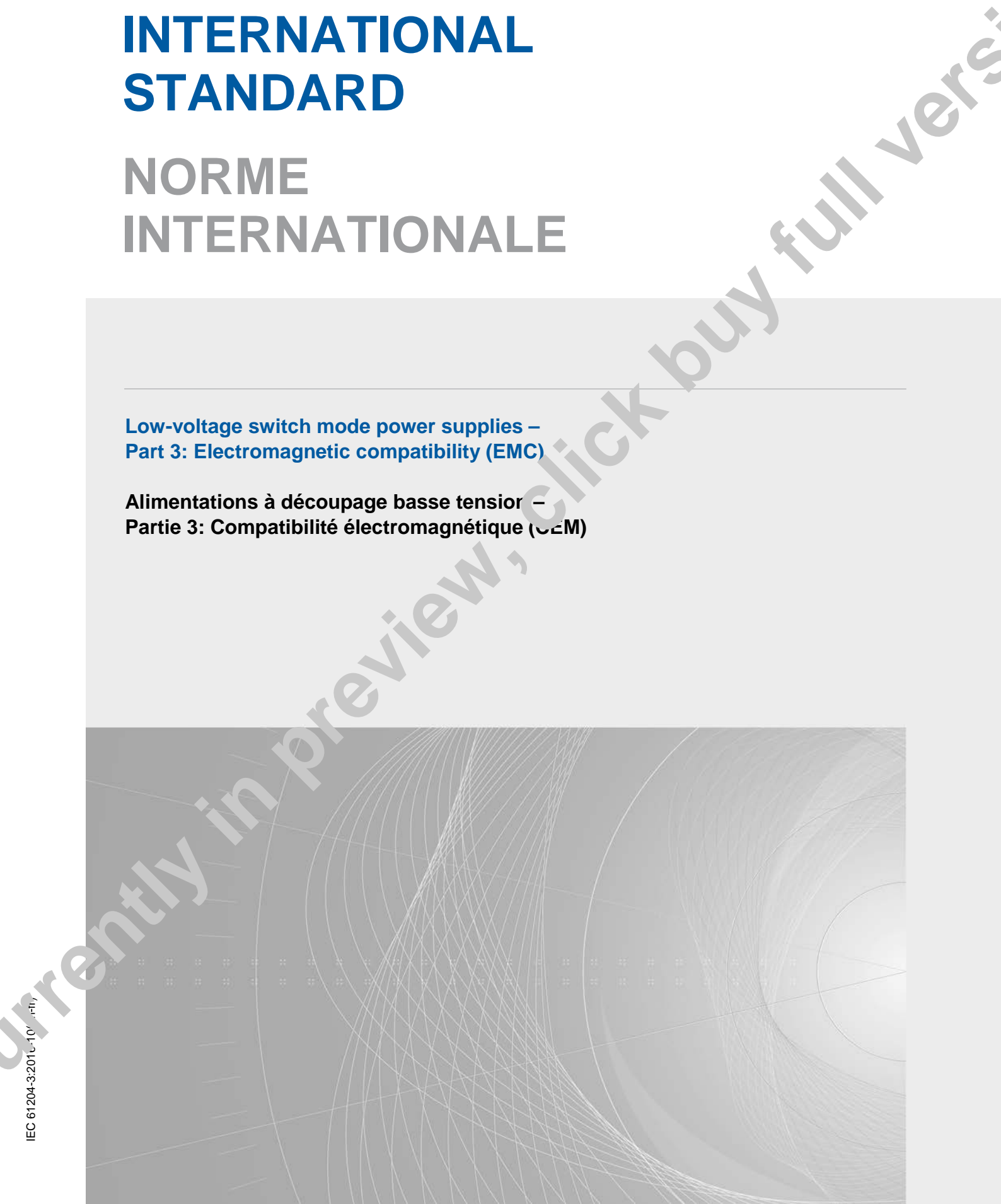


# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Low-voltage switch mode power supplies –  
Part 3: Electromagnetic compatibility (EMC)**

**Alimentations à découpage basse tension –  
Partie 3: Compatibilité électromagnétique (CEM)**





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# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

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**Low-voltage switch mode power supplies –  
Part 3: Electromagnetic compatibility (EMC)**

**Alimentations à découpage basse tension –  
Partie 3: Compatibilité électromagnétique (CEM)**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
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## CONTENTS

FOREWORD.....	4
1 Scope and object.....	6
1.1 Scope.....	6
1.1.1 Equipment covered by this document.....	6
1.1.2 Additional requirements.....	6
1.1.3 Exclusions.....	6
1.1.4 Types of power supply.....	7
1.1.5 Configurations and combinations of power supplies.....	7
1.2 Object.....	6
2 Normative references.....	8
3 Terms and definitions.....	10
4 Applicability of tests to different PSU technologies.....	13
5 General requirements and test conditions.....	14
5.1 General requirements.....	14
5.2 Test conditions.....	14
6 Emission requirements.....	14
6.1 General.....	14
6.2 Low frequency phenomena ( $f \leq 9$ kHz; AC input only).....	14
6.2.1 Commutation notches.....	14
6.2.2 Current harmonics and interharmonics.....	14
6.2.3 Voltage fluctuations and flicker.....	15
6.3 High frequency conducted emission.....	15
6.3.1 General.....	15
6.3.2 High frequency conducted emission for input power ports.....	15
6.3.3 High frequency conducted emission for DC output power ports.....	16
6.4 High frequency radiated emission.....	16
6.4.1 General.....	16
6.4.2 Radiated disturbance measurements.....	16
6.4.3 Measurement of disturbance power.....	16
6.4.4 Restriction for the application of interference power measurement.....	17
7 Immunity requirements.....	18
7.1 Performance criteria.....	18
7.2 Basic immunity requirements, high frequency disturbances.....	18
7.2.1 General.....	18
7.2.2 Immunity level for residential, commercial and light industrial environment.....	18
7.2.3 Immunity level for industrial environment.....	21
Power supply families aspects.....	24
8 Statistical aspects.....	25
9 Safety aspects.....	25
10 Test report.....	25
Annex A (normative) Guidelines on the classification of PSUs.....	26
A.1 General.....	26
A.2 Stand alone power supplies.....	26
A.3 Component power supplies.....	26

Annex B (informative) Commutation notches.....	28
Annex C (informative) Calculation and simulation of the input current harmonics .....	29
Annex D (informative) Special considerations for DC/DC converters .....	30
D.1 General.....	30
D.2 Emission.....	30
D.3 Immunity.....	30
Annex E (informative) Critical frequency for high frequency power measurement.....	33
Annex F (normative) Guidelines on power supply families.....	34
F.1 General.....	34
F.2 Emission.....	34
F.3 Immunity performance .....	34
Annex G (informative) Summary of classification of environments and limits.....	36
G.1 Residential, commercial and light industrial environment .....	36
G.2 Industrial environment.....	36
G.3 Special applications .....	36
G.4 Special considerations for DC/DC converters.....	37
Annex H (normative) Emission limits.....	38
Bibliography.....	40
Figure 1 – Examples of ports .....	11
Figure 2 – Test set-up for the measurement of disturbance power .....	17
Table 1 – Criteria to prove the performance of a P.U against EM disturbances .....	18
Table 2 – Immunity – Enclosure port – Residential, commercial and light industrial environment.....	19
Table 3 – Immunity – Ports for signal lines and control lines Residential, commercial and light industrial environment .....	19
Table 4 – Immunity – DC input and output power ports Residential, commercial and light industrial environment.....	20
Table 5 – Immunity – AC input power ports – Residential, commercial and light industrial environment.....	21
Table 6 – Immunity – Enclosure port – Industrial environment.....	22
Table 7 – Immunity – Ports for signal lines and control lines – Industrial environment.....	22
Table 8 – Immunity – DC input and output power ports – Industrial environment.....	23
Table 9 – Immunity – AC input power ports – Industrial environment.....	24
Table A.1 – Classification of power supplies and the relevant EMC standards .....	27
Table D.1 – Immunity – DC input power ports – Input category a .....	31
Table D.2 – Immunity – DC input power ports – Input category b .....	31
Table D.3 – Immunity – Enclosure port – Input categories a and b.....	32
Table H.1 – Limits of mains terminal disturbance voltage (AC input port).....	38
Table H.2 – Limits of mains terminal disturbance voltage (DC input and DC output power port).....	38
Table H.3 – Limits for electromagnetic radiation/interference power disturbance (all field strength limits refer to quasi-peak measurements) .....	39
Table H.4 – Disturbance power limits for the frequency range 30 MHz to 300 MHz .....	39

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**LOW-VOLTAGE SWITCH MODE POWER SUPPLIES –****Part 3: Electromagnetic compatibility (EMC)**

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International Standard IEC 61204-3 has been prepared by subcommittee 22E: Stabilized power supplies of IEC technical committee 22: Power electronic systems and equipment.

IEC 61204-3 has the status of a product family standard.

This third edition cancels and replaces the second edition published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) the title has been changed by deleting the wording "DC output-" from the title and adding "switch mode" in the title;
- b) changes in the scope: 1.1.1 Equipment covered by this document;
- c) update of the normative references to the latest editions or dated references;

- d) change of wording or/and notes regarding the requirements of CENELEC Guide 24 and IEC Guide 107;
- e) revision of the emission limits to align with the latest editions of the applicable normative references;
- f) revision of the immunity requirements to align with the latest editions of the applicable normative references;
- g) correction of typographical errors.

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

FDIS	Report on voting
22E/174/FDIS	22E/176/RVD

Full information on the voting for the approval of this document 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.

A list of all parts of IEC 61204 series, under the general title *Low-voltage power supplies, d.c. output*, can be found on the IEC website.

Future standards in this series will carry the new general title indicated above. Titles of existing standards in this series will be updated at the time of the next edition.

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

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

## LOW-VOLTAGE SWITCH MODE POWER SUPPLIES –

### Part 3: Electromagnetic compatibility (EMC)

## 1 Scope and object

### 1.1 Scope

#### 1.1.1 Equipment covered by this document

This part of IEC 61204 specifies the electromagnetic compatibility (EMC) requirements for switch mode power supply (SMPS) units supplied by source voltages up to 1 000 V AC or 1 500 V DC providing AC and/or DC output(s), except inverter output(s) establishing AC mains (see exceptions under 1.1.3.)

NOTE 1 This document by definition covers DC/DC converters.

NOTE 2 Power supplies can provide accessory AC mains socket outlets, when their outputs are supplied from the AC mains.

NOTE 3 Ringing generators used in telecoms applications are covered by this document.

This product standard covers both stand alone and component power supply (PSU) units as defined in this document. It covers PSU units for use in or with IT equipment normally covered by IEC 60950-1 and/or IEC 62368-1; PSU units for use in or with measurement, control and laboratory equipment normally covered by IEC 61010-1; PSU units for use in or with medical equipment – normally covered by IEC 60601-1; PSU units for use in or with audio, video and similar electronic apparatus – normally covered by IEC 60065 and/or IEC 62368-1. It also covers DC power and distribution equipment and DC/DC converters.

Where no standard exist, use of this document for other applications is not precluded.

#### 1.1.2 Additional requirements

Requirements additional to those specified in this document may be necessary for

- PSUs intended for operation in special environments (for example, extremes of temperature; excessive dust, moisture or vibration; flammable gases; and corrosive or explosive atmospheres);
- PSUs intended to be used in vehicles, on board ships or aircraft, or in tropical countries;
- PSUs intended for use where ingress of water is possible.

NOTE Attention is drawn to the fact that authorities in some countries impose additional requirements for health, environmental and similar reasons.

#### 1.1.3 Exclusions

This document does not apply to

- motor-generator sets;
- uninterruptible power supplies (UPS) to IEC 62040-1;
- PSUs covered by IEC 61558-1 (i.e. power supply units incorporating safety isolating transformers providing SELV or PELV output(s) in accordance with IEC 60364-4-41) and PSUs for use with household and other consumer products, except those covered by IEC 60065 and IEC 60950-1 and/or IEC 62368-1;
- transformers covered by IEC 61558-1;