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REDLINE VERSION

Audio- och videoutrustning – Mätning av elförbrukning – Del 3: TV-mottagare

*Audio, video, and related equipment –
Determination of power consumption –
Part 3: Television sets*

En så kallad ”Redline version” (RLV) innehåller både standarden som fastställts som SS och en ändringsmarkerad IEC-standard. Alla tillägg och borttagningar sedan den tidigare utgåvan av IEC-standardens är markerade med färg. Med en RLV sparar du mycket tid när du ska identifiera och bedöma aktuella ändringar i standarden. SEK Svensk Elstandard kan bara ge ut RLV i de fall den finns tillgänglig från IEC.



IEC 62087-3

Edition 2.0 2023-02
REDLINE VERSION

INTERNATIONAL STANDARD



**Audio, video, and related equipment – Determination of power consumption –
Part 3: Television sets**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.160.10

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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	8
3 Terms, definitions, and abbreviated terms	8
3.1 Terms and definitions.....	9
3.2 Abbreviated terms.....	11
4 Specification of operating modes and functions	13
4.1 Table of operating modes and functions.....	13
4.2 Configurations and picture settings	14
4.2.1 Conceptual framework	14
4.2.2 Selection of home normal configuration	16
4.2.3 Selection of retail configuration.....	16
5 Measurement conditions.....	17
5.1 General.....	17
5.2 Power source.....	17
5.3 Environmental conditions	17
5.4 Ambient light conditions	17
5.5 Measuring equipment.....	17
5.5.1 Power measuring instrument	17
5.5.2 Luminance measuring device.....	17
5.5.3 Illuminance measuring instrument.....	17
5.6 Signal generation.....	17
5.6.1 Equipment	17
5.6.2 Interfaces	17
5.6.3 Accuracy	17
5.6.4 Light source for specific illuminance levels	18
5.6.5 Light source for disabling the ABC feature	18
5.6.6 Networking equipment.....	19
5.6.6 Test table surface material	19
6 Procedures.....	19
6.1 Order of activities	19
6.2 Preparation	20
6.2.1 Measuring plan.....	20
6.2.2 Power source voltage and frequency	21
6.2.3 Test signal input terminals	21
6.2.4 Video signal, On mode power consumption procedure	21
6.2.5 Video signal, peak luminance ratio determination	22
6.2.6 Video format.....	22
6.2.7 Automatic brightness control capabilities	23
6.2.8 Automatic brightness control levels.....	23
6.2.9 Motion-based Dynamic Dimming.....	24
6.2.10 Network connection capabilities selection.....	24
6.3 Initial activities	25
6.3.1 Order of initial activities	25
6.3.2 Cool down	25

6.3.2	Main batteries.....	26
6.3.3	Plug-in module	26
6.3.4	Installation.....	26
6.3.5	Application of input signals	27
6.3.6	Luminance measuring device setup	27
6.3.7	Light source setup	27
6.3.8	Power on	31
6.3.9	UUT firmware update.....	31
6.3.10	TV settings	31
6.4	Determination of power consumption, On mode	32
6.4.1	Order of activities	32
6.4.2	Stabilization.....	33
6.4.3	Television sets without automatic brightness control enabled by default	34
6.4.4	Television sets with automatic brightness control enabled by default	34
6.4.5	Power measurement.....	34
6.5	Determination of peak luminance ratio and power factor	36
6.5.1	General	36
6.5.2	Activities for peak luminance ratio and power factor determination	37
6.6	Determination of power consumption, Partial On mode	40
6.6.1	General	40
6.6.2	Order of activities	40
6.6.3	AV inputs.....	40
6.6.4	Standby-passive.....	40
6.6.5	Standby-active, low	41
6.7	Determination of power consumption, Off mode	42
6.7.1	Connections and networking.....	42
6.7.2	Availability	42
6.7.3	Measurement.....	42
Annex A (informative)	Considerations for On mode television set power measurements	43
A.1	General.....	43
A.2	Illuminance levels for automatic brightness control	43
A.2	Weighting of automatic brightness control levels	43
A.3	Calculating On mode power consumption.....	44
A.4	Picture level adjustments	45
Annex B (normative)	Test report	46
Annex C (informative)	Example test report template	48
Annex D (informative)	Representative test tools.....	51
Annex E (normative)	Measurement process overview	52
Bibliography.....		54
Figure 1 – Configurations and picture settings, conceptual framework		16
Figure 2 – Recommended order of activities		20
Figure 3 – Order of initial activities		26
Figure 4 – Light source configuration		28
Figure 5 – Wall-mounted TV with built-in ABC sensor		30
Figure 6 – Wall Mounted TV with External ABC Sensor.....		30
Figure 7 – Order of activities for determining power consumption, On mode		33

Figure 8 – Order of activities for determining peak luminance ratio and power factor	38
Figure 9 – Order of activities for determining the power consumption, Partial On mode	40
Figure E.1 – Comprehensive measurement process flow chart	53
Table 1 – Operating modes and functions	14
Table 2 – Network Connection Hierarchy	24

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**AUDIO, VIDEO, AND RELATED EQUIPMENT –
DETERMINATION OF POWER CONSUMPTION –****Part 3: Television sets****FOREWORD**

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 62087-3:2015. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 62087-3 has been prepared by technical area 19: Environmental and energy aspects for multimedia systems and equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment. It is an International Standard.

This second edition cancels and replaces the first edition published in 2015. This edition constitutes a technical revision.

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

- a) it introduces measuring procedures for the determination of power consumption in the On mode while viewing static metadata HDR video content;
- b) all tests for On mode power determination are performed with MDD disabled;
- c) only progressive video signals are used for testing;
- d) a dimmable LED reflector lamp is used as a light source for illuminating the ABC sensor to achieve specific illuminance levels;
- e) a dynamic box and outline video signal is used for determining the ratio of peak luminance.

The text of this International Standard is based on the following documents:

Draft	Report on voting
100/3772/CDV	100/3849/RVC

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

The language used for the development of this International Standard is English.

A list of all parts in the IEC 62087 series, published under the general title *Audio, video, and related equipment – Determination of power consumption*, can be found on the IEC website.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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

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

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This document specifies the determination of the power consumption of television sets for consumer use. ~~It is used in conjunction with IEC 62087-2:2015, which specifies signals and media.~~

This document includes measuring procedures for the determination of power consumption in the On (operation) mode, which was identified as "On (average) mode" in previous editions of IEC 62087. Additionally, it specifies measuring procedures for the determination of power consumption in the Off mode and Partial On mode. This document also defines the determination of the peak luminance ratio for use associated with television set power consumption evaluation as well as the power factor. ~~It also defines measuring procedures for the determination of power consumption in the On mode while viewing representative static metadata HDR video content.~~

A verification procedure to assess product compliance is described in Annex A of IEC 62087-1:2015.

The IEC 62087 series consists of the following planned or published parts:

- Part 1: General
- Part 2: Signals and media
- Part 3: Television sets
- Part 4: Video recording equipment
- Part 5: Set-top boxes
- Part 6: Audio equipment
- ~~Part 7: Computer monitors~~

AUDIO, VIDEO, AND RELATED EQUIPMENT – DETERMINATION OF POWER CONSUMPTION –

Part 3: Television sets

1 Scope

This part of IEC 62087 specifies the determination of the power consumption and related characteristics of television sets. Television sets include, but are not limited to, those with ~~CRT~~, LCD, ~~PDP~~, OLED, or projection technologies.

The operating modes and functions, as they specifically apply to television sets, are defined in detail in this part of IEC 62087.

This document is limited to television sets that can be connected to an external power source. Television sets that include a non-removable, main battery are not covered by this document. Television sets ~~may~~ can include any number of auxiliary batteries.

The measuring conditions in this document represent the normal use of the equipment and ~~may~~ can differ from specific conditions, for example as specified in safety standards.

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 62087-1:2015, *Audio, video, and related equipment – Determination of power consumption – Part 1: General*

IEC 62087-2:~~2015~~2023, *Audio, video, and related equipment – Determination of power consumption – Part 2: Signals and media*

IEC 62301:~~2011~~, *Household electrical appliances – Measurement of standby power*

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Audio- och videoutrustning – Mätning av elförbrukning – Del 3: TV-mottagare

*Audio, video, and related equipment –
Determination of power consumption –
Part 3: Television sets*

Som svensk standard gäller europastandarden EN IEC 62087-3:2023. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 62087-3:2023.

Nationellt förord

Europastandarden EN IEC 62087-3:2023

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 62087-3, Second edition, 2023 - Audio, video, and related equipment - Determination of power consumption - Part 3: Television sets**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 62087-3, utg 1:2016 med eventuella tillägg, ändringar och rättelser gäller ej fr o m 2026-03-24.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

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SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

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Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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English Version

**Audio, video, and related equipment - Determination of power
consumption - Part 3: Television sets
(IEC 62087-3:2023)**

Appareils audio, vidéo et matériel connexe - Détermination
de la consommation de puissance - Partie 3: Téléviseurs
(IEC 62087-3:2023)

Audio-, Video- und verwandte Geräte - Messverfahren für
die Leistungsaufnahme - Teil 3: Fernsehgeräte
(IEC 62087-3:2023)

This European Standard was approved by CENELEC on 2023-03-24. 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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 100/3772/CDV, future edition 2 of IEC 62087-3, prepared by Technical Area 12 "AV energy efficiency and smart grid applications" of IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62087-3:2023.

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) 2023-12-24
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-03-24

This document supersedes EN 62087-3:2016 and all of its amendments and corrigenda (if any).

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Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 62087-3:2023 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 62087-4 NOTE Approved as EN 62087-4

IEC 62087-5 NOTE Approved as EN 62087-5

IEC 62087-6 NOTE Approved as EN 62087-6

IEC 62542 NOTE Approved as EN 62542

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62087-1	2015	Audio, video, and related equipment - Determination of power consumption - Part 1: General	EN 62087-1	2016
IEC 62087-2	2023	Audio, video, and related equipment - Determination of power consumption - Part 2: Signals and media	EN IEC 62087-2	2023
IEC 62301	-	Household electrical appliances - Measurement of standby power	EN 50564	-

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Audio, video, and related equipment – Determination of power consumption –
Part 3: Television sets**

**Appareils audio, vidéo et matériel connexe – Détermination de la consommation
de puissance –
Partie 3: Téléviseurs**

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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	8
3 Terms, definitions, and abbreviated terms	8
3.1 Terms and definitions.....	9
3.2 Abbreviated terms.....	11
4 Specification of operating modes and functions	12
4.1 Table of operating modes and functions.....	12
4.2 Configurations and picture settings	13
4.2.1 Conceptual framework	13
4.2.2 Selection of normal configuration.....	14
4.2.3 Selection of retail configuration.....	14
5 Measurement conditions.....	15
5.1 General.....	15
5.2 Power source.....	15
5.3 Environmental conditions	15
5.4 Ambient light conditions	15
5.5 Measuring equipment.....	15
5.5.1 Power measuring instrument	15
5.5.2 Luminance measuring device.....	15
5.5.3 Illuminance measuring instrument.....	15
5.6 Signal generation.....	15
5.6.1 Equipment	15
5.6.2 Interfaces	15
5.6.3 Accuracy	15
5.6.4 Light source for specific illuminance levels	16
5.6.5 Light source for disabling the ABC feature	16
5.6.6 Test table surface material	16
6 Procedures.....	17
6.1 Order of activities	17
6.2 Preparation.....	18
6.2.1 Measuring plan.....	18
6.2.2 Power source voltage and frequency	19
6.2.3 Test signal input terminals.....	19
6.2.4 Video signal, On mode power consumption procedure	19
6.2.5 Video signal, peak luminance ratio determination	19
6.2.6 Video format.....	20
6.2.7 Automatic brightness control capabilities	21
6.2.8 Automatic brightness control levels.....	21
6.2.9 Motion-based Dynamic Dimming.....	21
6.2.10 Network connection selection	21
6.3 Initial activities	22
6.3.1 Order of initial activities	22
6.3.2 Main batteries.....	23
6.3.3 Plug-in module	23

6.3.4	Installation	23
6.3.5	Application of input signals	24
6.3.6	Luminance measuring device setup	24
6.3.7	Light source setup	24
6.3.8	Power on	27
6.3.9	UUT firmware update	27
6.3.10	TV settings	27
6.4	Determination of power consumption, On mode	28
6.4.1	Order of activities	28
6.4.2	Stabilization	29
6.4.3	Television sets without automatic brightness control enabled by default	30
6.4.4	Television sets with automatic brightness control enabled by default	30
6.4.5	Power measurement	30
6.5	Determination of peak luminance ratio and power factor	32
6.5.1	General	32
6.5.2	Activities for peak luminance ratio and power factor determination	33
6.6	Determination of power consumption, Partial On mode	36
6.6.1	General	36
6.6.2	Order of activities	36
6.6.3	AV inputs	36
6.6.4	Standby-passive	36
6.6.5	Standby-active, low	37
6.7	Determination of power consumption, Off mode	38
6.7.1	Connections and networking	38
6.7.2	Availability	38
6.7.3	Measurement	38
Annex A (informative)	Considerations for On mode television set power measurements	39
A.1	General	39
A.2	Weighting of automatic brightness control levels	39
A.3	Calculating On mode power consumption	39
A.4	Picture level adjustments	40
Annex B (normative)	Test report	41
Annex C (informative)	Example test report template	43
Annex D (informative)	Representative test tools	46
Annex E (normative)	Measurement process overview	47
Bibliography		49
Figure 1	Configurations and picture settings, conceptual framework	14
Figure 2	Recommended order of activities	18
Figure 3	Order of initial activities	23
Figure 4	Light source configuration	25
Figure 5	Wall-mounted TV with built-in ABC sensor	26
Figure 6	Wall Mounted TV with External ABC Sensor	26
Figure 7	Order of activities for determining power consumption, On mode	29
Figure 8	Order of activities for determining peak luminance ratio and power factor	34
Figure 9	Order of activities for determining the power consumption, Partial On mode	36
Figure E.1	Comprehensive measurement process flow chart	48

Table 1 – Operating modes and functions	13
Table 2 – Network Connection Hierarchy	22

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

The language used for the development of this International Standard is English.

A list of all parts in the IEC 62087 series, published under the general title *Audio, video, and related equipment – Determination of power consumption*, can be found on the IEC website.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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

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

INTRODUCTION

This document specifies the determination of the power consumption of television sets for consumer use.

This document includes measuring procedures for the determination of power consumption in the On (operation) mode, which was identified as "On (average) mode" in previous editions of IEC 62087. Additionally, it specifies measuring procedures for the determination of power consumption in the Off mode and Partial On mode. This document also defines the determination of the peak luminance ratio for use associated with television set power consumption evaluation as well as the power factor. It also defines measuring procedures for the determination of power consumption in the On mode while viewing representative static metadata HDR video content.

A verification procedure to assess product compliance is described in Annex A of IEC 62087-1:2015.

The IEC 62087 series consists of the following planned or published parts:

- Part 1: General
- Part 2: Signals and media
- Part 3: Television sets
- Part 4: Video recording equipment
- Part 5: Set-top boxes
- Part 6: Audio equipment
- Part 7: Computer monitors

AUDIO, VIDEO, AND RELATED EQUIPMENT – DETERMINATION OF POWER CONSUMPTION –

Part 3: Television sets

1 Scope

This part of IEC 62087 specifies the determination of the power consumption and related characteristics of television sets. Television sets include, but are not limited to, those with LCD, OLED, or projection technologies.

The operating modes and functions, as they specifically apply to television sets, are defined in detail in this part of IEC 62087.

This document is limited to television sets that can be connected to an external power source. Television sets that include a non-removable, main battery are not covered by this document. Television sets can include any number of auxiliary batteries.

The measuring conditions in this document represent the normal use of the equipment and can differ from specific conditions, for example as specified in safety standards.

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 62087-1:2015, *Audio, video, and related equipment – Determination of power consumption – Part 1: General*

IEC 62087-2:2023, *Audio, video, and related equipment – Determination of power consumption – Part 2: Signals and media*

IEC 62301, *Household electrical appliances – Measurement of standby power*