This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

BSI Standards Publication

Building intercom systems

Part 1-1: System requirements — General



This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

National foreword

This British Standard is the UK implementation of EN IEC 62820-1-1:2026. It is identical to IEC 62820-1-1:2026. It supersedes BS EN 62820-1-1:2016+A11:2021, which will be withdrawn on 31 May 2029.

The UK participation in its preparation was entrusted to Technical Committee GW/1, Electronic security systems and products.

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

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2026
Published by BSI Standards Limited 2026

ISBN 978 0 539 17473 1

ICS 13.320

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 31 May 2026.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD **EN IEC 62820-1-1**

This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

EUROPÄISCHE NORM

May 2026

ICS 13.320

Supersedes EN 62820-1-1:2016; EN 62820-1-1:2016/A11:2021

English Version

Building intercom systems - Part 1-1: System requirements - General (IEC 62820-1-1:2026)

Systèmes d'interphone de bâtiment - Partie 1-1: Exigences du système - Généralités (IEC 62820-1-1:2026)

Gebäude-Sprechanlagen - Teil 1-1: Generelle Systemanaforderungen (IEC 62820-1-1:2026)

This European Standard was approved by CENELEC on 2026-05-04. 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



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

© 2026 CENELEC All rights of exploitation in any form and by any means reserved worldwide for CENELEC Members.

This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

European foreword

The text of document 79/738/FDIS, future edition 2 of IEC 62820-1-1, prepared by TC 79 "Alarm and electronic security systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62820-1-1:2026.

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) 2027-05-31
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2029-05-31

This document supersedes EN 62820-1-1:2016 and all of its amendments and corrigenda (if any).

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

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 62820-1-1:2026 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62676-4:2025	NOTE	Approved as EN IEC 62676-4:2025 (not modified)

This is a preview of BS EN IEC 62820-1-1:2026. 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 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.

Publication	Year	Title	EN/HD	Year
IEC 60065	2014	Audio, video and similar electronic apparatus - Safety requirements	-	-
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529	1991
-	-		+ corrigendum May	1993
+ A1	1999		+ A1	2000
+ A2	2013		+ A2	2013
IEC 60950-1	2005	Information technology equipment - Safety - Part 1: General requirements	-	-
IEC 61000-6-1	-	Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity standard for residential, commercial and light-industrial environments	EN IEC 61000-6-1	-
IEC 61000-6-3	-	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential locations	-	-
IEC 61000-6-8	-	Electromagnetic compatibility (EMC) - Part 6-8: Generic standards - Emission standard for professional equipment in commercial and light-industrial locations	EN IEC 61000-6-8	-
IEC 62262	-	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)	EN 62262	-
IEC 62368-1	2023	Audio/video, information and communication technology equipment - Part 1: Safety requirements	EN IEC 62368-1	2024
IEC 62599-1	-	Alarm systems - Part 1: Environmental test methods	-	-

This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

		compatibility - Immunity requirements for components of fire and security alarm systems		
ISO 12233	2024	Photography - Electronic still picture imaging - Resolution and spatial frequency responses	-	-
ITU-T P.50	-	Artificial voices	-	-
ITU-T P.79	2007	Calculation of loudness ratings for telephone sets	-	-
ITU-T P.501	-	Test signals for use in telephonometry	-	-

This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

FOREWORD 4
INTRODUCTION 6
1 Scope 7
2 Normative references 7
3 Terms, definitions and abbreviated terms 8
3.1 Terms and definitions 8
3.2 Abbreviated terms 10
4 Functional requirements 11
4.1 Basic functional requirements 11
4.1.1 General 11
4.1.2 Requirements for building intercom system with SMU 12
4.2 Additional functions 12
5 Performance requirements 12
5.1 Audio characteristics 12
5.1.1 Acoustic pressure level 12
5.1.2 Overall loudness rating (OLR) 13
5.1.3 Overall sensitivity 13
5.1.4 Frequency response 14
5.1.5 Acoustic distortion 14
5.1.6 Channel S/N ratio 14
5.1.7 Sidetone masking rating (STMR) 14
5.1.8 Idle channel noise 15
5.1.9 Ringtone sound pressure 15
5.1.10 Acoustic stability (Larsen effect) 15
5.1.11 Acoustic safety 15
5.2 Video characteristics 15
5.2.1 Image resolution 15
5.2.2 Grey scale 15
5.2.3 Focus distance 15
5.2.4 Colour reproduction 15
5.2.5 Environmental illuminance adaptability 15
5.3 Environmental adaptability requirements 16
5.3.1 Environmental classes 16
5.3.2 Environmental adaptability 16
5.4 Safety requirements 17
5.5 Additional protection under fault conditions 17
5.6 Electromagnetic compatibility requirements 17
5.6.1 Electromagnetic compatibility immunity requirements 17
5.6.2 Additional electromagnetic compatibility immunity requirements 17
5.6.3 Electromagnetic compatibility emission requirements 18
5.7 Markings and mechanical structural requirements 18
5.7.1 Markings 18
5.7.2 Mechanical structure 18
5.7.3 Enclosure protection capability 18
5.7.4 Anti-vandalism 19
6 Test methods 19

This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

6.1.1 Test environmental conditions 19
6.1.2 Electrical connection 19
6.2 Function test 19
6.3 Audio characteristics test 19
6.4 Video characteristics test 19
6.5 Environmental adaptability test 19
6.6 Safety test 20
6.7 Additional protection under fault conditions test 20
6.8 Electromagnetic compatibility test 20
6.8.1 Electromagnetic compatibility immunity test 20
6.8.2 Additional electromagnetic compatibility immunity test 20
6.8.3 Electromagnetic compatibility emission test 20
6.9 Markings and mechanical structure test 20
6.9.1 Markings and scrub resistance test 20
6.9.2 Mechanical structure test 20
6.9.3 Enclosure protection capability test 20
6.9.4 Anti-vandalism test 21
7 Documentation 22
Annex A (normative) Test of audio characteristics 23
A.1 Test conditions 23
A.2 Acoustic pressure level test 23
A.2.1 Methods 23
A.2.2 Calibration of test equipment 24
A.2.3 Test of the acoustic pressure level 24
A.3 Overall loudness rating (OLR) test 25
A.3.1 Measurement of the sound pressure P_{m} at the MRP 25
A.3.2 Measurement of the output sound pressure P_{o} of the hands-free EUT 25
A.3.3 Measurement of the output sound pressure P_{e} of the handset EUT 26
A.3.4 Calculations of the OLR 27
A.4 Overall sensitivity test 28
A.4.1 Test of the overall sensitivity at the hands-free EUT 28
A.4.2 Test of the overall sensitivity at the handset EUT 28
A.5 Frequency response test 29
A.6 Acoustic distortion test 29
A.7 Channel S/N ratio test 29
A.8 Sidetone masking rating (STMR) test 29
A.9 Idle channel noise test 30
A.10 Ringtone sound pressure test 30
A.11 Acoustic stability (Larsen Effect) test 30
A.12 Acoustic safety test 31
Annex B (normative) Test of video characteristics 33
B.1 Test conditions 33
B.2 Connection of the tested system 33
B.3 Image resolution test 33
B.4 Grey scale test 34
B.5 Focus distance test 35
B.6 Colour reproduction test 36

This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

Annex C (normative) Different requirements between grade 1 and grade 2 38
Annex D (normative) Safety requirements correspondence in IEC 60065 or IEC 60950-1 or IEC 62368-1 40
Bibliography 42

Figure 1 – Overall sensitivity at the hands-free unit 13
Figure 2 – Overall sensitivity at the handset unit 14
Figure A.1 – Measurement of the sound pressure P_{m} at the MRP 25
Figure A.2 – Measurement of the output sound pressure P_{o} when connected with the handset unit 26
Figure A.3 – Measurement of the output sound pressure P_{o} when connected with the hands-free unit 26
Figure A.4 – Measurement of the output sound pressure P_{e} when connected with the handset unit 26
Figure A.5 – Measurement of the output sound pressure P_{e} when connected with the hands-free unit 27
Figure A.6 – Measurement of STMR at the handset EUT 30
Figure A.7 – Measurement of ringtone sound pressure 30
Figure A.8 – Acoustic stability test for handset EUT 31
Figure A.9 – Acoustic stability test for hands-free EUT 31
Figure A.10 – Acoustic safety test 32
Figure B.1 – Connection diagram for the test of video characteristics 33
Figure B.2 – TE170 test chart 34
Figure B.3 – TE83 and TE84 test charts 35
Figure B.4 – Focus test chart 36
Figure B.5 – Position of the external ring area 36
Figure B.6 – TE106 test chart 37

Table 1 – Environmental adaptability requirements 16
Table A.1 – Factors for OLR 28
Table C.1 – Requirements of grade 1 and grade 2 38
Table D.1 – Correspondence between IEC 60065 and IEC 60950-1 and IEC 62368-1 40

This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

Building intercom systems - Part 1-1: System requirements - General

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at https://patents.iec.ch. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 62820-1-1 has been prepared by IEC technical committee 79: Alarm and electronic security systems. It is an International Standard.

This second edition cancels and replaces the first edition published in 2016. This edition constitutes a technical revision.

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

a) addition of IEC 61000-6-8 and IEC 62368-1:2023 as normative references;
b) update of ISO 12233 to the latest version and addition of this reference as a normative reference;
c) modification of the light source colour temperature from 3 100 K ± 100 K to 6 500 K ± 100 K;
d) addition of TE84 test chart and update of the focus test chart.

This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

Draft	Report on voting
79/738/FDIS	79/741/RVD

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.

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.

A list of all parts in the IEC 62820 series, published under the general title *Building intercom systems*, can be found on the IEC website.

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, or
– revised.

This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

IEC 62820-1-1 specifies the technical requirements for building intercom systems and equipment used for building entry. Building intercom systems can function independently and can be extended to support building security management functions, e.g. extendable with security management unit (SMU) operated by security staff (door-man, concierge, security-guard, porter, etc.), or in conjunction with other systems as per the security requirements of the building. It can consist of: Visitor call unit (VCU), User receiver unit (URU), SMU, power supply, auxiliary device, as well as interface-unit to other security-systems.

The IEC 62820 series of standards sets out the technical requirements for the composition, functions, performance, test methods of building intercom systems for building entry and application guidelines and consists of five parts:

Part 1-1: *System requirements - General*

Part 1-2: *System requirements - Building intercom systems using the internet protocol (IP)*

Part 2: *Requirements for advanced security building intercom systems*

Part 3-1: *Application guidelines - General*

Part 3-2: *Application guidelines - Advanced security building intercom systems*

IEC 62820-1-1 is based on Chinese standard GB/T 31070.1-2014 and European standard EN 50486:2008.

This is a preview of BS EN IEC 62820-1-1:2026. Click here to purchase the full version from the ANSI store.

IEC 62820-1-1 specifies the technical requirements for the composition, functions, performance, and test methods of general building intercom systems.

This document is applicable to the general intercom systems for building entry in residential or commercial buildings.

Door-Entry-System (DES) is a simple kind of convenient Building-Intercom-System (BIS) mainly for user's comfort. This document has classified the general building intercom systems into two grades in IEC 62820-1-1. Grade 1 adopts lower requirements to cover DES not used for relevant security applications while grade 2 adopts higher requirements for building intercom systems for security applications. Each grade can adopt different functional and performance requirements, test methods and normative references.

NOTE The different requirements between grade 1 and grade 2 are summarized in Table C.1 of Annex C.

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 60065:2014, *Audio, video and similar electronic apparatus - Safety requirements*[1]

IEC 60529:1989, *Degrees of protection provided by enclosures (IP Code)*
IEC 60529:1989/AMD1:1999
IEC 60529:1989/AMD2:2013

IEC 60950-1:2005, *Information technology equipment - Safety - Part 1: General requirements*[2]

IEC 61000-6-1, *Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity standard for residential, commercial and light-industrial environments*

IEC 61000-6-3, *Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential environments*

IEC 61000-6-8, *Electromagnetic compatibility (EMC) - Part 6-8: Generic standards - Emission standard for professional equipment in commercial and light-industrial locations*

IEC 62262, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

IEC 62368-1:2023, *Audio/video, information and communication technology equipment - Part 1: Safety requirements*

IEC 62599-1, *Alarm systems - Part 1: Environmental test methods*

IEC 62599-2, *Alarm systems - Part 2: Electromagnetic compatibility - Immunity requirements for components of fire and security alarm systems*

---

1 This publication was withdrawn.

2 This publication was withdrawn.