



BSI Standards Publication

Alarm systems — Intrusion and hold-up systems

Part 2-2: Requirements for passive infrared detectors

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National foreword

This British Standard is the UK implementation of EN 50131-2-2:2021. It supersedes BS EN 50131-2-2:2017, which will be withdrawn on 4 July 2022.

The UK participation in its preparation was entrusted to Technical Committee GW/1/1, Alarm components.

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

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

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European foreword

This document (EN 50131-2-2:2021) has been prepared by CLC/TC 79, "Alarm systems".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-11-08
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2024-11-08

This document supersedes EN 50131-2-2:2017 and all of its amendments and corrigenda (if any).

EN 50131-2-2:2021 includes the following significant technical changes with respect to EN 50131-2-2:2017:

- editorial changes and refinement of wording;
- removal of significant reduction of range requirements;
- addition of requirements, tests and corresponding Annexes throughout the overall standard, to support ceiling mounted detectors;

EN 50131 will consist of the following parts, under the general title *Alarm systems - Intrusion and hold-up systems*:

- *Part 1: System requirements*
- *Part 2–2: Intrusion detectors – Passive infrared detectors*
- *Part 2–3: Intrusion detectors – Microwave detectors*
- *Part 2–4: Intrusion detectors – Combined passive infrared / Microwave detectors*
- *Part 2–5: Intrusion detectors – Combined passive infrared / Ultrasonic detectors*
- *Part 2–6: Intrusion detectors – Opening contacts*
- *Part 2–7–1: Intrusion detectors – Glass break detectors – Acoustic*
- *Part 2–7–2: Intrusion detectors – Glass break detectors – Passive*
- *Part 2–7–3: Intrusion detectors – Glass break detectors – Active*
- *Part 3: Control and indicating equipment*
- *Part 4: Warning devices*
- *Part 5–3: Requirements for interconnections equipment using radio frequency techniques*
- *Part 6: Power supplies*
- *Part 7: Application guidelines*
- *Part 8: Security fog devices*

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.

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Introduction

This document deals with passive infrared detectors (to be referred to as the detector) used as part of intrusion alarm systems installed in buildings. It includes four security grades and four environmental classes.

The purpose of the detector is to detect the broad spectrum infrared radiation emitted by an intruder, to analyse the resulting signals and to provide the necessary range of signals or messages to be used by the rest of the intrusion alarm system.

The number and scope of these signals or messages will be more comprehensive for systems that are specified at the higher grades.

This version of the document contains limited requirements for Grade 4 detectors. Future revisions of the document are expected to include enhanced requirements for Grade 4 detectors.

This document is only concerned with the requirements and tests for the detector. Other types of detector are covered by other documents identified as in the EN 50131-2 series.

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1 Scope

This document is for passive infrared detectors installed in buildings and provides for security grades 1 to 4 (see EN 50131-1), specific or non-specific wired or wire-free detectors, and uses environmental classes I to IV (see EN 50130-5). This document does not include requirements for detectors intended for use outdoors.

The purpose of the detector is to detect the broad spectrum infrared radiation emitted by an intruder, to analyse the resulting signals and to provide the necessary range of signals or messages to be used by the rest of the intrusion alarm system.

The grade-dependent requirements of this document apply and it is essential that a detector fulfils all the requirements of the specified grade.

Functions additional to the mandatory functions specified in this document can be included in the detector, providing they do not influence the correct operation of the mandatory functions.

Requirements for system interconnections are not included in this document.

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.

EN 50130-4, *Alarm systems - Part 4: Electromagnetic compatibility - Product family standard: Immunity requirements for components of fire, intruder, hold up, CCTV, access control and social alarm systems*

EN 50130-5, *Alarm systems - Part 5: Environmental test methods*

EN 50131-1, *Alarm systems - Intrusion and hold-up systems - Part 1: System requirements*

3 Terms, definitions and abbreviations

For the purposes of this document, the terms, definitions and abbreviations given in EN 50131-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1 Terms and definitions

3.1.1

basic detection target

heat source designed to verify the operation of a detector

3.1.2

coverage angle

width of field of view in degrees provided by the detector when measured in the horizontal plane

3.1.3

detection settings

adjustments which influence the performance of the detector

EXAMPLE: pulse count settings, gain settings