

English version

Alarm systems - Intrusion systems
Part 2-5: Requirements for combined passive infrared
and ultrasonic detectors

Systèmes d'alarme –
Systèmes de détection d'intrusion
Partie 2-5 : Exigences pour détecteurs
combinés infrarouges passifs et
ultrasoniques

Alarmanlagen –
Einbruchmeldeanlagen
Teil 2-5 : Anforderungen an Dualmelder
Passiv-infrarot und Ultraschall-melder

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CENELEC

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Foreword

This Technical Specification was prepared by the Technical Committee CENELEC TC 79, Alarm systems.

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Introduction

This Technical Specification is a specification for combined passive infrared and ultrasonic detectors (to be referred to here as the combined detector) used as part of intrusion detection systems installed in buildings. It includes four security grades and the first three environmental classes.

The purpose of a combined detector is to detect the broad spectrum infrared radiation emitted by an intruder and, at the same time, to emit ultrasonic radiation over the area being protected, and analyse signals that are returned. An intrusion signal or message is only generated when both technologies register a positive indication of the presence of an intruder, thus reducing incorrect operation. The combined detector shall provide the necessary range of signals or messages to be used by the rest of the intrusion detection system.

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

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

The requirement in EN 50131-1 that detectors in grade 3 and 4 systems shall include a means to detect a significant reduction in range may be met either by detectors having the appropriate function (see 4.2.3) or by suitable system design.

1 Scope

This Technical Specification provides for security grades 1 - 4 (see EN 50131-1), specific or non-specific wired or wire-free combined passive infrared and ultrasonic detectors, and is covered by environmental classes 1 – 3 (see EN 50130-5).

A function designated in the specification as not required for a particular grade may be provided by the manufacturer. If provided, it will be tested, and shall meet all relevant requirements of any higher grade. If it passes, the manufacturer may claim it as an extra feature, which does not alter the overall grading of the detector.

The specification does not apply to system interconnections.

2 Normative references

The following referenced documents are indispensable for the application 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 50130-4:1995 + A1:1996 + A2:2003	Alarm systems - Part 4: Electromagnetic compatibility - Product family standard: Immunity requirements for components of fire, intruder and social alarm systems
EN 50130-5:1998	Alarm systems - Part 5: Environmental test methods
EN 50131-1:1997	Alarm systems - Intrusion systems - Part 1: General requirements
EN 50131-6:1997	Alarm systems - Intrusion systems - Part 6: sower Supplies
EN 60068-1:1994	Environmental testing - Part 1: General and guidance (IEC 60068-1:1988 + corr. October 1988 + A2:1992)
EN 60068-2-52:1996	Environmental testing - Part 2-52: Tests - Test Kb: Salt mist, cyclic (sodium chloride solution) (IEC 60068-2-52:1996)

3 Definitions and abbreviations

For the purpose of this document, the following definitions and abbreviations apply in addition to those given in EN 50131-1:

3.1

alert/set mode

state of operation in which a detector will generate an intrusion signal in response to stimulation by a human being or a standard target

3.2

basic detection target

heat source and/or ultrasonic reflector designed to verify the operation of a detector

3.3

ceiling mount detector

detector capable of sensing human movement from a mounting position on the ceiling

3.4

combined passive infrared and ultrasonic detector

detector of the broad-spectrum infrared emitted by a human being, with an active ultrasonic emitter and detector installed in the same casing