



SLOVENSKI STANDARD
oSIST prEN IEC 63121:2021
01-september-2021

Instrumenti za zaščito pred sevanjem - Vozila z vgrajenimi mobilnimi sistemi za odkrivanje nedovoljene trgovine z radioaktivnimi snovmi

Radiation protection instrumentation - Vehicle-mounted mobile systems for the detection of illicit trafficking of radioactive materials

Strahlenschutz-Messgeräte - Fahrzeuggestützte mobile Systeme zum Aufspüren von unerlaubt transportiertem radioaktivem Material

Instrumentation pour la radioprotection - Systèmes mobiles montés sur véhicules pour la détection du trafic illicite des matières radioactives

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Ta slovenski standard je istoveten z: prEN IEC 63121

ICS:

13.280 Varstvo pred sevanjem Radiation protection

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EUROPEAN STANDARD
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**Radiation protection instrumentation - Vehicle-mounted mobile
systems for the detection of illicit trafficking of radioactive
materials
(IEC 63121:2020)**

Instrumentation pour la radioprotection - Systèmes mobiles
montés sur véhicules pour la détection du trafic illicite des
matières radioactives
(IEC 63121:2020)

Strahlenschutz-Messgeräte - Fahrzeuggestützte mobile
Systeme zum Aufspüren von unerlaubt transportiertem
radioaktivem Material
(IEC 63121:2020)

This draft European Standard is submitted to CENELEC members for enquiry.

Deadline for CENELEC: 2021-09-17.

The text of this draft consists of the text of IEC 63121:2020.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CENELEC in three official versions (English, French, German).

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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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

prEN IEC 63121:2021 (E)**European foreword**

This document (prEN IEC 63121:2021) consists of the text of IEC 63121:2020 prepared by IEC/SC 45B "Radiation protection instrumentation" of IEC/TC 45 "Nuclear instrumentation".

This document is currently submitted to the Enquiry.

The following dates are proposed:

- latest date by which the existence of this document (doa) dor + 6 months
has to be announced at national level
- latest date by which this document has to be (dop) dor + 12 months
implemented at national level by publication of an
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- latest date by which the national standards (dow) dor + 36 months
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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.cenelec.eu.

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--|--------------|-------------|
| IEC 60050-395 | 2014 | International Electrotechnical Vocabulary - Part 395: Nuclear instrumentation: Physical phenomena, basic concepts, instruments, systems, equipment and detectors | - | - |
| IEC 61187 | - | Electrical and electronic measuring equipment - Documentation | EN 61187 | - |
| IEC 62706 | - | Radiation protection instrumentation - Environmental, electromagnetic and mechanical performance requirements | - | - |
| IEC 62755 | - | Radiation protection instrumentation - Data format for radiation instruments used in the detection of illicit trafficking of radioactive materials | - | - |

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INTERNATIONAL STANDARD



**Radiation protection instrumentation –
Vehicle-mounted mobile systems for the detection of illicit trafficking of
radioactive materials**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RADIATION PROTECTION INSTRUMENTATION –
VEHICLE-MOUNTED MOBILE SYSTEMS FOR THE DETECTION
OF ILLICIT TRAFFICKING OF RADIOACTIVE MATERIALS**

FOREWORD

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International Standard IEC 63121 has been prepared by subcommittee 45B: Radiation protection instrumentation, of IEC technical committee 45: Nuclear instrumentation.

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

| FDIS | Report on voting |
|--------------|------------------|
| 45B/946/FDIS | 45B/955/RVD |

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

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

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INTRODUCTION

Illicit and inadvertent movement of radioactive materials in the form of radiation sources and contaminated metallurgical scrap has become a problem of increasing importance. Radioactive sources out of regulatory control, so-called “orphan sources”, have frequently caused serious radiation exposures and widespread contamination. Although illicit trafficking of nuclear and other radioactive materials is not a new problem, concern about a nuclear “black market” has increased, particularly in view of its terrorist potential.

In response to the technical policy of the International Atomic Energy Agency (IAEA), the World Customs Organization (WCO), and the International Criminal Police Organization (Interpol) related to the detection and identification of special nuclear materials and security trends, radiation instrumentation companies have developed and manufactured instruments to assist in the detection of illicit movement of radioactive and special nuclear materials. This type of instrumentation is widely used for security purposes at nuclear facilities, border control checkpoints, and international seaports and airports.

To ensure that measurement results made at different locations are consistent, it is imperative that radiation instrumentation be designed to rigorous specifications based upon agreed performance requirements stated in this document. IEC standards have also been developed to address personal radiation detectors, radiation portal monitors, highly sensitive gamma and neutron detection systems, spectrometric personal radiation detectors, and backpack-based radiation detection and identification systems. Those standards are listed below.

| Type of instrumentation | IEC number | Title of the standard |
|-------------------------|------------|---|
| Body-worn | 62401 | Radiation protection instrumentation – Alarming Personal Radiation Devices (PRDs) for the detection of illicit trafficking of radioactive material |
| | 62618 | Radiation protection instrumentation – Spectroscopy-Based Alarming Personal Radiation Devices (SPRD) for the detection of illicit trafficking of radioactive material |
| | 62694 | Radiation protection instrumentation – Backpack-type radiation detector (BRD) for the detection of illicit trafficking of radioactive material |
| Portable or hand-held | 62327 | Radiation protection instrumentation – Hand-held instruments for the detection and identification of radionuclides and for the estimation of ambient dose equivalent rate from photon radiation |
| | 62533 | Radiation protection instrumentation – Highly sensitive hand-held instruments for photon detection of radioactive material |
| | 62534 | Radiation protection instrumentation – Highly sensitive hand-held instruments for neutron detection of radioactive material |
| Portal | 62244 | Radiation protection instrumentation – Installed radiation portal monitors (RPMs) for the detection of illicit trafficking of radioactive and nuclear materials |
| | 62484 | Radiation protection instrumentation – Spectroscopy-based portal monitors used for the detection and identification of illicit trafficking of radioactive material |
| Mobile system | 63121 | Radiation protection instrumentation – Vehicle-mounted mobile systems for the detection of illicit trafficking of radioactive materials |
| Data format | 62755 | Radiation protection instrumentation – Data format for radiation instruments used in the detection of illicit trafficking of radioactive materials |