SLOVENSKI STANDARD
SIST EN 62618:2016

01-december-2016

Instrumenti za zaščito pred sevanjem - Spektroskopski alarmni osebni detektorji sevanja za odkrivanje nedovoljenega prometa z radioaktivnimi snovmi (IEC 62618:2013)

Radiation protection instrumentation - Spectroscopy-based alarming Personal Radiation Detectors (SPRD) for the detection of illicit trafficking of radioactive material (IEC 62618:2013)

Strahlenschutz-Messgeräte - Spektroskopie-basierte alarmgebende persönliche Strahlungsdetektoren für den Nachweis von unerlaubt transportiertem radioaktivem Material (IEC 62618:2013)

Instrumentation pour la radioprotection - Détecteurs individuels spectroscopiques d'alarme aux rayonnements (SPRD) pour la détection du trafic illicite des matières radioactives (IEC 62618:2013)

Ta slovenski standard je istoveten z: **EN 62618:2016**

ICS:

13.280	Varstvo pred sevanjem	Radiation protection
13.320	Alarmni in opozorilni sistemi	Alarm and warning systems

SIST EN 62618:2016 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62618

October 2016

ICS 13.280

English Version

Radiation protection instrumentation - Spectroscopy-based alarming Personal Radiation Detectors (SPRD) for the detection of illicit trafficking of radioactive material (IEC 62618:2013)

Instrumentation pour la radioprotection - Détecteurs individuels spectroscopiques d'alarme aux rayonnements (SPRD) pour la détection du trafic illicite des matières radioactives
(IEC 62618:2013)

Strahlenschutz-Messgeräte - Spektroskopie-basierte alarmgebende persönliche Strahlungsdetektoren für den Nachweis von unerlaubt transportiertem radioaktivem Material
(IEC 62618:2013)

This European Standard was approved by CENELEC on 2016-09-05. 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: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 62618:2016 E

European foreword

This document (EN 62618:2016) consists of the text of IEC 62618:2013 prepared by SC 45B "Radiation protection instrumentation" of IEC/TC 45 "Nuclear instrumentation".

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) 2017-09-05
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2019-09-05

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Endorsement notice

The text of the International Standard IEC 62618:2013 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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

Publication	Year	Title	EN/HD	Year
IEC 60050-393	2003	International Electrotechnical Vocabulary - Part 393: Nuclear instrumentation - Physical phenomena and basic concepts	-	-
IEC 60050-394	2007	International Electrotechnical Vocabulary - Part 394: Nuclear instrumentation - Instruments, systems, equipment and detectors	-	-
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
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	-	-
ISO 4037-3	-	X and gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy - Part 3: Calibration of area and personal dosemeters and the measurement of their response as a function of energy and angle of incidence	-	-
ISO 8529-1	2001	Reference neutron radiations - Part 1: Characteristics and methods of production	-	-
ICRU Report 39	1985	Determination of Dose Equivalents Resulting from External Radiation Sources, International Commission on Radiation Units and measures		
ICRU Report 47	1992	Measurement of Dose Equivalents from External Photon and Electron Radiations, International Commission on Radiation Units and measures		

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Radiation protection instrumentation – Spectroscopy-based alarming Personal Radiation Detectors (SPRD) for the detection of illicit trafficking of radioactive material

Instrumentation pour la radioprotection – Détecteurs individuels spectroscopiques d'alarme aux rayonnements (SPRD) pour la détection du trafic illicite des matières radioactives

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIATION PROTECTION INSTRUMENTATION – SPECTROSCOPY-BASED ALARMING PERSONAL RADIATION DETECTORS (SPRD) FOR THE DETECTION OF ILLICIT TRAFFICKING OF RADIOACTIVE MATERIAL

FOREWORD

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International Standard IEC 62618 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/751/FDIS	45B/758/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 web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

RADIATION PROTECTION INSTRUMENTATION – SPECTROSCOPY-BASED ALARMING PERSONAL RADIATION DETECTORS (SPRD) FOR THE DETECTION OF ILLICIT TRAFFICKING OF RADIOACTIVE MATERIAL

1 Scope and object

This International Standard applies to Spectroscopy-based alarming Personal Radiation Detectors (SPRD) which represent a new instrument category between alarming Personal Radiation Devices (PRD) and Radionuclide Identification Devices (RID). SPRDs are advanced PRDs that can be worn on a belt or in a pocket to alert the wearer of the presence of a radiation source. They are not intended for accurate measurement of personal or ambient dose equivalent (rate). In addition to the features of conventional PRDs, SPRDs provide rapid simultaneous search and identification capability to locate and identify radiation sources. They can discriminate innocent alarms such as Naturally Occurring Radioactive Materials (NORM) or medical radionuclides against industrial sources or Special Nuclear Material (SNM). Because of their limited sensitivity, SPRDs cannot replace RIDs. For first responders, SPRDs can be particularly useful for immediate response measures.

This standard does not apply to the performance of radiation protection instrumentation which is covered in IEC 61526 and IEC 62401.

The object of this standard is to establish performance requirements, provide examples of acceptable test methods and to specify general characteristics, general test conditions, radiological, environmental, mechanical and electromagnetic characteristics that are used to determine if an instrument meets the requirements of this standard. The results of tests performed provide information to end-users and manufacturers on instrument capability for reliable detection, localization and identification of radiation sources.

Obtaining operating performance that meets or exceeds the specifications as stated in this standard depends upon properly establishing appropriate operating parameters, maintaining calibration, implementing a suitable maintenance program, auditing compliance with quality control requirements and providing proper training for operating personnel.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-393:2003, *International Electrotechnical Vocabulary (IEV) – Part 393: Nuclear instrumentation – Physical phenomena and basic concepts*

IEC 60050-394:2007, *International Electrotechnical Vocabulary (IEV) – Part 394: Nuclear instrumentation – Instruments, systems, equipment and detectors*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 61187, *Electrical and electronic measuring equipment – Documentation*

IEC 62706, *Radiation protection instrumentation – Environmental, electromagnetic and mechanical performance requirements*