ICS 13.280, 17.240 SLOVENSKÁ TECHNICKÁ NORMA Apríl 2024

STN	**Prístroje radiačnej ochrany Pevne inštalované zostavy na monitorovanie povrchovej kontaminácie osôb**	**STN EN IEC 61098** 35 6607

Radiation protection instrumentation - Installed personnel surface contamination monitors

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/24

Obsahuje: EN IEC 61098:2024, IEC 61098:2023

Oznámením tejto normy sa od 22.01.2027 ruší
STN EN 61098 (35 6607) z marca 2008

obsahuje farebné strany

138451

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61098

February 2024

ICS 13.280; 17.240

Supersedes EN 61098:2007

English Version

Radiation protection instrumentation - Installed personnel surface contamination monitors (IEC 61098:2023)

Instrumentation pour la radioprotection - Moniteurs fixes pour la surveillance de la contamination de surface du personnel (IEC 61098:2023)

Strahlenschutz-Messgeräte - Fest installierte Personenkontaminationsmonitore (IEC 61098:2023)

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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

European foreword

This document (EN IEC 61098:2024) consists of the text of IEC 61098:2023 prepared by IEC/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)	2025-01-22
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2027-01-22

This document supersedes EN 61098:2007 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.

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Endorsement notice

The text of the International Standard IEC 61098:2023 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:

ISO 11929 (series)	NOTE	Approved as EN ISO 11929 (series)

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.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60050-395	-	International Electrotechnical Vocabulary - Part 395: Nuclear instrumentation: Physical phenomena, basic concepts, instruments, systems, equipment and detectors	-	-
IEC 61000-4-2	-	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	-
IEC 61000-4-3	-	Electromagnetic compatibility (EMC) - Part 4-3 : Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN IEC 61000-4-3	-
IEC 61000-4-5	-	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	-
IEC 61000-4-6	-	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	-	-
IEC 61000-4-8	-	Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	-
IEC 61000-4-12	-	Electromagnetic Compatibility (EMC) - Part 4-12: Testing and measurement techniques - Ring wave immunity test	EN 61000-4-12	-
IEC 62706	-	Radiation protection instrumentation - Environmental, electromagnetic and mechanical performance requirements	-	-
ISO 8769	2020	Measurement of radioactivity - Alpha-, beta- and photon emitting radionuclides - Reference measurement standard specifications for the calibration of surface contamination monitor	EN ISO 8769	2022

IEC 61098

Edition 3.0 2023-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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Radiation protection instrumentation – Installed personnel surface contamination monitors

Instrumentation pour la radioprotection – Moniteurs fixes pour la surveillance de la contamination de surface du personnel

IEC 61098:2023-02(en-fr)

IEC 61098

Edition 3.0 2023-02

INTERNATIONAL STANDARD

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colour inside

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 13.280; 17.240

ISBN 978-2-8322-6527-7

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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RADIATION PROTECTION INSTRUMENTATION – INSTALLED PERSONNEL SURFACE CONTAMINATION MONITORS

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

IEC 61098 has been prepared by subcommittee 45B: Radiation protection instrumentation, of IEC technical committee 45: Nuclear instrumentation. It is an International Standard.

This third edition cancels and replaces the second edition published in 2003. This edition constitutes a technical revision.

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

a) Title is modified.
b) As an alternative of small area sources, area sources are added to be used for methods of test with respect to the variation of response with source position, effective instrument efficiency, detection limit (DL), and variation of response with energy.
c) Detection limit (DL) complies with the ISO 11929 series.
d) Descriptions of influence quantities of type F and type S are added.
e) Consistency with IEC 62706 is promoted for environmental requirements, mechanical requirements, electromagnetic compatibility and methods of test.
f) Descriptions of overhead detectors are added.

g) Descriptions of friskers are added with respect to the hand and foot monitoring.

h) Figures are made easier to understand the relation between the detector position and the response, and the positional relation between the detector surface and the source.

The text of this International Standard is based on the following documents:

Draft	Report on voting
45B/1020/FDIS	45B/1026/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, ISO/IEC Directives and 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/standardsdev/publications.

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,
- replaced by a revised edition, or
- amended

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

RADIATION PROTECTION INSTRUMENTATION – INSTALLED PERSONNEL SURFACE CONTAMINATION MONITORS

1 Scope

This document applies to contamination monitors that include warning assembles and meters used for the monitoring of radioactive contamination on the surface of personnel whether they be clothed or not. The document is applicable only to that type of equipment where the user stays at the monitor. It is not applicable to the user passes quickly through the monitor. It is also not applicable to any peripheral equipment which can be associated with a particular type of equipment such as small article monitors. Probes (friskers) for measuring clothes or body by the person under monitoring or someone else are included in this document. The probes (friskers) are always connected to the monitor.

This document is applicable to the monitoring of the whole body (including the head), hands and feet, but parts of this document can be used for monitors designed for the monitoring of radioactive contamination on the hands and/or feet only. This document does not include tritium measurement.

This document is applicable to:

– installed personnel monitor (all clauses applicable);
– transportable personnel monitor (all clauses applicable);
– monitor for monitoring the hands (see the following clauses and subclauses: 2, 3, 4, 5, 6, 7.1.3, 7.2, 7.3.4, 7.4.2.2 b), 7.4.3, 7.4.4.1, 7.4.4.2, 7.4.4.3 b), 7.5, 7.6, 7.7, 8, 9, 10, 11, 12, 13 and 14);
– monitor for monitoring the feet (see the following clauses and subclauses: 2, 3, 4, 5, 6, 7.1.4, 7.2, 7.3.5, 7.4.2.2 c), 7.4.3, 7.4.4.1, 7.4.4.2, 7.4.4.3 c), 7.5, 7.6, 7.7, 8, 9, 10, 11, 12, 13 and 14); and
– monitor for monitoring the hands and feet (including probe (frisker) for whole body measurement) (see the following clauses and subclauses: 2, 3, 4, 5, 6, 7.1.3, 7.1.4, 7.1.5, 7.2, 7.3.4, 7.3.5, 7.3.6, 7.4.2.2 b), 7.4.2.2 c), 7.4.2.2 d), 7.4.3, 7.4.4.1, 7.4.4.2, 7.4.4.3 b), 7.4.4.3 c), 7.4.4.3 d),7.5, 7.6, 7.7, 8, 9, 10, 11, 12, 13 and 14).

The object of this document is to define mechanical and operational characteristics, minimum performance characteristics and general test procedures for personnel monitors.

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 60050-395, *International Electrotechnical Vocabulary (IEV) – Part 395: Nuclear instrumentation – Physical phenomena, basic concepts, instruments, systems, equipment and detectors*, available at www.electropedia.org

IEC 61000-4-2, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electronic discharge immunity test.*

IEC 61000-4-3, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-5, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 61000-4-6, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61000-4-8, *Electromagnetic compatibility (EMC) – Part 4-8: Testing and measuring techniques – Power frequency magnetic field immunity test*

IEC 61000-4-12, *Electromagnetic compatibility (EMC) – Part 4-12: Testing and measuring techniques – Ring wave immunity test*

IEC 62706, *Radiation protection instrumentation – Recommended climatic, electromagnetic and mechanical performance requirements and methods of tests*

ISO 8769:2020, *Measurement of radioactivity – Alpha-, beta- and photon emitting radionuclides – Reference measurement standard specifications for the calibration of surface contamination monitors*