
**Ergonomics of human-system
interaction —**

Part 303:
**Requirements for electronic visual
displays**

Ergonomie de l'interaction homme-système —

*Partie 303: Exigences relatives aux écrans de visualisation
électroniques*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 9241-303 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

This first edition of ISO 9241-303, together with ISO 9241-302 and ISO 9241-305, cancels and replaces ISO 9241-8:1998. Together with ISO 9241-302, ISO 9241-305 and ISO 9241-307, it cancels and replaces ISO 9241-7:1998 and ISO 13406-2:2001, and partially replaces ISO 9241-3:1992. The following has been technically revised:

- terms and definitions related to electronic visual displays have been transferred to, and collected in, ISO 9241-302;
- while the areas previously covered in ISO 9241 and by ISO 13406 remain essentially unchanged, test methods and requirements have been updated to account for advances in science and technology;
- all generic ergonomic requirements have been incorporated into ISO 9241-303;
- the application of those requirements to different display technologies, application areas and environmental conditions — including test methods and pass/fail criteria — is specified in ISO 9241-307.

ISO 9241 consists of the following parts, under the general title *Ergonomic requirements for office work with visual display terminals (VDTs)*:

- *Part 1: General introduction*
- *Part 2: Guidance on task requirements*
- *Part 4: Keyboard requirements*
- *Part 5: Workstation layout and postural requirements*
- *Part 6: Guidance on the work environment*
- *Part 9: Requirements for non-keyboard input devices*
- *Part 11: Guidance on usability*

- Part 12: Presentation of information
- Part 13: User guidance
- Part 14: Menu dialogues
- Part 15: Command dialogues
- Part 16: Direct manipulation dialogues
- Part 17: Form filling dialogues

ISO 9241 also consists of the following parts, under the general title *Ergonomics of human-system interaction*:

- Part 20: Accessibility guidelines for information/communication technology (ICT) equipment and services
- Part 110: Dialogue principles
- Part 151: Guidance on World Wide Web user interfaces
- Part 171: Guidance on software accessibility
- Part 300: Introduction to electronic visual display requirements
- Part 302: Terminology for electronic visual displays
- Part 303: Requirements for electronic visual displays
- Part 304: User performance test methods for electronic visual displays
- Part 305: Optical laboratory test methods for electronic visual displays
- Part 306: Field assessment methods for electronic visual displays
- Part 307: Analysis and compliance test methods for electronic visual displays
- Part 308: Surface-conduction electron-emitter displays (SED) [Technical Report]
- Part 309: Organic light-emitting diode (OLED) displays [Technical Report]
- Part 400: Principles and requirements for physical input devices
- Part 410: Design criteria for physical input devices
- Part 920: Guidance on tactile and haptic interactions

For the other parts under preparation, see Annex A.

Introduction

This part of ISO 9241 addresses a large range of technologies, tasks and environments.

ISO 9241 was originally developed as a seventeen-part International Standard on the ergonomics requirements for office work with visual display terminals. As part of the standards review process, a major restructuring of ISO 9241 was agreed to broaden its scope, to incorporate other relevant standards and to make it more usable. The general title of the revised ISO 9241, “Ergonomics of human-system interaction”, reflects these changes and aligns the standard with the overall title and scope of Technical Committee ISO/TC 159, Subcommittee SC 4. The revised multipart standard is structured as series of standards numbered in the “hundreds”: the 100 series deals with software interfaces, the 200 series with human-centred design, the 300 series with visual displays, the 400 series with physical input devices, and so on.

See Annex A for an overview of the entire ISO 9241 series.

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Ergonomics of human-system interaction —

Part 303:

Requirements for electronic visual displays

1 Scope

This part of ISO 9241 establishes image-quality requirements, as well as providing guidelines, for electronic visual displays. These are given in the form of generic — independent of technology, task and environment — performance specifications and recommendations that will ensure effective and comfortable viewing conditions for users with normal or adjusted-to-normal eyesight.

This part of ISO 9241 does not address issues of accessibility for people with disabilities. However, it does take into account aspects of the eyesight of older people and could be of value to people dealing with issues of visual impairment in certain cases: the specification of essential characteristics for normal viewing can be used to gauge the severity of different visual abnormalities so that appropriate solutions can be identified.

NOTE In addition to the Bibliography, Annex F gives a selected bibliography of documents addressing the needs of people with disabilities, including people with poor, deteriorating or no eyesight.

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.

ISO 9241-302, *Ergonomics of human-system interaction — Part 302: Terminology for electronic visual displays*

ISO 9241-307, *Ergonomics of human-system interaction — Part 307: Analysis and compliance test methods for electronic visual displays*

3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO 9241-302 apply.