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# Optics and photonics — Specifications for binoculars, monoculars and spotting scopes — General purpose and high performance instruments

*Optique et photonique — Spécifications pour jumelles, monoculaires et lunettes — Instruments d'usage général et haute performance*

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# Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 4, *Telescopic systems*.

This first edition of ISO 14133 cancels and replaces ISO 14133-1:2016 and ISO 14133-2:2016, which have been technically revised.

The main changes are as follows:

— the technical matter from the two standards has been combined into one document.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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# Optics and photonics — Specifications for binoculars, monoculars and spotting scopes — General purpose and high performance instruments

## 1 Scope

This document gives requirements for general and high purpose binoculars, monoculars and spotting scopes.

## 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.

ISO 14132-1, *Optics and photonics — Vocabulary for telescopic systems — Part 1: General terms and alphabetical indexes of terms in ISO 14132*

ISO 14132-2, *Optics and photonics — Vocabulary for telescopic systems — Part 2: Terms for binoculars, monoculars and spotting scopes*

ISO 14490-1, *Optics and optical instruments — Test methods for telescopic systems — Part 1: Test methods for basic characteristics*

ISO 14490-2, *Optics and optical instruments — Test methods for telescopic systems — Part 2: Test methods for binocular systems*

ISO 14490-7, *Optics and photonics — Test methods for telescopic systems — Part 7: Test methods for limit of resolution*

ISO 20711, *Optics and photonics — Environmental requirements — Test requirements for telescopic systems*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14132-1 and ISO 14132-2 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

## 4 Specifications

Fundamental requirements are defined by minimum values or tolerances for important characteristics of binoculars, monoculars and spotting scopes.

Tolerances specify maximum deviations between measured and nominal values. Nominal values shall be laid down by the manufacturing or trading company.

Wherever relevant, all tolerances and values refer to measurements made on axis.

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