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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 13987-2025

Replacing GB/T 13987-1992

**Determination of flash guide numbers for electronic photoflash
equipment**

照相用电子闪光装置闪光指数的确定

(English Translation)

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Table of Contents

Preface
Introduction
1 Scope
2 Normative references
3 Terms and Definitions
4 Guide Number Calculation Formula
5 How to express the guide number
Appendix A (Informative) Conversion of Flash Guide Number from Metric to Foot
Appendix B (Informative) Explanation of the Flash Index Formula
References

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 13987-1992 "Determination of the guide number of electronic flash devices for photographic use" and is consistent with GB/T 13987-1992.

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Changed the scope of the content (see Chapter 1, Chapter 1 of the 1992 edition);
- Changed the terms and definitions of "Flash Guide Number" and "ISO Flash Guide Number" (see Chapter 3, Chapter 3 of the 1992 edition);
- Changed the value of k and the calculation formula in formula (1) (see 4.1, 4.1 of the 1992 edition);
- Deleted the content related to the measurement of flash index (see Chapter 5 of the 1992 edition).

This document is equivalent to ISO 1230:2007 "Determination of the guide number for photographic electronic flash devices". This document adds a chapter on "Normative References".

The following minimal editorial changes have been made to this document.

--- The name of the standard is changed to "Determination of the Flash Guide Number of Electronic Flash Devices for Photography".

Introduction

In general flash photography, the flash light source is mounted on the camera, and the camera is sensitive to the ISO of the film or digital camera used.

The product of the F number of the camera lens and the distance from the flash light source to the subject is a constant.

Following the inverse square law, in order to obtain the same proper exposure on the film or image sensor, the F number is the relative illumination of the subject. The square root of.

This constant is named "Flash Guide Number" and is a very useful index for flash photographers because the flash guide number is In a sense, it indicates the lighting power of a light source. Whether it is a flash unit with or without an integral reflector or an electronic flash unit, by The F number of the camera lens can be easily set by dividing the light index by the distance from the flash light source to the subject.

1 Scope

This document defines the terms and definitions of the guide number of electronic flash devices and determines the calculation formula and expression method of the guide number.

This document does not contain the definition and description of the measurement methods for the light output of electronic flash devices as defined in ISO 2827.

This document applies to the measurement of the guide number of electronic flash devices used in photography.

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Flash index guide number; GN

Related to the ISO sensitivity of the film or digital camera used, the camera's required sensitivity to obtain the proper exposure for the film or image sensor.

The product of the lens aperture (F-number) and the distance from the flash light source to the subject.

Note: The unit is meter (m). Appendix A provides the conversion calculations for converting meters to feet.

3.2 ISO flash index ISO guide number

For film or digital cameras with a sensitivity of ISO 100, the "X" sync and the corresponding exposure time can fully absorb the flash The total output of the light source.

4.1 ISO Guide Number

The ISO flash index NISO /GN should be calculated according to formula (1). $NISO /GN = k \int I(t)dt$ (1) Where. k ---value is $0.511m^{-1}xm^2.s^{-1}$;

$\int I(t)dt$ ---Integral of the luminous intensity of an electronic flash device over time, in candela seconds [cd.s (cd.s=lm. sr-1.s)]. The explanation of formula (1) is given in Appendix B.

4.2 Guide Numbers other than ISO 100

For ISO values other than 100, the guide number can be calculated using formula (2).