

**SINGAPORE STANDARD**  
**SS IEC 60529 : 1989**  
(ICS 29.100)

**SPECIFICATION FOR**  
**Degrees of protection**  
**provided by enclosures**  
**(IP code)**

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**SINGAPORE STANDARD**

**SPECIFICATION FOR DEGREES OF  
PROTECTION PROVIDED BY ENCLOSURES (IP CODE)**

**NATIONAL FOREWORD**

This Singapore Standard was prepared by the Technical Committee for Degrees of Protection Provided by Enclosures (IP Code) under the direction of the Electrical Product Standards Committee. It is identical with IEC 529 : 1989-11 (Second Edition). IEC 529 : 1989-11 (Second Edition) is published by the International Electrotechnical Commission.

The following IEC publications are quoted in this standard:

IEC 50(826) : 1982	International Electrotechnical Vocabulary (IEV), Chapter 826: Electrical installations of buildings
IEC 68-1 : 1988	Environmental testing, Part 1: General and guidance
IEC 71-2 : 1976	Insulation co-ordination, Part 2: Application guide

Attention is also drawn to the following:

1. Where the reference 'IEC 529' appears, it should be interpreted as 'SS IEC 529'.
2. The comma has been used throughout as a decimal marker whereas in Singapore Standards it is a practice to use a full point on the baseline as the decimal marker.

**NOTE**

1. Singapore Standards are subject to periodical review to keep abreast of technological changes and new technical developments. The revision of Singapore Standards are announced through the issue of either amendment slips or revised editions.
2. Compliance with a Singapore Standard does not exempt users from legal obligations.

## DEGREES OF PROTECTION PROVIDED BY ENCLOSURES

### (IP Code)

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#### INTRODUCTION

This standard describes a system for classifying the degrees of protection provided by the enclosures of electrical equipment. Whilst this system is suitable for use with most types of electrical equipment, it should not be assumed that all the listed degrees of protection are applicable to a particular type of equipment. The manufacturer of the equipment should be consulted to determine the degrees of protection available and the parts of equipment to which the stated degree of protection applies.

The adoption of this classification system, wherever possible, will promote uniformity in methods of describing the protection provided by the enclosure and in the tests to prove the various degrees of protection. It should also reduce the number of types of test devices necessary to test a wide range of products.

This second edition of IEC 529 takes account of experiences with the first edition, and clarifies the requirements. It provides for an optional extension of the IP Code by an additional letter A, B, C, or D if the actual protection of persons against access to hazardous parts is higher than that indicated by the first characteristic numeral.

In general, enclosures with an IP coding to the first edition would be eligible for the same code according to this edition.

#### 1. Scope

This standard applies to the classification of degrees of protection provided by enclosures for electrical equipment with a rated voltage not exceeding 72,5 kV.

#### 2. Object

The object of this standard is to give:

- a) *Definitions* for degrees of protection provided by enclosures of electrical equipment as regards:
  - 1) protection of persons against access to hazardous parts inside the enclosure;
  - 2) protection of the equipment inside the enclosure against ingress of solid foreign objects;
  - 3) protection of the equipment inside the enclosure against harmful effects due to the ingress of water.
- b) *Designations* for these degrees of protection.
- c) *Requirements* for each designation.