



Thank you again for sparing your time for the newsletter ! I hope these newsletters are useful. In this edition we are providing some information on definition & classification of IP (Ingress Protection) codes.

IP Ratings

The IP Rating system (or International Protection Code) is a worldwide standard for rating enclosures. IP stands for 'Ingress Protection'.

An IP number is used to specify the environmental protection of enclosures around electronic/electrical equipment. These ratings are determined by specific tests.

The IP number is composed of two numbers, the first referring to the protection against solid objects and the second against liquids. The higher the number, the better the protection. The rating is written as IP-"XY" where X and Y are replaced by the first and second digits as listed in the tables below.

First Digit	Brief Description	Second Digit	Brief Description
0	No special protection. Generally not used for pressure or temperature instruments.	0	No special protection. Generally not used for pressure or temperature instruments.
1		1	Protected against dripping water
2		2	Protection against dripping water when case is tilted up to 15°
3	Protected against solid objects > 2.5 mm in diameter	3	Protected against spraying water
4	Protected against solid objects > 1.0 mm in diameter	4	Protected against splashing water
5	Dust protected	5	Protected against a water jet
6	Dust-tight	6	Protected against heavy jet spray
		7	Protected against limited submersion
		8	Protected against continuous submersion

e.g. :- **IP"67"**:- First digit "**6**" stands for Dust-tight & Second digit "**7**" stands for Protected against limited submersion.



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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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations. In the IEC 60529 standard document, it specifies an international classification system for the sealing effectiveness of enclosures of electrical equipment against the intrusion into the equipment of foreign bodies.

The object of the above 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.
- d) *Tests* to be performed to verify that the enclosure meets the requirements of this standard.



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