

IP Ratings (Ingress Protection)

A two-digit number established by the International Electro Technical Commission, is used to provide an Ingress Protection rating to a piece of electronic equipment or to an enclosure for electronic equipment.

The protection class after EN60529 are indicated by short symbols that consist of the two code letters IP and a code numeral for the amount of the protection.

Example: IP65 (NEMA 4)

The two digits represent different forms of environmental influence:

- ❖ The first digit represents protection against ingress of solid objects.
- ❖ The second digit represents protection against ingress of liquids.

The larger the value of each digit, the greater the protection. As an example, a product rated IP54 would be better protected against environmental factors than another similar product rated as IP42.

	First digit: Ingress of solid objects	Second digit: Ingress of liquids
0	No protection	No protection
1	Protected against solid objects over 50mm e.g. hands, large tools.	Protected against vertically falling drops of water or condensation.
2	Protected against solid objects over 12.5mm e.g. hands, large tools.	Protected against falling drops of water, if the case is disposed up to 15 degrees from vertical.
3	Protected against solid objects over 2.5mm e.g. wire, small tools.	Protected against sprays of water from any direction, even if the case is disposed up to 60 degrees from vertical.
4	Protected against solid objects over 1.0mm e.g. wires.	Protected against splash water from any direction.
5	Limited protection against dust ingress. (no harmful deposit)	Protected against low pressure water jets from any direction. Limited ingress permitted.
6	Totally protected against dust ingress.	Protected against high pressure water jets from any direction. Limited ingress permitted.
7	N/A	Protected against short periods of immersion in water.
8	N/A	Protected against long, durable periods of immersion in water.