

## IP Ratings

The IP rating system provides a means of classifying the degrees of protection from dust, water and impact afforded by electrical equipment and enclosures. The system is recognised in most European countries and is set out in IEC529 (BS EN 60529: 1992) Degrees of Protection provided by Enclosures (IP code).

The degrees of protection are most commonly expressed as 'IP' followed by two numbers, where the numbers define the degree of protection. The first digit indicates the extent to which the equipment is protected against particles, or to which persons are protected from enclosed hazards. The second digit indicates the extent of protection against water.

DIGIT	FIRST NUMBER - SOLID	SECOND NUMBER - LIQUID
0	Not Protected	Not protected
1	Protected against solid objects over 50mm, e.g. accidental touch by hand	Protected against vertically falling drops of water
2	Protected against solid objects over 12mm diameter, not exceeding 80mm long, e.g. fingers	Protected against direct sprays of water up to 15° from the vertical
3	Protected against solid objects over 2.5mm, e.g. tools and wires	Protected against sprayed water at up to 60° from the vertical
4	Protects against solid objects over 1.0mm, e.g. small wires	Protected when sprayed from any direction - limited ingress allowed
5	Protected against dust, limited ingress (no harmful deposit)	Protected against low pressure jets, from all directions - limited ingress allowed
6	Dust tight. Totally protected against dust	Protected against strong jets of water with limited ingress allowed
7	n/a	Protected against temporary immersion between 15cm and 1m for up to 30 minutes
8	n/a	Protected against long periods of immersion under pressure