

Ingress Protection (IP) Rating System

IP ratings, or Ingress Protection ratings, are a standard way of classifying the degree of protection provided by enclosures against the intrusion of foreign objects (i.e. dust) and moisture (i.e. water).

The IP rating is represented by two digits. The **first digit** indicates the level of protection against solid objects, while the **second digit** indicates the level of protection against liquids.

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Solids

Liquids

No protection.		0
Protection against solid objects larger than 50mm.		1
Protection against solid objects larger than 12.5mm.		2
Protection against solid objects larger than 2.5mm.		3
Protection against solid objects larger than 1mm.		4
Limited protection from dust.		5
Complete protection from dust.		6

0		No protection.
1		Protection against vertically dripping water. Limited ingress permitted.
2		Protection against vertically dripping water when enclosure is at an angle of up to 15°. Limited ingress permitted.
3		Protection against direct water spray of angles up to 60°.
4		Protection against splashing water from any angle. Limited ingress permitted.
5		Protection against low-pressure jets (6.3mm) of directed water from any angle. Limited ingress permitted.
6		Protection against high-pressure jets (12.5mm nozzle) of directed water from any direction. Limited ingress permitted.
7		Protection against full immersion for up to 30 minutes at depths between 15cm and 1 metre (limited ingress permitted with no harmful effects).
8		Protection against extended immersion under higher pressure i.e. greater depths.
9		Protection against high-pressure, high-temperature jet sprays, wash-downs, or steam-cleaning procedures.

