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## IP (Ingress Protection) Rating for Equipment and Enclosures

A three-digit number (as specified in Australian Standards AS1939 and EN60529) is used to provide an IP Rating to a piece of electronic equipment or to an enclosure for electronic equipment.

The three digits represent three 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 **third digit** represents protection against mechanical impact damage.

The third digit is often omitted, resulting in a 2-digit IP Rating covering ingress against solid objects and liquids only.

The larger the value of each digit, the greater the protection from that influence. As an example, a product rated as IP573 would be better protected against environmental factors than another similar product that was only rated as IP432. The third digit (mechanic impact) may be omitted. Our [Gel Connectors](#) are rated at IP67 (totally protected against dust ingress and withstands immersion up to a depth of 1 metre).

Value	First Digit Protection against ingress of solids	Second Digit Protection against ingress of liquids	Third Digit Protection against mechanical impact damage
0	No protection	No protection	No protection
1	Protected against solid objects over 50mm e.g. hands, large tools.	Protected against vertically falling drops of water.	Protected against 0.225 joule impact (150g @ 15cm).
2	Protected against solid objects over 12mm e.g. hands, large tools.	Protected against direct sprays of water up to 15° from vertical.	Protected against 0.375 joule impact (250g @ 15cm).
3	Protected against solid objects over 2.5mm e.g. wire, small tools.	Protected against direct sprays of water up to 60° from vertical.	Protected against 0.5 joule impact (250g @ 20cm).
4	Protected against solid objects over 1.0mm e.g. wires.	Protected against water sprayed from any direction. Limited ingress permitted.	
5	Limited protection against dust ingress (no harmful deposit)	Protected against low pressure water jets from any direction. Limited ingress permitted.	Protected against 2.0 joule impact (500g @ 40cm).
6	Totally protected against dust ingress.	Protected against high pressure water jets from any direction. Limited ingress permitted.	
7		Protected against immersion between 15cm and 1M.	Protected against 6.0 joule impact (1.5Kg @ 40cm).

8

Protected against long periods  
of immersion under pressure.

9

Protected against 20 joule  
impact (5Kg @ 40cm).

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