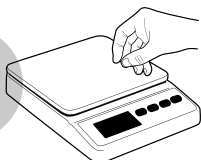# IP (Ingress Protection) Ratings Guide

SOLIDS

The first digit is a number between 0 and 6, and it gives information about the object's resistance to solid materials.
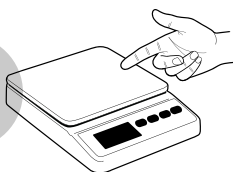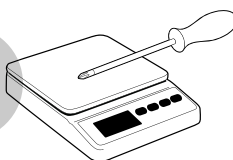
0 — No protection

1 — Protected against a large bodily surface such as a hand (objects over 50 mm)
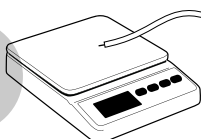
2 — Protected against fingers and similarly-sized objects (objects over 12.5 mm)
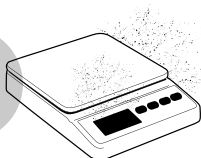
3 — Protected against solid objects such as tools and thick wires (objects over 2.5 mm)
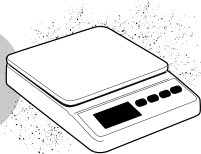
4 — Protected against smaller solid objects such as tools and wires (objects over 1 mm)

5 — Protected against limited amounts of dust

6 — Protected totally against dust

LIQUIDS

The second digit is a number between 0 and 8, and it gives information about the object's resistance to liquids.

0 — No protection
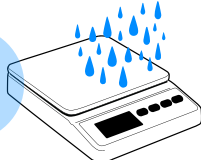
1 — Protected against vertically dripping water
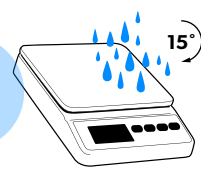
2 — Protected against vertically dripping water when the enclosure is tilted an extra 15° from its standard position
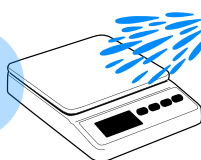
3 — Protected against water being sprayed up 60° from vertical position

4 — Protected against water splashing from any direction
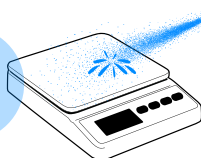
5 — Protected against jets of water spraying at a low pressure from any direction
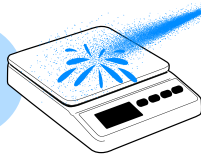
6 — Protected against jets of water spraying at a high pressure from any direction
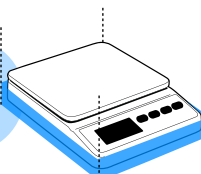
7 — Protected against water entering the enclosure when submerged underwater (less than 1 m)
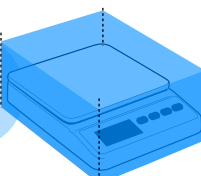
8 — Protected against being submerged underwater for long periods of time (more than 1 m)

The IP Code refers to the degree to which an electrical enclosure is protected from outside sources, both solid and liquid. It allows users to better understand a unit's effectiveness against outside agents.

EXAMPLE

IP **6** **5**

Made up of the letters "IP" followed by two numerical digits, the Code provides users the ability to see what a unit is effective against all at one time.

The two digits are combined to create an IP rating.

For example, a unit rated IP65 would be protected against both dust and from being sprayed with low pressure water from any direction.