

IP Classifications

The Ingress Protection (IP) rating is used to specify the environmental protection for enclosures. Below is the IP protection definitions in accordance with IEC529. A two-digit code is used to specify the type of protection. The table below provides a definition of the codes for protection against solid objects and water.

First Digit		Second Digit	
Represents the type of protection against solid objects		Represents the type of protection against water	
0	No special protection	0	No special protection
1	Protection against solid objects with a diameter over 50 mm. No protection against deliberate access, e.g. with a hand, but large surfaces of the body are prevented from approach.	1	Protection against vertically falling drops of water, such as condensation.
2	Protection against penetration by solid objects with a diameter over 12 mm., such as fingers or similar objects.	2	Protection against dripping water falling vertically when the equipment (enclosure) is tilted at an angle up to 15° from its normal position.
3	Protection against solid objects with a diameter of more than 2.5 mm., such as tools and wires with a thickness of more than 2.5 mm.	3	Protection against water falling at any angle up to 60° from the vertical.
4	Protection against solid objects with a diameter over 1 mm., such as tools and wires with a thickness of more than 1 mm.	4	Protection against water splashed against the equipment (enclosure) from any direction.
5	Protection against the ingress of harmful dust deposits.	5	Protection from water projected from a nozzle against the equipment (enclosure) from any direction.
6	Complete protection against the ingress of dust	6	Protection against heavy seas or powerful water jets.
		7	Protection against water when the equipment (enclosure) is immersed in water under defined conditions of pressure and time.
		8	The equipment (enclosure) is suitable for continuous submersion in water under conditions which must be specified by the manufacturer.