

# IP (Ingress Protection) What is the protection class?

IP protection class is a classification standard for the level of environmental protection a electrical casing provides which is improved by European Commission

IP classification consists of 2 digits.

- 1) Protection against solid objects or materials
- 2) Protection against liquids (water)

With different numeric codes, the protection level of the product can be determined easily and quickly. The numeric values corresponds to the levels indicated in the below table.

The value of the used IP protection number of a product shows the level of the protection. For outer or moist environments, it is recommended to use products with high IP values. Because, the working performance and also the user safety requires the product to be of maximum protection level.

The second digit in IP protection is very important for the user. The products used in outer environments and moist environments are subject to water frequently. While this does not mean that the first digit is not important but the second digit is very important and carries lethal value.

## First Digit: Protection Against Foreign Solid Objects

Number	Description
0(x)	not protected.
1	Protected against solid objects with diameter $\geq$ 50 mm. (example: unintentional touch of hand)
2	Protected against solid objects with diameter $\geq$ 12.5 mm. (example: touch with finger)
3	Protected against solid objects with diameter $\geq$ 2.5 mm. (example: tools, screws)
4	Protected against solid objects with diameter $\geq$ 1 mm. (example: fine tools, fine wires)
5	Protected against dust. (there shall be no more than an amount which can effect well functioning of the equipment.)
6	Protected against dust. (there shall be no more than an amount which can effect well functioning of the equipment.)

## Second Digit: Protection Against Liquids

Number	Description
0(x)	not protected
1	Protected against vertically dropping water drops.
2	Protected against water drops falling up to 15° of angle.
3	Protected against water drops falling up to 60° of angle.
4	Protected against splash water from all angles.
5	Protected against pressurized water from all angles.
6	Protected against pressurized water impacts from all angles.
7	Protected against temporary dipping in water.
8	Protected against permanent dipping in water.