

Protection classes according to EN 60259

The protection of enclosed, electrical equipments is provided with letters and figures. This type of protective designation consists of the letters IP and two numbers between 0 and 6. The first digit defines the protection against the contact and against the foreign bodies, the second digit indicates the water level of protection. The higher the ratio, the higher is the protection offered.

Protection Classes against contact and foreign bodies

Indicator	Designation	Scope of protection
0	No protection	No special protection of persons against accidental contact with voltage or moving parts. No protection of equipment against penetration of solid foreign bodies.
1	Protection against large foreign bodies > 50 mm	Protection against accidental, large-surface contact with active or internal moving parts, such as by hand, but no protection against intentional access to these parts. Protection against penetration of solid foreign bodies with a diameter larger than 50 mm.
2	Protection against large foreign bodies > 12 mm	Protection against contact by the fingers with active or internal moving parts. Protection against penetration of solid foreign bodies with a diameter larger than 12 mm.
3	Protection against large foreign bodies > 2,5 mm	Protection against contact with active or internal moving parts with tools, wires or similar objects with a thickness larger than 2,5 mm. Protection against penetration of solid foreign bodies with a diameter larger than 2,5 mm.
4	Protection against large foreign bodies > 1 mm	Protection against contact with active or internal moving parts with tools, wires or similar objects with a thickness larger than 1 mm. Protection against penetration of solid foreign bodies with a diameter larger than 1 mm.
5	Protection against accumulation of dust	Complete protection against contact with active or internal moving parts. Protection against harmful dust accumulations. The penetration of dust is not completely prevented, but dust shall not penetrate in such quantities that the mode of operation will be affected.
6	Protection against ingress of dust	Complete protection against contact with active or internal moving parts. Protection against the ingress of dust.

Protection Classes for water protection

Indicator	Designation	Scope of protection
0	No protection	No special protection.
1	Protection against dripping water falling vertically	Water drops falling vertically shall not have any harmful effect.
2	Protection against dripping water falling at an angle	Water drops falling at any angle from 15 ° to the vertical shall have no harmful effect.
3	Protection against sprayed water	Water falling at any angle from 60 degrees to the vertical shall have no harmful effect.
4	Protection against splashed water	Water splashed from any direction against the equipment shall have no harmful effect.
5	Protection against water jet	A water jet from a nozzle, which is directed from any direction against the equipment, shall not have any harmful effect.
6	Protection against flooding	In case of temporary flooding e.g. by heavy seas, water may not penetrate into the equipment in harmful quantities.
7	Protection against immersion	Water may not penetrate in harmful quantities when the equipment is immersed in water under specified pressure and time conditions.
8	Protection against submersion	Water may not penetrate in harmful quantities when the equipment is submerged in water under specified pressure.
9	Protection against high pressure/ high pressure steam cleaner	Water, which is directed from any direction under very high pressure, may not cause damage to the housing.