

Definition of protection classes

in accordance to EN 60529

The protection class is indicated by a code, which is composed of the two letters IP and two digits for the degree of protection

First identification figure	Scope of protection	
	Scope of protection against contact and foreign substances	
	Description	Explanation
0	No protection	No particular protection for individuals against direct contact with active or moving parts. No protection of the equipment against penetration of hard foreign substances.
1	Protection against large foreign substances	Protection against coincidental large surface contact of active and inactive moving parts such as hands, but without protection against deliberate access to these parts. Protection against penetration of hard foreign substances, which have a larger diameter than 50 mm.
2	Protection against medium size foreign substances	Protection against contact with active or inactive parts with one's fingers. Protection against penetration of hard foreign substances, which have a diameter larger than 12 mm.
3	Protection against small foreign substances	Protection against contact with active or inactive parts with tools, wires or similar objects, which are larger than 2.5 mm. Protection against penetration of hard foreign substances, which have a diameter larger than 2.5 mm.
4	Protection against grain shaped foreign substances	Protection against contact with active or inactive parts with tools, wires or similar objects, which are larger than 1 mm.
5	Protection against accumulation of dust	Complete protection against contact with moving parts, which are under tension. Protection against dangerous accumulations of dust. The penetration of dust cannot completely be prevented, but is not allowed to accumulate in such amounts, which prevent the mode of operation.
6	Protection against dust inflow	Complete protection against contact with moving parts which are under tension or which are moving inside themselves. Protection against penetration of dust.

Second identification figure	Scope of protection	
	Scope of protection against water	
	Description	Explanation
0	No protection	No particular protection against water
1	Protection against vertically falling dropping water	Dropping water, which falls vertically is not allowed to have a harmful effect.
2	Protection against obliquely falling dropping water	Dropping water, which falls vertically in any angle to 15° is not allowed to have a harmful effect.
3	Protection against spray water	Water, which falls vertically in any angle to 60° is not allowed to have a harmful effect.
4	Protection against splash water	Water, which falls in all directions and is directed towards the equipment is not allowed to have a harmful effect.
5	Protection against jet water	Jetwater from a nozzle, which is sprayed against the equipment from all sides, is not allowed to have a harmful effect.
6	Protection against flooding	Water, which is caused by temporary flooding e.g. stormy sea, is not allowed to penetrate the equipment.
7	Protection when dipping	Water is not allowed to penetrate in harmful amounts when the equipment is dipped into water for a fixed pressure and time condition.
8	Protection when submerging	Water is not allowed to penetrate in harmful amounts when the equipment is submerged under water.
9K	Protection against penetration of water when cleaning with high-pressure / steam jet cleaner	Water, which is directed against the enclosure with high-pressure from all sides, is not allowed to have a harmful effect.