

Ingress Protection (IP)

A standard to classify product performance regarding ingress protection

The protective systems are stated through a short-code sign, composing of the two unchangeable indicating letters IP and two indexes for the protection degree i.a. IP 68.

The first digit stands for:

Protection against contact and penetration of foreign objects

Index	Designation	Protection scope Description
0	No protection	No contact protection, no protection against solid particles and bodies
1	Protection against large foreign bodies	Protection against large contact area with hands and foreign bodies with $\varnothing > 50\text{mm}$
2	Protection against medium foreign bodies	Protection against contact with fingers, protection against foreign bodies $\varnothing > 12.5\text{ mm}$
3	Protection against small foreign bodies	Protection against tool contact foreign bodies, wires or the like with $\varnothing > 2.5\text{ mm}$
4	Protection against foreign grains	Protection against tool contact foreign bodies, wires or the like with $\varnothing > 1\text{ mm}$
5	Dust-protected	Full contact protection. Protection against dust deposits inside
6	Dust-tight	Full contact protection. Protection against dust penetration

The second digit stands for: Protection against fluids

Index	Designation	Protection scope Description
0	No protection	No protection against water
1	Protection against dripping water	Protection against vertical water drops
2	Protection against inclined water drops	Protection against inclined water drops (any angle up to 15° to vertical line)
3	Protection against spray-water	Protection against spray water from an angle of 60° to vertical line
4	Protection against splash-water	Protection against splash water from all directions
5	Protection against water jets	Protection against water jets from any angle
6	Protection against powerful water jets	Protection against powerful water jets from any angle
7	Protection against immersion	Protection against water penetration 1 m below water
8	Protection against submersion	Protection against pressure water for an indefinite time (customer tailored)
9K	Protection against high pressure cleaning	Protection against water from any angle with high pressure