

About the Waterproof Standards Used in Icom Radios

Icom radios are tested for Ingression Protection (IP) rating compliance. Since different models have different ratings, please check the applicable specifications for the IP ratings for each particular model. IP is commonly understood to mean Ingression Protection. The first digit in the IP code represents solid particle protection; the second digit is liquid protection. An X in the first digit means there is insufficient information for a designation.

The IPX8 standard specifies protection from water *submersion*, rather than the water immersion specified for IPX7. Icom tests IPX8 rated radios at 1.5 meters submersion for 30 minutes, 150% more water pressure than at IPX7. A glance at the table below shows all the IP water standards in detail.

IP Standard for Solid Particle (1st Digit)

PROTECTION GRADE	EXPLANATION
X	No data available
0	No protection
1	Any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a body part
2	Fingers or similar objects
3	Tools, thick wires etc.
4	Most wires, slender screws
5	Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment
6	No ingress of dust; complete protection against contact (dust tight)

IP (IEC) Standard for Water Ingression (2nd Digit)

PROTECTION GRADE	EXPLANATION
0	No special protection.
1	Protected against falling water. Equivalent to 3-5mm rainfall per minute for duration of 10min. Unit is placed in its normal operating position.
2	Protected against falling water when tilted up to 15°. Same as IPX-1 but unit is tested in 4 fixed positions, tilted 15° in each direction from normal operating position.
3	Protected against spraying water. Water spraying up to 60° from vertical at 10L per minute at a pressure of 80-100kN/m ² for 5 min.
4	Protected against splashing water. Same as IPX-3 but water is sprayed at all angles.
5	Protected against water jets. Water projected at all angles through a 6.3mm nozzle at a flow rate of 12.5L per minute at a pressure of 30kN/m ² for 3min from a distance of 3 meters.
6	Protected against heavy seas. Water projected at all angles through a 12.5mm nozzle at a flow rate of 100L/min at a pressure of 100kN/m ² for 3min from a distance of 3 meters.
7	Protected against water immersion. Immersion for 30 minutes at a depth of 1 meter.
8	Protected against water submersion. The equipment is suitable for continual submersion in water under conditions which are identified by the manufacturer.