

What Is an IP Rating, and What Does It Mean?

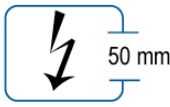

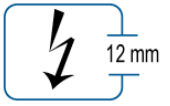

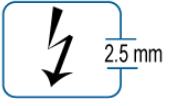

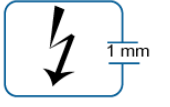

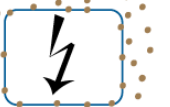




The IP Ratings system is designed to classify the degrees of protection or sealing that your electrical component has from foreign objects. The system uses the letters IP, abbreviated for “Ingress Protection,” followed by two digits. The larger the IP number, the greater the protection.

The first digit in the IP number (for example, IP**6**7) represents the protection your component has against solid objects, such as hands, tools, wires, dust, etc.

The second digit in the IP number (for example, IP6**7**) represents the component’s protection from liquids, starting with moisture from humidity, increasing to sprays of water, to jets of water, to total immersion.

For example, an encoder that is protected to IP65 is dust tight (dust will not enter) and is protected against low-pressure jets of water in all directions, with limited ingress.

This system is recognized in North America and most European Countries. Encoders are available with varying IP ratings. For help determining which IP rating is right for the encoder in your application, [contact our Technical Services Department](#).

1st Digit	Protection Against Solids	2nd Digit	Protection Against Liquids
0	No Protection	0	No Protection
1	 Protected against solid objects greater than 50 mm	1	 Protected against vertically falling drops of water
2	 Protected against solid objects greater than 12 mm	2	 Protected against direct sprays of water up to 15° from the vertical
3	 Protected against solid objects greater than 2.5 mm	3	 Protected against direct sprays of water up to 60° from the vertical
4	 Protected against solid objects greater than 1 mm	4	 Protected against water sprays from all directions- limited ingress permitted
5	 Dust protected	5	 Protected against low pressure jets of water in all directions- limited ingress permitted
6	 Dust Tight	6	 Protected against strong pressure jets of water in all directions- limited ingress permitted
		7	 Protected against water immersion between 15 cm and 1 m for a duration of 30 minutes