

IP Ratings



EASYSpec - The Automation Specification Service for Professionals

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What Do The Numbers In An IP Rating Mean?

The numbers that follow the letters IP each have a specific meaning. The first indicates the degree of protection (of people) from moving parts, as well as the protection of enclosed equipment from foreign bodies. The second defines the protection level that the enclosure enjoys from various forms of moisture (drips, sprays, submersion etc). The tables below should help make sense of it.

First Digit (Intrusion Protection)

- 0 No special protection
- 1 Protection from a large part of the body such as a hand (but no protection from deliberate access); from solid objects greater than 50mm in diameter
- 2 Protection against fingers or other objects not greater than 80mm in length and 12mm in diameter
- 3 Protection from entry by tools, wires etc, with a diameter of 2.5 mm or more
- 4 Protection against solid bodies larger than 1mm (e.g. fine tools/small objects etc)
- 5 Protected against dust that may harm equipment
- 6 Totally dust tight

A number replaced by X indicates that the enclosure is not rated for that specification.

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Second Digit (Moisture Protection)

- 0 No protection
- 1 Protection against condensation
- 2 Protection against water droplets deflected up to 15° from vertical
- 3 Protected against spray up to 60° from vertical
- 4 Protected against water spray from all directions
- 5 Protection against low pressure water jets (all directions)
- 6 Protection against strong water jets and waves
- 7 Protected against temporary immersion
- 8 Protected against prolonged effects of immersion under pressure

A number replaced by X indicates that the enclosure is not rated for that specification.

All materials and specialist advice can be obtained from:

Electro Automation (NI) Ltd

21 Crescent Business Park
Lisburn
BT28 2GN

Local Contact: David Cobain

Mobile: 07841 802801

Office: 028 9266 4583

Email: davidcobain@electroautomation.co.uk