

Ingress Protection Ratings

EN 60529 outlines an international classification system for the sealing effectiveness of enclosures of electrical equipment against the intrusion into the equipment of foreign bodies (i.e. tools, dust, fingers) and moisture. This classification system utilises the letters "IP" ("Ingress Protection") followed by two or three digits. (A third digit is sometimes used. An "x" is used for one of the digits if there is only one class of protection; i.e. IPX4 which addresses moisture resistance only.)

The first number following the "IP" refers to the degree of protection against access to hazardous parts and solid foreign objects (dust). The second number refers to the degree of protection against the ingress of water.

FIRST NUMBER:

Degree of Protection against access to hazardous parts and against solid foreign objects.

- IP0X - None
- IP1X - Protection against approach by hands.
- IP2X - Protection against approach by fingers.
- IP3X - Protection against tips of tools. etc.
- IP4X - Protection against wire, etc.
- IP5X - Protection against dust.
- IP6X - Completely dust-proof design.

SECOND NUMBER:

Degree of Protection against ingress of water.

- IPX0 - None
- IPX1 - Protection against water drops falling vertically.
- IPX2 - Protection against water drops falling vertically over a 15° range.
- IPX3 - Protection against water drops falling vertically over a 60° range.
- IPX4 - Protection from spray of water from all directions.
- IPX5 - Protection against jets of water from all directions.
- IPX6 - Protection against strong wave-like jets of water.
- IPX7 - Usable after immersion in water under fixed conditions.
- IPX8 - Usable under water.

www.pslfireandsafety.co.nz

PO Box 69-028 Glendene,
Auckland 0645, NZ
+64 9 818 8048

