

**KDS012 International Protection (IP) Ratings for Electrical Enclosures**

1 <sup>st</sup> Digit – Protection Against Solid Bodies		2 <sup>nd</sup> Digit – Protection Against Liquids	
Figure	Protection	Figure	Protection
X	None.	X	None.
0	Some protection.	0	Some protection.
1	Protected against solid objects larger than 50mm (e.g. accidental contact by hand).	1	Protected against drops of water falling vertically.
2	Protected against solid objects larger than 12mm (e.g. accidental contact by fingers).	2	Protected against drops of water falling up to 15° from the vertical.
3	Protected against solid objects larger than 2.5mm (e.g. wires and small tools).	3	Protected against spraying water at up to 60° from vertical. (e.g. a fixed spray nozzle).
4	Protected against solid objects larger than 1mm (e.g. fine wires).	4	Protected against splashing water from all directions. (e.g. an oscillating spray nozzle).
5	Protected against dust. Prevents entry against sufficient quantities of dust so that satisfactory operation is not interfered with (e.g. dust protected).	5	Protected against jets of water from all directions. The standard test involves testing with a 6.3mm nozzle, stream delivery rate of 12.5 l/min for a minimum of 3 minutes.
6	Completely protected against the ingress of dust (e.g. dust tight).	6	Protected against powerful jets of water of similar force to heavy seas. The standard test involves testing with a 12.5mm nozzle, stream delivery rate of 100 l/min for a minimum of 3 minutes.
-		6D	Protected against driving rain.
-		7	Protected against the effects of temporary immersion. The standard test involves immersion for 30 minutes at a specified depth of up to 1 metre.
-		8	Protected against the effects of continuous submersion. The test requires agreement between the user and manufacturer.

**Notes:**

- From Australian Standard AS1939-1990 (equivalent to IEC50034-5-1991-02)