




































## THE IP EQUIPMENT/ENCLOSURE RATING SYSTEM

The IP rating system provides a means of classifying a piece of electrical or electronic equipment (or sometimes the equipment's enclosure) in terms of its protection against various forms of environmental influence. The protection is from human interference, dust, water, physical impacts etc. The IP rating is NOT an electrical standard. The rating is a three-digit number, and the larger the value of each digit, the greater the protection from that influence. You'll find more detail in the table below.

Value	First Digit Protection against ingress of solid objects	Second Digit Protection against ingress of liquids	Third Digit Protection against mechanical impact damage
0	 No protection...	 No protection...	 No protection...
1	  Protected against solid objects over 50mm, e.g., hands, large tools	 Protected against vertically falling drops of water.	15cm   Protected against 0.225 joule impact (150g & 15cm).
2	  Protected against solid objects over 12mm, e.g., hands, large tools	 Protected against direct sprays of water up to 15° from vertical.	15cm   Protected against 0.375 joule impact (250g & 15cm).
3	  Protected against solid objects over 2.5mm, e.g., tools, wires..	 Protected against direct sprays of water up to 60° from vertical.	20cm   Protected against 0.5 joule impact (250g & 20cm).
4	  Protected against solid objects over 1mm, e.g., tools, small wires..	 Protected against water sprayed from any direction: limited ingress permitted.	
5	  Limited protection against dust ingress (no harmful deposit)	 Protected against low pressure water jets from any direction: limited ingress permitted.	40cm   Protected against 2.0 joule impact (500g & 40cm).
6	  Totally protected against dust ingress	 Protected against strong water jets (eg ship decks): limited ingress permitted.	
7		 Protected against immersion between 15cm and 1m.	40cm   Protected against 6.00 joule impact (1.5kg & 40cm).
8		 Protected against long periods of immersion under pressure.	
9			40cm   Protected against 20 joule impact (5kg & 40cm).