

# International Protection (IP) Chart

IP stands for International Protection. IP ratings are outlined in the international standard IEC/EN 60529 norm. The IP code is defined as the degree of protection provided by electrical equipment of vehicles against intrusion from foreign objects, dust and water.

The IP rating consist of two digits. The first digit covers protection from solids, while the second digit covers protection from liquids.

The higher the numbers are, the more protection offered.

The degree of protection of the appliance is only guaranteed in normal use and with correct installation and maintenance.

For more information on the classification of degrees of protection for signalling devices, please refer to the table *IP degrees - degrees of protection for housings according to IEC/EN 60529*.

## SOLIDS

## WATER

<b>0</b>	No protection.	<b>0</b>	No protection.
<b>1</b>	Protected against a solid object greater than 50mm.	<b>1</b>	Protected against vertically falling drops of water.
<b>2</b>	Protected against a solid object greater than 12,5mm.	<b>2</b>	Protected against diagonally falling sprays of water up to 15 degrees.
<b>3</b>	Protected against a solid object greater than 2,5mm.	<b>3</b>	Protected against sprays of water up to 60 degrees.
<b>4</b>	Protected against a solid object greater than 1mm.	<b>4</b>	Protected against water splashed from all directions.
<b>5</b>	Dust protected. Limited ingress of dust permitted. Will not interfere with operation of equipment.	<b>5</b>	Protected against a 6,3mm water nozzle.
<b>6</b>	Dust tight. No ingress of dust.	<b>6</b>	Protected against a 12,5mm water nozzle.
		<b>7</b>	Protected against submersion at a depth of 1m.
		<b>8</b>	Protected against continuous submersion for long periods.
		<b>9</b>	Protected against water jets with a high pressure of 90bar $\pm$ 2bar, and a high temperature of 80°C $\pm$ 5°C.

**IP 6K 5K**

'K' stands for equipment installed on vehicles.