

LED Jargon

These are just a few common terms used in the LED industry. Understanding these jargon will help you navigate discussions and make informed decisions when it comes to LED lighting.

LED: An acronym for Light Emitting Diode, which is a semiconductor device that emits light when an electric current passes through it.

Lumens: A unit of measurement for the total amount of visible light emitted by an LED. It indicates the brightness or intensity of the light produced.

Wattage: Refers to the electrical power consumed by an LED light. It indicates the energy consumption of the LED.

Voltage: Refers to the electrical potential difference between two points in a circuit. LEDs typically require a specific voltage to operate correctly. It is essential to provide the correct voltage to an LED to ensure proper functionality and prevent damage.

mA: Stands for milliampere, which is a unit of measurement for electric current. It is equal to one thousandth of an ampere (A). The current flowing through an LED is often specified in milliamperes (mA) to ensure the LED operates within its recommended operating range.

mAmp: Short for milliamp, it is another way of representing milliamperes (mA). It is a common abbreviation used to indicate the current flowing through an electrical component, including LEDs. For example, an LED may have a specified current rating of 20mA, meaning it should be driven with a current of 20 milliamperes for optimal performance.

Colour Temperature: A measure of the colour appearance of light emitted by an LED. It is expressed in Kelvin (K) and defines whether the light appears warm (yellow) or cool (blue). (See separate lighting guide for more details)

Kelvin (K): A unit of measurement used to describe the colour temperature of light. Lower Kelvin values (e.g., 3000K) represent warm light, while higher Kelvin values (e.g., 6000K) indicate cooler light.

CRI (Color Rendering Index): A metric that measures the ability of an LED light source to accurately render colours compared to a reference light source. The CRI is represented on a scale from 0 to 100, with higher values indicating better colour rendering.

Beam Angle: The angular width of the light emitted by an LED, measured in degrees. It determines the spread of light and the concentration of illumination.

Dimmable: Refers to an LED light that can be adjusted to produce different levels of brightness using a dimming control device.

Driver: A device that regulates the electrical current supplied to an LED. LED drivers convert the voltage and current from the power source into the appropriate levels required by the LED. (See separate lighting guide on calculating driver wattage)

Lifetime/Lifespan: The expected operating duration of an LED before it depreciates or fails. It is usually measured in hours and indicates how long an LED can maintain a certain percentage of its initial brightness.

SMD: Stands for Surface Mount Device. SMD LEDs are compact, surface-mounted components widely used in modern LED lighting applications.

COB LED (Chip on Board): A type of LED packaging technology where multiple LED chips are mounted directly onto a substrate or circuit board. In COB LEDs, the individual LED chips are closely packed together and covered with a phosphor layer to enhance light output and colour mixing. This packaging technology allows for high brightness, improved thermal management, and reduced size compared to traditional LED packages.

RGB: An abbreviation for Red, Green, Blue. RGB LEDs can emit light in these three primary colors, allowing for a wide range of color mixing and customisation.

CCT (Correlated Colour Temperature): This is a numerical representation of the colour appearance of light emitted by an LED. It is measured in Kelvin (K). CCT describes whether the light appears warm (yellow) or cool (blue). For example, a lower CCT, such as 3000K, represents warm white light, while a higher CCT, such as 6000K, represents cool white light.

CCT Switchable: CCT switchable refers to LED light fixtures or bulbs that offer multiple selectable colour temperatures. These LEDs have the capability to switch between different colour temperatures, such as warm white, neutral white, and cool white, allowing users to adjust the lighting according to their preferences or needs.

CCT Adjustable: CCT adjustable refers to LED lighting products that provide a continuous range of colour temperatures, allowing users to adjust the colour temperature within a specific range. It enables customisation of the lighting environment to suit various applications or desired ambience.

IP Rating: An Ingress Protection rating that indicates the level of protection provided by an LED against intrusion of solid objects (first digit) and liquids (second digit). For example, IP65 signifies dust-tightness and protection against water jets. (See separate lighting guide for more details)

Efficacy: A measure of an LED's efficiency in converting electrical power into visible light. It is expressed in lumens per watt (lm/W) and indicates how effectively the LED utilises energy.

IR Sensors: IR stands for Infrared. IR sensors, also known as infrared sensors, are electronic devices that detect infrared radiation. In LED lighting applications, IR sensors are often used to detect the presence or movement of individuals by sensing changes in the infrared energy emitted or reflected by objects.

PIR Sensors: PIR stands for Passive Infrared. PIR sensors are a type of motion sensor that detect changes in infrared radiation within their field of view. PIR sensors are commonly used in LED lighting systems to detect human presence or movement and trigger the lights to turn on or off accordingly.

Microwave Sensors: Microwave sensors, also known as radar sensors, utilise microwave technology to detect motion. These sensors emit microwave signals and analyse the reflected signals to determine changes in the surrounding environment. In LED lighting applications, microwave sensors are used to detect movement and trigger the lights accordingly.

Corridor Sensors: Corridor sensors are specifically designed for corridor or hallway lighting applications. These sensors use various technologies, such as PIR or microwave, to detect motion within a defined area. The sensors are configured to keep the lights on as long as motion is detected, ensuring continuous illumination along the corridor while conserving energy when the area is unoccupied.

3M VHB: 3M VHB stands for Very High Bond. VHB tapes are known for their exceptional strength and durability, providing a strong bond between two surfaces. In LED applications, 3M VHB tapes are often used for mounting LED strips, modules, or other light fixtures. They provide a reliable and secure attachment, eliminating the need for screws or other mechanical fasteners. The high bond strength of 3M VHB tapes ensures that the LED fixtures stay securely in place, even in challenging environments or demanding applications.