

SPARTAN HID GLOSSARY

ANSI (American National Standards Institute): Group that generates product performance standards for many U.S. industries.

Arc: Intense luminous discharge formed from passage of electric current across a space between electrodes.

Arc tube: Completely sealed quartz or ceramic tube where an electrical arc occurs and generates light.

Ballast: Device that, by means of resistance, inductance, capacitance/ electronic elements, singly or in combination, controls current, voltage and waveform to required values for proper lamp starting and operation for a HID ballast operating at given supply voltage.

Ballast losses: Power which is supplied to the ballast but not converted into light energy.

Burning position: Position that lamps are designed to operate.

Capacitor: Device in ballast that stores electrical energy.

Cold start time: Amount of time from application of ballast voltage to ignition of arc discharge.

Constant wattage autotransformer (CWA) ballast: Auto transformer lead ballast circuit using a capacitor in series with the lamp; compared to other ballasts, the CWA regulates over a wider input voltage range, holding lamp wattage to a narrow range.

Core & Coil ballast: Term for electromagnetic ballast.

Current crest factor: Ratio of the peak to RMS value of lamp current; metal halide values range from 1.4 - 1.8.

Discharge lamp: Light-producing device that depends on electric arc, rather than filament, to create illumination.

Economic life: Number of hrs. a group of lamps will burn before it's ergonomically advisable to group re-lamp (typically 60%-75% of rated life).

Electronic ballast: Ballast that, with aid of electronic components, transforms current at high frequency to operate discharge lamps.

EMI (Electromagnetic Interference): Electrical interference with radio communications, defined by Federal Communications Commission (FCC).

ETL: Independent electrical testing laboratory which performs ballast testing.

Foot candles: Measure of light level on a surface which is being illuminated.

HID: High Intensity Discharge; includes metal halide, mercury vapor and high-pressure sodium.

High power factor ballast: Ballast designed so that input power factor isn't less than 90% when ballast is operated at center-rated voltage using proper reference lamp.

High reactance autotransformer (HX) ballast: Autotransformer lag circuit that uses magnetic shunt path between primary and secondary coils to control reactance.

Igniter: Electronic device that provides, by itself or in combination with other circuit components, the appropriate electrical conditions to start a discharge lamp.

Initial lumens: Lumen level of lamp after it has been operating 100 hrs.

Input voltage: Voltage, provided by power line/power supply, which the ballast uses to provide proper level to power lamps.

Lamp voltage: Voltage which lamps operate when they are fully warmed up.

Low power factor ballast: Ballast that requires about twice the line current of high power factor ballast.

Lumen maintenance: Lumen output provided by a lamp at given point in or percentage of it's life.

Lumens: Amount of light lamp emits once it's started.

Mean lumens: Average light produced when lamp has been operating about 40% of rated life.

Normal (low) power-factor ballast: Ballast of multiple-supply type that doesn't have means for correcting input power factor.

Occupancy sensor: Control device that dims/turns lights off after space becomes unoccupied; may be ultrasonic/ infrared-actuated.

Open circuit voltage ballast (OCV): Voltage across output terminals of ballast when no load is connected (RMS, unless otherwise stated)

Open rated lamp (medium base): Designed for open fixtures; has narrower neck than standard medium base lamps to fit into an exclusionary medium socket for open fixture use.

Open rated lamp (mogul base, EX39): Has extended contact pin on bottom of base; can only be used with open fixture mogul sockets designed to prevent electrical contact if unshrouded, standard base lamps are used.

Operating current (line): RMS current measured through input terminals of ballast which is operating a reference lamp.

Position oriented mogul base (POMB, EP39, EP40): Used with horizontal burning lamps; has aligning pin embedded in base for proper lamp orientation.

Potting: Plastic material used to completely surround and cover components of electromagnetic ballast, protecting them & dampening sound.

Pulse start lamp: Specially designed metal halide lamp that uses a ballast with ignitor for starting.

Rated life: Number of operating hrs. at which 50% of standard lamps or 70% of pulse start lamps initially started will still be operating.

Reactor ballast (lag ballast): Inductive component connected in series with an HID lamp to limit current; uses a coil of wire wound around an iron core connected in series with lamp.

RFI (Radio Frequency Interference): Form of electromagnetic interference.

Shroud: Glass cylinder surrounding arc tube to protect against hot arc tube particles breaking the glass bulb if an arc tube rupture occurs; reduces risk of using metal halide lamps in open fixtures.

Starting current (line): RMS current measured through input terminals of ballast 5-15 seconds after lamp is started.

System watts: Power measured on input terminals of ballast which is operating a reference lamp.

Three phase current: Current delivered through three wires with each wire serving as return for the other two.

UL (Underwriters' Laboratories, Inc.): Laboratory that sets safety standards for building materials, electrical appliances and other products.

Warm-up time: Amount of time from ignition of lamp to 90% light output.

Watts: Measure of energy used or emitted by lamp each second. Actual

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