specification sheet:

Metrolight Smart LP™ Electronic Ballast

100/150/250 Watt - HPS
150/250/320 Watt - MH
90/140 - CosmoPolis

From the company that brought you the energy efficient SmartHID™ solution comes the Smart LP™ electronic ballast designed specially for street lighting and general lighting applications.

Metrolight's robust Smart LP™ ballast combines energy efficiency, CO2 and maintenance cost reduction and flexible lighting controls with effective and consistent performance even in challenging outdoor environments, providing excellent lumen stability and effective lamp life.The Smart LP™ electronic ballast provides the opportunity to participate in and enjoy the benefits of carbon reduction and energy saving programs and incentives offered by municipalities worldwide.

Features & Benefits

Microprocessor-controlled
Extends lamp life
Greater efficiency and efficacy
Low component count, higher reliability
Micro-Start™ digitally controlled ignition
Lumen and color consistency
Virtually eliminates "wall blackening" caused by erosion of electrodes
Extends effective lamp life
Full range analog and digital dimming
Event triggered scheduling - traffic movement, daylight sensors and interactive operation mode lighting systems
SmartDimTM - Automatic scheduling
Automatic control of dimming through preconfigured policies
Greater protections
Greater surge protection ensures low fault rate and trouble free installations
TOV (Temporary Over Voltage) protection
Full protection against capacitive mode of operation (hard switching)
Full protection against arcing or shorting

Control & Communication
Can be integrated with existing control and communication systems
Based on proprietary and feature-rich MADLI protocol
Extends system's energy saving capabilities
Provides advanced end-of-life alerts resulting in reduced maintenance costs
Plug and play platform
Smart Grid connection option
Enables tie in with demand response systems
Full range analog and digital dimming
Remote reconfiguration capabilities Per requirement Per lamp parameters (power rating, dimming settings, etc.)
Sodium lamp hot re-strike
Instant relighting after power cuts or turn-off
Remote Installation
Ballast location and fixture can be separated (up to 5m/16ft as standard; above 5m/16ft and up to 25m/82ft upon special request)

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Operating Specifications

The **Metrolight** Smart LP™ Electronic Ballast is designed to suit most lighting solutions. This section lists the ballast's operating specifications, itsinput and output characteristics and its built-in protections.

Dimensions (LxWxH)	7.55" x 3.31" x 1.65" / 192mm x 84.2mm x 42mm
Operating temperature range	-30°C to +65°C / -22°F to 149°F
Maximum case temperature (Tc)	85°C

Input Specifications

Input values for power and current are dependent on the lamp wattage. Other input values apply across all SmartHID™ Ballasts.

Lamp Power, Voltage and Current Specifications

Lamp Type	Typical Input Power @ 230V	Input Voltage	Power Factor (at nominal conditions and full power)	Input Current
320W	340W	208 – 277VAC (+10% to -15%)	>0.98	1.22A @ 277V; 1.48A @ 230V; 1.64A @ 208V
250W	266W	208 – 277VAC (+10% to -15%)	>0.98	0.96A @ 277V; 1.16A @ 230V; 1.28A @ 208V
150W	160W	120 – 277VAC (+10% to -15%)	>0.98	0.59A @ 277V; 0.71A @ 230V; 1.40A @ 120V
100W HPS	109W HPS	120 – 277VAC (+10% to -15%)	>0.97	0.43A @ 277V; 0.49A @ 230V; 0.95A @ 120V

Lamp Type	Typical Input Power @ 230V	Input Voltage	Power Factor (at nominal conditions and full power)	Input Current
140W HPS	149W HPS	120 – 277VAC (+10% to -15%)	>0.98	0.56A @ 277V; 0.66A @ 230V; 1.29A @ 120V
90W HPS	98W HPS	120 – 277VAC (+10% to -15%)	>0.96	0.39A @ 277V; 0.45A @ 230V; 0.85A @ 120V

General Input Specifications

Continuous full range dimming	50% - 100% of full power (Optional: Reverse dimming 100% - 50%) 30% Dimming Optional
Dimming options	Analog dimming by dimmer, ambient sensor, light sensor or any other compatible sensor. Digital dimming - Connection to control software or automatic dimming profile
Lumen maintenance	Lumen maintenance
EMC	FCC Title 47 Part 18 C (non-consumer): EN55015:2006 When the driver is installed inside a lighting fixture, an external dedicated Metrolight line adapter may be required (EU only). Contact Metrolight customer support for more information. EN61547; EN61000-3-2; EN61000-3-3
Regulatory Approvals	CE c UL us LISTED
Surge Protection	IEEE C62.41 Category C Low Between phase and neutral 6KV / 3KA Between line and ground 10KV / 1KA

Protections

Self-protection mechanisms:
In the event of a short circuit, or open circuit If the lamp fails to light At the end of the lamp's life Advanced surge protection between phase and neutral and between line and ground Advanced output protection against arcing or shorting to ground

Heat management:

The Smart LP™ Electronic Ballast operates at full output power at a Tc temperature range of -30°C to 85°C. Should the Tc temperature reach beyond 85°C during use, the Smart LP™ Ballast will gradually reduce its output power to 50%, allowing the ballast to cool. When the Tc temperature falls below 85°C, the ballast will return to full output power.

Should the Tc temperature reach 91°C or beyond, the Smart LP™ Ballast will switch itself off.

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Dimming Specifications	
Analog dimming (standard configuration)	10V or gray/purple wires separated - 100% power; 0V or gray/purple shorted together - 30% power. Dimming is continuous for dimming signal between 0 to 10V. Dimming can be reversed or maximum dimming value can be set to any level from 10-99% by special configuration
Analog dimming fade time (standard configuration)	Fade tffime ffrom 30% to 100% power - 10 seconds Fade tffime ffrom 100% to 30% power - 10 seconds (Dimming fade time can be individually modified to any value from 10 seconds to 30 minutes through configuration)
Auto profile dimming (standard auto dimming configuration)	Designed for outdoor applications such as parking lots, drivers utilizing the auto profile dimming will automatically dim to 50% power without any external controls or triggers, starting one hour before the midpoint (based on the average of the previous three days' operating hours) for a period of 6 hours. In outdoor applications where the midpoint is ~ midnight, dimming will automatically take place between ~ 11p.m. - 5a.m. (23:00hr - 05:00hr). The auto profile dimming times and percentages can be modified by special configuration to include up to 16 different steps per cycle. NOTE: There is no extra charge for this feature, that must be requested by ordering the appropriate part number.
MADLI digital control	Metrolight Addressable Digital Lighting Interface (MADLI) is intended for use with Metrolight's HID Ballast drivers to control lighting networks. The control protocol enables two way communication between the LampID concentrator, a state-of-the-art, robust and reliable web-based controller, and the drivers, providing ultimate controllability Each fixture is assigned a MADLI address between 1 and 1023, By using the digital control feature, each driver can be individually turned on, off or dimmed. The drivers are connected to the control system by low voltage cabling, wireless or PLC. The drivers also provide real time feedback on operational status, power consumption, array voltage, driver temperature and other driver parameters.

Reconfiguration	
Configuration capability	Using Metrolight's Smart Tool control software, the driver can be reconfigured to: #1. Any power from 70W - 320W #2. Change the MADLI address #3. Any other variable as noted in this specification sheet

For more details, please contact us.

Note: All specifications are subject to change without prior notification; All values indicated are typical

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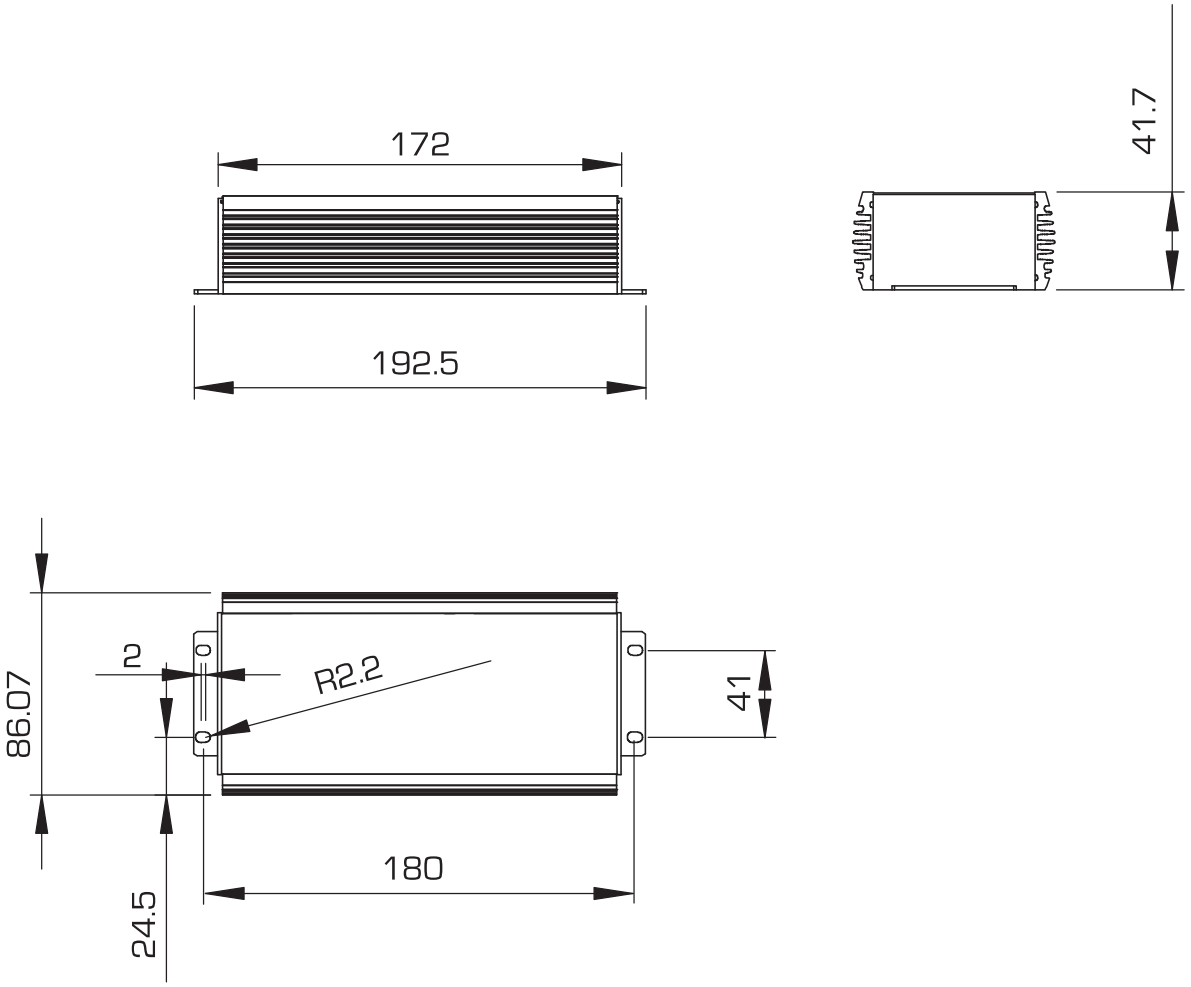
Electronic Ballast 100W - 320W

Mechanical Dimensions



About Metrolight

Metrolight provides proven energy-efficient eHID and LED solutions for high-power lighting. Metrolight's ballasts and managed lighting solutions are used in retail, industrial, commercial and municipal installations to reduce energy consumption and carbon emission by 70%. Pioneering lighting energy solutions since 1996, Metrolight operates worldwide with over 1,000,000 systems deployed and over 10 billion hours in operation. For more information, please visit our website at: **www.metrolight.com**

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METROLIGHT

LIGHT FORWARD

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