

INSTALLATION INSTRUCTIONS

LR-HBM Series Performance LED High Bay

**HIGH EFFICACY UNIQUE DESIGN PERFORMANCE HIGH BAY
FOR EXTERIOR & INTERIOR APPLICATIONS.**

**HARSH APPLICATION CAPABLE IN LARGE AREA, MANUFACTURING, COLD
STORAGE, GYMNASIUMS, TOLL STATIONS, RAIL YARDS & HEAVY INDUSTRY**



**IMPORTANT: READ CAREFULLY BEFORE INSTALLING LUMINAIRE.
RETAIN FOR FUTURE REFERENCE.**

FOR TECHNICAL ASSISTANCE PLEASE CALL LEDRays @ 514 484-8462 or email
info@ledrays.com

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FEATURES:

Unique Reflector Thermal Management (RTM) Structure for exceptional thermal dissipation

Nichia™ or Bridgelux™ high power LED

Digital driver with 5 way I²O protection

Cast Aluminium housing provides for a light and rigid carrier for the light engine

Rated IP65 with a custom oxide coating process provides harsh environment capability

Ultra high reflectance alloy reflector features one piece design with polished surface

Fully electrically isolated driver with 5 way protection

50,000hrs L70 at 30°C Ambient

Vibration & shock resistant

Fully sealed against fluids, environmental & atmospheric pollutants

Very low maintenance requirements, ETL listed



PRECAUTIONS

- Verify the shipped contents please do not proceed with the installation if any damage is found, please contact us in such an event.
- Verify that the correct mounts, accessories, parts & hardware are available prior to starting work.
- All work should be done by a qualified electrician in accordance with the National Electrical Code, applicable local codes and ordinances. Always check with the Authority Having Jurisdiction (AHJ) to confirm acceptable procedures.
- Confirm the operating voltage of your system with the label on the luminaire. Unless otherwise stated the standard input voltage range is **AC100-277V**
- Do not operate in extreme heat or high humidity environments (Operating temperature range between **-40°C and +55°C/-40°F and +130°F** in wet, damp & dry applications IP65 rating)
- Do not modify or operate with dimmers or other non approved control circuits unless the luminaire is equipped with that option.
- This luminaire is designed to operate in a free air environment any immediate enclosed space will reduce its lifespan and may void the warranty. Do not operate luminaire in packing carton.
- Mains voltage must be off during the installation.
- Turn off the breakers for the circuit and affix a warning label before proceeding.
- Please use supplied original packing for protection when transporting luminaire.

HBM luminaires contain no user serviceable parts inside and no field replaceable parts.

INSTALLATION INSTRUCTIONS

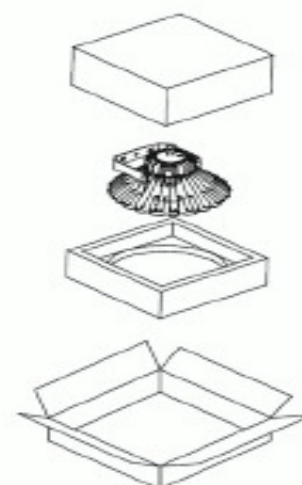
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STEP 1:

Identify the contents of package.

Verify that the correct mount is included as per your order as well as the bolts for locking the bracket to the luminaire.

HBM fixtures ship standard with a 340ss 25mm ID ring for hook or chain mounting. A trunnion mount is optional. (Various slipfitter, yoke and custom mounts are available please check with your local dealer) For pole mounting please confirm the EPA load is acceptable for the application.



STEP 2:

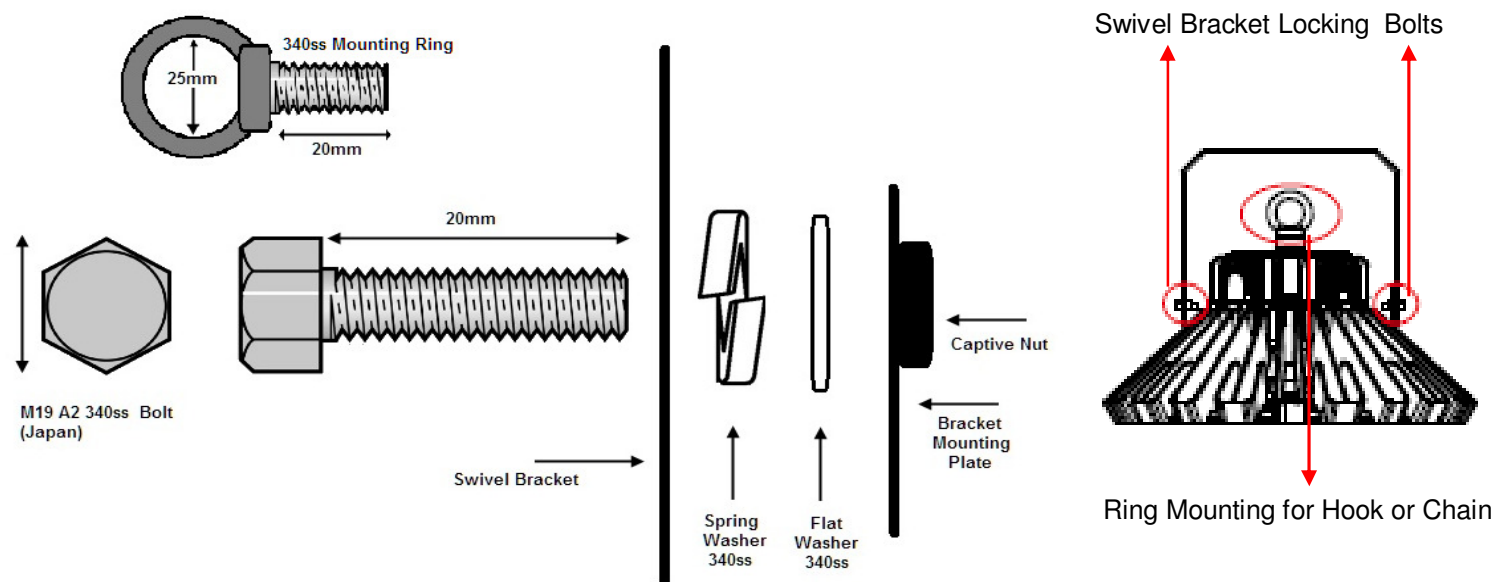
For surface mounting loosen the two M19 x 20 (A2 Japan) 340ss bolts, spring & flat washers located on each side of the swivel bracket.



Select an appropriate location for mounting the fixture as per instruction in step 4. The swivel bracket can be totally removed and secured to the desired area before re-attaching fixture. Use a 17mm or 11/16" socket to torque to a maximum of **95-120 in.lb (8-10 ft.lb) or 10-13NM**. The bracket has a welded on captive nut and allows for $\pm 90^\circ$ of total adjustment ($\pm 75^\circ$ clearance). Please see page 7 for swivel bracket mounting slot sizes and locations.

For the hook or chain mounting option please note the threaded M10 340ss ring has an ID of 25mm (1"). User supplied chain or hook mount must be rated for a minimum of 20kg ± 2 kg.

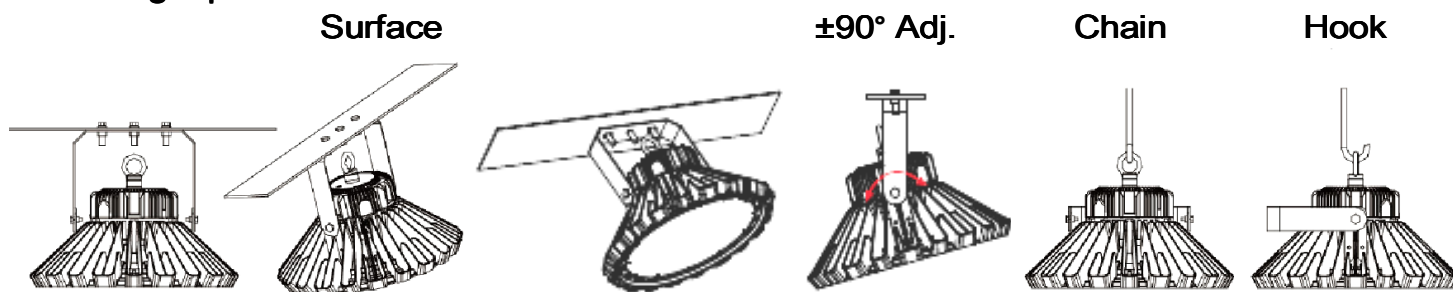
HBM luminaires can be mounted in any position including ceiling, wall & pole and at any projection angle. However be aware that a horizontal position with the light beam fully vertical (facing up) will lower the fixture's thermal efficiency and reduce the product lifespan. This luminaire position is not recommended and may void your warranty.



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Mounting Options:



STEP 3: Electrical

Electrical connections. Wire the open end of the input cable to the junction box and electrical circuit. 6 feet (2.0m) of SJOOW 18AWG/3C cable is provided as standard as per color code below. HBM luminaire can also be equipped with a cord/plug set as an option.

Professional electrical installation is required for the HBM luminaires. Use only approved equipment and accessories.

All work should be done by a qualified electrician in accordance with the National Electrical Code (NEC) or the Canadian Electrical Code (CEC CSA) and the national Fire Protection Association (NFPA), applicable local codes and ordinances. Always check with the Authority Having Jurisdiction (AHJ) to confirm acceptable procedures.

Use the appropriate cable gauge for the application, current handling requirements (including inrush) and for the worst case environmental conditions. Install an approved cable protective sheath.

WIRING COLOR CODES			
WIRING TO MAINS	HBM TYPE		
	A	B	C
LINE	BLACK	BROWN	RED
NEUTRAL	WHITE	BLUE	BLACK
GROUND	GREEN	YELLOW OR YELLOW/GREEN	YELLOW

STEP 4: Securing

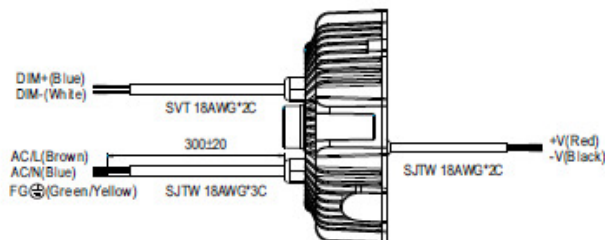
Use proper fasteners to secure the luminaire to structure. Luminaire position must take into account desired light beam projection, required luminous intensity, coverage, obstructions, serviceability, snow/ice & wind loading and sun exposure. When used in exterior applications light pollution and beam cut off must be taken into account.

The heatsink fins should be maintained with the slots in a vertical position to optimize thermal capability, to facilitate drainage and limit debris accumulation. In normal operation heat flows from the front to the rear of the housing.

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■ DIMMING OPERATION(for B-type only)



※ Built-in 3 in 1 dimming function, IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 1 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-.

※ Please DO NOT connect "DIM-" to "-V".

※ Reference resistance value for output current adjustment (Typical)

Resistance value	Single driver	10KΩ	20KΩ	30KΩ	40KΩ	50KΩ	60KΩ	70KΩ	80KΩ	90KΩ	100KΩ	OPEN
	Multiple drivers (Not diversely synchronized dimming operation)	10KΩ/N	20KΩ/N	30KΩ/N	40KΩ/N	50KΩ/N	60KΩ/N	70KΩ/N	80KΩ/N	90KΩ/N	100KΩ/N	---
Percentage of rated current		10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ 1 ~ 10V dimming function for output current adjustment (Typical)

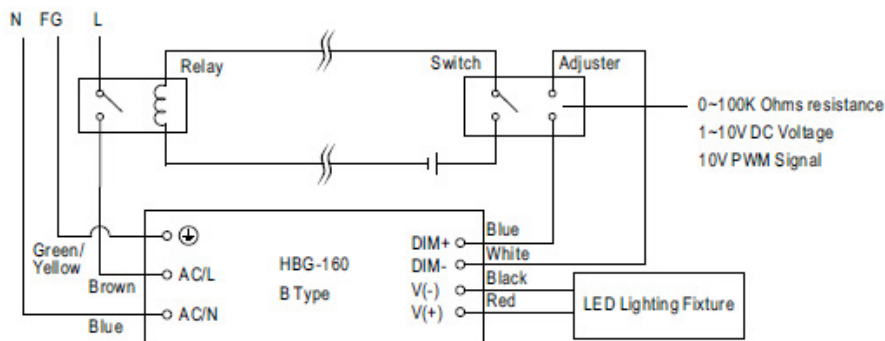
Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※ 10V PWM signal for output current adjustment (Typical): Frequency range :100Hz ~ 3KHz

Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%

※Using the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.

※Direct connecting to LEDs is suggested, but is not suitable for using additional drivers.



Using a switch and relay can turn ON/OFF the lighting fixture.

1. Output constant current level can be adjusted through output cable by connecting a resistance or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
2. The LED lighting fixture can be turned ON/OFF by the switch.

The dimming input conductor is shipped as a flying lead by default.

GENERAL SPECIFICATIONS

Optical Parameters		Electrical Parameters	
LED Chip Brand	Nichia or Bridgelux	Input Voltage	AC 100~277V
LED Chip Type	1~5W Single Chip	Power Frequency	47~63Hz
LED Chip Quantity	50-100	Output Voltage	DC 24~56V
Color Temperature	3000~6500K	Output Current	3.8 ~ 4.9A (Constant Current)
Fixture Efficiency	≥90%	Total Power Consumption	100-153W ~±5W
Light Efficiency	95lm/W±8lm	LED Power Consumption	95-145W ~±5W
Luminous Flux	9000~15000lm	Power Efficiency	85 ~ 92%
Color Rendering Index	≥70-82	Power Factor	≥0.95
Beam Angle	120°	Total Harmonic Distortion	≤15%
Other			
Heat Sink Surface Temperature	46°C ~ 48°C (Ambient Temperature 30°C)	L70	≥50000Hrs
Luminaire Base Temperature	47°C ~ 49°C (Ambient Temperature 30°C)	Fixture Material	Cast Aluminum Alloy + PC Lens
Operating Temperature (Ambient)	-40~+55°C	IP Level	IP30/IP65
Operating Humidity	15 ~ 90%RH	Dim option	PWM, 0-10V & resistance

Weight: LR-HBM-150 version N, A or B 6.4kg ±0.5Kg

Please note unless otherwise stated the HBM series luminaires ship with an IP30 rating.

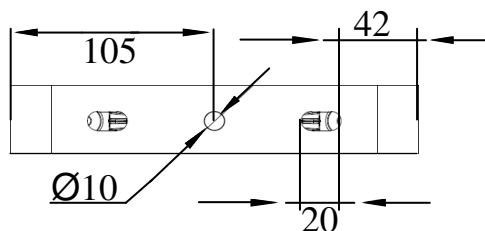
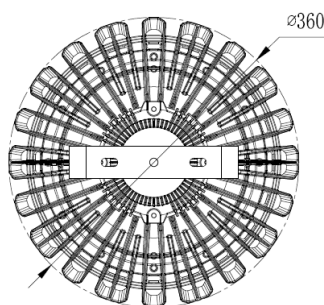
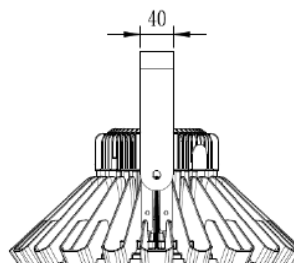
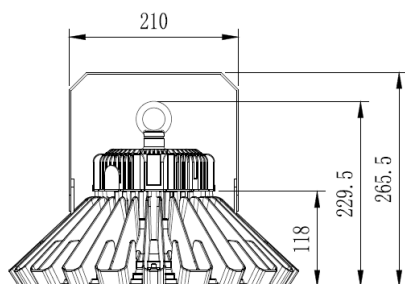
The HBM series luminaires feature fully sealed and electrically isolated drivers.

Auto resettable electronic fusing is provided with the driver. In case of fault cycle power to the luminaire.

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DIMENSIONS



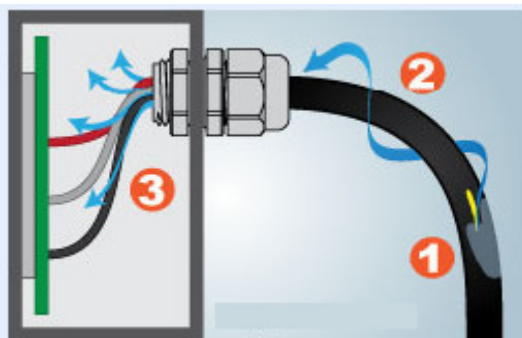
PRECAUTIONS

How Micro Cracks Can Cause Major Problems

WICKING is one of the most common causes for electrical devices to fail when operating in moist environments. Often confused with just a crack in the outer casing or leakage into the housing of a machine, this simple yet complex phenomenon can mean the difference between long term reliability and short term failures and frequent servicing.

What is Wicking?

Wicking is caused by moisture entering a fissure or by degradation in the outer jacket of a cable (common with age, stress and temperature variations) or through the wire strands.



Wicking is most common when the equipment and wires cool down after operation. Any air that expanded with heat now condenses and creates a vacuum. Much like an oil lamp or pocket lighter draws fuel from a reservoir, this vacuum causes moisture to be pulled up through the strands of wire into the housing or assembly causing rapid failure.

HBM luminaires contain no user serviceable parts inside and no field replaceable parts. Drivers and LED modules are replaceable by authorized factory technicians.

Improper installation, operation or servicing of this luminaire may void your warranty.

For service please contact info@lumia-agency.com or info@ledrays.com