DENKYU’s Hybrid LED Solution outperforms most high bay HID and LED fixtures while providing the convenience of a socket. The Hybrid lamp driver works with BOTH ballast bypass or existing magnetic ballast, reducing inventory and installation costs.

Designed in the USA, its patented technology combines an ultralight heatsink; an optical system that provides even illumination with low glare; and an intelligent driver. Reliability and efficiency are ensured by a proprietary ThruFlow™ heatsink design that maintains low temperatures without a fan.

Reduce inventories and lead times by stocking a single solution that provides uniform illumination for spacing criteria from 0.5-1.5. An optical accessory can be field installed to create uplight. In most situations paybacks of one year or less can be easily realized.

Applications include warehouse, grocery, gymnasiuims, retail, and industrial spaces.
Performance Summary

- Open fixture rated
- 20,000 lumens/150W
- 130 L/W
- Low Glare
- 90-305 VAC 50/60 Hz Input Voltage OR Magnetic Ballast compatible
- Ambient air operation to 50°C/122°F
- 0-10V dimming standard
- Optional ZigBee wireless controls (Daintree certified)
- 5 Years or 50,000 hours warranty

Mechanical

- E39, E39X or E40 socket compatible
- Vertical orientation only
- Beautiful anodized solid aluminum body
- 1.65 kg / 3.6 lb
- Fanless for high reliability & efficiency
- Safety harness optional

Electrical - Ballast Bypass

- 90-305 VAC 50/60 Hz Input Voltage Max
- PF > 0.9

<table>
<thead>
<tr>
<th>VAC</th>
<th>100</th>
<th>110</th>
<th>120</th>
<th>220</th>
<th>240</th>
<th>277</th>
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<tbody>
<tr>
<td>AMPs</td>
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<td>1.36</td>
<td>1.25</td>
<td>0.68</td>
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</table>

Electrical - Ballast Compatible

The retrofit solution is compatible with European and North American HID magnetic ballast between 175-600W 50Hz/60Hz. Such ballast types include probe start, pulse start, CWA or reactive.

USA Ballast Types (E39X)

- Metal Halide: M58, M59, M128, M131, M132, M135, M136, M138, M153, M154, M155, M172
- HPS: SS0, SS1, SS6, SS106
- Mercury Vapor: H33, H37

European Ballast Types (E40)

- Metal halide: MH250, MH400
- HPS: NG 250, NG 400, NG 600
- Mercury Vapor: HM250, HM400

Photometry

Highly optimized optical distribution enables excellent illuminance that matches legacy HID fixtures in average lux values and in uniformity with Min/Avg>0.75 for spacing criteria, SC=0.5-1.5. Simultaneously, low glare is achieved with a 50°C cutoff. Photometry is substantially maintained regardless of input voltage for the ballast bypass case or for the ballast compatible case.

Distribution at 20,000 lm

- Without Uplight Accessory
- With Uplight Accessory

<table>
<thead>
<tr>
<th>Distance to Work Surface</th>
<th>15ft</th>
<th>20ft</th>
<th>25ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lux/footcandles</td>
<td>630 / 59</td>
<td>335 / 31</td>
<td>207 / 19</td>
</tr>
</tbody>
</table>

Certifications

- Suitable for Dry and Damp locations.
- Suitable for open vented fixtures
- This device is not intended for use with emergency exits.

ORDERING INFORMATION

Example: DEN-EX39-150-8-40-VL-AN-B90-010-000

- Series: DEN
- Base: E39, E40
- Power: 150W
- CRI: 80
- CCT: 4000K
- Input: 90-305
- Finish: AN Anodized
- Optics: B90 8W FW90°
- Control Module: 010 0-10V
- Optic Accessory: 000 None

NOTES

1. Light loss factor of HID LLF=60% and LED LLF=85%
2. Unless otherwise specified, all values are typical at 25°C with no optical accessory.
3. Individual installation’s payback duration may differ.
4. Above 50°C ambient air, the electronics will turn down the light output to protect from over temperature.
5. See limited warranty for details.
6. TM21 projection to 100,000 Hours rated life at ambient air temperature of 25°C
7. Driver records values for later warranty analysis by manufacturer.
8. Not intended for use in wet environments or environments containing airborne corrosive agents such as chemicals, solvents or cutting fluids.
9. Average UGR assuming 150ft x 150ft room, 25 ft ceilings, 50% wall and ceiling reflectivity, 20% floor reflectivity, SC=1.5, 4x4 fixtures.
10. See ballast compatibility document for details.
11. Specifications subject to change without notice

www.denkyulighting.com
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Reduce inventories and lead times by stocking a single solution that provides uniform illumination for spacing criteria from 0.5-1.5. An optical accessory can be field installed to create uplight. In most situations paybacks of one year or less can be easily realized.

Applications include warehouse, grocery, gymnasiums, retail, and industrial spaces.

www.denkyulighting.com
Performance Summary
• Enclosed fixture rated
• 15,000 lumens /105W
• 143 L/W
• Low glare
• 90-305 VAC 50/60 Hz Input Voltage OR Magnetic Ballast compatible
• Ambient air operation to 65°C /150°F
• 0-10V dimming standard
• Optional Zigbee wireless controls (Daintree certified)
• 5 Years or 50,000 hours warranty

Mechanical
• E39, E39X or E40 socket compatible
• Vertical orientation only
• Beautiful anodized solid aluminum body
• Fanless for high reliability & efficiency
• Safety harness optional

Electrical - Ballast Bypass
• 90-305 VAC 50/60 Hz Input Voltage Max
• PF > 0.9

Electrical - Ballast Compatible
The retrofit solution is compatible with European and North American HID magnetic ballast between 175-600W 50Hz/60Hz. Such ballast types include probe start, pulse start, CWA or reactive.

USA Ballast Types (E39X)
• Metal Halide: M58, M59, M128, M131, M132, M135, M136 M138, M153, M154, M155, M172
• HPS: S50, S51, S66, S106
• Mercury Vapor: H33, H37

European Ballast Types (E40)
• Metal halide: MH250, MH400
• HPS: NG 250, NG 400, NG 600
• Mercury Vapor: HM250, HM400

Photometry
Highly optimized optical distribution enables excellent illuminance that matches legacy HID fixtures in average lux values and in uniformity with Min/Avg>0.75 for spacing criteria, SC=0.5-1.5. Simultaneously, low glare is achieved with a 50° cutoff. Photometry is substantially maintained regardless of input voltage for the ballast bypass case or for the ballast compatible case.

Distribution at 15,000 lm

Distance to Work Surface 15ft 20ft 25ft
Lux/footcandles 473 / 44 251 / 23 155 / 14

Zonal Lumens 0-20° 20-50° 50-90° (Glare)
Valto Series 21.5% 75.2% 2.2%
DLC Requirement >30%

Certifications
• Suitable for Dry and Damp locations.
• Suitable for enclosed fixtures
• This device is not intended for use with emergency exits.

ORDERING INFORMATION
Example: DEN-EX39-100-8-40-VL-AN-B90-010-000

<table>
<thead>
<tr>
<th>Series</th>
<th>Base</th>
<th>Power</th>
<th>CRI</th>
<th>CCT</th>
<th>Input</th>
<th>Finish</th>
<th>Optics</th>
<th>Control Module</th>
<th>Optic Accessory</th>
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<tbody>
<tr>
<td>DEN</td>
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<td>40</td>
<td>4000K</td>
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<td>B90 FW90°</td>
<td>010 0-10V</td>
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<tr>
<td></td>
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<td>80</td>
<td>50</td>
<td>5000K</td>
<td></td>
<td></td>
<td></td>
<td>000 None</td>
</tr>
</tbody>
</table>

NOTES
1. Light loss factor of HID LLF=60% and LED LLF=85%.
2. Unless otherwise specified, all values are typical at 25°C with no optical accessory.
3. Individual installation’s payback duration may differ.
4. Above 65°C free ambient air, or 45°C in enclosed fixture, the electronics will turn down the light output to protect from over temperature.
5. See limited warranty for details.
6. TM21 projection to 100,000 Hours rated life at ambient air temperature of 25°C
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