

**binay**  
**PowerLED-based Industrial Well Glass Luminaire**

**BINAY's PowerLED Well Glass luminaires replace conventional well glass fittings of 70W HPSV, 80W and 125W HPMV, and 160W MLL filament-backed HPMV lamps**

The BINAY LED PowerLED Well Glass unit is of similar physical shape to the conventional well glass fitting, but is fitted with **long life** (100,000 hours to L<sub>50</sub>), high quality, IESNA-80 approved LEDs – thus saving on maintenance costs, while at the same time providing the benefits of **low power consumption**, which results in payback on account of the saving in electric power. The payback period is dependent on the number of daily burning hours, and can be relatively quick for lights burning on a 24x7 basis. The designed life is 15 to 20 years.

In order to achieve this designed long life, care has been taken in regard to the design of the thermal management of the power LEDs. It is imperative that the LED junction temperature (T<sub>j</sub>) be kept as low as possible, and to this end the heat generated at the P-N junction of the LED must be conducted out to the metal body with a low thermal resistance path for dissipation to the ambient. **This is essential, as 10°C rise in T<sub>j</sub> reduces the life of the LED chip by 50%.**

Ingress protection is maintained to IP65, for use in indoor or outdoor conditions.

One important contribution to long life vis-à-vis conventional discharge/incandescent lamps is that LEDs are constant current devices, and are controlled with SMPS type LED drivers which provide constant current output through **input voltages varying from 100V-260V**. Such low and high voltage variations in industrial environments result in drastic reduction in the life and light output of conventional lamps; there are no such problems in case of BINAY LED Well Glass fittings, which give constant light output over this voltage range.

Both HPSV and HPMV lamps are affected by ambient light levels. In the daytime, the 'Cone' photoreceptors of the human eye (Photopic vision) are active, while at low light levels (Scotopic) the 'Rod' receptors are active. During normal night vision, Rods are active, with partial activation of the Cones (Mesopic vision). Till date, values of light evaluated with standard luxmeters have measured only the Cone vision; however, these are not fully active at night-time (or indoors), where the effect of Scotopic reduction or enhancement must be considered. The effective lumen value can be determined either by an illuminance meter measuring both photopic and scotopic values separately, or by multiplying the measured Photopic Lumens with the Scotopic/Photopic (S/P) ratio for each kind of lamp, i.e., 0.62 for HPSV, 0.8 for HPMV, and 2.14 for LED (6500°K).

LED lamps also have the advantage of instant start, whereas discharge lamps take time to start. However, more important is the fact that discharge lamps have a long re-striking time after any power failure, during which time there is practically no light (endangering security and safety). **LEDs turn on instantly.**



**BINAY WELL GLASS FITTING**  
(Flameproof version)

**BINAY PowerLED Well Glass models**

<b>BN-WG-15</b> (Power Consumption 18W, Lumen output 3000 Scotopically Effective Lumens) <i>Replaces: 35W HPSV (total power consumption 45W), Life 3 years, 2450 Photopic Lumens (1500 Scotopically Effective Lumens)</i>
<b>BN-WG-24</b> (Power Consumption 38W, Lumen output 5000 Scotopically Effective Lumens) <i>Replaces: 70W HPSV (total power consumption 90W), Life 3 years, 5000 Photopic Lumens (3100 Scotopically Effective Lumens)</i>
<b>BW-WG-36</b> (Power Consumption 48W, Lumen output 5300 Scotopically Effective Lumens) <i>Replaces: 125W HPMV (total power consumption 150W), Life 8000 hours, 5000 Photopic Lumens (4000 Scotopically Effective Lumens)</i>
<b>BW-WG-15</b> (Power Consumption 18W, Lumen output 3000 Scotopically Effective Lumens) <i>Replaces: 80W HPMV (total power consumption 100W), Life 8000 hours, 3200 Photopic Lumens (2560 Scotopically Effective Lumens)</i>
<b>BN-LG-20</b> (Power Consumption 30W, Lumen output 5000 Scotopically Effective Lumens) <i>Replaces: 160W MLL (total power consumption 160W), Life 2000 hours, 6400 Photopic Lumens (5000 Scotopically Effective Lumens)</i>

BINAY WG fittings can also replace filament lamps of ratings from 60W to 150W. The products are also available in Exd (Flameproof/Explosion-proof) versions.

BINAY Well Glass fittings are covered under warranty of five years against operational failure.



**binay opto electronics private ltd.**

44, Armenian Street, Calcutta 700 001, India  
Telephone: (033) 22102039, 22103807, 22429082

Fax: 91-33-22421493

[www.binayLED.com](http://www.binayLED.com)

email: [info@binayLED.com](mailto:info@binayLED.com), [binay@vsnl.com](mailto:binay@vsnl.com)