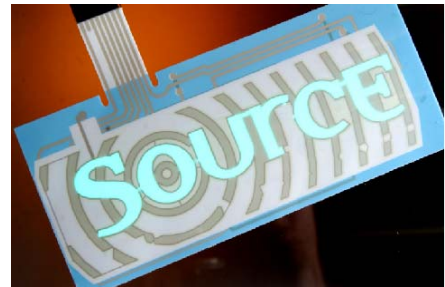


When connected to an alternating current of high frequency the **RH Technical Industries Ltd** innovEL high performance electroluminescent lamp emits a cool, even, bright light.

Thin and flexible in construction, innovEL provides a broad range of applications beyond that of other illuminating technologies.



How innovEL Works

InnovEL is operated by an alternating current of high frequency. When voltage is applied to a front and rear electrode, sandwiched particles of phosphor are excited by the electrical field and produce illumination.

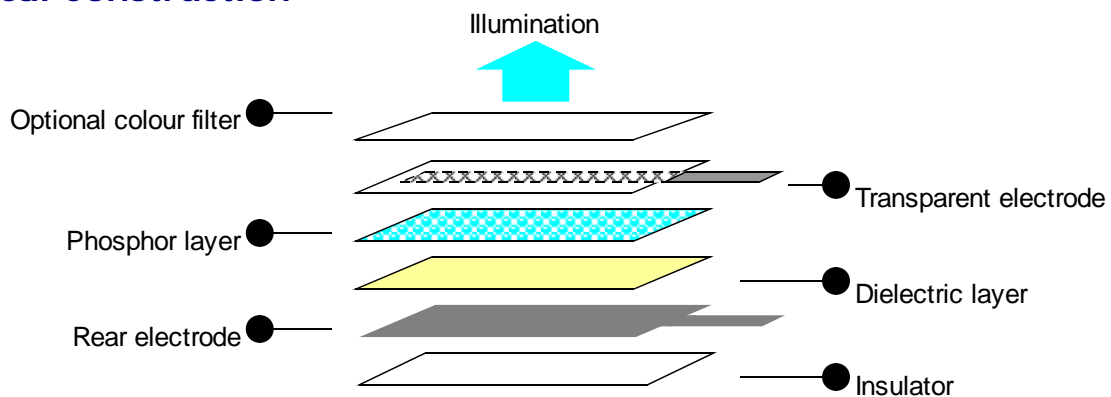
flexible illumination

DC/AC Inverter

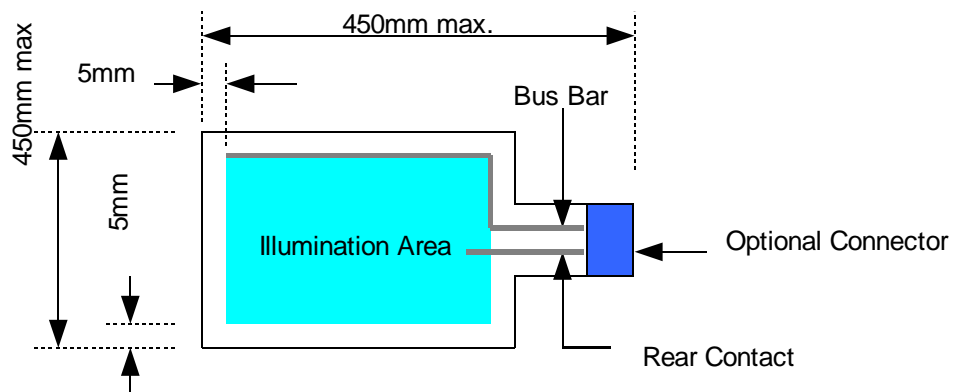
Brightness levels of innovEL will decline through use. However, by adjusting voltage and frequency, levels can be controlled. This is done through an inverter, which is basically a constant power device that adjusts the voltage and frequency as necessary, to maintain a constant level of luminosity.

Matching inverter to InnovEL will deliver benefits in terms of absolute performance and life. RHTI technical department can provide information on suitable product.

Typical Construction



Design Considerations



Typical innovEL Values

Voltage	120VAC rms
Current requirement	0.2mA per cm ² at 120VAC rms, 400Hz
Operational frequency	400Hz
Half-life	2000 hours
Illumination levels	80Cd per m ² typical at 120VAC rms, 400Hz
Operating temperature	-40°C to +70°C
Storage temperature	-40°C to +85°C
Humidity	0 at 80% H.R.

* Design, construction, environment, and inverter will influence lamp performance

Environment

The environment is considered normal when the lamp is located in-doors operating within the temperature and humidity range stated. Lamps that will be exposed to electro-magnetic interference, electrostatic discharge or chemical attack will need to be designed to deliver reliable performance.

Advantages

◆ Thin construction	Typically 0.25mm thick
◆ Flexible	Thin construction allows assembly onto curved surfaces
◆ Cool	Low power so little heat generated
◆ Illumination	Areas can be selectively or sequence illuminated
◆ Uniform lighting	
◆ 180° viewing angle	
◆ Brightness levels	Can be controlled
◆ Colours	Blue, Green and White
◆ No catastrophic failure	Brightness level reduces gradually over life-time of lamp
◆ Shape	Profiled to suit design
◆ Low weight	Manufactured in thin plastic film
◆ Durable	Solid state
◆ Efficiency	Good brightness to voltage characteristics
◆ EMC	Low emissions
◆ Current	Low-level requirement
◆ Environmentally tolerant	Laminated to seal lamp from damp conditions
◆ Low cost assembly	Simple laminate and connection construction

Typical Applications

- ◆ Back lighting LCD
- ◆ Back lighting RHTI membrane keyboard, fascia and overlay graphics
- ◆ Back lighting signs, automotive graphics and trim, cellular telephone keypads
- ◆ Safety lighting