

# LED SIGNAL LIGHTING UNITS FOR RAILWAY SIGNALING

## LED Lighting Unit



**RDSO Specification: RDSO/SPN/153/2011**

*Efftronics LED Signals are designed for use in Multi Aspect Signaling schemes for Main Line. Signals are available in 110V AC, 125mm Diameter.*

### FEATURES:

- ❖ High efficiency AlInGaP & InGaN LEDs, 4° - 10° viewing Angle with 600 meters visibility.
- ❖ Constant uniform intensity over wide input voltage range typically 82 to 150 Volts.
- ❖ Chromaticity as per BS 1376 Standard.
- ❖ High Strength hermetically sealed units made in ABS material for better immunity.
- ❖ Color coding of Shells as per Aspect color to prevent incorrect replacement of units.
- ❖ MIL grade connectors used for interconnection for better reliability.

### DESIGN COMPLIANCE:

- Product Compliance : Research Design Standards Organization.  
RDSO/SPN 153/2011 Rev4.1 (Draft)
- Environmental : IS: 9000 (relevant clauses)
- Ingress Protection : IP 54
- Chromaticity : RED, GREEN Class 'C' of BS 1376; YELLOW Class 'B' of BS 1376
- Safety : EN50129, EN50126, SIL-4

## Current Regulator



### OPERATING SPECIFICATIONS:

- Operating Temperature : -10°C to +70°C
- Operating Voltage : 110V ± 25%
- Operating Current : 140 mA+ 10% -15% (rms)
- AC Immunity : > 60V AC

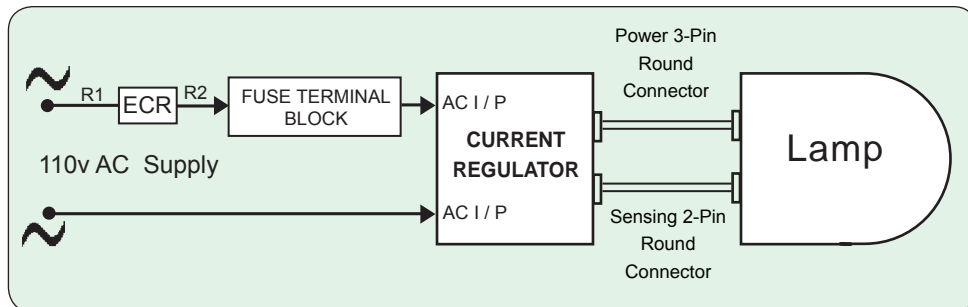
## Fuse Terminal Block



### LAMP PROVING:

Compatible with traditional Lamp proving circuits and can also be made compatible with specific requirements.

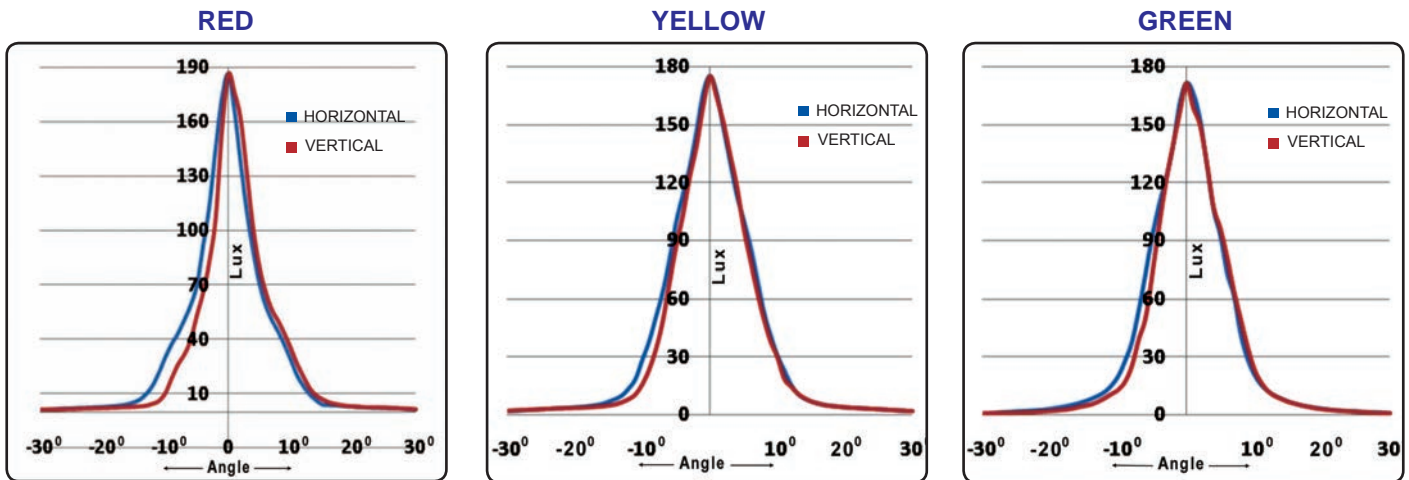
### SYSTEM BLOCK DIAGRAM:



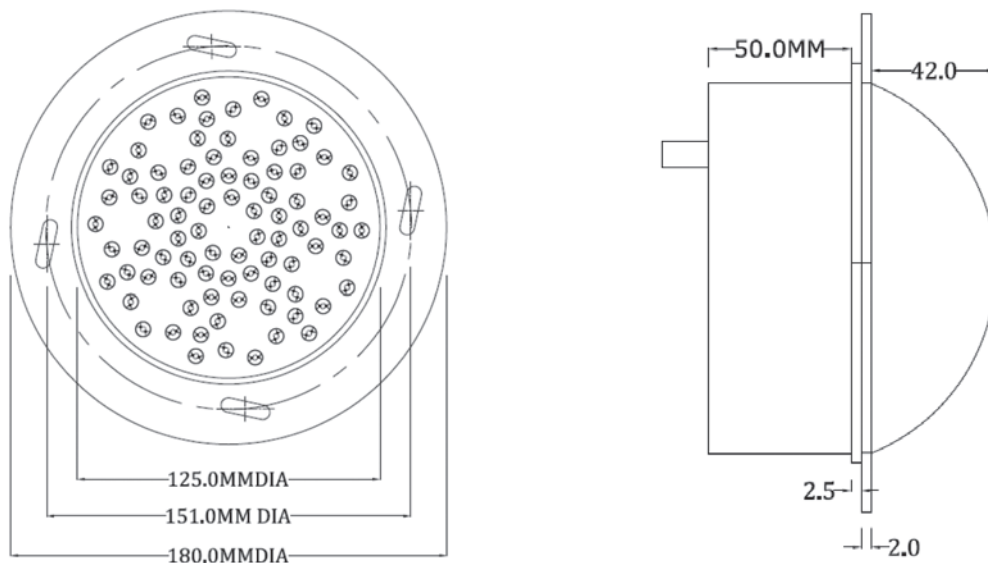
## PRODUCT SPECIFICATION

Type	Aspect Color	Dominant Wave Length	No. of LEDs	Nominal Intensity	Intensity Range	Viewing Angles (50% peak intensity)
Main	RED	630 nm	84	150 Lux	135 Lux - 210 Lux	5° deg H/V
Main	YELLOW	595 nm	84	175 Lux	157.5 Lux - 245 Lux	6° deg H/V
Main	GREEN	505 nm	32	150 Lux	135 Lux - 210 Lux	8° deg H/V

## LED LIGHTING UNITS DISPERSION



## LIGHTING UNITS DIMENSIONS



**'R & D'**  
Recognised by  
**DSIR**  
Govt. of INDIA

  
Efftronics Systems Pvt. Ltd.  
**ISO 9001 : 2008**  
20000873 QM08

Approved by  
**RDSO**  
Govt. of INDIA  
Ministry of Railways

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