



SOLAR POWERED ROAD TRAFFIC SIGNALS

INTRODUCTION

We introduce ourselves as the oldest Manufacturer of ROAD TRAFFIC SIGNALS & BLINKERS and have done remarkable work in this field in the country.

We have now INTRODUCE **SOLAR POWERED TRAFFIC SIGNALS** using LED based signal lights , instead of conventional Incandescent lamps , As These lights consumes 90% less energy it makes system practically viable to operate Traffic signals maintenance free on *eco friendly* Solar Power and without electricity connections .

ESTABLISHMENT

Envoys Was established in 1968 & has pioneered in the specialised fields . Moving with the developing India , - have been first to develop some control Equipment's for Indian Railways ,Defence & Road Traffic signals.

EXPERIENCE .

These activities were custom design & were manufactured & Tested to stringent INDIAN STANDARDS. Such have been our strict quality control that ENVOYS were merited to be on IS panel for setting Standards for ROAD TRAFFIC CONTROL SYSTEM in INDIA . It would not be out of place to Mention that -have provided technical know-how to m/s KELTRON (a govt concern) to manufacture Road Traffic signals in INDIA.

FACILITIES

Envoys works are well equipped with in house manufacturing facilities & test lab managed by experienced & competent Engineers / Technicians. (microprocessor R&D lab , cad room , electronic assembling unit , Testing room, Quality Assurance dept. Electro Mechanical Sheet Metal Work shop / Tool Room , Environmental testing)

LED Illuminated Traffic Signal Lights

SPECIFICATIONS

1. HOUSING: Fabricated from plastic die molded
Conforming to international standard as applicable for
200 / 300 mm dia signals respectively, with Lens.
2. OPTICAL SYSTEM:
200-mm dia LED illuminated optical plate comprising
numbers of 5-mm dia LED's, spaced at a pitch of 10 mm in
an organized matrix. Amber / Red color
- 300-mm dia LED illuminated optical plate**
Red ball type: ultra bright led @ pitch of 10mm
400 CD o/p 10 watts. max
Amber ball type: ultra bright LED @ pitch of 10 mm
400 CD, o/p 10 watts max
- Green ball / Arrow type: super ultra bright led @ pitch of
10 mm 300 CD TYPICAL, O/P 13 WATTS max
3. POWER REQUIREMENT: 24 / 48 VOLTS D.C. or 110 / 220 VOLTS A.C.
4. CIRCUIT DESCRIPTION:
LED's are soldered in Glass Epoxy PCB
The LED's are operated in a multi channel series/parallel
matrix and are multiplexed pulse operated at high frequency,
high intensity and low duty cycle to obtain maximum visible
brightness at minimum POWER consumption. The
electronic circuit is built in the unit itself. With tinted lens
for protection in a sealed beam type plastic housing
**With built in photo-electric switch to reduce intensity /
wattage during night time - optional .**
5. DIMENSIONS: 12" / 8" DIA.

SOLAR SYSTEM :

SOLAR SYSTEM HAVING S P V WITH BATTERY & BATTERY CHARGER FOR 24 HOURS OPERATION UNIT WILL HAVE PHOTO ELECTRIC SWITCH FOR REDUCING INTENSITY OF LIGHT DURING NIGHT TIME .

WORKING VOLTAGE : 12 / 24 VOLTS D.C.

WATTAGE : Less than 200 WATTS (as per qty of signals required at site)
200 watts calculated taking in consideration 48 signals in an intersection out of which not more than 20 – 22 signals are switched ON at a time and amber flashing signals at night time . We have designed special traffic Control unit for operating with solar power with basic facilities consume less Than 10 Watts .

STORAGE BACKUP : 2 - 3 DAYS FOR 1 INTERSECTION .

SPV SPECS:

Solar Photovoltaic Module for Traffic Light Blinker system.

- i. **Load** : 20 LED kits & Controller
- ii. **Duty Cycle** : 70%
- iii. **Hrs. of Operation** : 24 hrs/day during Night
- iv. **Location** : as per site
- v. **Tilt angle** : 25° c. from Horizontal (ground)
- vi. **Orientation of SPV** : Perpendicular to N-S direction.
- vii. **Battery Charger – discharge efficiency** : @ 90%
- viii. **Battery back-up** : 3 days (72 hrs.) @ 25%
- ix. **Safety factor precaution towards** :
 - Dust Accumulation Mismatching
 - Effect of temperature
 - Losses in the inter connecting cables
 - Degradation in output over its life span etc.
- x. **Nos. of SPV MODULES** :
- xi. **RATING** : TO BE DECIDED AFTER
- xii. **BATTERY REQUIREMENT FOR 3 DAYS BACKUP** : CALCULATING TOTAL NUMBER OF SIGNAL LED KITS TO BE USED AT A JUNCTION.

PHYSICAL PARAMETERS :

- NO. OF CELLS :
 - PHYSICAL DIMENSION :
 - WEIGHT (KG) :
- Please contact us for details

How does it work?

The ENVOYS LED KIT convinces with its bright and homogenous light distribution. The LED's are evenly Arranged and grouped in parallel chains on the LED board. In front of each led plate there is lens that protects It from outside dust. The light passes through the tinted front lens, which is precisely harmonized with the LED Wavelength. This system creates a very homogeneous lit aspect surface, and the individual LED's are no longer Perceived as dots.

LED VS LIGHT BULBS

Light bulbs produce light over a wide spectrum, with only a small fraction Being visible light, the remainder is heat. This inefficiency as eliminated with LED's. LED's produce monochrome radiant in the visible spectrum, Thus saving energy, which would normally be used as heat.

BENEFITS

The major problem in cities is electricity, & it's unavailability is very frequent, which leads to traffic jam as ups (uninterrupted power supplies) system / solar based system are uneconomical for conventional traffic signals due to heavy electric consumption of light bulbs, but in led based traffic signals it is possible and very easy. Just by replacing bulbs from signal head's in the crossing with envoys led kits, now the total consumption of crossing including envoys controller is less than 0.3 kva from 2kva thus solar system's can be installed, leading to continuous running of traffic signals in case of without electricity.

- NO ELECTRIC CONNECTION REQUIRED . NO ELECTRIC BILL , CONTINUOUS OPERATION .
- EASY TO INSTALL , REDUCED CABLING & TRENCH / ROAD CUT.
- ONE TIME FIT & FORGET , TROUBLE FREE OPERATIONS.
- WITH EXTRA BATTERY STORAGE TO OPERATE BLINKERS DURING FOG / CLOUD / RAINY DAYS
- LOW MAINTENANCE COST
- OPTIMAL VISIBILITY EVENLY DISTRIBUTED LUMINOSITY HIGH LIGHT INTENSITY
- COMPATIBLE WITH ALL STANDARD SIGNAL HEADS OPTIMAL PHANTOM LIGHT REDUCTION
-

AVAILABLE WITH ALL COMMONLY USED SYMBOLS (for pedestrian & vehicular)

LED SIGNAL HEAD FEATURES

<i>FEATURE</i>	<i>ADVANTAGE</i>	<i>BENEFIT</i>
Energy efficient LED in a superior optically enhanced design	90% less consumption of electricity	Reduces government liability Saving precious electricity
Can be operated with Solar Systems / UPS	Signal is operating even during power failures	Reducing Traffic jams & accidents .
Maintenance free upto 50,000 hours long life	zero down time / no replacement of bulbs	Saving cost of bulbs & maintenance charges.
2 years warranty	cost effective operation and satisfaction .	Customer protection and reliability

FOR ESTIMATES & MATERIAL DESCRIPTION PLEASE CONTACT:

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