

Product Data Sheet



Solar Street Light with PWM Charger, Microcontroller based CFL Inverter, Dusk Dawn

PLC-211

Street Light Luminary with

- 11W 12V CFL
- Micro Controller based 11 W Inverter Circuit
- 12 V 6A PWM Charger
- Dusk down Controller with ABS Plastic Body

Product Overview:

The PROMPT Solar Street light with in-built PWM charger, Microcontroller based CFL inverter, Dusk Dawn controller with ABS body

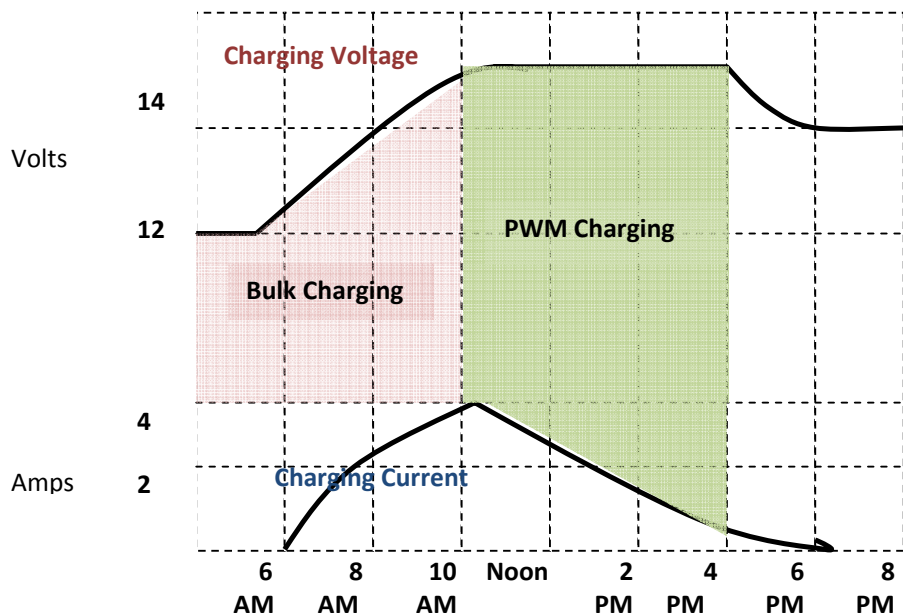
Used with: Solar electrical lighting(Street light, Outdoor)



Key Features:

TBD

PWM Battery Charging*



Prompt's PWM Charging compared to on-off Solar regulators:

Provides 30% more solar energy into battery per day

Average battery State-of-Charge is 90-95% compared to 55 – 60% for on-off regulators

*Provides schematic representation of PWM charging V/s charging by on-off chargers.

In Built PWM Charger 12 V 6 A

Key features:

- Switched Mode operation
- Charging topology Buck Mode CV charging – most suited for most Battery chemistries
- Solar charging current up to 10 Amps continuous – customised designs are available for higher power ratings
- Load current: Up to 10 Amps continuous – customised designs are available for higher power ratings.
- Available in 12V & 24V versions.
- Low voltage Load disconnect: 11.1V.
- Load Reconnect Voltage: 12.1V.
- Night Time current drain: < 10 micro amps.
- Automated frequency selection for wide input voltage range.
- Multiple steps of PWM provided for efficient charging.
- LED indications provided for charge/float.
- Red LED for Low-Voltage indication.
- Uses pulsed float voltage maintenance mode when battery is full (13.80V).
- Internal Temperature compensation provided, works well in cold and hot environments.
- RFI (Radio Frequency Interference) suppression, designed to work with radio systems.



Built in Automated Recovery thermal fuse for protection from excessive load and reverse battery protection – No technician required for maintenance.
 Designed to withstand the application of reverse battery polarity.
 Reliable all solid-state circuitry, no power hungry relay to burn out.

Electrical Specification:

Specification	Rating	Unit
Rated Solar input	6	Amps
Maximum Input	8	Amps
System Voltage	12	Volts
Max Solar Panel Voltage	22	Volts
Regulation Voltage	Pulse Width Modulated	Volts
Self Consumption	6	mA
Temp Compensation	-28 (Internally Compensated)	mV/ Degree C
Reverse current leakage	< 10	µA
Reverse Voltage Protection	Yes	(Thermal Fuse)

9.2 Other Details:

Charge Regulation Type	Shunt
Lamp Type	Compact Fluorescent
Switching Device	Semiconductor [MOSFET]
Mode of Operation	PWM
Type of Battery used	All,(Tubular plate Battery, Flat Plate Battery)
Maximum Charging Current	6A
Maximum Charging Current	6A
Self Consumption	±Less than or equal to 6mA at 12 V
Built in Indicators	Provide Battery Status, Charging

Battery Low voltage disconnect range	LVD 11.4 V, ± 2% LVR 12.5V, ± 2%
Battery Overcharge Disconnect range	PWM regulated
Adjustment of Set points	Fixed
Overload Protection	Circuit breaker (Thermal fuse)
Protection Against	Protection is provided against Reverse polarity, Reverse current flow, High Voltage
Operating temperature	Minimum -22 Degree C Maximum + 60 Degree C
Temperature Compensation	Yes, -28 mV / Degree C (Internally Compensated)
Application	Indoor and outdoor
International Standards fulfilled	Electronic Test and Development Centre (ETDC), Govt. of India

In-built Microcontroller based CFL Luminary

Key features:

- Intelligent input battery voltage & current monitoring
- Automated Preheating provided
- Total Harmonic Distortion (THD) <30%
- High Accuracy Oscillator
- Support End of Life (EOL) Detection in Multi-Lamp Topologies
- Built-in Lamp Current and Voltage Limitation Function during Ignition Mode
- Extremely efficient design
- This will improve the tube life by 30% to 40%.
- This will reduce the tube blackening.
- No distortion to work with electronic gadgets.
- Free Running Frequency: 32-35 kHz.
- RFI (Radio Frequency Interference) suppression, designed to work with radio systems
- Built in thermal fuse for protection from excessive load and reverse battery protection
- Designed to withstand the application of reverse battery polarity
- Reliable all solid-state circuitry, no power hungry relay to burn out



Electrical Specification

Specification	Rating	Unit
System Voltage	12	Volts
System Current	920 +- 10%	mAmp
Max Solar Panel Voltage	22	Volts
Frequency of operation		
a) Pre heating frequency	70	kHz
b) Free running frequency	35	kHz
	< 10	μA
Reverse Voltage Protection	Yes	[THERMAL FUSE]

Other details

Lamp Type	Compact Fluorescent Lamp
Pre Heating function	Provided
Nominal Power of Lamp	11W Tolerance +/- 5%
Reflector	Provided
Built in Switch	Provided
Operating Voltage	Minimum... 10.5 Maximum... 14.5
Fixture Tube type	4 Pin
Protection Against	Reverse polarity
Luminous yield	60 Lumens per Watt Tolerance +- 10%
Standby consumption at no tube operation	0.2 Watt
Operating Temperature	Minimum -20 Degrees C Maximum 70 Degrees C



Application	Outdoor/Indoor Only
Life cycle(2min on, 4min off)	1000 cycles
Additional description	CFL is controlled efficiently by Microcontroller based inverter with Radio Frequency Interference Suppression, Built in Thermal fuse for protection from excessive load and reverse battery protection , Reliable all solid-state circuitry, no power hungry relay to burn out

Other Models available

CFL Luminaries	Model
Street light Plastic Body 2 x 11W	PLC-202
Indoor Wall CFL light Fitting with Microcontroller based Inverter 9W (Fairy)	PLC-203
Indoor Wall CFL light Fitting with Microcontroller based Inverter 7W (Fairy)	PLC-204
Indoor Wall CFL light Fitting with Microcontroller based Inverter 11W (Fairy)	PLC-205
Indoor wall fitting with Mirror Optic 11W 12 V	PLC-206
Indoor wall fitting with Mirror Optic 18W 12 V	PLC-207
Indoor wall fitting 11W 12 V (Astra)	PLC-208
Indoor wall fitting 9W 12 V (Astra)	PLC-209
Indoor wall fitting 7W 12 V (Astra)	PLC-210