

Product Data Sheet



PWM Charge Controller – 12V 6 A

PCP-101

Product Overview:

The PROMPT Microcontroller based PWM charger is an efficient and advanced charger suitable for solar power utilities. It adopts latest PWM technology. It reduces power loss and efficient charging of battery and thus reduces the overall system cost to the tune 30%.

Used with: Solar electrical lighting(Indoor, Outdoor)

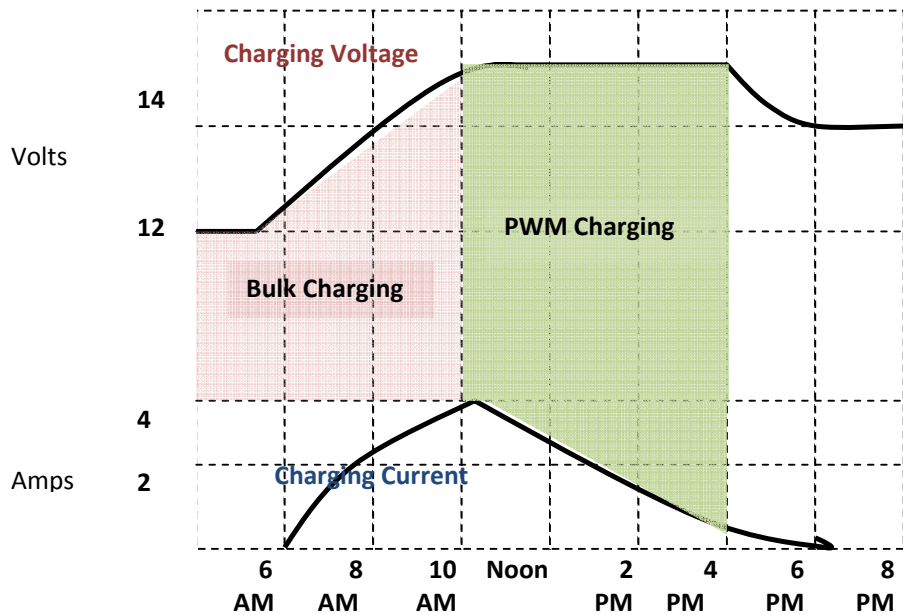


Key Features:

- 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.

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.

Detail Specification

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)

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

Other Models available

Charge Controller Specification	Model
Solar Charge Controller -PWM- 12V-10 Amps MCB	PCP102
Solar Charge Controller-PWM-12V - 30 Amps	PCP103
Solar Charge Controller-PWM-12V - 20 Amps	PCP104
Solar Charge Controller-PWM-12V - 15 Amps	PCP105
Solar Charge Controller-PWM- 12V - 40 Amps	PCP106
Solar Charge Controller-PWM- 24V - 6 Amps	PCP107
Solar Charge Controller-PWM- 24V - 10 Amps	PCP108
Solar Charge Controller-PWM- 24V - 20 Amps	PCP109
Solar Charge Controller-PWM- 48V - 10 Amps	PCP110
Solar Charge Controller-PWM based with Dusk Dawn Charge Controller 12V-6 Amps	PCP111
Solar Charge Controller-PWM based with Dusk Dawn Charge Controller 12V-10 Amps	PCP112
Solar Charge Controller-PWM based with Dusk Dawn Charge Controller 12V-15 Amps	PCP113
Solar Charge Controller-On/Off- 12V - 5 Amps	PCO198