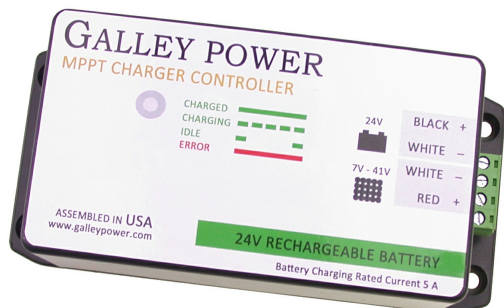


# GP2 Series

## MPPT Solar Charger Controller

# GALLEY POWER

## Digital Solar Battery Management



24V version shown

## GP2 series MPPT solar charger controller

The GP2 series charger controller reliably charges batteries with advanced Maximum Power Point Tracking (MPPT), even when the sunlight shines only part of the day. Suitable for both commercial and harsh outdoor environments, GP2 charger provides performance and features normally only found in complex large-scale MPPT systems, but at small size and affordable cost.

### Exceptional efficiency and reliability

GP2 series chargers provide above 96% efficiency over entire operating ranges without derating even under harsh environments. The potted version is designed for IP67. Non-potted water-proof version is for IP54.

### Fast and efficient Maximum Power Point Tracking

GP2 series charger's proprietary dynamic MPPT scheme improves energy harvesting capability up to 50%.

### Multi-stage charging profile and compensation

GP2 charger maximizes efficiency and safety through bulk, absorption, floating, equalization and idle stages for lead-acid batteries. For Lithium-ion battery, optimal charging profiles are provided based on its specific type such as LIB or LFP. Advanced users can configure the charge profile to meet system objectives.

### Programmability and customization

GP2 charger knows that every battery system is unique. Besides the standard models, GP2 series charger supports customizable parameters through the communication port and permanent data storage.

GP2 series charger also provides options including remote battery temperature sensing, output wire compensation, and serial communication interface.

## > Features

- High performance digital MPPT charger at low cost
- Continuous charging with input PV voltage allowed to be either higher or lower than battery voltage, using a buck-boost power train
- Support flooded, Gel, AGM lead-acid or Lithium-Ion batteries
- Support 12V/24V battery system
- Capable of dynamic charging compensation due to temperature variation or voltage drop due to long cable
- Fully customizable, up to 5-stage charging profile
- Up to 99.7% Maximum Power Point Tracking (MPPT) efficiency
- Dynamic MPPT for maximum energy harvesting under all radiance conditions (shading, aging, etc.)
- Over 96% total system charging efficiency
- Output power up to 150W
- Minimum night-to-day transition stress on battery
- Ultra low sleeping and idle current (<100uA)
- Complete protections include
  - input over-voltage, under-voltage
  - output under-voltage, over-voltage
  - output over load, short circuit
  - reverse input/output polarity, back-fed current
  - temperature protection
- Flexible mounting options and easy wiring access
  - Water-proof option
  - Various connector selections
  - Open frame option with terminal block

## > Application Examples

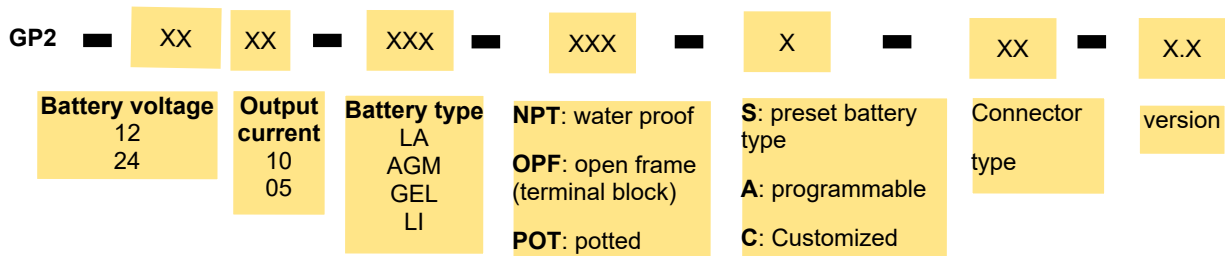
- Marine, RV, Farming, Military
- Traffic enforcement, Oil & Gas, Off-Grid, Golf Carts
- Parking pay stations, Science equipment

### > Specifications (Refer to user's manual for parameters of standard versions)

Maximum Recommended Panel Power	150W
Rated Battery Charging Current, Max	10A/5A
Nominal Battery Voltage	12V/24V
Maximum Panel Voltage (Voc)	41V (Note1)
Minimum Battery Voltage for Operation	8V
Input Voltage Range	0 ~ 41V
Charge Profile	Multi-Stage with Optional Temperature and Output Current Compensation
Absorption Voltage	14.0 ~ 15.5V
Absorption Time, Max	3 hours
Float Voltage	13.0 ~ 14.0 V
Charging Output Voltage Range	8 ~ 18V
Battery Temperature Compensation	0 ~ -100mV/ °C
Operating Temperature	-40 °C - 70 °C
Maximum Full Power Ambient	55 °C
Electrical Efficiency	96% - 98.5% typical
Tracking Efficiency	99.5% typical
MPPT Tracking Speed	Dynamic, 16Hz max
Night/Idle Consumption	80uA
Protection	IP54(water-proof version)/ IP67(potted)
Connection	Terminal block or customized (see part number)
Weight	12.5 oz (non-potted)
Dimensions	4.8"x2.6"x1.6"
Warranty	2 years

**NOTE1:** Higher than 41V open circuit voltage might be allowed. Contact Galley Power for information.

### > Order Information



Example: GP2-1210-AGM-NPT-A-00-1.0

GP2 charger, 10A maximum charging current, 12V-type AGM lead-acid battery (over 140W), water proof design, standard connector. Its absorption voltage 14.3V, floating voltage 13.4V, recharge voltage 12.5V and temperature compensation coefficient -21mV/c. It is the advanced version (**A**) so the user can reconfigure the charging profile and even battery types.

**Galley Power LLC**

[www.galleypower.com](http://www.galleypower.com)

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#### About Galley Power LLC

Galley Power LLC is dedicated to provide cost-effective high performance battery management solutions. With extensive expertise on power electronics, batteries and renewable energy, Galley Power provides both standard and customized solutions with minimum time-to-market and maximum customer satisfaction.