

# Smart Charger

Programmable 48V 80A CG5211

Century Smart Charge provides all the benefits of Century MP Access, with the added ability of fast charging. Incorporated in the Smart Charger is a unique charging algorithm to enable safe and effective fast charging, combined with high efficiency power conversion and interactive battery monitoring.

The algorithm can optimise charging on a range of battery types. This optimisation has the benefit of delivering a fully charged battery in a shorter amount of time while maximising the service life of the battery. A critical factor in fast charging is management of heat. To manage the heat generated a battery monitoring unit (BMU) is attached to the battery. The BMU actively monitors the temperature of the battery along with other key factors, and actively communicates with the charger to modify its charging to suit the circumstance.

The employment of high frequency power conversion has the effect of reducing the amount of energy consumed and providing a greater level of control of the power output. This technology also has the advantage of being lighter weight to conventional thyristor controlled chargers. Being lighter allows operators to wall mount these chargers with ease, reducing the possible risk of impact from material handling equipment and improving the use of space.

Century Smart Chargers have facilities to provide an equalise charge function. Equalise charge can be completed manually or regularly in an automatic (programmable) mode. When the battery also contains a BMU (Battery Monitoring Unit) it is possible to set the BMU to select when an equalise charge should be provided to the battery. In addition, Century Smart Chargers have facilities to control a solenoid valve connected to a water supply source. Automatic watering can take place when a Century Single Point Watering System is incorporated.



## Features and Benefits

- Unique charging algorithm to provide safe and effective fastcharging capability when integrated with Century BMU.
- Battery Monitoring Unit: specifically designed to provide active control over charging parameters during charging.
- Alarm indicators: Highlights to the operator and logs issues with the charger and battery.
- High frequency power conversion with >91% efficiency in power conversion from input power to output power; the amount of energy consumed to recharge batteries is reduced.

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## ELECTRICAL INPUT SPECIFICATIONS

VAC Input	3P 400VAC ±10%
Input Current (Max I)	7.6A (@ 400VAC)
Input Frequency	50Hz -60Hz
Power Outlet Required	Clipsal 56P420
Power Factor	>0.98 at rated power
Efficiency	>91% at 100% Load
Standby Consumption	<5W

## ELECTRICAL OUTPUT SPECIFICATIONS

Technology	High Frequency Conversion
Nominal VDC (Programmable)	24VDC; 36VDC; 48VDC
VDC Range (V/Cell)	1.4VDC to 2.9VDC Per Cell
Max Current	80A
Output Power (kW)	4.6kW (2.4VDC @ 400 VAC)
Output Ripple (Max)	<5% RMS of Nominal DC Voltage & <10% RMS ripple current at 100% load
Output Accuracy Setting	VDC Output +/- 1% Current Output +/- 2%

## MECHANICAL

Dimensions (mm) H x W x D	392 x 297 x 233
Weight	14.5kg

## ENVIRONMENTAL

Environmental Protection	Conformal Coating
Operational Temperature	(Ambient) 0°C to +40°C (Full Power)
Temperature Protection	Software and Hardware
Storage Temperature	-20°C to +70°C
Humidity	RH<95% non-condensing
Cooling	Fan Cooled - Temperature Controlled
IP Rating	IP20

## STANDARDS

Emissions	EN61000-6-3
Immunity	EN61000-6-2
Safety	EN60335-1 & EN60335-2-29

## Battery Monitoring Unit

### ELECTRICAL INPUT SPECIFICATIONS

Supply Voltage (VDC)	10VDC to 150VDC
Protection	Reverse Polarity Protected
Current Sensor Range	+/-100mA to +/-1,500A
Connection Methodology	M10 Ring (Standard)

### STANDBY CONSUMPTION

10VDC	30mA
25VDC	13mA
50VDC	7mA
75VDC	6mA
>100VDC	5mA

### DATA / COMMUNICATIONS SPECIFICATIONS

Discharge/charge cycles	2400
Event/alarm log	1700
Instant log	7300
Communication	Wireless (radio network) IEEE 802.15.4, 2.4GHZ

## MECHANICAL

Dimensions (mm)	107 x 38 x 20
Weight	150gr

## ENVIRONMENTAL

Materials	Polyurethane and ABS
Operational Temperature (Ambient)	-20°C to +70°C
Storage Temperature	(-35°C to +70°C)
Humidity	RH <90% non-condensing
IP Rating	IP65

## STANDARDS

Emissions	EN 61000-6-3
Immunity	EN 61000-6-2
Safety	EN 60 204-1

### Product Specification Disclaimer

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The portfolio within CenturyYuasa includes a wide range of stored energy products and services, as well as identifiable brands and unique technologies for automotive, materials handling and standby power applications. Directly maintaining and operating manufacturing centers in Australia and employing some 500 people, CenturyYuasa continues to be the Regions leading manufacturer of stored energy products.