

# CPCL High Power Solar Electric Generators



## APPLICATION

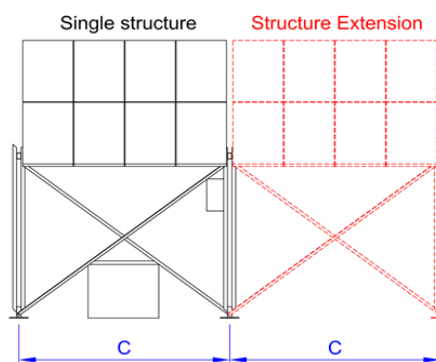
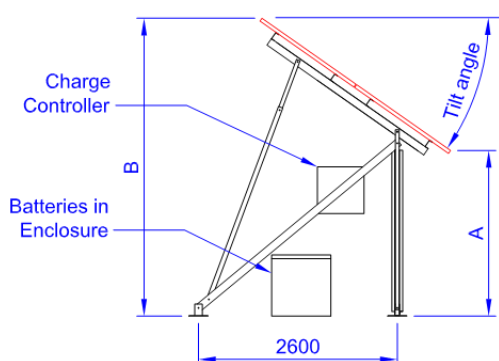
Heavy duty, high power SEGs have been powering remote telecommunication networks, cathodic protection for pipelines, monitoring stations, and oil field pumps in some of the world's most remote and harsh environments for over 25 years. The robust construction, the simple, well proven operation, and selection of high quality components make this the most reliable solar electric generator on the market.

## PRODUCT SPECIFICATIONS

PV Modules	Crystalline PV modules with aluminium frame and IP65 integrated junction box.
Array Structure	Galvanised steel frame structure complete with all fasteners for PV modules, mounting of control enclosure and for the electrical system.
Ground Fixings	Anchor bolts are supplied with dimensioned foundation drawings.
Battery Bank	Three-day autonomy, sealed lead acid batteries with all interconnects are supplied as standard. Other battery technologies are available for challenging locations.
Battery Enclosures	Stainless steel or polypropylene enclosures are IP65 with IP23 vents.
Control System	State-of-the-art, fully automatic battery management and protection. Controllers include comprehensive monitoring, communications and data recording capabilities. Painted steel enclosure included as standard.
Cable System	All interconnect cables and glands included. All system cables are long life and highly resilient to environmental factors. Armoured cables are available if required.
Documentation	Installation, operation and maintenance manual.

## Physical Dimensions

Dimensions for the HP80, HP100 and HP120 standard HP-SEGs are given below. Where two or more SEGs are connected together, a single shared 'leg' is used, allowing exact multiples of length (dimension C).



Tilt Options & Associated Height	Tilt Options & Associated Height	PV Quantity & Associated Length – C	PV Quantity & Associated Length – C
Tilt Angle	10 to 60 degrees	8 module	1.44 metres
Front Height – A	2.5 to 1.9 metres	10 module	2.1 metres
Rear Height – B	3 to 4.5 metres	12 module	2.8 metres



## Bespoke Solutions

CPCL can produce systems against exacting requirements (e.g. explosion -proof), and for very high power demand applications. Larger versions of the HP-SEG are available for greater energy generation within a limited space such as a secure compound.

A 3 row, 12 module version is shown here.

## Range of Sizes

Standard HP-SEGs incorporate either 8, 10 or 12 Solar PV modules (in 2 rows). These are referred to as HP80, HP100 and HP120 respectively. However, SEGs are modular and designed for interconnection.

## Usable Electricity Output

Power generation is directly proportional to where the SEG is installed/sunlight resource. The tables indicate typical SEG electrical output for locations with the same generic sunlight energy, as shown on the map.

## Modularity

Multiple SEGs can be used to increase initial power capacity or additional SEGs can be added at a later date. For example, an HP320 = (2 x HP120) + (1 x HP80) in a strong sunlight region will produce over 23,000 Whr/day of useable electricity. This is equivalent to just under 1000 continuous watts.

## Design Life

CPCL SEGs are designed for a nominal operational life of 20+ years. During this time only the battery bank should require replacement dependent upon local operational conditions.

## Warranty

- SEG System: 12 months from installation or 18 months from delivery, whichever comes first
- PV modules: As per manufacturer. Typically 20 years of power output, 5 years materials & workmanship
- Batteries: As per manufacturer. Typically 30 months from despatch (dependent on conditions of use)

## ENERGY GENERATION PER DAY (WHR/DAY)

Sunlight Region	HP80	HP100	HP120
Modest	2,320	2,900	3,480
Good	4,060	5,075	6,090
Strong	5,800	7,250	8,700

## CONTINUOUS ENERGY (WATTS)

Sunlight Region	HP80	HP100	HP120
Modest	97	121	145
Good	169	211	254
Strong	242	302	363

CPCL ensure correct SEG sizing for each specific location & application

