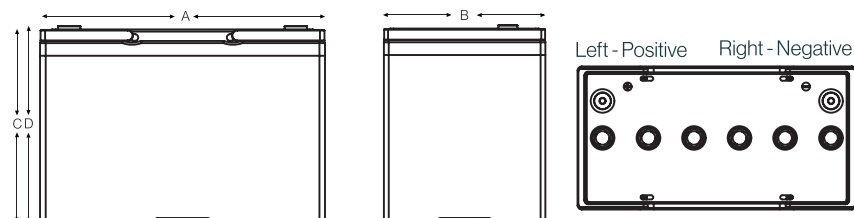


EQM-5SHP

Carbon Nano Gel Battery



Benefits:

- Cost savings due to increased efficiency in charging
- Reduced Temperature gives longer life
- Long life, high reliability
- Reduces drying out – extends life
- Sulphation reduction, less need to top charge
- Can be installed in tight spaces
- Almost Totally Green – recycled – scrap value
- Reduced premature failure, extended life
- Suitable for extreme temperature variants

Electrical Specifications

Voltage	12V
M.R.C. 25 Amps	230
80% DOD Voltage Cutoff	11.2V
Low Voltage Cutoff	10.8V
Self Discharge	Less than 3% per month (20°C/68°F)
Charge Temperature	Min: -10°C (14°F) / Max: 50°C (122°F)
Discharge Temperature**	Min: -40°C (-40°F) / Max: 50°C (122°F)
Storage	Min: -20°C (-4°F) / Max: 60°C (140°F)

Cell Type Ue (100%) / VPC Ref Temp	C5 1.70 25°C	C10 1.75 25°C	C20 1.75 25°C	C100 1.80 25°C	** CAUTION: Depths of discharge, operating voltages and currents, when designing systems for use at maximum temperatures, will vary.
EQM-5SHP	108	116	123	130	

Mechanical Specifications

Industry Reference	BCI 12 / 5SHP	
Length (A)	13 in	329 mm
Width (B)	6.7 in	170 mm
Height (C)	10.2 in	258 mm
Weight	93 lbs	42 kgs
0°C MCA (EN)	900	
Terminal (Opt'l)*	DUAL	
Cell(s)	6	
Electrolyte	Gel	
Terminal Torque Nm	8	

NOTE: There is a tolerance of +/-2%.

Features:

Carbon Nano Tube - Ultra energy efficiency due to low resistance

Solid Silica Gel Electrolyte (25% more Electrolyte)

Up to 2 x Faster charging – allows for opportunity charging

PSOC operation – between 40% - 90% SOC

High Specification Materials

Maintenance Free – no topping up required

98% Manufactured Material is recycled

Robust Construction – Vibration resistant

Cycle Life - up to 1500 cycles (EQM) & up to 2000 cycles (LFT)

Design life 12-15 years

High Starting Power

Applications:

Ocean & offshore:

River

Inland waterways

Electric Propulsion

RV

Motorhome & Caravan

All off grid applications:

Utility vehicle

Vehicle conversions

Ambulances & blue light

Solar & renewable energy storage systems

CCTV

Lighting

Traffic Management

Mobility

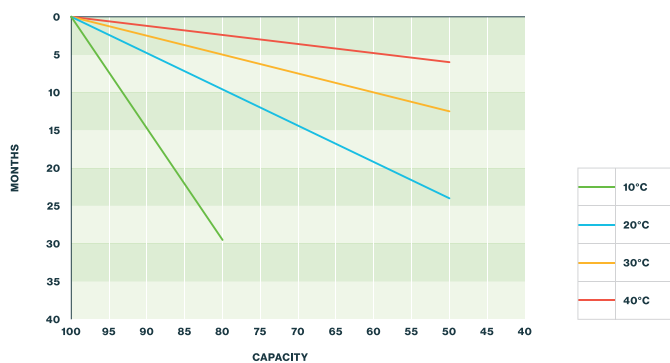
Charging profile

IU Charging $I = \text{min. } 12\% C_5 \text{ max. } 30\% C_5$
 $U = 2.4 \text{ V per cell}$

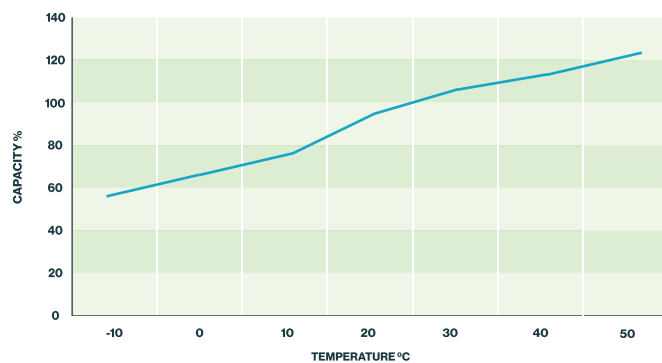
IUI Charging $I_1 = \text{min. } 12\% C_5 \text{ max. } 40\% C_5$
 $U = 2.35 \text{ V per cell}$
 $I_2 = 1.5\% C_5 \text{ for max. 4 hours}$

Select either AGM or GEL setting (GEL setting does increase lifespan)

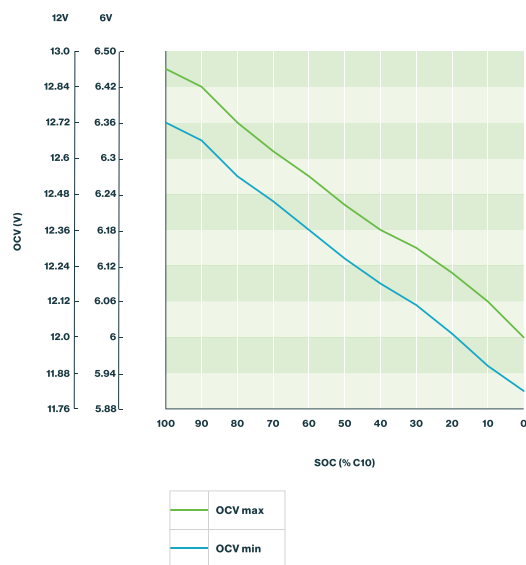
Self discharge at different temperatures



Capacity vs. temperature



Storage: Determine the state of charge



Relation between charging, voltage and temperature

