


**ENSEGA**

BEYOND BATTERIES

ADVANCED ENERGY STORAGE

 WWW.ENCAP.ENERGY

TECHNICAL DATA SHEET

**60WH - 12V**VERSION 1.0, Revision  
ENS-60-12-0.5C-X-X-X-1V0-GEN1  
RELEASE DATE: 14th March 2023**PERFORMANCE SPECIFICATIONS**

DC Energy	60Wh
Voltage Range	10.8Vdc to 15.2Vdc
DC Voltage (Nominal)	12Vdc
Internal Resistance	<4 mΩ

**CELL SPECIFICATIONS**

Technology	Encapsulated Cell
Nominal Cell Voltage	6.4~6.6Vdc / Cell (Encapsulated) 1/2 + 0.12V Envelope

**CHARGE CHARACTERISTICS**

Maximum Charge Current	0.5C (20A) maximum (maximum continuous charging current) @25°C
Charging Method	CC/CP/VP

**DISCHARGE SPECIFICATIONS**

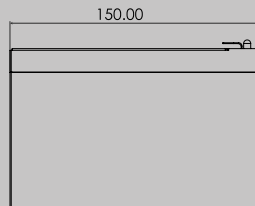
Maximum Discharge Current	0.5C (20A) maximum (maximum continuous discharging current) @25°C
Discharging Method	CC/CP/VP

**MECHANICAL SPECIFICATIONS**

Dimensions (W x H x D) mm	65 x 95 x 150
Weight (kg)	1.4 kg
Module Casing Material	Plastic Casing
Terminal Type	F2 (Faston tab 250)

**SAFETY PERFORMANCE**

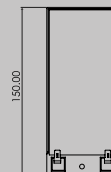
Over Voltage	Electronic Switching, Terminal Cut-off
Cell's Imbalance ( $V \geq 1V$ )	Prevent individual cell from over charging



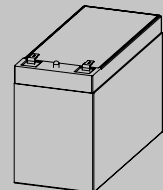
Side view



Front view



Top view



Isometric view

### ENVIRONMENT SPECIFICATIONS

Cell Operating Temperature <sup>1</sup>	Charging: 0°C ~ 50°C (0°C to 10°C current limit 20A charge)
	Discharging: -20°C ~ +55°C
Operating Humidity	Non-Condensing
Storage Temperature	-10°C ~ +45°C (<3 months, SOC: 20% ~ 60%)   -10°C ~ +35°C (<1 year, SOC: 30% ~ 60%)

### MODULE SERVICE LIFE

Projected Cycle Life <sup>2, 3, 4</sup>	500,000 Cycles
Projected Calendar Life <sup>5</sup>	25 Years
Shelf Life <sup>6</sup>	10 Years (Extendable)
Warehousing	Can be stored at any SOC without affecting cycle life


### PRECAUTIONS

Alarm	In case of alarm, immediately rectify/attend to the cause of the alarm
Physical Damage	In case the module is physically damaged due to an event, do not install and energize the module under any circumstances and contact your re-seller
Short Circuit	Ensure precautions to prevent short-circuit under all circumstances
Galvanic isolation	When connecting to external devices ensure that galvanic isolation does not exceed 1000V
Series Connection	All modules must be at 100% SOC before connecting in series. Please consult your reseller when connecting in series.
Parallel Connection	All modules must be at 100% SOC before connecting in parallel. There is no limit on the number modules that can be connected in parallel.
Series - Parallel Connection	Modules cannot be connected in series - parallel combination under any circumstance.

# ENSEGA

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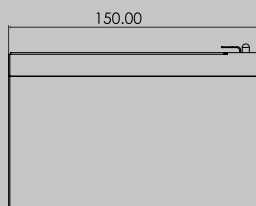
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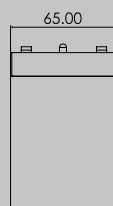
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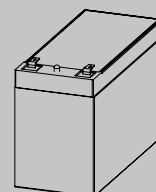
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<sup>1</sup>The temperature range indicates the range in which the encapsulated cells can operate. The performance of the cells may vary if they are continuously operated outside a temperature range of -20°C to 55°C, and/or at C-rates higher than the maximum charge/discharge rate specified in this spec sheet. The operating temperature range of the module varies based on the application. If the module is to be operated continuously outside a temperature range of -20°C to 55°C, and/or at C-rates higher than the maximum charge/discharge rate specified in the spec sheet, please consult Enercap or its Reseller prior to deploying.

<sup>2</sup>Warranty conditions will apply. Please consult your, Reseller or Enercap for warranty conditions applicable to your region.

<sup>3</sup>Projected life of encapsulated cells. Cycle life will vary if cycled more than 4 times a day.

<sup>4</sup>Additional terms and conditions, including a limited warranty, will apply at the time of purchase.

<sup>5</sup>Projected Calendar life of encapsulated cells from the date of first operation.

<sup>6</sup>Shelf life is the life of the module (in years) from the date it is manufactured to the time it is first operated

Product dimensions are for reference only unless otherwise identified and may change without notice.

For critical applications, please contact your Reseller or After Sales support.