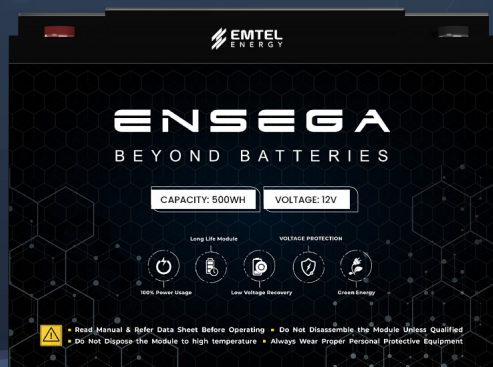


TECHNICAL DATA SHEET

ENSEGA

BEYOND BATTERIES

500WH-12V Module



ENS-500-12-0.5C-X-X-X-X-1V0-GEN1

ADVANCED
ENERGY
STORAGE

Performance Specifications

DC Energy	500Wh
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

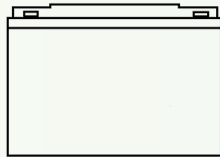
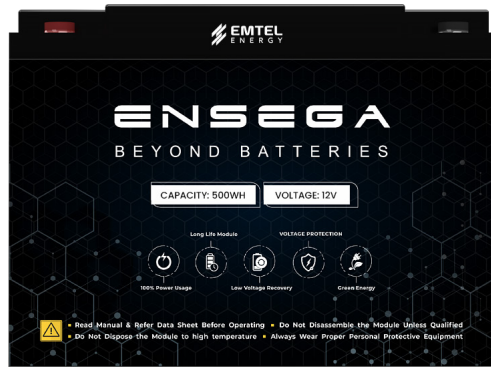
Dimensions (W x H x D) cm	25 x 20 x 13
Weight (kg)	6 kg
Module Casing Material	Plastic Casing

Safety Performance

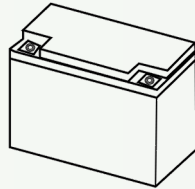
Short Circuit Protection	Electronic Switching, Terminal Cut-off
Over/Under Voltage	Electronic Switching, Terminal Cut-off
Over Current	Electronic Switching, Terminal Cut-off
Over Temperature	Electronic Switching, Terminal Cut-off

EN-Connect Software

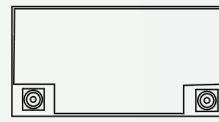
Communication and Connectivity	Bluetooth / EN-Control device
Module Monitoring	Total Voltage, Individual Cell Voltages, Current, Temperature, Instantaneous Power, Circuit Breaker Status, SOC and Energy Consumed.



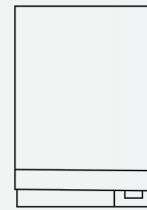
Front view



Isometric view



Top view



Side view

Environment Specifications

Cell Operating Temperature ¹

- 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 ^{2,3}

500,000 Cycles

Projected Calendar Life ⁴

25 Years

Shelf Life ⁵

10 Years

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 any 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 the modules 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.



¹The 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 Emtel or its Reseller prior to deploying.

*Warranty conditions will apply. Please consult your Reseller or Emtel for warranty conditions applicable to your region.

²Projected life of encapsulated cells. Cycle life will vary if cycled more than 4 times a day.

³Additional terms and conditions, including a limited warranty, will apply at the time of purchase.

⁴Projected Calendar life of encapsulated cells from the date of first operation.

⁵Shelf 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.