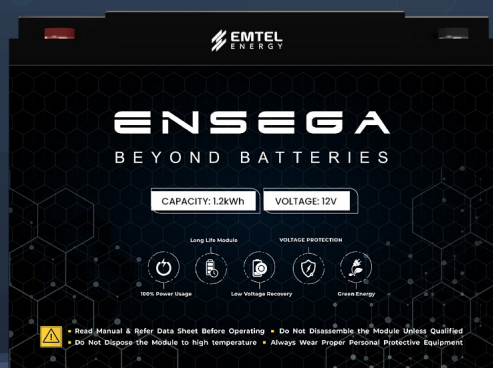


TECHNICAL DATA SHEET

ENSEGA

BEYOND BATTERIES

1.2KWH-12V Module



ENS-1200-12-0.5C-X-X-X-X-1V0-GEN1

ADVANCED
ENERGY
STORAGE

Performance Specifications

DC Energy	1200Wh
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 (50A) maximum (maximum continuous charging current) @25°C
Charging Method	CC/CP/VP

Discharge Specifications

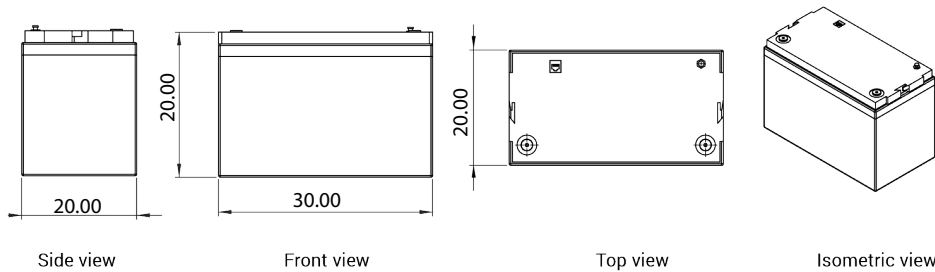
Maximum Discharge Current	0.5C (50A) maximum (maximum continuous discharging current) @25°C
Discharging Method	CC/CP/VP

ENSEGA Monitoring Software

Communication and Connectivity	Bluetooth / Encontrol device ¹
Module Monitoring	Total Voltage, Individual Cell Voltages, Current, Temperature, Instantaneous Power, SOC and Energy Consumed

Safety Performance

Short Circuit Protection	500A, Electronics Switching, Terminal Cut-off
Over/under Voltage	Electronic Switching, Terminal Cut-off
Over Current (Charge & Discharge Current)	Electronic Switching, Terminal Cut-off
Over temperature	Electronic Switching, Terminal Cut-off
Cell's Imbalance (V > 1V)	Electronic Switching, Terminal Cut-off



Mechanical Specifications

Dimensions (W x H x D) cm	30 x 20 x 20
Weight (kg)	12 kg
Module Casing Material	Plastic Casing

Environment Specifications

Cell Operating Temperature ^{2,3}	<ul style="list-style-type: none"> • 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 ⁴	500,000 Cycles
Projected Calendar Life ^{5,6}	25 Years
Shelf Life ⁷	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.
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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.

¹EN-Control is an external display used for monitoring & configuring the Module.

²The 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.

³Warranty conditions will apply. Please consult your Reseller or Emtel for warranty conditions applicable to your region.

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

⁵Additional terms and conditions, including a limited warranty, will apply at the time of purchase.

⁶Projected Calendar life of encapsulated cells from the date of first operation.

⁷Shelf 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.