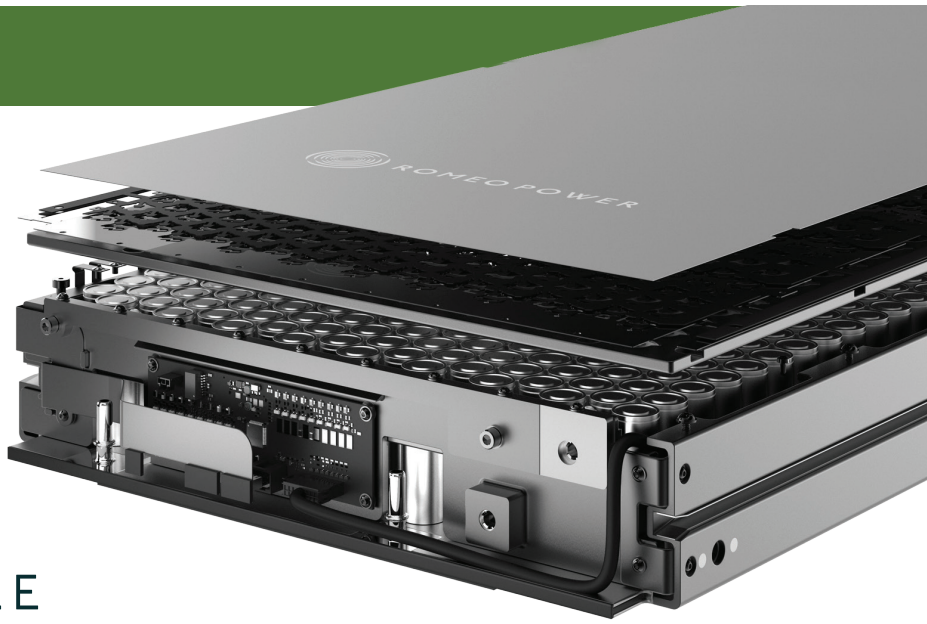
ROMEO POWER



BANYAN Module

The ideal electrification solution for the commercial vehicle industry, BANYAN is a modular building block consisting of lithium-ion cells in a 21700 format that are connected in series and parallel to achieve the desired voltage, energy and power capability. Its high packaging efficiency, high energy density and structurally integrated cooling system makes it an ideal battery system for many automotive powertrain applications.

FEATURES:

- Modular design with a 21700 cell format
- High packaging efficiency
- Designed according to SAE J2380/2464, UL 2580, GTR 20 and UN 38.3 requirements
- Scalable and configurable design
- Cell voltage and temperature monitoring through a built-in module monitoring device
- Cell balancing to maximize the usable capacity
- Isolated communication between stacks and individual modules and the central control device
- Integrated manifolds for superior thermal performance

Designed to

- SAE J2380 / 2464
- ECE R100
- SUN 38.3
- UL 2580
- GTR 20
- GTR 20

10k Wh	196 Wh/kg	0.5C
Total Energy Capacity	Energy Density	Fast Charging Capacity

Configurations

- 24S24P
- 23S24P
- 32S18P
- 16S36P

ROMEO POWER

BANYAN MODULE

Module Specification[1]

Electrical Specification

Module Configuration	24S24P	23S24P	32S18P	16S36P
Module Capacity[2]	115 Ah, 10 kWh	115 Ah, 9.8 kWh	86 Ah, 10 kWh	172 Ah, 10 kWh
Module Voltage Operating (min, max, nom)	60 V, 100 V, 87 V	57 V, 97 V, 85 V	80 V, 134 V, 118 V	40 V, 67 V, 59 V
Discharge Capability (1.5C)[3]	15 kW	14.6 kW	15 kW	15 KW
Normal Charge Capability (0.3C)2	3 kW	2.8 kW	3 kW	3 KW
Fast Charge Capability (0.5 C)[2]	5 kW	4.8 kW	5 kW	5 KW
Cell Cycle Life	>2000 (use case dependent)			

Mechanical Specification

Module Dimensions L x W x H	398mm x 800mm x 88.6mm			
Estimated Module Weight	52 Kg	51 kg	52 kg	52 Kg

Thermal Specification

Type of Cooling	Liquid, 50/50 Water Ethylene Glycol
Coolant Pressure	Operational : 25 PSI Maximum : 40 PSI Pressure drop : < 1 psi @ 4 LPM
Operational temperature range	Discharge Temperature range :-20°C to 55°C Charge temperature range : 0°C to 45°C* *Packs allowed to be heated with external power source between -20°C to 0°C

Module Availablity Timeline

Timeline	Available	End of Q3 2022	End of Q4 2022	End of Q4 2022

1 - Module Specifications are subject to change
2 - Estimated a beginning of life conditions and depends on temperature and discharge rate.
3 - Depends on SOC, temperature, battery age and user profile.