

# MENARA PACK SERIES




Romeo Power’s proprietary pack family exhibits application flexibility and is capable of powering a range of commercial vehicles spanning from Class 3 delivery vehicles to the largest, long-haul Class 8 vehicles. A nod to native Malaysian trees, Romeo Power’s tower pack series is called MENARA – which translates to “tower” in Malay

## DESIGNED TO

- ◆ ISO 26262
- ◆ SAE J2380
- ◆ SAE J2464
- ◆ UN 38.3
- ◆ UL 2580

## FEATURES:

- ◆ Heavy-duty, weatherproof structure for direct integration (IP67 and IP6k9k)
- ◆ Single cell fault tolerance per UL 2580
- ◆ Designed according to SAE J2380/2464, UN 38.3, GTR20, ECE R100
- ◆ Scalable and configurable system design
- ◆ Internal master can support up to 6P configuration
- ◆ Serviceable junction box
- ◆ Integrated BMS with SOC and SOP estimations, cell and pack protections, precharge, contactor control, CAN communication (J1939 and UDS), isolation resistance monitoring, and cell balancing
- ◆ Integrated manifolds for superior thermal performance

			
<b>MENARA-30</b>	200+ Wh/l Volumetric Energy Density	165+ Wh/kg Gravimetric Energy Density	180+ kWh Complete 6P System
<b>MENARA-80</b>	224+ Wh/l Volumetric Energy Density *8S	160+ Wh/kg Gravimetric Energy Density	480+ kWh Complete 6P System



			Configurable
Module Count (configuration)	7 (7SIP)	8 (8SIP)	No
Module Cell Count (configuration)	576 (24S24P)	576 (24S24P)	Yes
System Capacity (total) (25°C, 0.33C Charge, 0.2 C Discharge)	115.4 Ah, 71.61 kWh	115.2 Ah, 81.84 kWh	Yes (Only Ah)
System Capacity (usable) (25°C, 0.33C Charge, 0.2 C Discharge)	99.36 Ah, 61.60 kWh	99.84 Ah, 70.40 kWh	Yes (Only Ah)
System Voltage Operating (min, max, nom)	420.0 V, 705.6 V, 619.92 V	480.0 V, 806.4 V, 708.48 V	Yes
Cell Cycle Lifel (20% Capacity fade at 0.3C charge, 0.5C discharge, 25°C, 2.85V-4.1V)	>2000 (use case dependent)	>2000 (use case dependent)	No
Normal Charging Time (0.3C charge, 25°C, 3.0V - 4.1V)	3-4 Hours	3-4 Hours	Yes
Fast Charging Time <sup>2</sup> (TBD charge, 25°C, 3.0V - 4.1V)	2.5 Hours	2.5 Hours	Yes

<sup>1</sup>Fast charging significantly reduces battery cycle life. Details upon request.

<sup>2</sup>Warranty planning is handled in a dedicated conversation based on each vehicle's planned use case, environmental factors, and metrics from real world use



Configurable

Module Count (configuration)	3 (3S1P)	3 (3S1P)	3 (3S1P)	No
Module Cell Count (configuration)	576 (32S18P)	576 (24S24P)	576 (24S24P)	Yes
System Capacity (total) (25°C, 0.33C Charge, 0.2 C Discharge)	87.39 Ah, 30.528 kWh	84.71 Ah, 29.67 kWh	86.6 Ah, 30.72 kWh	Yes (Only Ah)
System Capacity (usable) (25°C, 0.33C Charge, 0.2 C Discharge)	73.044 Ah, 25.53 kWh	71.80 Ah, 25.2 kWh	75 Ah, 26.4 kWh	Yes (Only Ah)
System Voltage Operating (min, max, nom)	240.0 V, 403.2 V, 348.5 V	240.0 V, 403.2 V, 349.4 V	240.0 V, 403.2 V, 354.2 V	Yes
Cell Cycle Lifel (20% Capacity fade at 0.3C charge, 0.5C discharge, 25°C, 2.85V-4.1V)	>2000 (use case dependent)	>2000 (use case dependent)	>2000 (use case dependent)	No
Normal Charging Time (0.3C charge, 25°C, 3.0V - 4.1V)	3-4 Hours	3-4 Hours	3-4 Hours	Yes
Fast Charging Time <sup>2</sup> (TBD charge, 25°C, 3.0V - 4.1V)	2.5 Hours	2.5 Hours	2.5 Hours	Yes

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