

AnEnergy Introduction

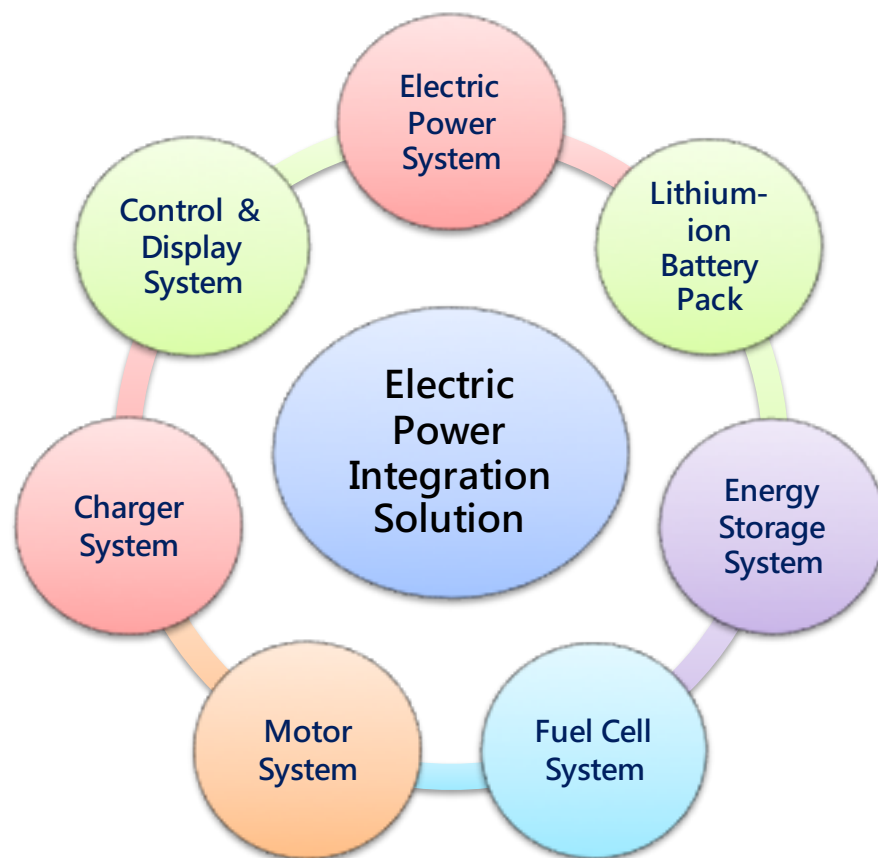


AnEnergy Co., Ltd
Electric System Integration Design

About AnEnergy

- AnEnergy is a professional supplier of integrated electric power system.
- We provide integrated technology, electric power system design, battery module design and fuel cell system.

- ✓ *High performance*
- ✓ *Premium quality*
- ✓ *Best-in-class security*



Energizing Future Life

Cloud Management Internet Monitoring System

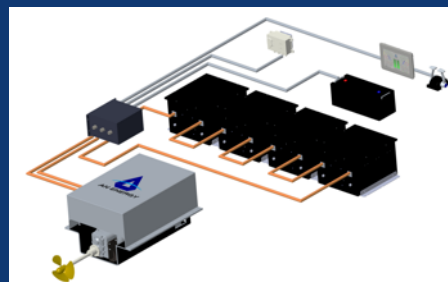
AIS
Remote
Controlling
System



Hardware Boat Electric system

High stability
and safety

Marine
certification



Smart touch
Boat data
integration



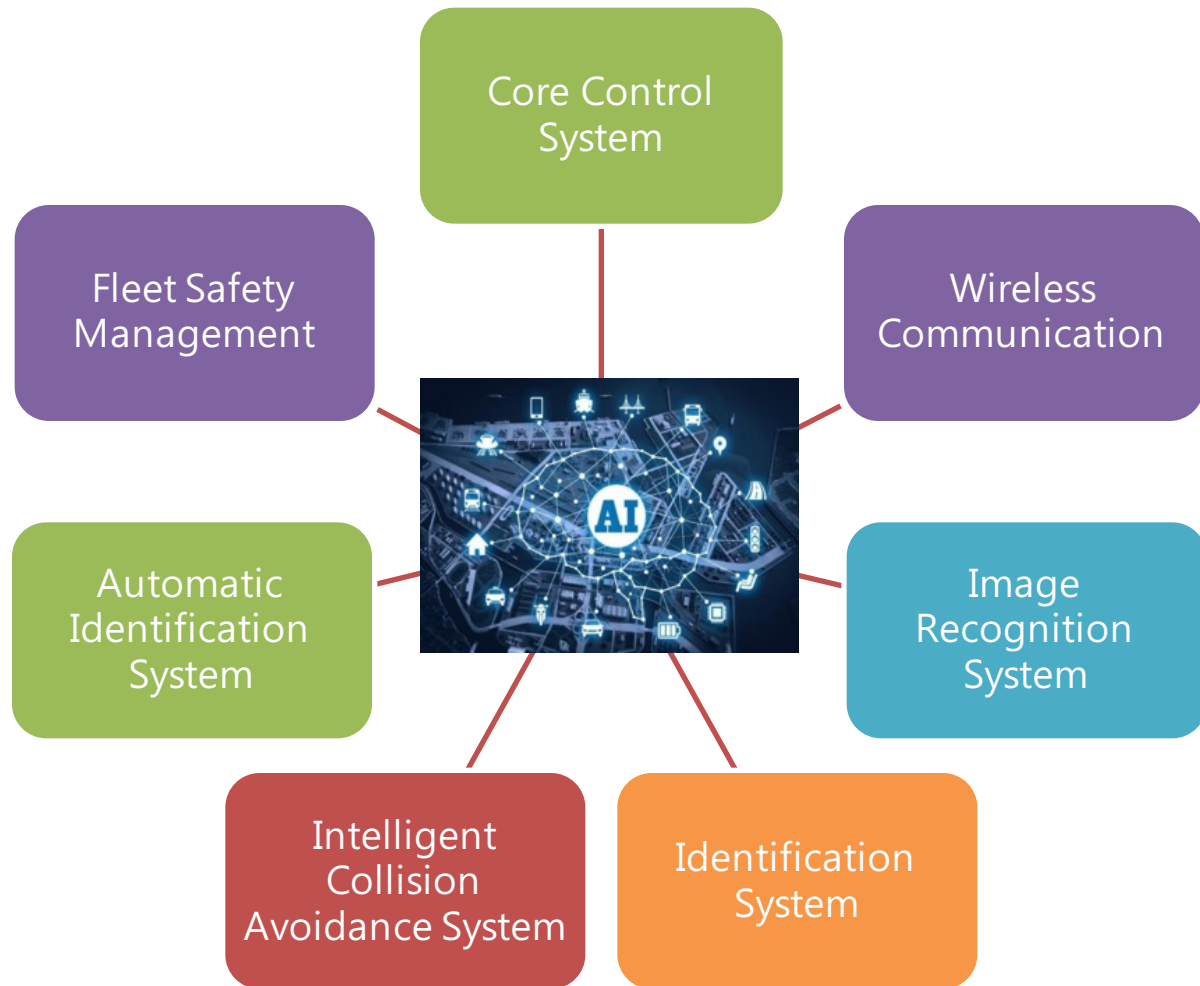
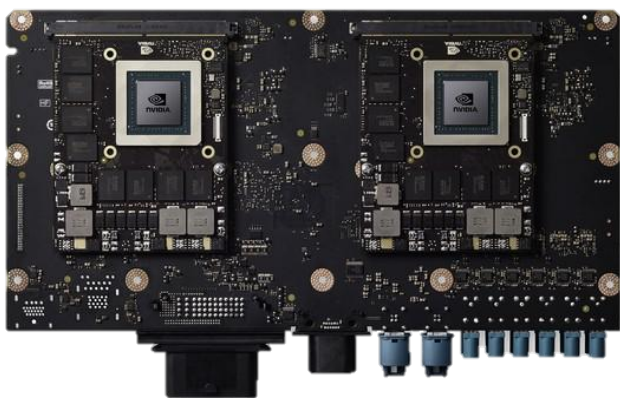
Software Electric Boat Control System

Electric yacht
shared space

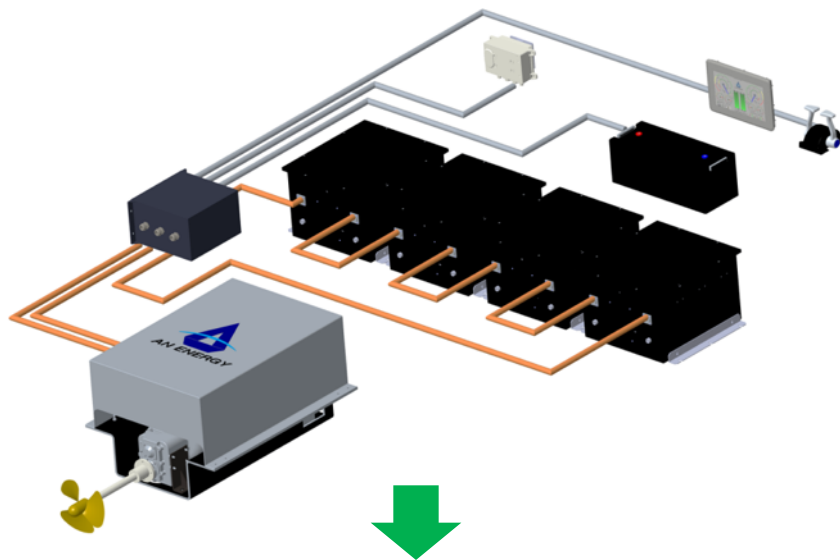


Application Green Energy Yacht Club

Ship Control System



Electric Power System



Yacht Manufacturer



30 Feet



50 Feet



78 Feet



120 Feet



220 Feet

Model A Electric Yacht

- The hull is made from France, and assembled in Taiwan
- With CE and NMMA double-warranty



Model D Electric Yacht

- The hull is designed from Japan
- Assemble and design from Taiwan professional boat manufacturer



Model E Luxury Electric Catamaran

- Longest battery capacity guarantee
- Low noise and vibration
- No terrible diesel smell
- Reduce 80% cost of maintenance and charging



Team Performance



Operating for 6.5 years

| | | | |
|--------------|-------------|------------------|------------------|
| Length | 18.5 meters | Maximum speed | 11 knots |
| Beam | 6.7 meters | Service speed | 8 knots/ 2.2hrs |
| Lightship | 25 tons | Power | 40kW twin motors |
| Draft | 0.88 meters | Battery capacity | 53kWh |
| Displacement | 50tons | Passenger | 90 persons |
| Material | FRP | | |

Company Performance 2020



20M E-Ferry

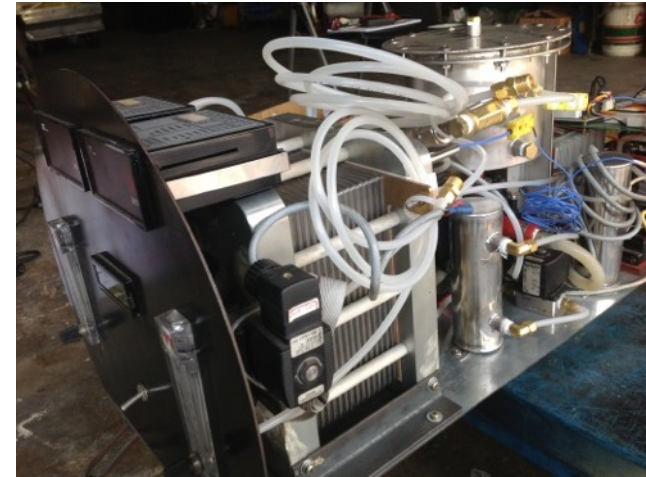
| | | | |
|-----------|-------------|------------------|-------------------|
| Length | 20 meters | Maximum speed | 15 knots |
| Beam | 7.3 meters | Service speed | 12 knots |
| Lightship | 36 tons | Power | 133kW twin motors |
| Draft | 0.88 meters | Battery capacity | 625kWh |
| Material | AL | Passenger | 100 persons |

Company Performance



Operating for 3 years

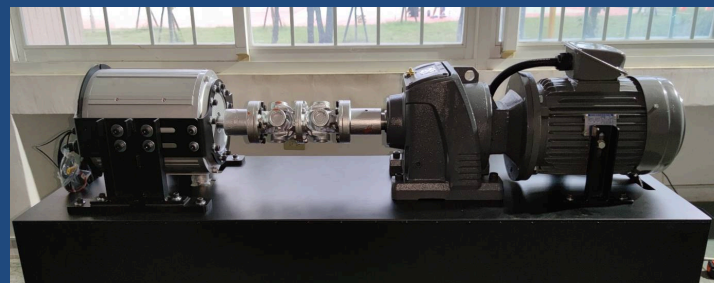
| | | | |
|--------------|-------------|------------------|------------------|
| Length | 14.5 meters | Maximum speed | 11 knots |
| Beam | 5 meters | Service speed | 8 knots/ 3.2 hrs |
| Lightship | 17 tons | Power | 20kW twin motors |
| Draft | 0.78 meters | Battery capacity | 60kWh |
| Displacement | 20tons | Passenger | 52 persons |
| Material | FRP | Endurance | 8 knots/ 3 hrs |



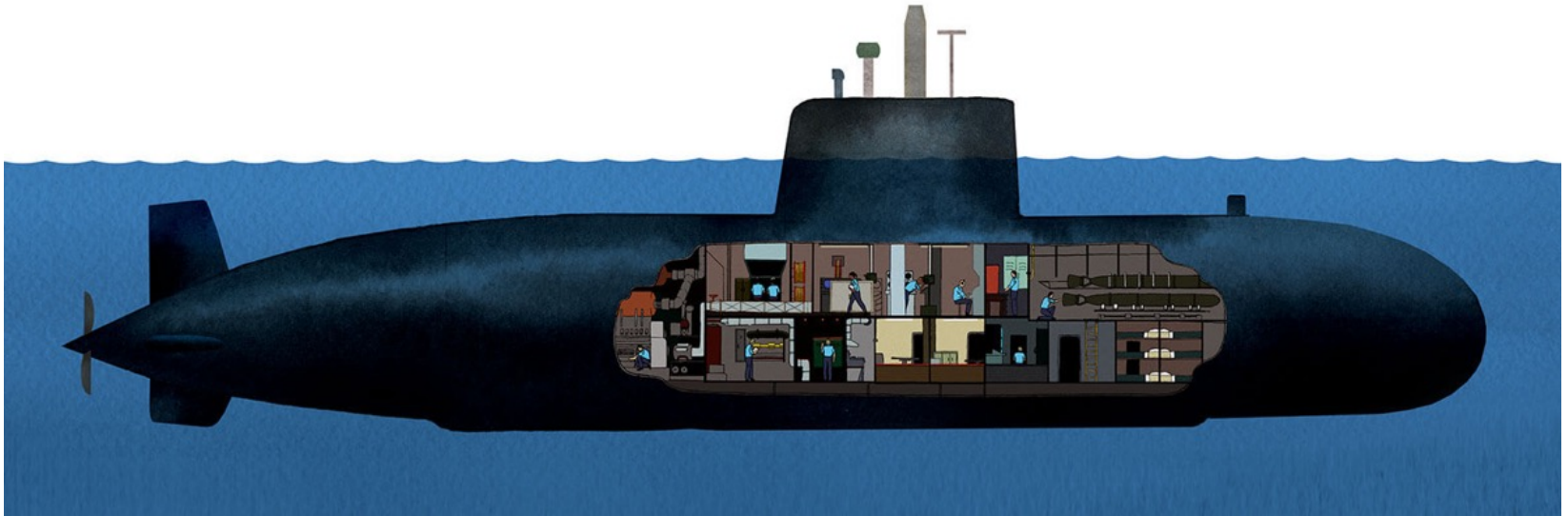
| | | | |
|-----------|------------|------------------|---------------------------------|
| Length | 6 meters | Maximum speed | 5 knots |
| Beam | 2.2 meters | Service speed | 3 knots |
| Lightship | | Power | 4kW motor |
| Material | Metal | Battery capacity | Fuel cell: 1kW battery: 4kWh |
| | | Passenger | 3 persons |

Building up

Offshore wind power and smart grid laboratory



E-Submarine - 2021



| | | | |
|-----------|------------|------------------|--------------|
| Length | 10.5meters | Maximum speed | 18 knots |
| Beam | 2.5 meters | Service speed | 8knots/ 4hrs |
| Lightship | 50 tons | Power | 90kW motors |
| Material | Metal | Battery capacity | 120kWh |
| | | Passenger | 24 persons |



Lightship

23 tons

Passengers

28 Persons

Specification

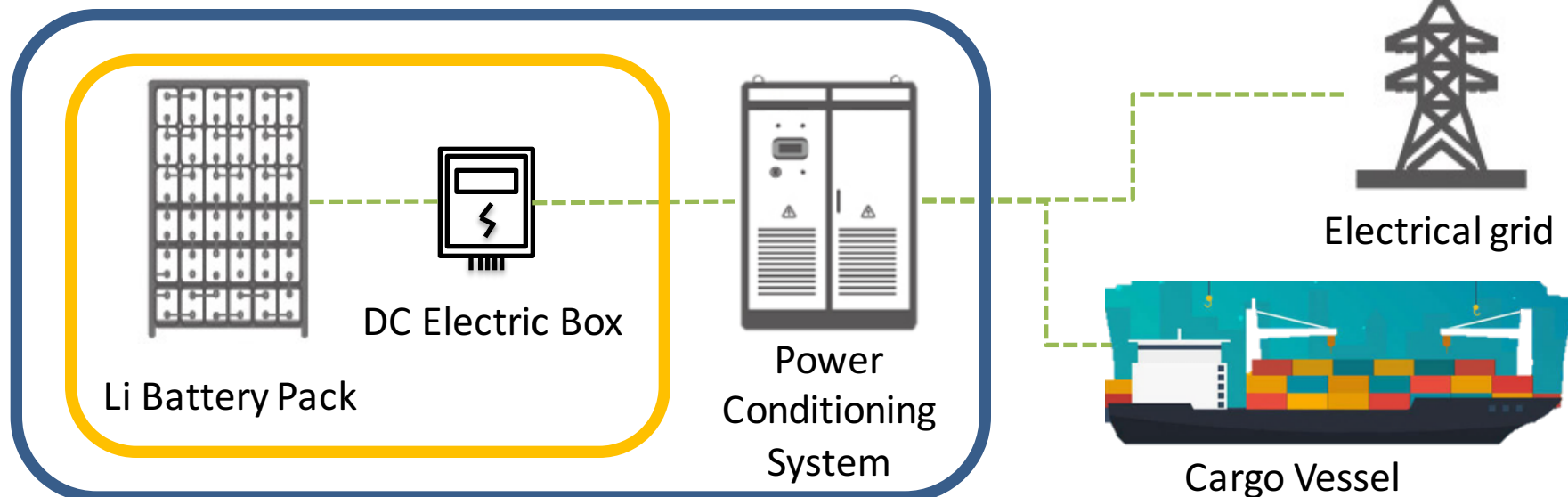
- Length : 50 Feet
- Width : 18 Feet
- Motor : 133KW Twin installation
- Lithium iron battery : 720kwh
- Display : 12 Inches*2
- Charging : 60kwh

Endurance

- Service Speed : 12knots / 16hr
- Max Speed : 18knots / 3hr
- Endurance : 355km / 12knots

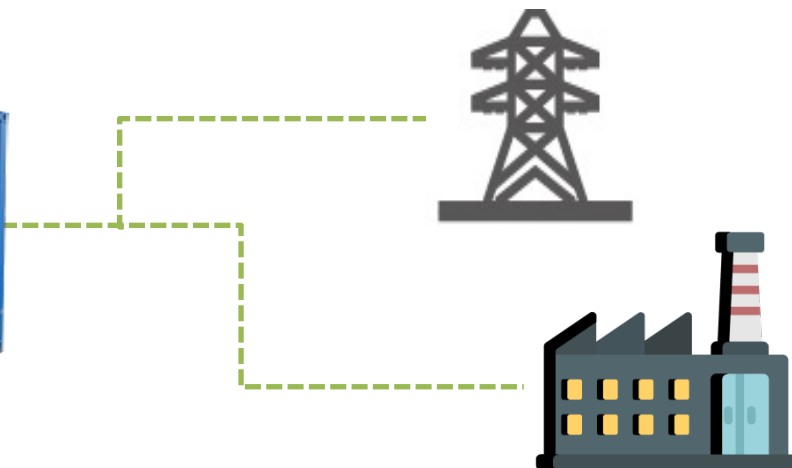


Energy Storage Container - 2021

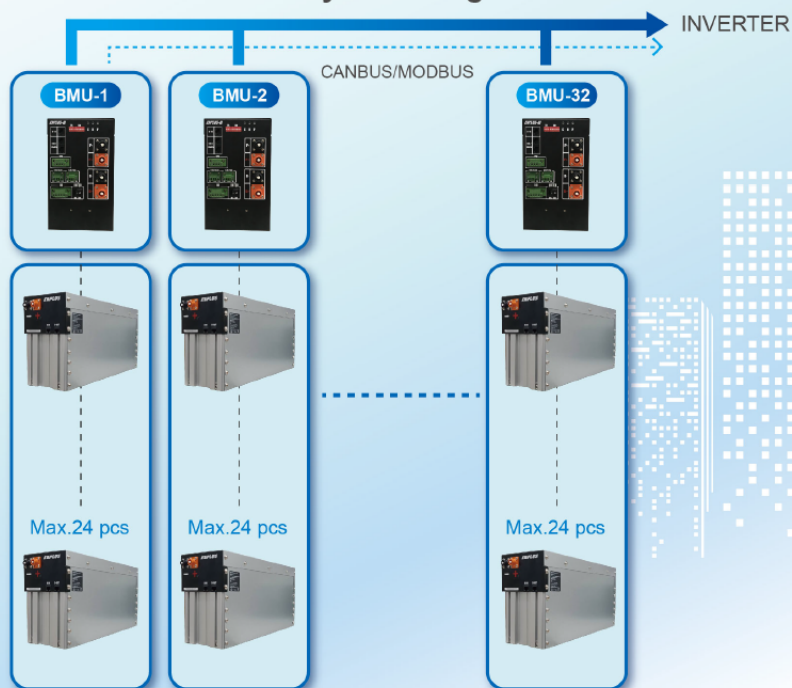


Voltage:1152Vdc
Battery:1080kwh





System Diagram



ESS Battery System

| | |
|-----------------------------|------------------|
| Nominal voltage | 921.6Vdc |
| Voltage range | 864Vdc-984Vdc |
| Maximum serial and parallel | 24S32P |
| Maximum Single string | 96 kwh |
| Maximum System capacity | 3072 kwh |
| Communication | RS485 / Canbus |
| DoD | 90% |
| Cycle Life | >80% @2500cycles |

Power Conditioning System PCS



250KW



1000KW



2500KW

Power
conversion
and control

Modular
design

Power
integration

Remote
management

High
stability

Highly
integrated
solution

1000KWh & 500KWh ESS Solution



Team Performance

ESS Battery System

| | AN-ESS1000 | AN-ESS500 |
|----------------------------|------------------|------------------|
| Nominal voltage | 768Vdc | 768Vdc |
| Voltage range | 864Vdc-984Vdc | 864Vdc-984Vdc |
| Nominal Capacity | 1470Ah | 735Ah |
| Module serial and parallel | 20S14P | 20S7P |
| Single string (24S Module) | 80.6 kwh | 80.6 kwh |
| System capacity | 1128.9 kwh | 564.4 kwh |
| Communication | RS485 / Canbus | RS485 / Canbus |
| DoD | 90% | 90% |
| Cycle Life | >80% @2500cycles | >80% @2500cycles |



Service Area- TAIWAN



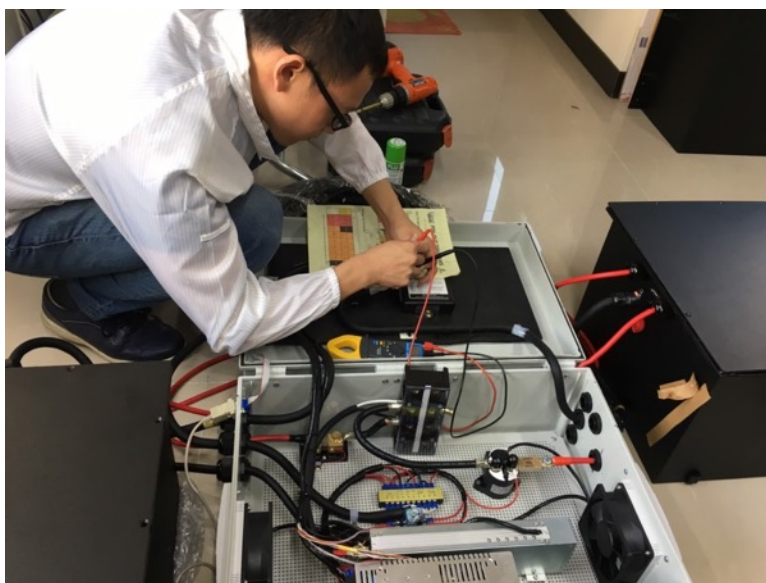
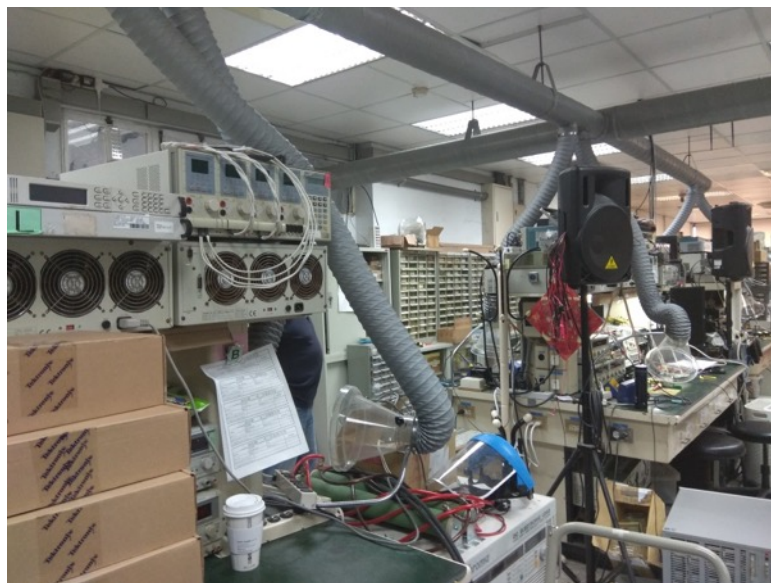
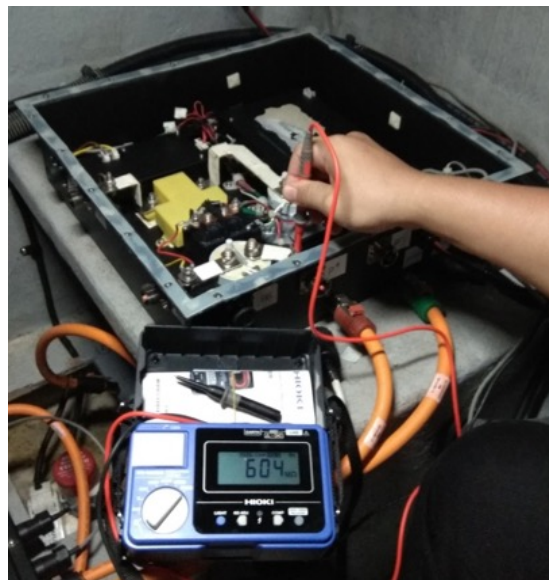
Green your life, Eco the world

Energizing your e-Life

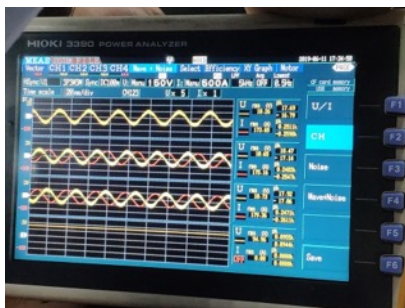
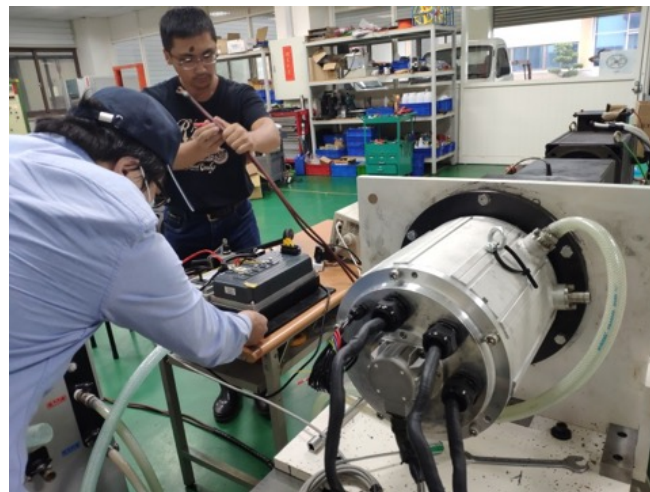
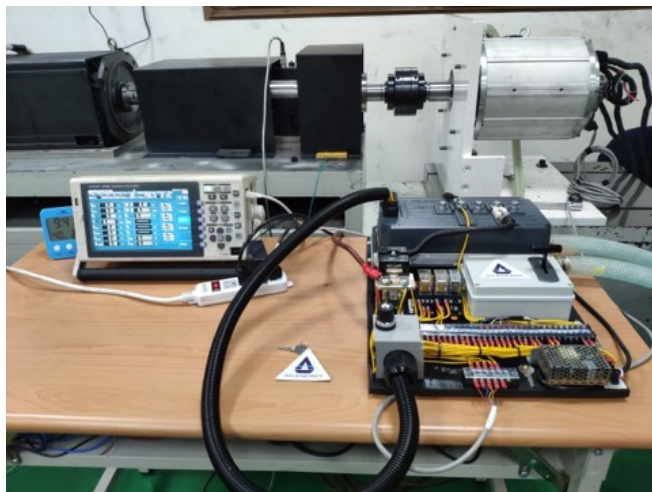
Service Area



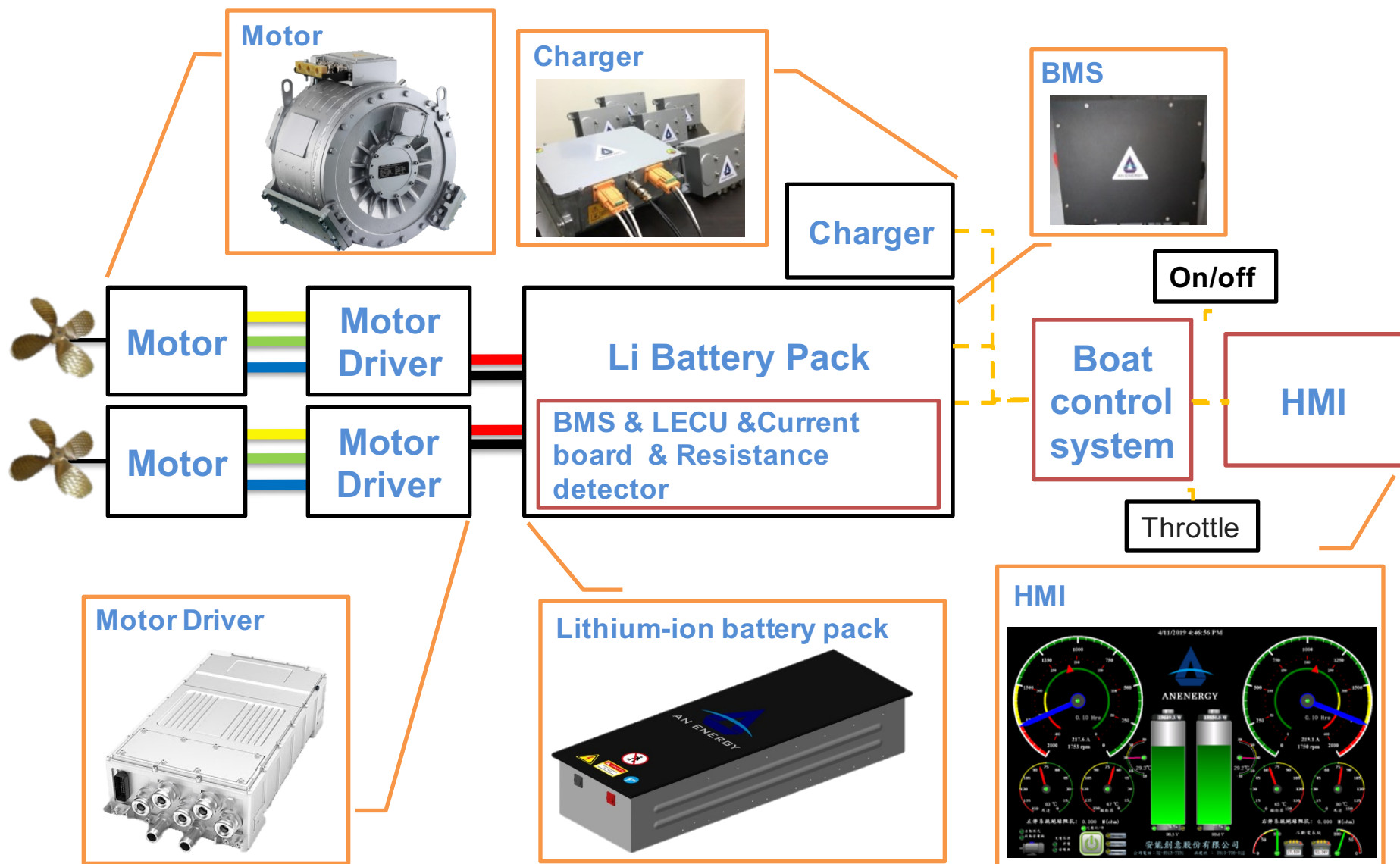
Battery Test and Pack Assembly



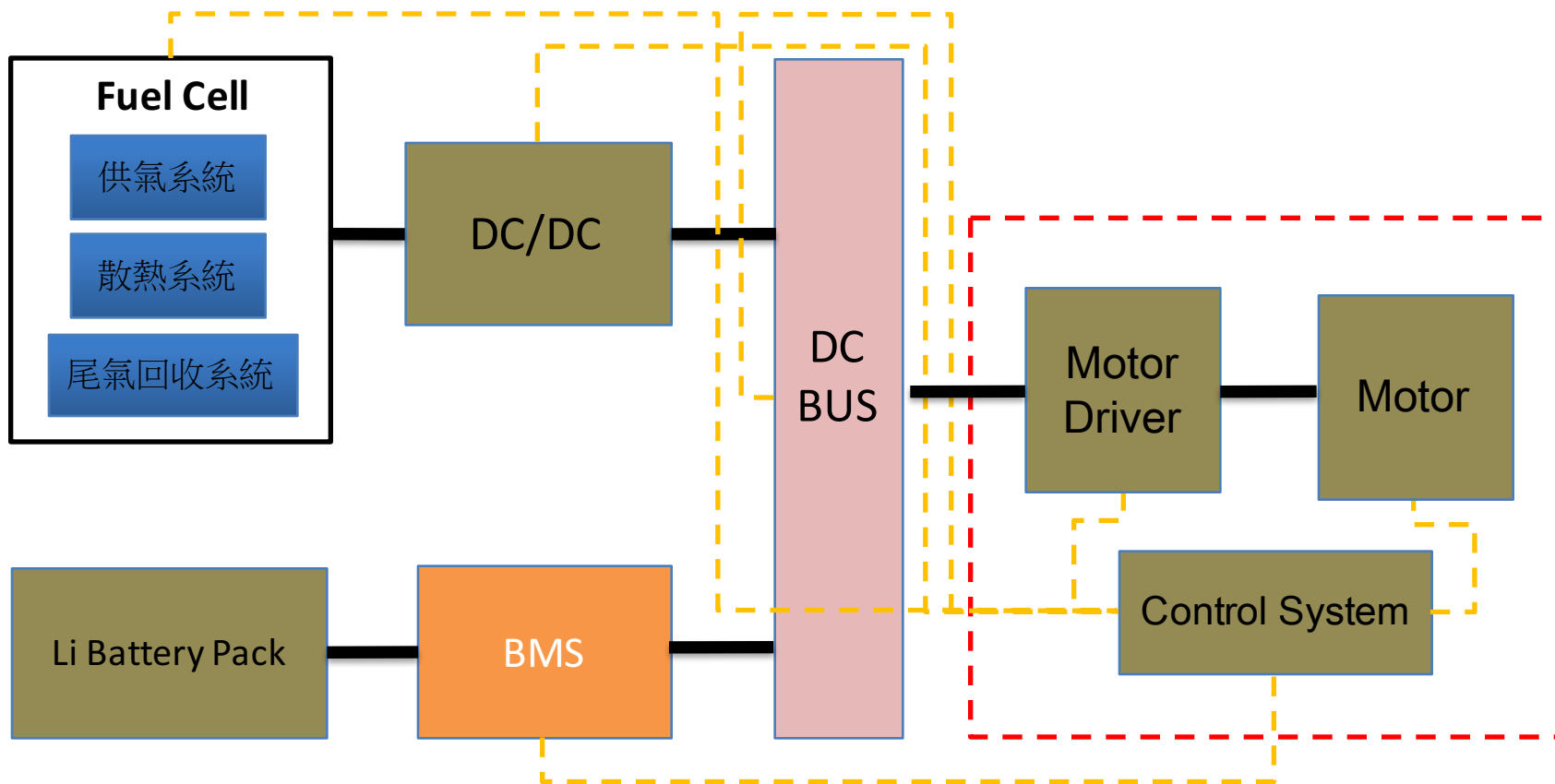
Motor & Driver Test



Electric Boat System Architecture



Electric System with Fuel Cell



AQUA Inboard Power Series

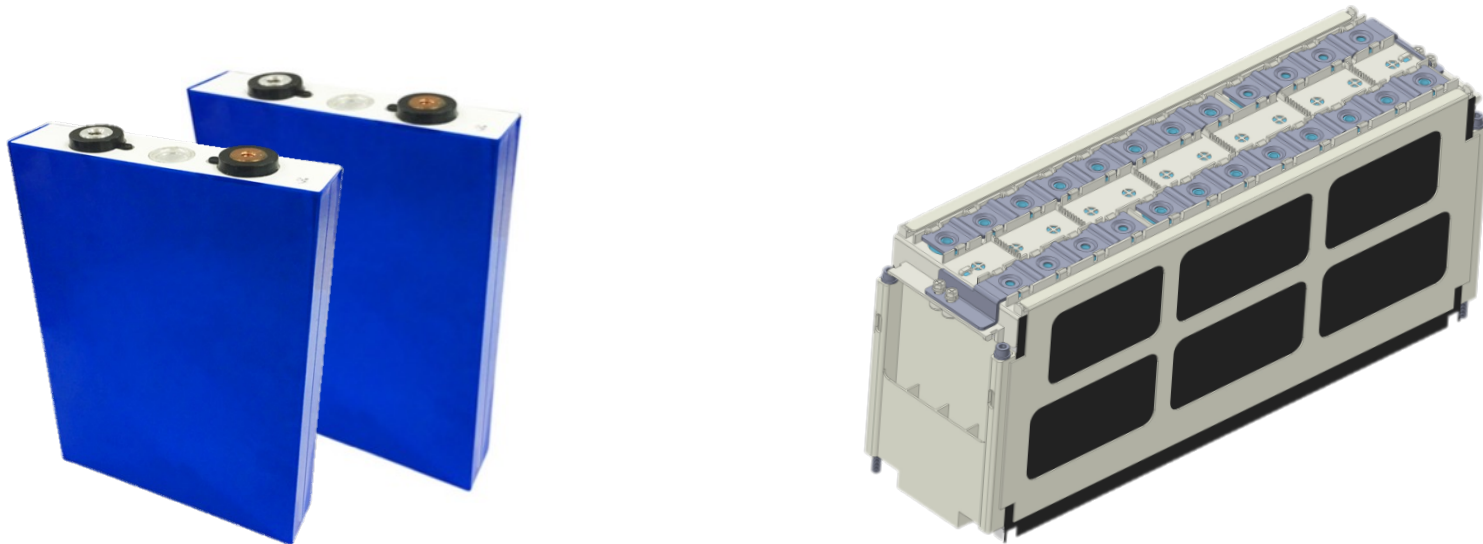


| | 7EH | 25EL | 50EH | 70EL | 130EL | 200EL | 300EL |
|----------------------|---------|---------|---------|---------|--------|--------|---------|
| Continue power | 7.5KW | 25KW | 48.5KW | 85KW | 133KW | 200KW | 300KW |
| Peak power | 8.8KW | 30KW | 52KW | 120KW | 250KW | 300KW | 500KW |
| Continue motor speed | 1600RPM | 1000RPM | 2500RPM | 1500RPM | 900RPM | 850RPM | 850RPM |
| Battery voltage | 96Vdc | 96Vdc | 96Vdc | 576Vdc | 576Vdc | 672Vdc | 1000Vdc |
| Continue torque | 43Nm | 270Nm | 180m | 600Nm | 1400Nm | 2200Nm | 3600Nm |
| Motor weight | 35KG | 240KG | 140KG | 250KG | 460KG | 670KG | 850KG |

Lithium battery cell

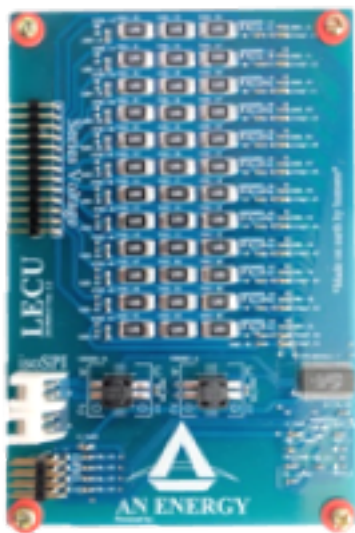
SPEC

- Module compliance with the ship certification adopts high capacity lithium iron battery cell
- Series-parallel design by laser welding technique makes the battery more stable and applicable.
- Battery cell conforms UN38.3 , DNV (marine) , CCS (marine) , UL1642(safety) , GBT31485(safety) , ROHS Certification
- High puncture protection: No catch fire and explosion after testing
- 2500 life Cycles DOD 80%



SPEC

- Design refers to **UN38.3 and DNV**(marine) · **UL2580** (car regulations), **IEC62619, IEC 60068-2-52** (salt spray test), **IEC 60068** (vibration), **IP67** (waterproof and high dust-proof), **and UL94V0** (fireproof)
- High **puncture protection**: AnEnergy lithium battery pack possess high safety and long service life which allows puncture protection.
- Practical and stable structure design for electric powertrain system.

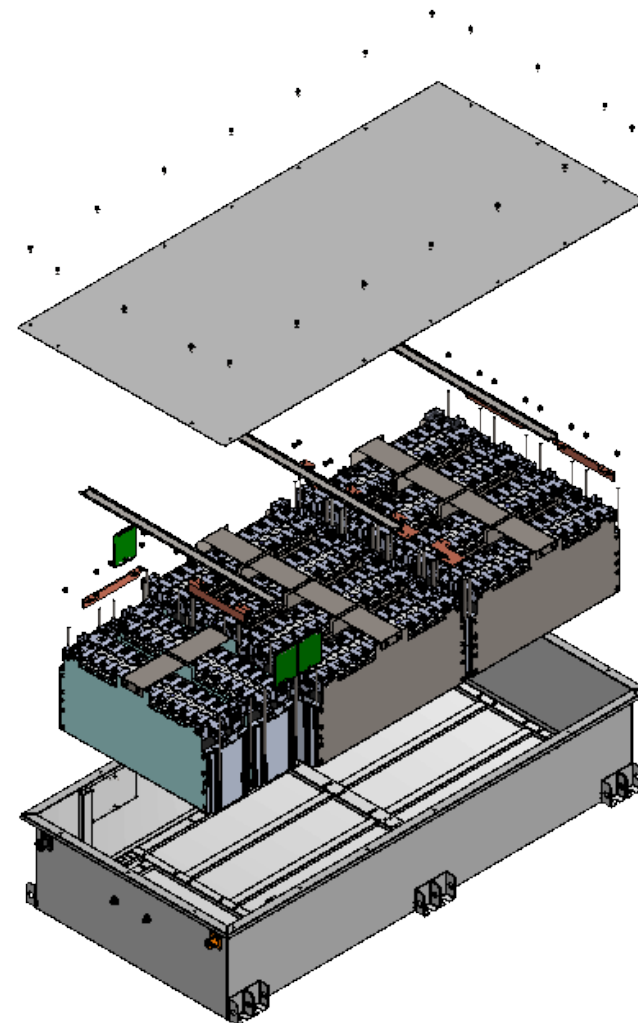


EV Lithium Battery Module

AnEnergy E-Boat Battery Module SPEC

| | | |
|-----------------------------------|---------|------------------------|
| Rated power (double set) | kwh | 40.32 LiFe |
| Serial-parallel number | | 30S 4P (LF105) |
| Rated voltage | Voltage | 96 |
| Voltage range | Voltage | 90~102 |
| Rated capacity | Ah | 420 |
| Rated output power | KWh | 35 |
| Maximum output power (continuous) | KWh | 35 |
| Maximum output power (Peak) | KWh | 40 (10S) |
| Ambient temperature range | °C | 0 ~ 50 |
| Cooling | | Natural cooling |
| Installation space | mm | 650 (D)*1320(W)*264(H) |
| Total weight | kg | 320 |
| IP rating | | IP67 |

| | Lake | Lake/Sea | Lake/Sea | Sea |
|-------------------------------|----------|----------|----------|---------|
| Voltage | 96V | 384V | 576V | 1152V |
| capacity | 241.9KWh | 967.6KWh | 1451KWh | 2903KWh |
| Module serial-parallel number | 1S6P | 4S6P | 6S6P | 12S6P |



HMI Touch Panel & Boat Control System

SPEC

- 12-inch HMI touch panel certified by CE & DNV & EMC
- Information integration with lithium battery, lead acid battery, motor controller, motor, lithium battery charger, generator
- Pre-determination: With camera and data collection, It can predict the status of the system and prevent the failures of system



Remote Real time Information Control System



Remote real time information control system
Vessel: Sun Moon Lake Prince

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