

2023 MEETS THE FUTURE



*Going* **ELECTRIC**  
with ELECTRINE

Pure Electric & Hybrid Propulsion System



*Your Ride Finally  
Meets the Future*

# GOING ELECTRIC

for your boat,  
for a clean ocean,  
for a better overall experience

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# Why ELECTRIC ELECTRINE

From our consistent effort on R&D for numerous years, we have succeeded in manufacturing pure electric outboards and inboard propulsions that are absolutely safe for our precious marine environment and to people as well. You can just enjoy your boat ride while ELECTRINE continues to work for the environment for greater energy conservation, and more importantly for your safety.

## for BETTER EFFICIENCY

Electrification makes everything simple no matter where it is applied. An electric propulsion system doesn't require a regular maintenance list, which means you no longer have to get your hands dirty anymore.

"KEEP YOUR HANDS AND OUTFIT CLEAN"



## for BETTER PERFORMANCE

Understanding an electric motor, it has more power and torque at lower speeds, which means that an electric motor consumes less energy to make more power. You can feel more power at lower speeds with ELECTRINE propulsion systems with less operating noise and vibration.

"MORE POWER WITH LESS ENERGY CONSUMPTION"



## for BETTER EXPERIENCE

ELECTRINE propulsion systems make you experience something you have never experienced compared to gas powered engines. No more feeling guilty from poisoning the maritime environment while you are enjoying your smooth and quiet boat ride with ELECTRINE.

"A MUCH BETTER FEELING"



## for BETTER TOMORROW

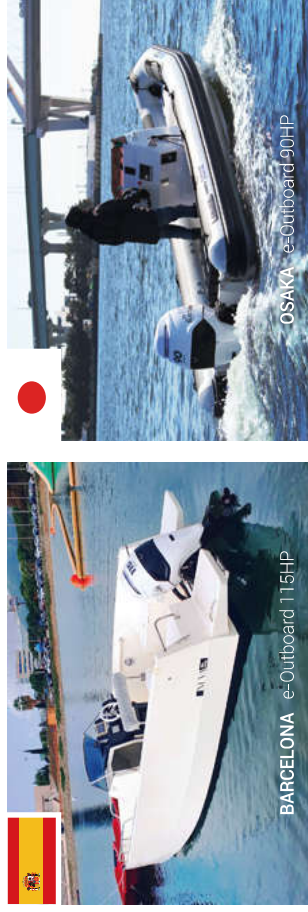
Your concern for our environment is important to us as well. However, we do not want you to compromise your fun with concerns of the environment. Leave those worries to us.

Please feel free to express your love and enjoyment of your boating experience. We make sure we do our job so the environment is better for now and the future.

"YOUR RIDE FINALLY MEETS THE FUTURE"



ANSAN Inboard 350HP x 2



BARCELONA e-Outboard 115HP



CALIFORNIA Inboard 350HP x 2



OSAKA e-Outboard 90HP



BUSAN e-Outboard 115HP



ROTTERDAM e-Outboard 115HP



Twin Z0115s were installed on a pontoon boat with stable integration and performance.

A single Z090 was installed on a fishery boat.

A single Z090 was installed on a RIB boat.



# Pure Electric **OUTBOARD**

ELECTRINE e-OUTBOARD series guarantee full satisfaction without any compromise on your choices.



“BETTER PERFORMANCE WITH BETTER CHOICES”

## No Compromise

There is nothing to compromise on your passion for the ocean. All fun factors are still with ELECTRINE e-OUTBOARD series.

You keep enjoying the ride. We keep working hard to make a perfect pure electric propulsion system that best suits your needs.

The range of your fun is

# UP to 180HP



Various lineups are available for your needs.

\* All figures are subject to change for improvements.





**ZO 115**  
115 HP  
33.87 kWh  
(Battery)

**We are Ready to Show You The Next E-boat Technology**

Superior performance with reliable stability cannot be achieved by anyone. ELECTRIC started to develop what others never imagined from 2010, and our endless effort has made one of the best electric propulsion systems available in the world.

ELECTRIC continues to develop the next technology that others cannot even dream about. We believe that it is possible because we are already in the future of others.

ELECTRIC e-OUTBOARD series is the core product lineup of ELECTRIC with cutting-edge technology.

\* All figures are subject to change for improvements.

**All Inclusive**



Active Display



Propeller



Battery x 4 Modules



Remote Control Box

**ELECTRINE Makes an Efficient System**

ELECTRINE designed all core parts from scratch and makes them all in-house. The system includes display, propeller(for outboard only), battery and remote control box

\* All figures are subject to change for improvements.

**For Your Longer Lasting Enjoyment**



**ELECTRINE BATTERY PACKS can be added as many as you need.\***

\*All the information and conditions of your boat must be provided before the maximum battery pack load can be calculated.



# Pure Electric INBOARD



“SMOOTH OPERATION WITH POWERFUL PERFORMANCE”

ELECTRINE e-INBOARD series significantly reduces the annoying noise and vibration, while providing amazing power.

ELECTRINE e-INBOARD series will provide unforgettable experiences on the water. All products are suitable for both saltwater and freshwater. You can enjoy maintenance-free and cost-saving pure electric propulsion systems.

The range of your fun is

**UP to 350HP**

The system includes



Active Display



Remote Control Box



Battery x 4 Modules

**Z1 350**  
350 HP  
100.7 kWh  
(Battery)



Various lineups are available for your needs.



## Powering the Future

ELECTRINE e-INBOARD Series provide stunning performance from 40HP to 350 HP with smooth delivery. Your ride finally meets the future.

ELECTRINE e-INBOARD Series are designed to perform the same or better than its gas engine counterparts while producing less noise and vibration.

\* All figures are subject to change for improvements.



# Battery Series

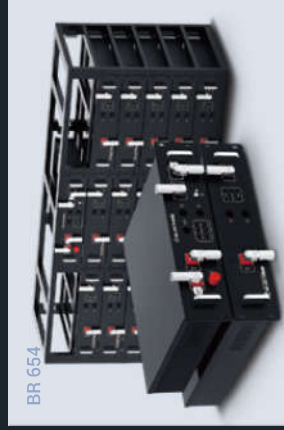
ELECTRINE BATTERY series have been designed for all different circumstances and conditions each boat and operation faces. ELECTRINE BATTERY series can be applied and installed onto any types of boats with various conditions.



Modular



Rapid Charging



BR 654

## Safe Power

ELECTRINE seriously considers safety as a top priority. That is why we put our best effort on the safe design of battery modules and packs. All battery modules and packs meet the global safety standards. The battery packs are installed after all safety check-ups as well as performance tests.

Your safety and satisfaction matter to us.

**BR654** 100kWh (1 Module - 6.7kWh)  
**BF345** 33.87kWh (1 Module - 8.5kWh)  
**BF86** 14.52kWh (1 Module - 3.6kWh)



BF 345



BF 86

\* All figures are subject to change for improvements.

## Versatile

As everyone's dreams are different from one another, every customer has different needs. That is why we designed and developed ELECTRINE's battery module and packs from scratch since we understand how important it is.

All ELECTRINE battery products meet the utmost safety regulations and requirements to guarantee your safety and maximize the performance to satisfy your needs at the same time. Your safety and satisfaction are important to us.



# Super Safe Battery Powerpack Technology

## • Battery Heat Control System

Applied the CNT (Carbon Nano Tube) heat exchange technology / Maximizing battery efficiency even in low temperatures

### Battery Control

- Efficient control and management of Li-ion battery

### Optimized Battery Case for Water Resistance

- IP67-level waterproof (Protected from immersion up to 1m in depth)

### Easy Battery Replacement

- One-touch battery swapping system

## • Battery Temperature Control System

Maintaining the optimal temperature to let the battery system operate at its best condition

### External Material

- PP is applied to absorb shock, high elasticity, acid resistance, lightweight and scratch resistant
- The influence of external temperature and maintains internal temperature consistently with its heat fiber and cooling pipe

### Cooling System

- Maintains internal temperature and heat conduction by applying the copper pipe
- Overheating prevention system by applying refrigerants

## BATTERY

### BP 36 (Portable)

Nominal Voltage (Vdc)	36
Nominal Capacity (Ah)	28
Energy (kWh)	1,008
Operating Voltage (Vdc)	28.0 ~ 41.0
Charging Current	Standard 14A (0.5 C-rate)
Discharging Current	Max 80A (2.85 C-rate)
Communication	CAN 2.0b
Operation Temperature (Ambient)	-10°C ~ 60°C
Configuration	4 Module
Dimension (mm)	141 x 141 x 260
Weight (kg)	6.2

### BF 86 (Fixed)

Nominal Voltage (Vdc)	86.4 (43.2 x 2ea)
Nominal Capacity (Ah)	168 (84 x 2ea)
Energy (kWh)	14,52
Operating Voltage (Vdc)	67.2 ~ 98.4
Charging Current	Standard 84A (0.5 C-rate)
Discharging Current	Max 240A (1.43 C-rate)
Communication	CAN 2.0b
Operation Temperature (Ambient)	-10°C ~ 60°C
Configuration	4 Module
Dimension (mm)	485 x 842 x 341
Weight (kg)	80 (Module : 20 x 4)

### BF 345 (Fixed)

Nominal Voltage (Vdc)	345.6 (86.4 x 4ea)
Nominal Capacity (Ah)	98
Energy (kWh)	33,87
Operating Voltage (Vdc)	288 ~ 384
Charging Current	Standard 30A (0.3 C-rate)
Discharging Current	Max 280A (2.85 C-rate)
Communication	CAN 2.0b
Operation Temperature (Ambient)	-10°C ~ 60°C
Configuration	4 Module
Dimension (mm)	592 x 831 x 316
Weight (kg)	188 (Module : 47 x 4)

### BR 654 (Rack)

Nominal Voltage (Vdc)	654 (43.6 x 15ea)
Nominal Capacity (Ah)	154
Energy (kWh)	100.7 (6.7 x 15ea)
Operating Voltage (Vdc)	654.3 V
Charging Current	70.2A (0.5 C-RATE)
Discharging Current	MAX 154 (1 C-RATE)
Communication	CAN 2.0
Operation Temperature (Ambient)	-20°C ~ 60°C
Configuration	15 Module
Dimension (mm)	1899 x 890 x 615
Weight (kg)	720 (Module : 45 x 15)



## You Keep Enjoying the Ride We Will Take Care of the Rest

Your concerns on our environment are precious. However, we do not want you to compromise your fun on these considerations.

Please leave those considerations to us.

Please feel free to express your love for the boat ride.

We do our job to make 100% environmentally friendly electric propulsions for a better overall experience.

# Going ELECTRINE



# Specifications

\* In Development

	e-OUTBOARD		ZO 40	ZO 60	ZO 90	ZO 115	ZO 150	ZO 180	e-SAILDRIVE		ZS 8	ZS 16
Max / Continuous Power (kW)	43 / 23	60 / 40	110 / 65	120 / 84	140 / 120	250 / 140	250 / 140	250 / 140	8 / 6	16 / 11		
Max / Continuous Torque (N.m)	72 / 31	220 / 80	255 / 105	251 / 142	350 / 200	950 / 480	950 / 480	950 / 480	1.93 / 1	1.93 / 1		
Operational Speed (rpm)	0-8,000	0-9,000	0-8,500	0-6,000	0-13,000	0-8,500	0-8,500	0-8,500	0 ~ 3,100	0 ~ 3,100		
Operating Battery Voltage (Vdc)	72~96	288~384	288~384	288~384	288~384	320~450	320~450	320~450	48	48		
Communication	CAN 2.0b	CAN 2.0b	CAN 2.0b / RS232	CAN 2.0b / RS232	CAN 2.0b	CAN 2.0b	CAN 2.0b	CAN 2.0b	CAN 2.0b	CAN 2.0b		
Dimension (mm)	700 x 410 x 1,620	700 x 410 x 1,620	820 x 520 x 1,740	820 x 520 x 1,740	874 x 574 x 1,888	874 x 574 x 1,888	874 x 574 x 1,888	874 x 574 x 1,888	649 x 400 x 1,028	649 x 400 x 1,028		
Weight (Kg)	120	135	150	150	155	155	155	155	40.5	46.5		

	e-INBOARD		ZI 90	ZI 115	ZI 150	ZI 180	ZI 250	ZI 300	ZI 350	ZI 550
Battery Capacity Standard (kWh)	14.52	33.87	33.87	33.87	33.87	100	100	1.008 (Standard)	1.008 (Standard)	1.008 (Standard)
Battery Capacity long (kWh)	29.04	67.74	67.74	67.74	67.74	200	200			
IPDU / Junction Unit	N/A	●	●	●	●	●	●	●	●	●
BCU	●	●	●	●	●	●	●	●	●	●
Onboard Charger	●	●	●	●	●	●	●	●	●	●
Cluster(Display)	●	●	●	●	●	●	●	●	●	●
Remote Control Box	●	●	●	●	●	●	●	●	●	●
Switch Panel	●	●	●	●	●	●	●	●	●	●
Trim & Tilt	●	●	●	●	●	●	●	N/A	N/A	N/A
Steering Wheel	○	○	○	○	○	○	○	N/A	N/A	N/A
Tiller	○	○	○	○	○	○	○	N/A	N/A	N/A
Electric Steering	○	○	○	○	○	○	○	○	○	○

	ZI 40	ZI 60	ZI 90	ZI 115	ZI 150	ZI 180	ZI 250	ZI 300	ZI 350	ZI 550
Max / Continuous Power (kW)	43 / 23	60 / 40	110 / 65	120 / 84	140 / 120	250 / 140	255 / 190	250 / 210	372 / 260	540 / 430
Max / Continuous Torque (N.m)	72 / 31	220 / 80	255 / 105	251 / 142	350 / 200	950 / 480	2,355 / 900	4,000 / 2,090	3,445 / 1,970	2,900 / 2,050
Operational Speed (rpm)	0-8,000	0-9,000	0-8,500	0-6,000	0-13,000	0-8,500	0-3,700	0-2,450	0-3,400	0-4,000
Operating Battery Voltage (Vdc)	72~96	288~384	288~384	288~384	288~384	320~450	500~750	500~750	600~750	TBD
Communication	CAN 2.0b	CAN 2.0b	CAN 2.0b / RS232	CAN 2.0b / RS232	CAN 2.0b	CAN 2.0b	CAN 2.0b	CAN 2.0b	CAN 2.0b	CAN 2.0b
Dimension (mm)	390 x 359 x 322	390 x 359 x 322	654 x 468 x 475	664 x 468 x 475	797 x 1,029 x 627	797 x 1,029 x 627	863 x 1,076 x 618	902 x 1,200 x 733	902 x 1,200 x 733	TBD
Weight (Kg)	65	80	95	95	98.5	98.5	385	495	495	TBD

	e-INBOARD		ZI 90	ZI 115	ZI 150	ZI 180	ZI 250	ZI 300	ZI 350	ZI 550
Battery Capacity Standard (kWh)	14.52	33.87	33.87	33.87	33.87	100	100	1.008 (Standard)	1.008 (Standard)	1.008 (Standard)
Battery Capacity long (kWh)	29.04	67.74	67.74	67.74	67.74	200	200			
IPDU / Junction Unit	N/A	●	●	●	●	●	●	●	●	●
BCU	●	●	●	●	●	●	●	●	●	●
Onboard Charger	●	●	●	●	●	●	●	●	●	●
Cluster(Display)	●	●	●	●	●	●	●	●	●	●
Remote Control Box	●	●	●	●	●	●	●	●	●	●
Switch Panel	●	●	●	●	●	●	●	●	●	●
Steering Wheel	○	○	○	○	○	○	○	○	○	○
Waterjet	○	○	○	○	○	○	○	○	○	○
Stemdrive	○	○	○	○	○	○	○	○	○	○

○ : Option \* All figures are subject to change for improvements.



# TOMOIKE

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