



**SAFER
LITHIUM-ION
BATTERY**

PRODUCED IN THAILAND

BY  GPSC

PARTNERING FOR FUTURE

ABOUT US

GPSC is the innovative energy flagship company of PTT Group. Besides, being a power & utility provider, **GPSC** is also a professional manufacturer of lithium-ion battery in Thailand.



GPSC is the first Li-ion SemiSolid battery manufacturer in Thailand.

Our product is certified with international lithium-ion battery standards.

Our factory is operated by state-of-the-art manufacturing platform from **24M Technologies, Inc.**

Finest quality of product and service, is the top priority that promised to customers.



On-time shipment



After sales service



Technical support

SMEs upto large organizations are welcome to be supported as partnership either OEM or ODM production.

Following the company's business guidelines, "Partnering for Future", it allows us to strive for the development of battery ecosystem, sustainability, and adding more value to Thai industry.



GREENER



SAFER



RELIABLE

G-CELL SEMISOLID LITHIUM ION BATTERY

SAFER

The Strength of G-CELL

G-CELL, GPSC's SemiSolid battery is designed with the strength of safety from the mechanism that protects the batteries against internal short-circuit at cell level. Its innovative process also prevents metal contamination which is the main cause of short circuit.

With the highly advanced battery manufacturing process technology from **24m**, and the strength of PTT Group in energy sector that has been established in Thai society for over 40 years, it allows GPSC to develop the most reliable, environmentally friendly, and safer battery to use in this era, either of LFP and NMC products to all customers.



COMPETITIVE ADVANTAGES

- ✓ Safer
- 🌱 Greener
- 📅 Reliable

LITHIUM IRON PHOSPHATE (LFP) BATTERY

FEATURES

- Safer unique cell design
- Safest lithium chemistry
- Up to 4,000 life cycles (100% DOD, 80% Retention)
- Excellent stability

CHARACTERISTICS

Nominal Voltage	3.2 V
Nominal Capacity	36.5 Ah
Recommended Operating Temp	0°C to 60°C

APPLICATION

LFP is applicable for both stationary and mobility purposes. It can connect to modules or packs from kWh up to MWh for energy storage, large & small size electric vehicle (EV), etc.



COMPETITIVE ADVANTAGES

- ✓ Safer
- 🌱 Greener
- 📅 Reliable

LITHIUM NICKEL MANGANESE COBALT OXIDE (NMC) BATTERY

FEATURES

- Safer unique cell design
- Up to 1,000 life cycles (100% DOD)
- 5 years calendar life (100% SOC)
- Higher energy density

CHARACTERISTICS

Nominal Voltage	3.6 V
Nominal Capacity	55 Ah
Recommended Operating Temp	0°C to 60°C

APPLICATION

NMC is mostly applicable for mobility purposes due to its higher energy density. It can connect into modules or packs for most of e-mobility applications.



G-CELL FOR ENERGY STORAGE

FEATURES

- System optimization
- Peak shaving
- Renewable integration
- Energy arbitrage
- Backup power / UPS

APPLICATIONS



Laboratory



Data server



Telecom



Hospital



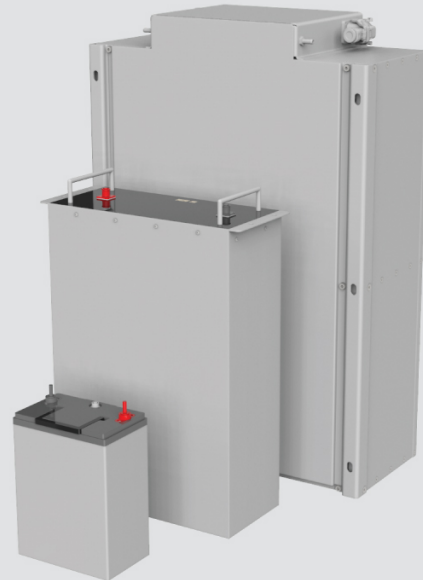
Solar energy storage



UPS



C&I energy storage system



G-CELL FOR ELECTRIC VEHICLE (EV)

FEATURES

- Scalable low voltage battery module for small EV
- Scalable high voltage battery pack for large EV
- Safest cathode chemistry in LFP type
- Higher energy density in NMC type

APPLICATIONS



Electric bus



Electric truck



Electric tuktuk



Electric boat



Golf cart



Electric motorcycle



Electric car

ESS APPLICATION AND REFERENCES

Energy Storage System (ESS), is an electricity storage system that used to increase utilization of renewable energy. It also helps to improve efficiency, save energy bill and increase reliability of energy system.

ESS MAIN BENEFITS

1. Improve reliability & resilience
2. Engine optimization
3. Frequency regulation
4. Time shift application
5. Renewable Integration



GPSC TRACK RECORD WITH ESS APPLICATION PROVIDED TO CUSTOMERS

CUSTOMER REFERENCES, INSTALLATION AND SOLUTIONS



1 MWh ESS
for smart micro grid
at VISTEC, Rayong



639 kWh ESS
for solar PV integration
at GC Logistic, Rayong



150 kWh ESS
for EV charging station
at PTT Station Nong Khaem



1.5 MWh ESS
for power generation optimization
at GC office, Rayong

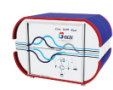


LINEUP OF G-CELL

Selection for your application

G-CELL		
	Existing product	Future product
		
Product Name	G-Cell LFP	G-Cell NMC811
Model Name	GCL365	GCN550
Nominal Capacity	36.5 Ah	55 Ah
Nominal Voltage	3.2 V	3.6 V
Output Power	116 W	196 W
Energy Density	225 Wh/L	TBC during product launch
Specific Energy	146 Wh/kg	
Life Cycle	4,000 cycles (100% DOD)	
Dimension	174 x 246 x 12 mm (W x H x D)	
Weight	Approx. 790 g	

G-PACK					
					
Product Type	G-Module1 12V	G-Module1 24 V	G-Module2 24V	G-Module2 48V	G-Pack1 115V
Model Name	GML01730	GML01365	GML02219	GML02109	GPL01182
Nominal Capacity	73 Ah	36.5 Ah	219 Ah	109.5 Ah	182.5 Ah
Nominal Voltage	12.8 V	25.6 V	25.6 V	51.2 V	115.2 V
Voltage Range	10 – 14.4 V	20 – 28.8 V	20 – 28.8 V	40 – 57.6 V	90 – 129.6 V
Operating Temperature	0°C - 60°C	0°C - 60°C	0°C - 60°C	0°C - 60°C	0°C - 60°C
Capacity	0.93 kWh	0.93 kWh	5.6 kWh	5.6 kWh	21 kWh
Recommended Charge Current	18 A	9 A	54 A	27 A	45 A
Dimension W x L x H	225 x 320 x 130 mm	225 x 320 x 130 mm	438 x 650 x 200 mm	438 x 650 x 200 mm	690 x 1097 x 190 mm
Weight	Approx. 10 kg	Approx. 10 kg	Approx. 55 kg	Approx. 55 kg	Approx. 200 kg
Configuration	4S2P	8S1P	8S6P	16S3P	36S5P

G-BOX					G-UPS
					
Product Type	Micro ESS	Mini ESS	ESS	Large ESS	UPS
Product Name	G-BOX(R)	G-BOX(E)	G-BOX(CI)	G-BOX(CI MAX)	G-UPS
Power Output	3 kW	100 kW	100-500 kW	250+ kW	10-50 kW
Installed Capacity	5, 10 kWh	100-150 kWh	150-500 kWh	500+ kWh	20-100 kWh
Main Function	- PV integration - Peak shaving - Energy arbitrage - Backup power	- Power stability unit for EV quick charging station - Peak shaving - Energy arbitrage	- PV integration - Peak shaving - Energy arbitrage - Backup power - Power generation optimization	- PV integration - Peak shaving - Energy arbitrage - Backup power - Power generation optimization	- Lead-acid replacement for UPS application - Backup power (DC power supply)

* All product, product specifications and data are subjected to change without notice to improve reliability, function or otherwise.

PARTNERING FOR FUTURE



MANUFACTURING PLANT, RAYONG

G-Cell production facility is located in Map Ta Phut Industrial Estate, Rayong, Thailand. The product is produced under the innovative manufacturing and quality management system.

With the unique SemiSolid innovative process from 24M technologies, GPSC confidences to provide the safer and the most reliable LFP product, and other type of future chemistry, such as NMC, to all customers.

G-CELL BY GPSC



ADDRESS

MANUFACTURING PLANT

11-2, I - 5 Road, Map Ta Phut Industrial Estate, Map Ta Phut, Muang District, Rayong 21150, Thailand

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