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in Tianneng Group Official

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Tianneng Group



Website



Electronic brochure



# LITHIUM-ION BATTERY

PRODUCT BROCHURE



www.tiannengglobal.com





**\$11.0 billion**

2024 Annual Sales

**A+H Listed**

6888.19.SH/00819.HK

**4000+**

Patents

**No.21**

Global New Energy Enterprise Ranking

# Company Profile

Tianneng is a Global Leading New Energy Company committed to providing environmentally-friendly battery solutions for various industries worldwide since 1986.

Tianneng now has nearly 30,000 employees and more than 160 subsidiaries around the world. There are 18 production bases in 7 provinces in China and 1 overseas manufacturing center in Vietnam. Tianneng set up 7 R&D centers to constantly develop technology and keep innovation in the area of lead acid batteries, lithium batteries, hydrogen Fuel Cells, and Sodium-ion batteries.

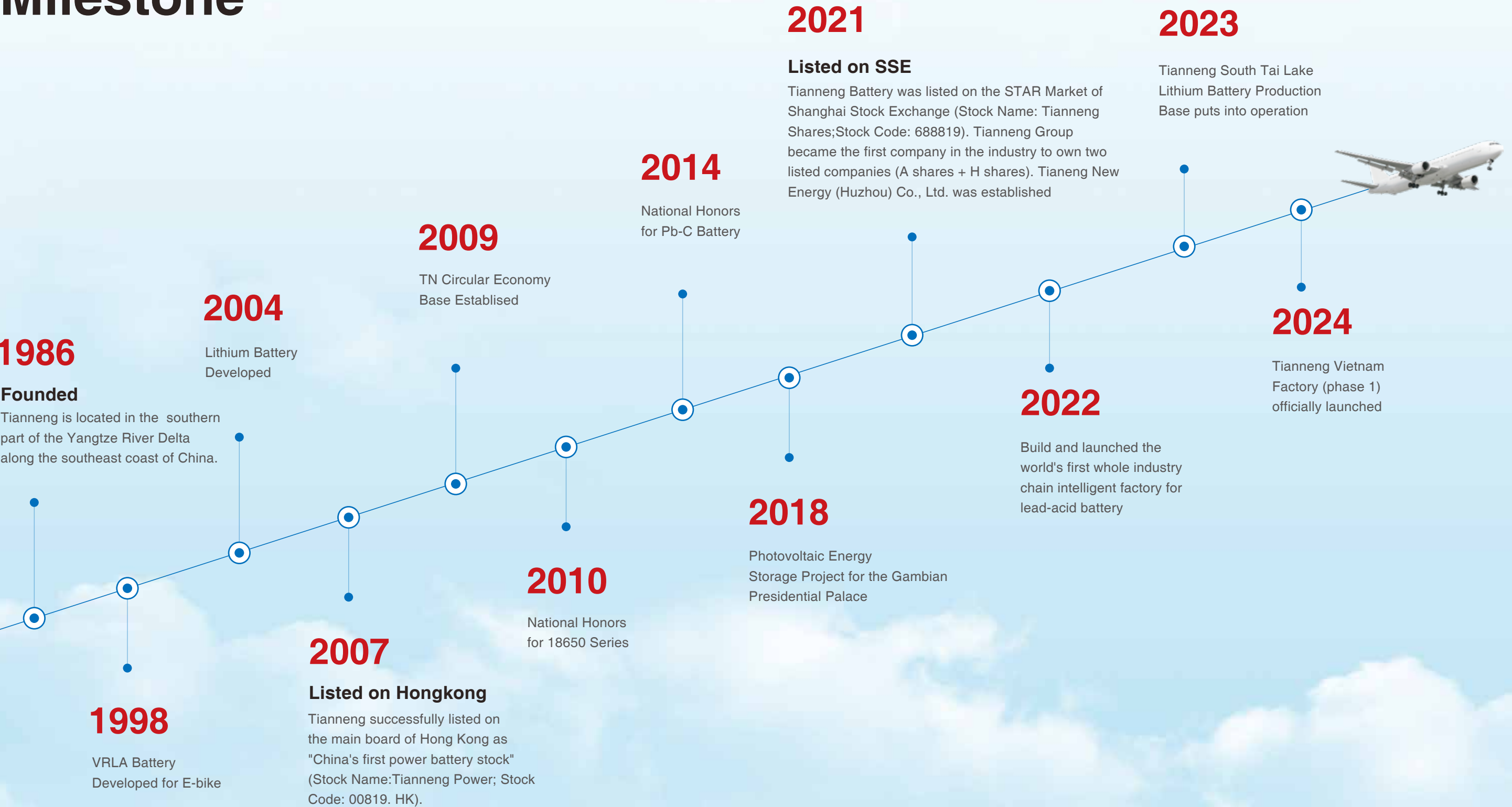
## Honor:

- Top 1 in China Lead Acid Battery
- Top 10 in the Chinese battery industry
- Top 500 Chinese enterprises
- Global top 500 new energy enterprises

## Main Business areas:

- Battery and system Solutions (Motive, SLI, Energy Storage)
- Battery Recycling Solutions (Lead Acid battery recycling, Lithium-ion battery recycling)

# Milestone



# Global Footprint

- 100+ Countries Footprint.
- 11+ Oversea Branches.
- Tianneng has a global footprint around the world, our business covers more than 100 countries and regions.
- **Market Performance**  
2024 Global Delivery: **≈110Gwh+**

## Headquarters

- **HQ:** Huzhou, Zhejiang, China
- **INT HQ:** Hongkong, China

## Manufacturing Base

- China, Vietnam

## Branch

- **APAC:** Vietnam, Thailand, Indonesia, Philippines, Australia & New Zealand
- **South Asia:** India
- **MENA (Middle East and North Africa) :** Turkey, Nigeria
- **Americas:** Argentina, Colombia
- **Europe:** Netherlands





# Technology R&D

## Strong research and development strength

**170+**  
Define industry standards

**4000+**  
Industry patents

**2**  
CNAS laboratories



### Excellent safety performance

The diaphragm adopts wet-process PE high-strength film, the battery self-discharge rate is low, and the safety performance of heavy impact and extrusion is excellent; A variety of safety additives are added to the electrolyte, and the battery performs well in safety tests such as overcharge, hot box, and short circuit; The cap adopts PTC thermistor element and CID power-off structure, and the safety performance is further guaranteed;



### Long cycle life

The ternary lithium battery adopts NCM (523) coating series, and the negative electrode adopts secondary particle artificial graphite, which has excellent cycle performance and can be cycled more than 1200 times at room temperature (EOL 70%); LFP lithium battery products have been stocked with ultra-long life products (10,000 times) that meet the 15-year warranty, meeting various practical application needs in domestic and overseas markets;



### The structure of the battery cell is better to meet the high current capacity

Through the finite element thermal simulation analysis of the electrode, the lightweight of the current collector and the separator, the hole structure of the negative electrode is improved, the cell structure is optimized to the maximum, the performance is improved, and the safety is guaranteed; the maximum meets 1C charging and 3C discharging;



### Cells with high energy density and lighter weight

Better ternary and LFP material design greatly improves energy density; NCM reaches 200Wh/kg, LFP reaches 165Wh/kg;



### Better high temperature performance

55 ℃ discharge capacity ratio> 100%



### Customized Design BMS

Customized design according to application scenarios, more precise control and management, more protection, and smarter; Sufficient margin is reserved for components, and the selection is more reasonable;



### Integrated pack bracket design

Compared with the splicing brackets on the market, the integrated battery bracket is adopted, and the structure is firmer and more stable, while meeting mass mechanized production;



# Intelligent Manufacturing



## Intelligent manufacturing

Fully automatic production line, control the cleanliness to 100,000 grades; control the temperature at  $25^{\circ}\text{C}\pm 3^{\circ}\text{C}$ ;

## Whole process quality management

Realize the quality control of the whole process of products and the management of the whole life cycle to achieve continuous improvement and quality improvement





# Li-ion Cell Solution

Tianneng provides a variety of cell solutions, including NCM cylindrical cell, LFP cylindrical cell, LFP pouch cell, LFP prismatic cell, to meet the motive, traction, telecom, energy storage, reserve and other application scenarios.

## Product Series

- Cylindrical Cell
- Pouch Cell
- Prismatic Cell



# Cylindrical Cell

## Production Appearance



### APPLICATION

- Moped
- E-bicycle
- E-scooter
- Electric tools
- 3C products

### PRODUCT FEATURE

#### NCM

- **Cycle Life:**  
800 times@100%DOD, 0.5C/1C,25℃
- **Energy Density:**  
up to 200 Wh/kg.
- **Self-discharge Rate:**  
≤4%, 100%SOC under room temperature one month.
- **Operating Temperature:**  
Charging: 0~45℃;  
Discharging: -20~60℃;  
Storage: -10~45℃.

#### LFP

- **Cycle Life:**  
2000 times@100%DOD,0.5C/1C,25℃
- **Energy Density:**  
up to 140Wh/kg.
- **Self-discharge Rate:**  
≤4%, 100%SOC under room temperature one month.
- **Operating Temperature:**  
Charging: 0~45℃;  
Discharging: -20~60℃;  
Storage: -10~45℃.

### Cylindrical Cell (NCM)

S/N	Model	Nominal Voltage (V)	Nominal Capacity (Ah)	Dimension (mm)				Weight (g)	Max continuous Discharging Current (A)	Max Pulse Discharging Current (A)	AC Impedance (mΩ)	Cycle Life (100%DOD, EOL@80%)
				Diameter	Height	/	/					
1	TLNC18650-2600	3.6	2.55	18.45 ±0.2	65.0 ±0.3			46	7.8(3C)	13(5C)	≤20	≥800 cycles (0.5C/1C)

### Cylindrical Cell (LFP)

S/N	Model	Nominal Voltage (V)	Nominal Capacity (Ah)	Dimension (mm)				Weight (g)	Max continuous Discharging Current (A)	Max Pulse Discharging Current (A)	AC Impedance (mΩ)	Cycle Life (100%DOD, EOL@80%)
				Diameter	Height	/	/					
1	TLFC32700-6000P	3.2	6.0	32.4 ±0.2	70.5 ±0.3			140	18(3C)	30(5C)	≤10	2000 cycles (0.5C/1C)

# Pouch Cell

## Production Appearance



### PRODUCT FEATURE

- **Cycle Life:**  
4000-6000cycles@100%DOD
- **Energy Density:**  
up to 162Wh/kg.
- **Self-discharge Rate:**  
≤4%, 100%SOC under room temperature one month.
- **Operating Temperature:**  
Charging: 0~45°C;  
Discharging: -20~60°C;  
Storage: -10~45 °C.

### APPLICATION

- E-scooter
- Low speed EV
- Golf Cart
- Electric forklift
- Telecom
- Household energy storage

Pouch Cell										
S/N	Model	Nominal Voltage (V)	Nominal Capacity (Ah)	Dimension (mm)			Weight (g)	Max continuous Discharging Current (A)	Cycle Life (100%DOD, EOL@80%)	Material
				Thickness (Max.)	Width (Max.)	Height (Max.)				
1	TLFPO11146300-50	3.2	50	11.3	146	302	955±50	100(2C)	6000cycles (0.5C/0.5C)	LFP
2	TLFPO13161230-50	3.2	50	13.3	161	233.5	965±50	100(2C)	6000cycles (0.5C/0.5C)	LFP

# Prismatic Cell

## Production Appearance



### PRODUCT FEATURE

- **Cycle Life:**  
4000-6000cycles@100%DOD
- **Energy Density:**  
up to 156 Wh/kg.
- **Self-discharge Rate:**  
≤4%, 100%SOC under room temperature one month.
- **Operating Temperature:**  
Charging: 0~45°C;  
Discharging: -20~60°C;  
Storage: -10—45 °C

### APPLICATION

- Low speed EV
- Golf Cart
- Electric forklift
- Telecom
- Household energy storage
- Industrial and commercial energy storage

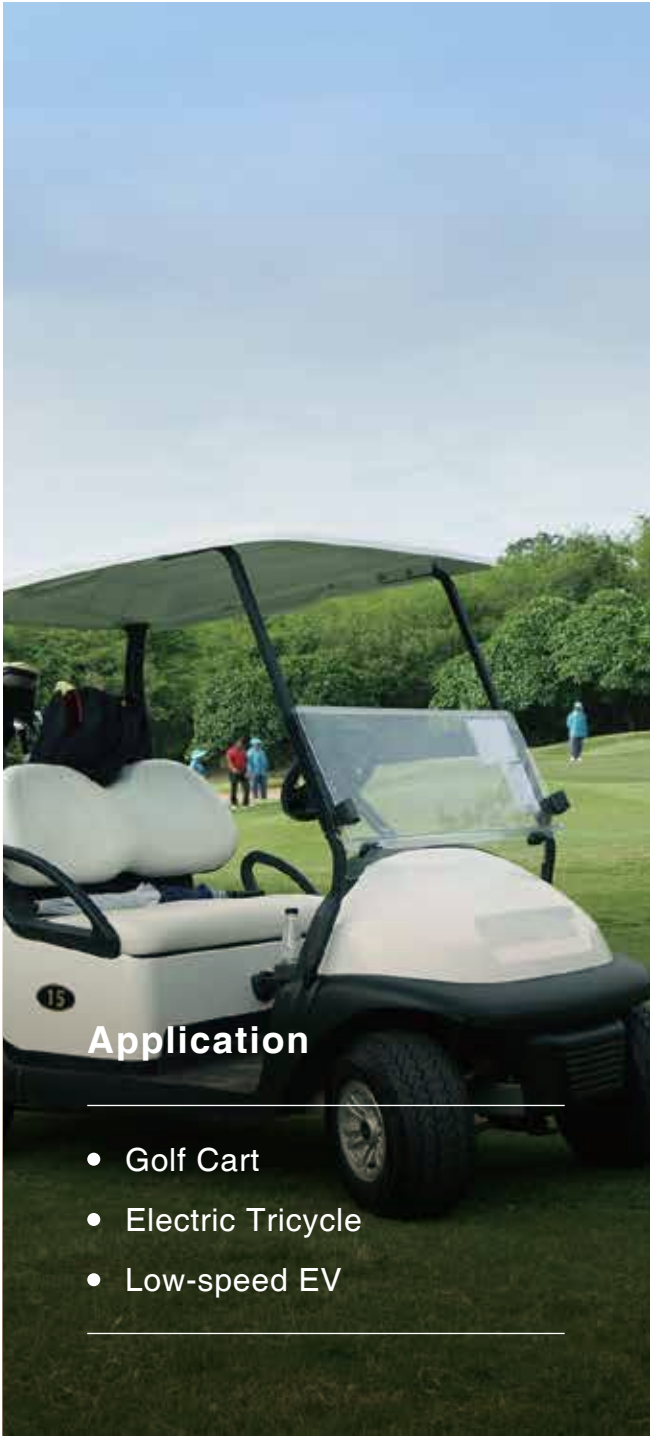
Prismatic Cell													
S/N	Model	Nominal Voltage (V)	Nominal Capacity (Ah)	Operating Voltage Range (V)	Dimension (mm)				Weight (g)	Max continuous Discharging Current (A)	Max Pulse Discharging Current (A)	Cycle Life (100%DOD, EOL@80%)	Material
					Thick ness	Width	Height	Total Height					
1	TLFPR50160119-100	3.2	100	2.50~3.65	50 ±0.5	160 ±0.5	116.3 ±0.5	119 ±0.5	1980 ±100	100(1C)	200(2C ) @30S	6000cycles@100%DOD, 70%SOH (0.5C/0.5C)	LFP
2	TLFPR79148120-150	3.2	150	2.50~3.65	79.2 ±0.5	148.5 ±0.5	117.9 ±0.7	120.3 ±0.7	2930 ±150	150(1C)	300(2C ) @30S	6000cycles@100%DOD, 70%SOH (0.5C/0.5C)	LFP
3	TLFPR71173207-280	3.2	280	2.50~3.65	71.7 ±0.5	173.8 ±1.0	204.4 ±1.0	207.2 ±1.0	5500 ±150	280(1C)	420(1.5C ) @30S	8000cycles@100%DOD, 70%SOH (0.5P/0.5P)	LFP





**Application**

- Moped
- E-scooter
- Electric Two-wheeler



**Application**

- Golf Cart
- Electric Tricycle
- Low-speed EV



**Application**

- AGV/UGV
- Sweeper
- Wheelchair

# Motive Battery Solution

We provide green Li-ion motive battery solutions for a variety of application scenarios, involving commuting, sightseeing, distribution, sanitation and more. Our power products have long service life, strong power, large capacity, long mileage and stable product performance.

## Product Series

TMLiN Series

TMLiF Series



# TMLiN Series

NCM Material Battery for Motive

The TMLiN series are specially designed for two-wheeled electric vehicles, in line with most two-wheeled electric vehicle models, excellent quality, strong reliability, excellent user reputation.

## Product Appearance



### PRODUCT FEATURE

- **Cycle Life:**  
≥800 times@100% DOD.
- **Capacity:**  
≥70%@-20°C, ≥95%@55°C.
- **Energy Density :**  
About 130wh/KG
- **IP Grade:**  
IP65/IP67
- **Temperature:**  
Charging: 0~45°C;  
Discharging: -20~60°C;  
Storage: -10~45℃.

### APPLICATION

- E-bike
- Electric motorcycle
- E-scooter
- Electric tricycle
- AGV

### TMLiN Series

S/N	Model	Nominal Voltage (V)	Nominal Capacity (Ah)	Dimension (±2mm)			Weight (Kg)±5%	Recommended motor Power	Recommended charger Current	Max continuous Discharging Current (A)	Application Scenario
				L	W	H					
1	TMLiN-2424S1	25.2	24	135	120	245	6	≤800W	15	40	AGV
2	TMLiN-25117S1	25.55	117	267	254	202.5	19	≤1200W	50	110	AGV
3	TMLiN-4812S7	48	12	248	142	72	4.15	≤350W	3	12	E2W
4	TMLiN-4815S8	48	15	248	142	72	4.2	≤350W	3	15	E2W
5	TMLiN-4816S4	48	16	181	156	160	5.93	≤350W	3	16	E2W
6	TMLiN-4820S4	48	20	181	156	160	5.98	≤500W	5	20	E2W
7	TMLiN-4824S7	48	24	184	156	263	8.9	≤500W	5	24	E2W
8	TMLiN-4858S1	48.1	57.6	772.5	240	65	17	≤1200W	25	70	AGV
9	TMLiN-4870S1	51.8	70	580.4	120	245	23	≤1500W	35	120	AGV
10	TMLiN-4870S2	50.4	72	365	330	168	28	≤1500W	35	70	AGV
11	TMLiN-6020S1	60	20	181	156	215	7.8	≤800W	5	20	E2W
12	TMLiN-7220S1	72	20	181	156	235	8.94	≤1200W	5	20	E2W
13	TMLiN-7220S2	74	20	127	118	411	9	≤1200W	10	30	E2W
14	TMLiN-7230S1	73	31.2	280	210	167	16	≤1500W	15	30	E2W
15	TMLiN-7240S1	72.6	40	550	180	260	19	≤2000W	12	40	E2W

# TMLiF Series

LFP Material battery for Motive

The TMLiF series are specially designed and developed for Tricycle、Golf、AGV/UGV、Clean Robot etc, the service life can reach 1500~3500 times, excellent quality, strong reliability, excellent user reputation.

## Product Appearance



### PRODUCT FEATURE

- **High reliability:**  
LiFePO4 cell.
- **Fully replaceable with current batteries (Lead-acid, Ni-Cd).**
- **Maintenance free:**  
50% lighter than lead acid batteries.
- **Long cycle life:**  
1500-3500@80%DOD

### APPLICATION

- Electric tricycle
- Electric motorcycle
- Golf
- AGV/UGV
- Clean Robot
- Low-speed EV

### TMLiF Series

S/N	Model	Nominal Voltage (V)	Nominal Capacity (Ah)	Dimension (±2mm)			Weight (Kg)±5%	Recommended motor Power	Recommended charger Current	Max continuous Discharging Current (A)	Remark
				L	W	H					
1	TMLiF-2410S1	25.6	10.8	218	88	82	1.5	≤200W	5	6	AGV
2	TMLiF-2440S1	25.6	40	280	198.8	161	10.8	≤1000W	20	40	AGV
3	TMLiF-2460S1	22.4	60	290	286	200	20	≤1000W	30	100	AGV
4	TMLiF-2460S2	25.6	60	425	215	150	15	≤1000W	30	50	AGV
5	TMLiF-24100S1	25.6	100	376	319.2	160	24	≤1200W	20	100	AGV
6	TMLiF-3615S1	38.4	15	213	150	72		≤350W			PV Back-up
7	TMLiF-3622S1	38.4	22.5	280	170	87.5		≤550W			PV Back-up
8	TMLiF-3675S1	38.4	75	380	285	260	30.5	≤1500W	20	120	AGV
9	TMLiF-36134S1	38.4	134	510	300	250	43.5	≤2000W	25	100	Golf Cart
10	TMLiF-4815S1	48	15	183	156	162	6.5	≤700W	7	15	E2W
11	TMLiF-4815S2	48	15	200	110	158	4.5	≤700W	7	15	PV Back-up
12	TMLiF-4855S2	51.2	55	420	300	150	25.4	≤1500W	10	55	AGV
13	TMLiF-4855S3	51.2	55	420	300	150	25.4	≤1500W	10	55	Golf
14	TMLiF-4890S1	51.2	87	520	335	230	40	≤2500W	25	100	Golf Cart
15	TMLiF-48100S1	51.2	100	600	300	250	45	≤2500W	25	100	Golf Cart
16	TMLiF-48100S2	51.2	100	440	330	240	44	≤2500W	20	100	Golf Cart
17	TMLiF-48100S3	48	100	520	338	150	40	≤2500W	50	100	AGV
18	TMLiF-48100S4	51.2	105	400	290	350	42	≤2500W	30	100	LOW EV
19	TMLiF-48105S1	51.2	105	400	290	350	55	≤2500W	50	200	AGV
20	TMLiF-48150S1	51.2	150	550	320	258	62	≤4000W	50	150	Golf Cart
21	TMLiF-48173S1	51.2	173	830	320	258	73	≤5000W	50	173	Golf Cart
22	TMLiF-48200S1	48	210	1104	190	316	92	≤5000W	40	350	LOW EV
23	TMLiF-48210S1	51.2	210	750	320	258	80	≤5000W	40	200	Golf Cart
24	TMLiF-6030S2	60.8	30	310	210	170	17.5	≤1000W	15	60	AGV
25	TMLiF-6030S3	64	30	200	160	333	17.7	≤1000W	15	50	E2W
26	TMLiF-6045S2	60.8	45	420	240	210	22.5	≤1200W	20	45	AGV
27	TMLiF-6045S3	60.8	45	420	240	210	24.7	≤2000W	20	65	AGV
28	TMLiF-7230S1	73.6	30	220	160	333	19.65	≤1500W	15	50	E2W
29	TMLiF-72100S1	76.8	105	550	380	250	65	≤3500W	30	100	EV
30	TMLiF-72150S1	73.6	150	950	220	240	80	≤5000W	30	150	Golf Cart
31	TMLiF-72210S2	76.8	210	1126	229	352	125	≤7000W	40	150	Golf Cart



### Application

- Electric Forklift
- Electric Four-wheels
- Sweeper
- Electric Tricycle
- Lift Truck

# Traction Battery Solution

Tianneng provides lithium-ion power battery solutions for traction applications such as electric forklift Forklift and stacker Stacker. The products have very good user experience, high stability, easy operation, low noise, and no pollution. They are widely used in warehousing, logistics, Handling and other places.

## Product Series

TiLiF Series



# TILiF Series

Lithium-ion battery for Traction

The TILiF series are used for all kinds of forklift and other industrial vehicles traction batteries, mostly customized according to customer needs, products with high power and reliability.

## Product Appearance



### PRODUCT FEATURE

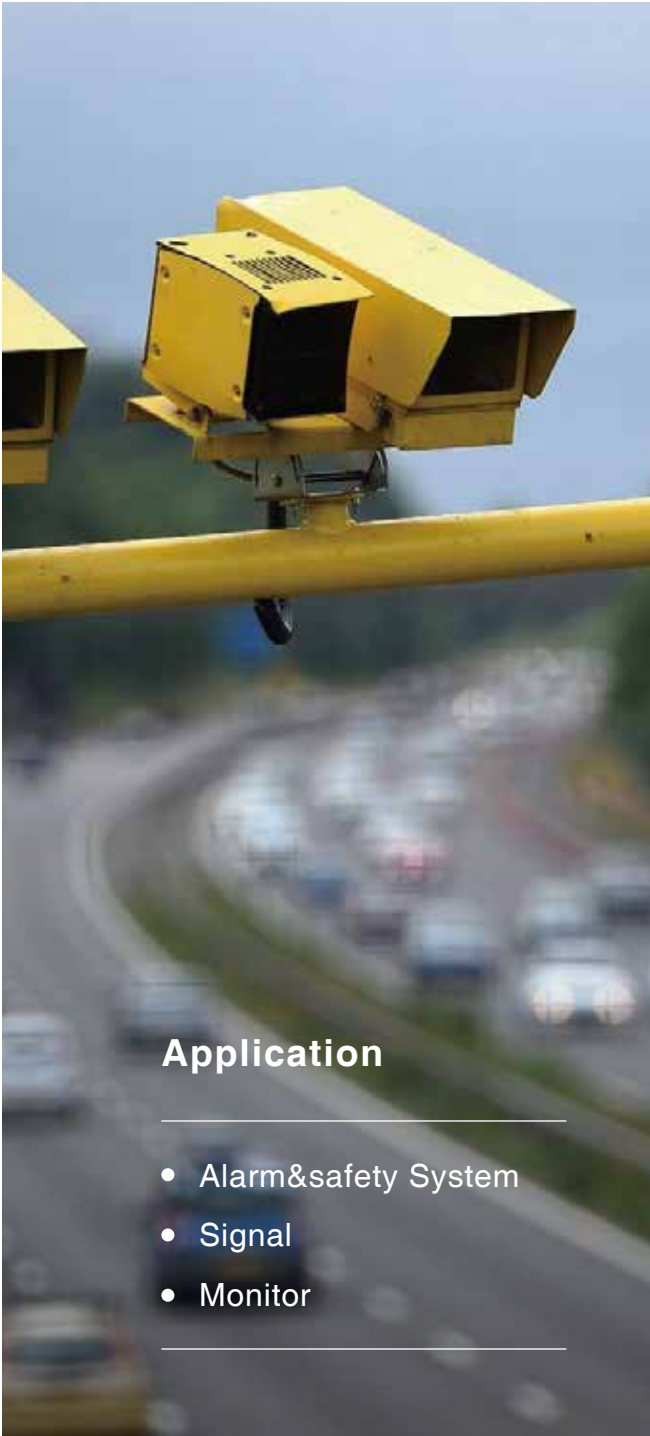
- **Long cycle life, 3500@80%DOD;**
- **High safety:**  
Meet the safety standards for electric vehicles and can withstand the most stringent safety requirements such as squeezing, needling and burning
- **High rate:**  
According to the demand, the maximum 2C rate charging and the maximum 5C rate discharge
- **Easy replacement:**  
according to the volume and weight of the original lead-acid battery design replacement;
- **Temperature adaptability:**  
Charging: 0~45°C;  
Discharging: -20~60°C;  
Storage: -10~45℃.

### APPLICATION

- Electric Forklift
- Electric Four-wheels
- Sweeper
- Electric Tricycle
- Lift Truck

### TILiF Series

S/N	Model	Nominal Voltage (V)	Nominal Capacity (Ah)	Dimension (±2mm)			Total Weight (Kg)±5%	Counter weight (Kg)±5%	Rated discharging current(A)	Peak discharging current(A)	Charge port	Discharge port	Forklift model
				L	W	H							
1	TILF-48210S1	51.2	210	956	375	565	495	300	150	250@30s	REMA160A	SB175A	Toyota 7FBR15
2	TILF-48230S1	51.2	230	955	372	565	450	300	230	340A@10S	REMA320A	SB175A	Toyota 7FB15/7FB18
3	TILF-48304S1	51.2	304	660	300	565	155	0	300	500@30s	Rema320	SB350	
4	TILF-48306S1	51.2	306	956	375	580	490	300	200	400@30s	Rema160A(female)	SB175 Blue(female)	Toyota FBR15-80
5	TILF-48346S1	51.2	346	780	500	405	170	0	300	500@30s	Rema320	SB350	Toyota 8FB15, TCM Nissan Komatsu FB15
6	TILF-48404S1	51.2	404	780	500	405	190	0	300	500@30s	Rema320	SB350	Toyota 8FB15, TCM Nissan Komatsu FB15
7	TILF-48420S1	51.2	420	905	815	475	854	583	500	500@30s	Split mouth REMA320/SB350		Toyota 7FB25
8	TILF-48460S1	51.2	460	780	500	405	202	0	300	500@30s	Rema320	SB350	Toyota 8FB25, TCM Nissan Komatsu FB25
9	TILF-48460S2	51.2	460	905	815	475	858	600	320	480A@10S	REMA320A	SB350	Toyota 8FB25
10	TILF-48519S1	51.2	519	900	400	700	260	0	300	500@30s	Rema320	Rema320	
11	TILF-48519S2	51.2	519	800	347	405	730	422	320	480A@10S	REMA320A	REMA320A	-
12	TILF-48525S1	51.2	525	982	535	590	850	600	300	500@30s	Rema320A(female)	Rema320A(female)	Toyota FB25
13	TILF-48525S2	51.2	525	1210	424	785	1211	977.2	300	500@30s	Split mouth REMA320/REMA320		Linde 20
14	TILF-48560S2	51.2	560	990	545	625	910	610	200	400@30s	Rema320A(female)	SB350 Grey (female)	Toyota 8FBN25
15	TILF-48608S1	51.2	608	938	800	325	280	0	300	500@30s	Rema320	SB350	Toyota 8FB25 heavy duty
16	TILF-72404S1	76.8	404	1010	600	420	280	0	300	500@30s	Rema320	SB350	
17	TILF-72460S1	73.6	460	1002	620	504	370	0	300	500@30s	Rema320	SBX350	Komatsu FB25-12
18	TILF-72460S2	76.8	460	1010	600	405	295	0	300	500@30s	Rema320	SB350	
19	TILF-72519S1	76.8	519	1010	800	420	400	0	300	500@30s	Rema320	SB350	
20	TILF-80460S1	80	460	1052	727	627	1175	800	200	400@30s	Rema320A(female)	Rema320A(female)	Toyota 8FBN30
21	TILF-84404S1	83.2	404	935	805	420	370	0	300	500@30s	Rema320	SBX350	Toyota 7FB30



# Reserve/Energy Storage Solution

Tianneng provides a variety of battery solutions for backup and energy storage applications. The products have excellent performance, stability and reliability, and are widely used in communication equipment, home storage, lead-acid replacement scenarios, UPS/EPS, etc.

## Product Series

- TTLiF
- TELiF
- TLLiF

# TTLiF Series

Telecom lithium battery

TTLiF series lithium ion battery, for access to network equipment, mobile communication, transmission equipment and other systems in the base station to provide reliable backup power. Products are widely used in solar base station, outdoor standard cabinet, frequent power outage base station and other types of telecom base station.

## Product Appearance



### PRODUCT FEATURE

- Prismatic LiFePO4 cell , higher reliability ;
- Maintenance free with standard 19” design easy installation ;
- Long cycle life, 3500@80%DOD ;
- Built-in BMS, with over charge, over-discharge, over-current, short circuit and other protection functions ;
- Parallel expansion supports, to meet multiple applications ;
- RS485/CAN ;

### APPLICATION

- Solar Base Station
- Outdoor Standard Cabinet
- Frequent power outage base station

### TTLiF Series

S/N	Model	Nominal Voltage (V)	Nominal Capacity (AH)	Dimension (±3mm)			Weight (Kg) ±5%	Charge and discharge limited current of BMS (A)
				L	W	H		
1	TTLiF-4830S1	48	30	483	365	88 (2U)	18.6	10/20
2	TTLiF-4830S2	51.2	30	483	365	88 (2U)	19.1	10/20
3	TTLiF-4850S1	48	50	483	400	133 (3U)	30.3	50/50
4	TTLiF-4850S2	51.2	50	483	400	133 (3U)	31.5	50/50
5	TTLiF-48100S3	51.2	100	483	550	133 (3U)	46	50/100
6	TTLiF-48150	51.2	150	483	603	133 (3U)	66	100/100
7	TTLiF-48200	51.2	200	483	500	244 (5.5U)	81	80/200



# TELiF Series

Energy Storage Li-ion battery for household

Tianneng TELiF series battery have extended long life with cost-effective price, with excellent consistence ensured by fully automated production line. The Pack boast high safety, strong compatibility with a broad range of operation temperature, it is highly suited to household energy storage application.

## Product Appearance



Rack-mounted



Stackable



Wall-mounted

### PRODUCT FEATURE

- **High reliability:**  
LFePO4 cell.
- **Fully replaceable with current batteries (Lead-acid, Ni-Cd).**
- **Maintenance free with19 inch standard rack design, wall-mounted or stackable style , easy installation.**
- **Long cycle life:**  
3500~6000 cycles.
- **Built-in BMS management system with interface RS485/RS232**
- **Optimum adaptation to variety applications with series & parallel expansion support**

### APPLICATION

- Telecommunication
- Data Center
- Industrial Application
- Wind Power
- Solar Power
- Electric Power

### TELiF series

S/N	Model	Nominal Voltage (V)	Nominal Capacity (AH)	Dimension (±3mm)			Weight (Kg) ±5%	Max continuous charge and discharge current (A)	Remark
				L	W	H			
1	TELiF-48100S3 (Rack mounted)	51.2	100	483	550	133 (3U)	46	100/100	
2	TELiF-48150 (Rack mounted)	51.2	150	483	603	133 (3U)	66	100/100	
3	TELiF-48100S5 (Wall-mounted)	51.2	100	520 540	142	470(EU) 500(US)	47.2	50/100	
4	TELiF-48200S3 (Wall-mounted)	51.2	200	800	142	590	96.5	100/200	
5	TELiF-4850GL (Stackable type,low voltage)	51.2	50	600	210	180	27	25/50	1-10 in parallel
6	TELiF-48100GL (Stackable type,low voltage)	51.2	100	600	210	300	48	50/100	1-6 in parallel
7	TELiF-4850GH (Stackable type,,high voltage)	51.2	50	600	210	160 (Module) 250 (High-voltage box)	26.5 (Module) 23 (High-voltage box)	50/50	3-10 in series

# TLLiF Series

Energy Storage Li-ion battery in place of lead acid battery

The TLLiF series battery are mainly used in lead-acid replacement scenarios. Compared with lead-acid batteries on the market, lithium batteries have advantages such as long cycle life, short charging time and small space occupation.

## Product Appearance



### PRODUCT FEATURE

- **High reliability:**  
LFePO4 cell.
- **Fully replaceable with current batteries (Lead-acid, Ni-Cd).**
- **Optimum adaptation to variety applications with series & parallel expansion support.**
- **Long cycle life:**  
1500~4000 cycles.

### APPLICATION

- Household solar power
- UPS
- Signal
- EPS
- Base station

### TLLiF series

S/N	Model	Nominal Voltage (V)	Nominal Capacity (AH)	Dimension (±3mm)				Weight (Kg) ±5%	Max continuous charge and discharge current(A)
				L	W	H	TH		
1	TLLiF-1206S1	12.8	6	90	70	101	107	0.75	3/6
2	TLLiF-1206S2	12.8	6	151	65	94	100	0.8	3/6
3	TLLiF-1207S1	12.8	7	151	65	94	100	1.06	3.5/7
4	TLLiF-1209S1	12.8	9	151	65	94	100	1.34	4.5/9
5	TLLiF-1212S1	12.8	12	151	98	95	101	1.5	6/12
6	TLLiF-1224S1	12.8	24	181	77	167	167	2.9	12/24
7	TLLiF-1230S1	12.8	30	165	175	125	125	3.7	15/30
8	TLLiF-1233S1	12.8	33	195	132	170	175	4.9	16.5/30
9	TLLiF-1242S1	12.8	42	197	165	170	170	5.7	21/42
10	TLLiF-1254S1	12.8	54	229	138	212	217	6.7	27/54
11	TLLiF-1284S1	12.8	84	260	169	213	218	10.2	42/60
12	TLLiF-12100S1	12.8	100	328	172	215	220	13.1	50/100
13	TLLiF-12100S2	12.8	100	256	165	210	215	11	100/100
14	TLLiF-12150S1	12.8	150	483	170	240	240	19.2	75/100
15	TLLiF-12200S1	12.8	200	522	238	218	220	27	100/100
16	TLLiF-25100S2	25.6	100	532	206	215	217	24	100/100
17	TLLiF-25120S1	25.6	120	484	170	240	240	27.50	60/120
18	TLLiF-25120S2	25.6	120	340	300	260	260	32	60/120
19	TLLiF-25150S1	25.6	150	330	300	210	210	35.00	60/120
20	TLLiF-25200S1	25.6	200	440	380	200	200	45.00	100/100

# Cooperation Case Product

TMLiN/TMLiF Series

## TMLiN/TMLiF Series for AGV Power

### Customer Information:

Customer L is a world-famous commercial cleaning robot company.

### Background:

Traditional lead-acid batteries cannot meet the requirements of convenience and endurance of commercial cleaning robots due to many reasons, such as low energy density, large volume ,large weight, and large self-consumption.

### Product matching:

As a leading enterprise of power batteries, Tianneng can provide customized and cost-effective power lithium battery PACK.



Application	Customized demand	Strong power	Durability	Certificate
Solution	<b>Flexible design</b>  According to the space requirements, the lithium battery cells are designed in series and parallel to meet the size of the battery compartment.	<b>1~3 Crate</b>  High-rate lithium battery cell is selected to meet the high current discharge demand of the equipment. Intelligent BMS, real-time detection of battery status and timely alarm, to ensure safety.	<b>2000~6000</b>  Provide 2000-6000 cycle life according to actual working conditions.	<b>Compliance</b>  Certificate of shipment; Certification of product access, product performance and safety

### High-lights:

1. Cooperated in the development of three products, which were successfully mass-produced and continuously supplied to the market;
2. Completed the complete set of UN38.3 shipping certificate and CE, RoHS, Reach, CE, IEC, ISO and other relevant certification tests;



# Cooperation Case Product

TLLiF Series

## TLLiF Series for Solar Energy Storage

**Location:** South America

**Application:**

Household solar energy storage

Battery model

Voltage: 24V

Capacity: 100Ah-200Ah.

**Product adaptability:**

LiFePO4 cell — safe and higher reliability;

≥3650 Cycles — Meet the owner's life requirements;

50% lighter than lead acid batteries — Easy to install and maintain; Series or parallel connection — suitable for Various applications

**The total capacity of the project is 3.3Mwh, which perfectly solves the electricity problem of more than 1,000 households in remote areas**



# CONTACT US NOW!

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Website



Electronic brochure