

# GERMAN-based company •••

# LiFePO<sub>4</sub> BATTERY Catalogue





Production Center Antalya Türkiye ~

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In an increasingly complex world, we continuously adapt to changes and actively encourage all our partners to embrace our long-term goals and values through goal-oriented communication and a deep mutual understanding of our mission. In this way, we aim to provide a valuable contribution for future generations.

Mission:

energy use.

# echnology

### Vision:

### Our vision is to be a leader in the development of advanced solar energy technologies that maximize energy efficiency, protect the ecological balance, restore harmony between humans and nature, and accelerate the global transition to renewable energy in order to achieve the set climate goals.

# ptimization

"Through intelligent optimization solutions, we achieve the most efficient use of solar energy worldwide, actively supporting the achievement of climate neutralty."

"We are committed to developing and implementing advanced automation and control technologies to optimize energy consumption in households and businesses while significantly reducing operating costs."

We focus on continuous innovation

and research to develop modern solar technology and integrate it

efficiently into smart home systems, enabling our customers to benefit from connected and sustainable

Our customers' current energy optimization systems have already achieved significant improvements in emissions

Many customers are already benefiting from our modern installations, which

we have seamlessly integrated into their homes. This optimizes energy consumption, allowing customers to save money immediately and reduce their carbon footprint.

Today:

# <u>a n u f a c t u r i n g</u> We aim to be a leading manufacturer

of solar technologies, setting industry standards for quality and sustainability.

We are committed to producing high-quality and innovative solar products that meet the needs of the present while addressing future challenges. Through continuous improvements and investments in our production processes, we strive to maximize efficiency and minimize environmental impact.

Our customers are already benefiting from the advanced solar products manufactured in our state-of-themanufactured in our state-of-the-art facilities. These products are not only efficient and reliable but also leading in terms of sustainability and environmental protection. The continuous optimization of our production processes guarantees products that are both economically and enoionically advantageous and ecologically advantageous.

# ilestones

We are pioneering solar techno- logy that plays a crucial role in contributing to energy indepenence and climate resilience.

We drive transformative change in the global use of solar energy. By developing technologies that enable significant improvements in performance and ease of use, we are setting new standards.

Customers worldwide are using our technology, and together we are accelerating the transition to renewable energy while achieving both economic and ecological benefits.

# utomation

To drive the integration of intelligent automation solutions that make the interaction between solar interaction between technologies and end users seamless and intuitive.

To develop automation systems that not only operate smoothly but also adapt to consumer needs. These systems aim to optimize energy consumption, enhance operational efficiency, and accelerate the adoption of renewable technologies. the









# ransparency

We aim to create an atmosphere of openness where everyone from our customers to our employees feels

secure and well-informed.

# Vision:

# Mission:

Clear information, no secrets that's our motto. Whether it's about the production of our products or how they function, we keep you constantly updated. We believe that well informed people make better decisions.

# Today:

Our customers and partners benefit from our transparent business management. We ensure complete openness at every stage of our processes, from development to product delivery. This practice of open communication allows our stakeholders to make informed decisions and strengthens trust in long-term collaboration with our long-term collaboration with our company.



# xperience

We want every interaction with our company to be a positive experience for customers and partners. Our products and services should not only be reliable and innovative but also inspire enthusiasm.

Our goal is to provide each customer and partner with a personalized and valuable experience. With our extensive experience in solar technology, we know what works and we use that knowledge to exceed your expectations and make the transition to sustainable energy easier for you.

Our customers benefit directly Our customers benefit directly from our many years of experience in solar technology. We deliver tailored solutions that are reliable and efficient, supporting every step of the journey toward sustainable energy. Our team ensures a seamless experience through professional advice and assistance.

# ommitment

Our vision is to be a leader in the solar industry through our unwavering commitment to quality and sustainability. We strive to improve in every aspect every day from product development to our services.

Our primary goal is to consistently exceed our customers' expectations. We are committed to the highest quality and continuous improvement of our products and services. Our dedication to sustainability and ethical business practices is unwavering and guides all our

Our customers and partners can rely on our strong commitment. We employ innovative and sustainable technologies to ensure that our solutions are not only efficient but also environmentally friendly. Every project is executed with the highest standards of quality and a focus on long-term customer satisfaction.

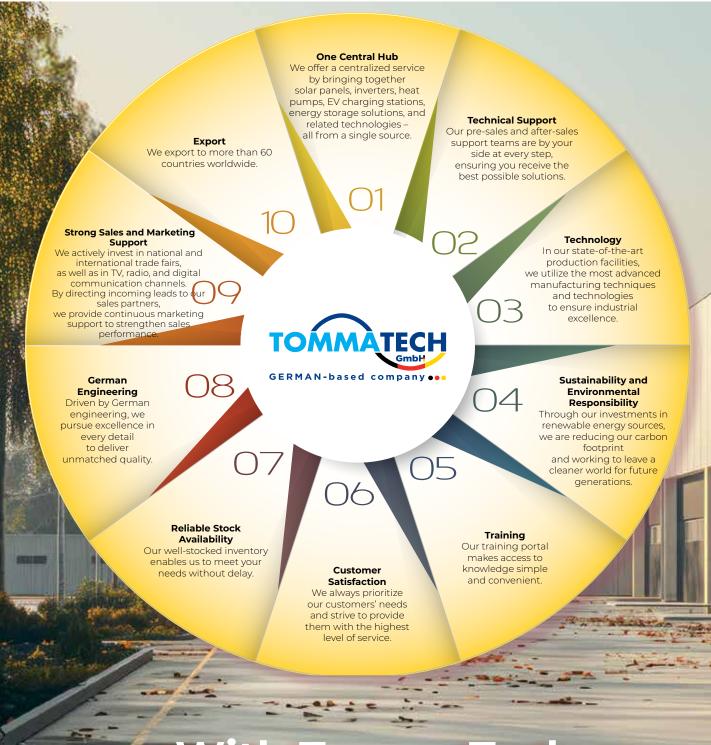
# ome Solution

We aim to transform every home our vision is to offer advanced solar solutions that are easy to integrate and optimize household energy consumption while contributing to global sustainability.

Our goal is to develop customized solar solutions tailored to the specific needs and conditions of each household. We are committed to providing our custmers with the best combination of efficiency, ease of use, and economic benefit, making the transition to renewable energy simple and appealing.

Our Home Solution products enable customers to meet their energy needs sustainably while saving costs. Homes equipped with our technology benefit from intelligent energy management and a reduced carbon footprint. Our solutions are not only environmentally friendly but also user-friendly, allowing every household to fully harness the advantages of modern solar technology.





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# NewJechnology

# Advantages of Lithium-Ion Batteries

Lead-Acid.	LiFePO <sub>4</sub> Battery
<ul> <li>♀</li> <li>♀</li></ul>	Up to 10-Year· 3 to 4 times longer lifespanBattery Life· Reduces overall capital investment• Environmentally friendly · Less need for spare parts
Frequent Maintenance	<ul> <li>No need for regular distilled water or electrolyte refills</li> <li>No labor or maintenance costs</li> <li>No frequent battery replacements</li> </ul>
2 Year Warranty	<ul> <li>• Extended warranty</li> <li>• Durable and reliable</li> </ul>
<image/> <image/>	<image/>

# **Fast Charging**

If you operate a large fleet running 24/7, fast charging will offer significant advantages.

# Outstanding Fast-Charging Efficiency

Thanks to the smart charging algorithm implemented by the Battery Management System (BMS), lithiumion batteries experience significantly less energy loss during the charge/discharge cycle compared to other battery types.

This makes them particularly useful for applications involving large-scale energy storage.



# **Continuous Power**

Extremely high energy density. Lithium-ion batteries store more energy than other battery types of the same size.

The result: High performance and maximum efficiency.



# Eliminate the Need for Dedicated Charging Areas and Frequent Battery Swaps

- Minimizes the need to purchase, store, and maintain spare batteries
- Eliminates the cost and space requirements associated with additional lead-acid batteries
- No gas emissions during charging—no need for ventilation systems

No risk of hazardous acid leaks

# Small Investment, **Big Return!**

Switching your battery system to lithium-ion requires a higher initial investment—but in the long run, you benefit from greater energy efficiency, lower operating costs, and outstanding performance throughout the battery's entire lifespan.

# Advantages of LiFePO<sub>4</sub> Batteries

- ✓ Longer lifespan reduces total cost over time
- ✓ Maintenance-free saves labor and upkeep expenses
- ✓ No gas emissions , no need for ventilation systems , lower operational and installation cost
- ✓ More efficient charging cycles mean shorter charging times and increased productivity

# Maximize Your Return on Investment: 5-Year Cost Comparison

# Save up to %70 within 5 years

The table below illustrates a 5-year cost comparison between TommaTech LiFePO<sub>4</sub> batteries and conventional lead-acid batteries.

Purchases Made Over 5 Years	Investment Cost	Maintenance Costs	Reduced Energy Losses	Installation	Transport
				<b>(</b> )))	0)))
					0)))
Conventional					0)))
Lead-Acid Battery					0)))
Duttery					0)))
					•)))
TommaTech LiFePO4 Battery	5 YEARS	5 YEARS	5 YEARS	5 YEARS	5 YEARS

Note: Actual costs may vary depending on local conditions.

# TommaTech Batarya, Intelligent & Integrated Systems

Maximum efficiency and uninterrupted operation – for top performance, reduced downtime, and reliable energy supply.

TOMMÀ

**GERMAN-based company** 

# Robust

TommaTech batteries are protected against external factors in accordance with IP65 standards. They ensure reliable performance under heavy use – ideal for warehouses, lifting equipment, and transport vehicles.

**O** Maintenance 4G Modules

The 4G modules enable precise remote diagnostics of the State of Charge (SOC), temperature, voltage, and fault status.

Thanks to over-the-air software updates, system issues can be detected and resolved in real time.

4000+ Life Cycle Integrated Protection

-YEAR-Warranty

The intelligent BMS automatically monitors each individual cell and optimally adjusts the charge/discharge process. provides advanced It protection against overheating, short circuits, and chemical instability making it ideal for LiFePOM cells.

Design Life of Up to [10] Years

# **Forklifts**

Specially designed for cost-efficient, intelligent, and long-lasting operation.

Perfect for demanding use in warehouse and logistics environments





# Pallet Trucks (Hand Pallet Jacks

Reliable, stable, and safe. Ideal for a wide range of applications, offering high efficiency and strong performance.





Compared to lead-acid systems, LiFePO<sub>4</sub> batteries offer higher performance while reducing operating costs. Ideal for golf courses and recreational vehicles.

# **Floor Cleaning Machines**

Safe and user-friendly. Delivers excellent performance with low maintenance and operating costs.





# 83.2 V 608 Ah

Powerful and compatible with high-load applications delivering maximum power under heavy-duty conditions.

# 25.6 V 208 Ah

Reliable solution for pallet trucks and forklifts - consistent performance.





# 25.6 V 104 Ah

Ideal for cleaning machines and scrubber-dryers in professional use.



# Why Choose TommaTech LiFePO<sub>4</sub> Batteries?

# **5 Year Warranty**

Peace of mind with a comprehensive manufacturer warranty.

# 4G Module\*

Monitor battery status, charge cycles, and lifespan – anytime, anywhere

# Smart Battery Management System (BMS)

With a smart and reliable BMS system, it offers better performance and longer battery operating time and lifespan.

# **Fire Protection**

Environmentally friendly and safe: internal aerosol extinguishing systems combat fires quickly and effectively – ensuring maximum operational safety.

# SoC Display (State of Charge)

Displays precise charge status and faults – for easier diagnostics and maintenance..

# **IP65 Protection Rating**

Dust-tight and protected against water jets – ideal for harsh environments.

# **Consistent Power Output**

TommaTech LiFePO4 batteries deliver stable output even under fluctuating loads.

# **Heating Function\***

Optional heating function for stable battery performance at low temperatures (down to -20°C).

# **Over 4,000 Charge Cycles**

Significantly longer lifespan than conventional battery technologies.

# **Anti-Slip Function**

Prevents unintended rolling or slipping in operational vehicles.

\*Optional



# **Tailored Solutions for All Your Needs**

Empower Your Industry's Strength – Discover Solutions That Fit Your Needs!



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# **Original Chargers**

TommaTech chargers maximize the performance of your batteries and enable seamless communication between the charger and the battery.

# TOMMATECH

# **Smart Charging Management**

Thanks to intelligent algorithms and optimal energy efficiency, the Battery Management System (BMS) effectively transfers energy to each cell with minimal loss. Especially when handling larger amounts of energy, smart charging management ensures greater safety and efficiency in storage.

TommaTech's intelligent chargers guarantee safety and reliable charging cycles.

If the cell voltage drops too low, the system emits an audible warning.

When the cell voltage falls below 1V, a warning message will appear on the display.



Smart

Screen

7

Overvoltage

Protection



Protection

**Current Limiting** 

Function

Time Delay

Protection



Reverse polarity Overcharge protection

Protection





Protection



Range

Operation



Wide Voltage Constant Current, Constant Voltage





# How is it charged? Simple & Safe

*i* Power is cut off during charging to prevent possible accidents.



# Connection to the Charging Station:

The charger is connected to the station – e.g., after parking the forklift.



# 02 Automatic Detection:

Once all conditions are met, the charging process starts automatically.



### Automatic Shutdown When Fully Charged:

The charging process is automatically stopped once the battery is fully charged.

# **Intelligent Display**

Displays the current charge status and system status of the battery.



# Where are TommaTech Lithium-Ion Batteries Charged? Conveniently



- The batteries can be charged anywhere no special charging zone is required.
- The operator can park the vehicle flexibly without any restrictions.

Unlike lead-acid batteries, no ventilation or protective devices are required.

There are no additional investment costs for separate charging areas.



# **FORKLIFT BATTERY**





VOLTAGE - CAPACITY	BTR-P-51.2-304Ah	BTR-P-51.2-420Ah	BTR-P-51.2-608Ah	BTR-P-83.2-304Ah	BTR-P-83.2-420Ah	BTR-P-83.2-608Ah
Nominal Voltage [V]	51,2	51,2	51,2	83,2	83,2	83,2
Nominal Capacity [Ah]	304	420	608	304	420	608
Nominal Energy [Wh]	15564	21504	31129	25292	34944	50585
Recommended Charging Current [A]	150	150	150	150	150	150
Maximum Charge Current [A]	200	200	200	200	200	250
Recommended Charging Current [V]	56,8	56,8	56,8	92,3	92,3	92,3
Maximum Charging Voltage [V]	58,4	58,4	58,4	94,9	94,9	94,9
Recommended Discharge Current [A	150	150	150	150	150	150
Continuous Discharge Current [A]	200	200	200	200	200	200
Maximum Discharge Current [A]	250A for 60s,	250A for 60s,	250A for 60s,	250A for 60s,	250A for 60s,	250A for 60s,
	450A for 30s	450A for 30s	450A for 30s	450A for 30s	450A for 30s	450A for 30s
Discharge Cut-off Voltage [V]	44,8±0.2	44,8±0.2	44,8±0.2	72,8±0.2	72,8±0.2	44,8±0.2
CELL / BATTERY						
Number of Cells			4000	C		
Cell Energy Density [Wh / Kg]			165	j		
Energy Density Volume [Wh / L]			350	)		
Cell Type [m]			0.27-0	.40		
STANDARDS						
Overcharge Protection		Yes				
Over Discharge Protection		Yes				
Over Current Protection	Yes					
Short Circuit Protection	Yes					
Over Temperature Protection	Yes					
Temperature Sensor	Yes					
Adjustable Charge / Discharge Current	Yes					
Battery Chemistry	LFP Prismatic					
Security	IEC 61960 / 62133-2 / TS EN 61427-1					
WORKING CONDITIONS						
Charging Temperature [°C]	0 ~ +60					
Discharge Temperature [°C]	-20 ~ +60					
Storage Temperature [°C]	0 ~ +35					
Humidity (Non-condensing)	Maximum %85					
Protection Class	IP65					
Planned Product Life [Year]	>10					
Warranty Period [Year]	5					



# **GOLF CART BATTERY**





VOLTAGE - CAPACITY	BTR-P-51.2-105Ah	BTR-P-51.2-210Ah	
Nominal Voltage [V]	51,2	51,2	
Nominal Capacity [Ah]	105	210	
Nominal Energy [Wh]	5376	10752	
Recommended Charging Current [A]	52	105	
Maximum Charge Current [A]	105	210	
Recommended Charging Current [V]	56,8	56,8	
Maximum Charging Voltage [V]	58,4	58,4	
Recommended Discharge Current [A]	52	105	
Continuous Discharge Current [A]	105	210	
Maximum Discharge Current [A]	200A for 30s	400A for 30s	
Discharge Cut-off Voltage [V]	44,8±0.2	44,8±0.2	
CELL / BATTERY			
Number of Cells		4000	
Cell Energy Density [Wh / Kg]		165	
Energy Density Volume [Wh / L]		350	
Cell Type [m]		0.27-0.40	
STANDARDS			
Overcharge Protection		Yes	
Over Discharge Protection		Yes	
Over Current Protection		Yes	
Short Circuit Protection		Yes	
Over Temperature Protection		Yes	
Temperature Sensor		Yes	
Adjustable Charge / Discharge Current		Yes	
Battery Chemistry	L	.FP Prismatic	
Security	IEC 61960 / 6	2133-2 / TS EN 61427-1	
WORKING CONDITIONS			
Charging Temperature [°C]	0 ~ +60		
Discharge Temperature [°C]	-20 ~ +60		
Storage Temperature [°C]	0 ~ +35		
Humidity (Non-condensing)	Maximum %85		
Protection Class	IP65		
Planned Product Life [Year]	>10		
Warranty Period [Year]	5		



# **PALLET TRUCK BATTERY**





VOLTAGE - CAPACITY	BTR-P-25.6-104Ah	BTR-P-25.6-208Ah	
Nominal Voltage [V]	25,6	25,6	
Nominal Capacity [Ah]	104	208	
Nominal Energy [Wh]	2662	5324	
Recommended Charging Current [A]	52	104	
Maximum Charge Current [A]	104	208	
Recommended Charging Current [V]	28,4	28,4	
Maximum Charging Voltage [V]	29,2	29,2	
Recommended Discharge Current [A]	52	104	
Continuous Discharge Current [A]	104	208	
Maximum Discharge Current [A]	208A for 30s	400A for 30s	
Discharge Cut-off Voltage [V]	22,4±0.2	22,4±0.2	
CELL / BATTERY	,	,	
Number of Cells		4000	
Cell Energy Density [Wh / Kg]		165	
Energy Density Volume [Wh / L]		350	
Cell Type [m]	0.	.27-0.40	
STANDARDS			
Overcharge Protection		Yes	
Over Discharge Protection	Yes		
Over Current Protection		Yes	
Short Circuit Protection		Yes	
Over Temperature Protection	Yes		
Temperature Sensor		Yes	
Adjustable Charge / Discharge Current		Yes	
Battery Chemistry	LFP	Prismatic	
Security	IEC 61960 / 621	33-2 / TS EN 61427-1	
WORKING CONDITIONS			
Charging Temperature [°C]	0 ~ +60		
Discharge Temperature [°C]	-20 ~ +60		
Storage Temperature [°C]	0 ~ +35		
Humidity (Non-condensing)	Maximum %85		
Protection Class	IP65		
Planned Product Life [Year]	>10		
Warranty Period [Year]		5	



# **CLEANING VEHICLE BATTERY**





VOLTAGE - CAPACITY	BTR-P-25.6-104Ah	
Nominal Voltage [V]	25,6	
Nominal Capacity [Ah]	104	
Nominal Energy [Wh]	2662	
Recommended Charging Current [A]	52	
Maximum Charge Current [A]	104	
Recommended Charging Current [V]	28,4	
Maximum Charging Voltage [V]	29,2	
Recommended Discharge Current [A]	52	
Continuous Discharge Current [A]	104	
Maximum Discharge Current [A]	208A for 30s	
Discharge Cut-off Voltage [V]	22,4±0.2	
CELL / BATTERY		
Number of Cells	4000	
Cell Energy Density [Wh / Kg]	165	
Energy Density Volume [Wh / L]	350	
Cell Type [m]	0.27-0.40	
STANDARDS		
Overcharge Protection	Yes	
Over Discharge Protection	Yes	
Over Current Protection	Yes	
Short Circuit Protection	Yes	
Over Temperature Protection	Yes	
Temperature Sensor	Yes	
Adjustable Charge / Discharge Current	Yes	
Battery Chemistry	LFP Prismatic	
Security	IEC 61960 / 62133-2 / TS EN 61427-1	
WORKING CONDITIONS		
Charging Temperature [°C]	0 ~ +60	
Discharge Temperature [°C]	-20 ~ +60	
Storage Temperature [°C]	0 ~ +35	
Humidity (Non-condensing)	Maximum %85	
Protection Class	IP65	
Planned Product Life [Year]	>10	
Warranty Period [Year]	5	





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MODULAR SERIES - LFP LITHIUM BATTERY 12.8V-204Ah

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MODULAR SERIES - LFP LITHIUM BATTERY 25.6V-102Ah 25.6V-204Ah 51.2V-102Ah

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RACK SERIES - LFP LITHIUM BATTERY 51.2V-102Ah

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200

-

100

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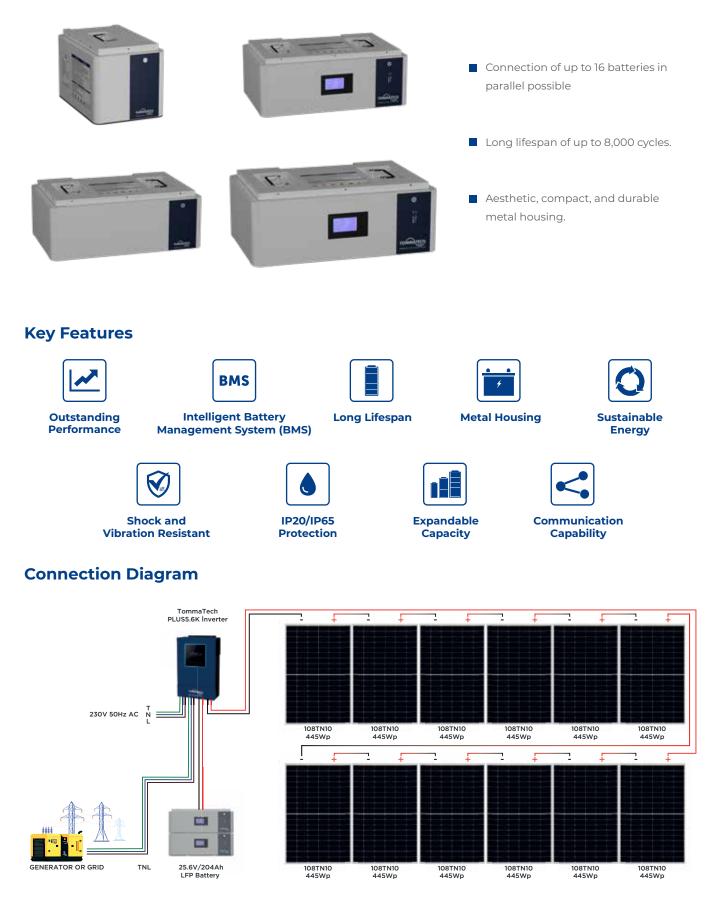
MODULAR SERIES - LFP LITHIUM BATTERY 51.2V-280Ah

# WITH OUR LITHIUM BATTERIES UNINTERRUPTED ENERGY, UNINTERRUPTED LIFE!



# **MODULAR LFP LITHIUM BATTERIES**

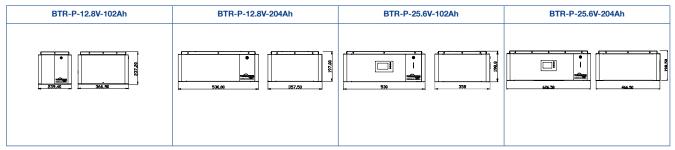
BTR-P-12.8V-102Ah / BTR-P-12.8V-204Ah BTR-P-25.6V-102Ah / BTR-P-25.6V-204Ah





VOLTAGE - CAPACITY	BTR-P-12.8V-102Ah	BTR-P-12.8V-204Ah	BTR-P-25.6V-102Ah	BTR-P-25.6V-204Ah	
Nominal Voltage [V]	12.8	12.8	25.6	25.6	
Nominal Capacity [Ah]	102	204	102	204	
Nominal Energy [Wh]	1305.6 <sup>1</sup>	2611.21	2611.2 <sup>1</sup>	5222.4 1	
Recommended Charging Current [A]	50 <sup>2,3</sup>	80 2,3	50 2.3	100 2,3	
Maximum Charge Current [A]	75 <sup>2,3</sup>	100 2,3	75 <sup>2,3</sup>	150 2,3	
Recommended Charging Current [V]	14.2	14.2	28.4	28.4	
Maximum Charging Voltage [V]	14.6	14.6	29.2	29.2	
Recommended Discharge Current[A]	50 <sup>2,3</sup>	80 2,3	50 2,3	100 2,3	
Maximum Discharge Current [A]	75 <sup>2,3</sup>	100 2,3	75 <sup>2,3</sup>	150 2.3	
Discharge Cut-off Voltage [V]	11.1±0.2	11.1±0.2	22.4±0.2	22.4±0.2	
BATTERY / CELL					
Number of Cycles		8000	2,3,4,5,6		
Mass Energy Density [Wh/Kg]		1	65		
Mass Energy Density [Wh/Kg]		3	50		
Internal Resistance [mΩ]		0.27-	0.40 7		
STANDARD					
Overcharge Protection		Y	es		
Over Discharge Protection		Y	es		
Over Current Protection		Y	es		
Short Circuit Protection		Y	es		
Over Temperature Protection	Yes				
Temperature Sensor	Yes				
Adjustable Charge / Discharge Current		Y	es		
Battery Chemistry		LFP Pr	ismatic		
Security		IEC 61960 / 6	2133-2 / RoHS		
WORKING CONDITIONS					
Charging Temperature [°C]		0 ~	+60		
Discharge Temperature [°C]		-20 -	~ +60		
Storage Temperature [°C]		0 ~	- +35		
Humidity (Non-condensing)		Maximu	um %85		
Protection Class	IP20-IP65				
Planned Product Life [Year]	>15				
Warranty Period [Year]	5				
OTHER					
Dimensions (WxDxH) [mm]	239.4x366.9x237.2	530x357.5x197	530x358x198.8	466.5x626.5x198.5	
Weight (Kg)	16.50±0.2	27.75±0.2	27.75±0.2	47.70±0.2	
Battery Connection	IP67 Protected Plus (+) and Minus (-) Connector Header				
Serial Connection	No				
Parallel Connection	Yes (Maximum 16 pieces)				
Communication	Not Available CAN / RS485 / Bluetooth				
Screen	Not Available LCD				
	Metal Case				

### PHYSICAL PROPERTIES



# **MODULAR LFP LITHIUM BATTERIES**

BTR-P-51.2V-102AH / BTR-P-51.2V-102AH-R / BTR-P-51.2V-280AH



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VOLTAGE - CAPACITY	BTR-P-51.2V-102Ah BTR-P-51.2V-102Ah-R		BTR-P-51.2V-280Ah		
Nominal Voltage [V]		51.2	51.2		
Nominal Capacity [Ah]		102	280		
Nominal Energy [Wh]		5222.4	14336		
Recommended Charging Current [A]		50	100		
Maximum Charge Current [A]		75	140		
Recommended Charging Current [V]		56.8	56.8		
Maximum Charging Voltage [V]		58.4	58.4		
Recommended Discharge Current[A]		50	100		
Maximum Discharge Current [A]		50	100		
Maximum Deşarj Akımı [A]		75	180A for 30s		
Discharge Cutoff Voltage [V]		44.8±0.2	44,8±0.2		
BATTERY / CELL		L. L.			
Number of Cycles		8000	6000		
Mass Energy Density [Wh/Kg]		165	165		
Volumetric Energy Density [Wh/L]		350	350		
Internal Resistance [mΩ]		0.27-0.40	0.1-0.15		
STANDARDS					
Overcharge Protection		Yes			
Over Discharge Protection		Yes			
Over Current Protection		Yes			
Short Circuit Protection		Yes			
Over Temperature Protection		Yes			
Temperature Sensor		Yes			
Adjustable Charge / Discharge Current		Yes			
Battery Chemistry		LFP Prismatic			
Security		IEC 61960 / 62133-2 / Rol-	HS		
WORKING CONDITIONS					
Charging Temperature [°C]		0 ~ +60			
Discharge Temperature [°C]	-20 ~ +60				
Storage Temperature [°C]	0 ~ +35				
Humidity (Non-condensing)	Maximum %85				
Protection Class	IP20-IP65				
Planned Product Life [Year]	>15				
Warranty Period [Year]					

### PHYSICAL PROPERTIES

