



TECHNOLOGY IS OUR PASSION



**LiFePO4 BATTERIES  
AND ACCESSORIES  
ENERGY STORAGES  
BMS**







# ABOUT US

## LiFePO<sub>4</sub> TECHNOLOGY EXPERTS

We are a technology and trading company specializing in energy storage and lithium-ion batteries. Our team consists of experienced specialists in LiFePO<sub>4</sub> technology. In almost seven years of presence in the market, we have already provided solutions in energy storage to over 1000 clients. Our products are characterized by reliability, high quality, and significantly longer lifespan, distinguishing us from domestic competition. With our own service and research and development laboratory, we are able to provide full warranty and post-warranty service support. Additionally, we assure that the parameters regarding lifespan provided by us come from our laboratory data and are not just information passed on by the manufacturer – as is the case with some suppliers. If you are looking for reliable energy storage solutions that can serve you for years, we invite you to explore our offer and start a collaboration with us.

### HIGH QUALITY PRODUCTS

As one of the few manufacturers in the country, we offer LiFePO<sub>4</sub> batteries with the highest quality A+ cells, meeting the requirements of the automotive class. This means that you will be able to use our products with satisfaction for several years from the moment of purchase.

### 7 YEARS ON THE MARKET

Due to our experience we create products of the highest quality that are characterized by lifetime that is not available from other suppliers on the domestic and European market.

### OVER 1,000 SATISFIED CUSTOMERS

For 6 years on the market, we have delivered our products to over 1000 satisfied customers.

### RESEARCH AND DEVELOPMENT LABORATORY

We run our own research and development laboratory that allows us to test the products we offer, before they reach our customers.

### OUR OWN SERVICE

Unlike most suppliers, we provide our customers with full service support, both warranty and post-warranty.

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Please visit our website:  
<http://kon-tec.eu>

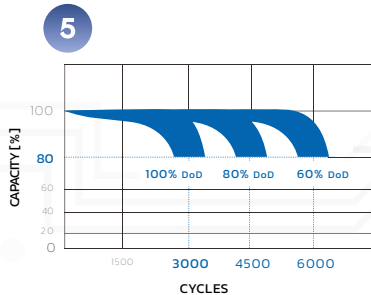
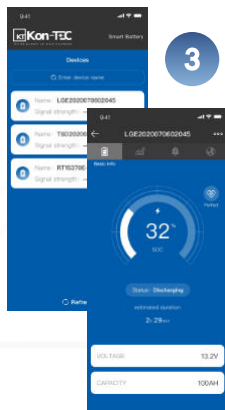
E-mails should  
be addressed to:  
[info@kon-tec.eu](mailto:info@kon-tec.eu)

# OUR TECHNOLOGY

## PARAMETERS COMPARISON OF LITHIUM-ION AND LEAD-ACID BATTERIES

PARAMETERS	AGM GROUP	GEL GROUP	Kon-TEC LiFePO <sub>4</sub>	LiFePO <sub>4</sub> BENEFITS
NOMINAL VOLTAGE (DISCHARGE CURRENT 1C)	12V (2V/cell)	12V (2V/cell)	12,8V (3.2V/cell)	MORE POWER / CONSTANT VOLTAGE
CYCLE LIFE 100% DOD	200	300	3000	LONG LIFE 6-10X MORE
CYCLE LIFE 60%DOD	400	600	6000	
WEIGHT	32,7 kg	30 kg	11,2 kg	>50% DECREASED WEIGHT
CAPACITY 27 ° C	C/5 100 Ah	100 Ah	100 Ah	CONTINUOUS POWER AND ENERGY, AT ANY STATE OF DISCHARGE
	C/2 90 Ah	80 Ah	100 Ah	
	C/1 70 Ah	60 Ah	100 Ah	
CHARGE TIME	6-12 h	6-12 h	1-3 h	4-6X FASTER
DEGREE OF MAINTANANCE	low	low	none	NO MAINTANANCE
ACTUAL COST PER CYCLE 80 % DOD	0,69 \$	0,55 \$	0,32 \$	VERY LOW ACTUAL COST

## OUR BATTERIES



Battery life during cyclic operation

## OUR BATTERIES

Kon-TEC LiFePO<sub>4</sub> batteries, in which the cathode is made of lithium, iron, phosphorus and oxygen compounds. They have no memory effect. Our batteries have the safest cells in terms of non-flammability and non-explosiveness, available on the market. LiFePO<sub>4</sub> batteries are characterized by high tolerance to discharge with incomplete charging cycles. They can be charged with high current.



1

### LiFePO<sub>4</sub> Cells

High-efficiency LiFePO<sub>4</sub> cells that allow the batteries to work at maximum discharge current for the entire cycle without affecting at the same time on their lifetime or capacity decrease. The cells are the safest available on the market in terms of non-flammability and non-explosiveness. They have no memory effect. They can be charged with high current.



2

### Battery management system BMS

The battery management system consists of the highest quality components supplied by world-renowned electronics manufacturers. Our BMS protects the battery from everything possible factors that could damage it.



3

### Wireless communication

We provide wireless communication integrated with the battery BMS system. It provides communication between the battery and the mobile device, and real time battery management.



4

### Terminals - Hex Bolt M8

Durable and effective connection made of stainless steel, resistant to corrosion and other external factors.



### Communication interface

Selected models are equipped with CAN/RS485 communication



### Cell heating

Models available with cell heating function offering possibility of charging at negative ambient temperatures.



### 12V / 24V / 48V

Multiple batteries connected in series and parallel support.



### Low voltage drop under high discharge current.

Kon-TEC LiFePO<sub>4</sub> batteries have a low voltage drop with a high discharge current.



### 50Ah - 300Ah

Easy adjusting the capacity to needs. High current charging (fast charging).



### High energy density, low weight

More power with much less weight.



### Small dimensions

High power with small battery dimensions



5

### Long lifetime and reliability

We offer LiFePO<sub>4</sub> batteries with a very long life: 3000 cycles at 100% DoD discharge, up to 6000 cycles and more at 60% DoD discharge. DoD means complete discharge and charge cycle of the battery.

# OUR LiFePO<sub>4</sub> BATTERIES

## MOBILE ENERGY SOURCES

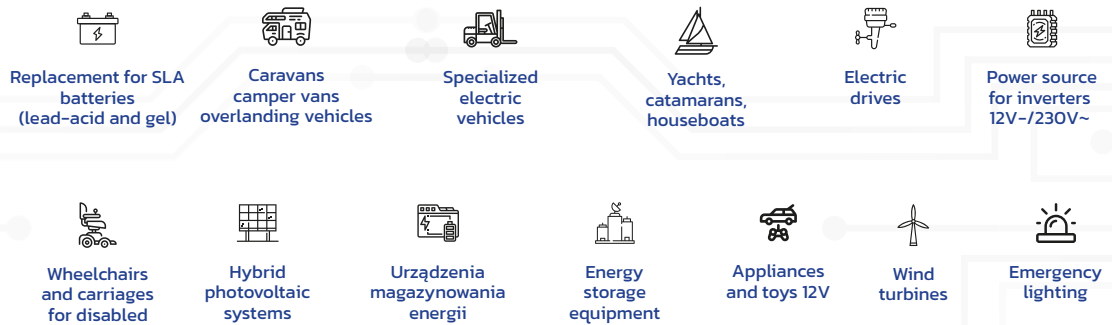
### Battery management system

Protection type	Low temperatures charging, Short-circuit, Overcharge, Overdischarge, High temperatures
BMS discharge voltage cut-off	10V
BMS charge voltage cut-off	15V (3,75V per cell)
Balancing voltage	14,4V (3,6V per cell)

### Operation conditions

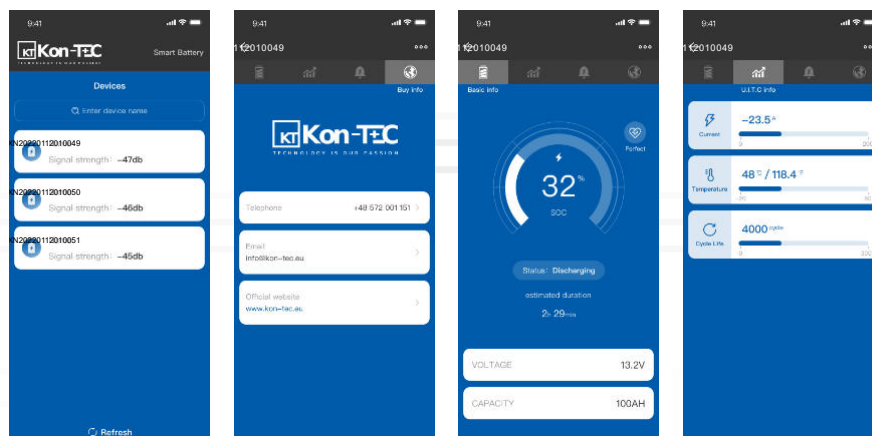
Operating temperature	-20°C ~ 60°C
Charging temperature	0 °C ~ 45 °C
Charging temperature Line: Heating Pads	-20°C ~ 45 °C
Storage temperature	-20 °C ~ 60 °C
Samorozładowanie	<4% per month

## APPLICATION



## WIRELESS COMMUNICATION

The batteries are equipped with wireless communication. Using a special application, it allows you to monitor the state of charge and lifetime of batteries.



# ECO - LINE



LiFePO<sub>4</sub>



BMS



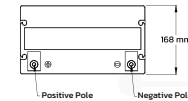
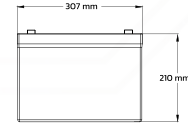
100Ah - 300Ah



Low Price

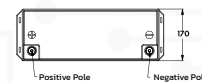
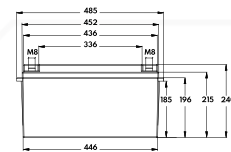
## KT-LFP12100ECO - TECHNICAL DATA

Nominal voltage	12,8V
Current	100A
Capacity	100Ah
Energy	1280Wh
Weight	11,2kg
Dimensions	307x168x210mm
Terminal	M8
Charge time	10A - 10h / 20A - 5h



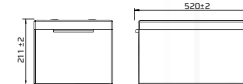
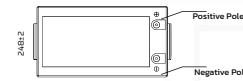
## KT-LFP12200ECO - TECHNICAL DATA

Nominal voltage	12,8V
Current	200A
Capacity	200Ah
Energy	2560Wh
Weight	23,7kg
Dimensions	485x170x240mm
Terminal	M8
Charge time	10A • 20h / 20A • 10h



## KT-LFP12300ECO - TECHNICAL DATA

Nominal voltage	12,8V
Current	300A
Capacity	300Ah
Energy	3840Wh
Weight	38kg
Dimensions	520x268x211mm
Terminal	M8
Charge time	10A - 30h / 20A - 15h



# WIRELESS COMMUNICATION - LINE



LiFePO<sub>4</sub>



BMS



Wireless communication



Application iOS, Android



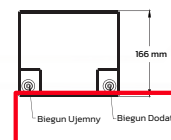
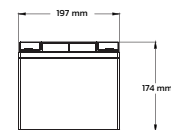
50Ah - 300Ah



The highest quality

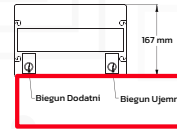
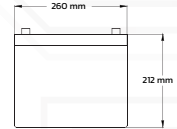
## KT-LFP1250 - TECHNICAL DATA

Nominal voltage	12,8V
Current	50A
Capacity	50Ah
Energy	640Wh
Weight	6,6kg
Dimensions	197x166x174mm
Terminal	M8
Charge time	10A • 5h / 20A • 2,5h



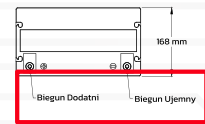
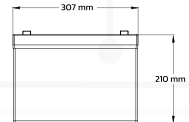
#### KT-LFP1275 - TECHNICAL DATA

Nominal voltage	12,8V
Current	75A
Capacity	75Ah
Energy	960Wh
Weight	10kg
Dimensions	260x167x212mm
Terminal	M6
Charge time	10A • 7,5 h / 20A • 3,75 h



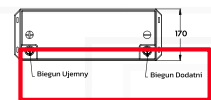
#### KT-LFP12100 - TECHNICAL DATA

Nominal voltage	12,8V
Current	100A
Capacity	100Ah
Energy	1280Wh
Weight	11,2kg
Dimensions	307x168x210mm
Terminal	M8
Charge time	10A – 10h / 20A – 5h



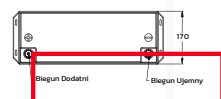
#### KT-LFP12150 - TECHNICAL DATA

Nominal voltage	12,8V
Current	150A
Capacity	150Ah
Energy	1920Wh
Weight	17,8kg
Dimensions	485x170x240mm
Terminal	M8
Charge time	10A • 15h / 20A • 7,5h



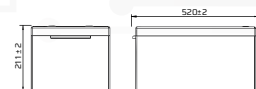
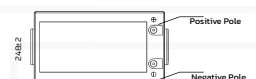
#### KT-LFP12200 - TECHNICAL DATA

Nominal voltage	12,8V
Current	200A
Capacity	200Ah
Energy	2560Wh
Weight	23,7kg
Dimensions	485x170x240mm
Terminal	M8
Charge time	10A – 20h / 20A – 10h



#### KT-LFP12300 - TECHNICAL DATA

Nominal voltage	12,8V
Current	300A
Capacity	300Ah
Energy	3840Wh
Weight	38kg
Dimensions	520x268x211mm
Terminal	M8
Charge time	10A – 30h / 20A – 15h





# HEATING PADS - LINE



LiFePO<sub>4</sub>



BMS



Heating pads



Wireless communication



Application iOS, Android



100Ah - 300Ah



The highest quality

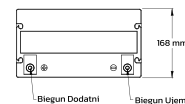
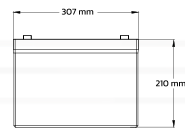


Versatile application

The new models of LiFePO<sub>4</sub> Kon-TEC batteries with a heating mat system allow charging LiFePO<sub>4</sub> Kon-TEC batteries at temperatures below 0°C. Inside each battery in the Kon-TEC MG series, there are special heating mats responsible for preheating the cells to a positive temperature, enabling the charging process at negative ambient temperatures. The process begins when the charger is connected to the battery. When the built-in BMS system in the battery detects a cell temperature below 0°C, it activates the heating mat system. The heating mats draw energy from the charger and initiate the cell heating process. Once the battery cells reach a safe temperature of 0°C or more, the BMS system starts the charging process for the Kon-TEC LiFePO<sub>4</sub> MG series battery.

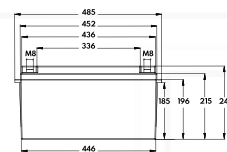
## KT-LFP12100MG - TECHNICAL DATA

Nominal voltage	12,8V
Current	100A
Capacity	100Ah
Energy	1280Wh
Weight	11,2kg
Dimensions	307x168x210mm
Terminal	M8
Charge time	10A - 10h / 20A - 5h



## KT-LFP12150MG - TECHNICAL DATA

Nominal voltage	12,8V
Current	150A
Capacity	150Ah
Energy	1920Wh
Weight	17,8kg
Dimensions	485x170x240mm
Terminal	M8
Charge time	10A - 15h / 20A - 7,5h



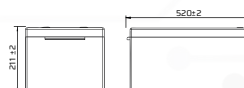
## KT-LFP12200MG - TECHNICAL DATA

Nominal voltage	12,8V
Current	200A
Capacity	200Ah
Energy	2560Wh
Weight	23,7kg
Dimensions	485x170x240mm
Terminal	M8
Charge time	10A - 20h / 20A - 10h



## KT-LFP12300MG - TECHNICAL DATA

Nominal voltage	12,8V
Current	300A
Capacity	300Ah
Energy	3840Wh
Weight	38kg
Dimensions	520x268x211mm
Terminal	M8
Charge time	10A - 30h / 20A - 15h



# Kon-TEC CHARGERS

## WATER AND LAND

Kon-TEC LiFePO<sub>4</sub> chargers have their own processor and PWM signal control technology for high efficiency and stability parameters, as well as low emissions and energy efficiency. The chargers ensure that the battery is fully charged without dangerous overcharge. It is provided by the automatic control of charging current and voltage. The battery is protected during the charging process.

NAME	TYPE	VOLTAGE [V]	CURRENT [A]	WEIGHT [kg]	DIMENSIONS [mm]
DL-240 12V/10A	standard	12	10	1,1	195x92x64
DL-400 12V/20A	standard	12	20	1,5	195x92x52
DL-900 12V/40A	standard	12	40	2,55	275x135x70
DL-900 24V/20A	standard	24	20	2,5	220x122x70
DL-2000 24V/50A	standard	24	50	4,4	305x175x97
DL-1200 48V/20A	standard	48	20	3	285x135x85
DL-300WP 12V/12A	waterproof	12	15	3,5	285x150x85
DL-600WP 24V/18A	waterproof	24	18	3,5	285x150x85
DL-1200WP 48V/18A	waterproof	48	18	4	305x152x95

### STANDARD



DL-240  
12V/10A



DL-400  
12V/20A



DL-900  
12V/40A



DL-300WP  
12V/12A



DL-600WP  
24V/18A



DL-900  
24V/20A



DL-2000  
24V/50A



DL-1200  
48V/20A



DL-1200WP  
48V/18A

### WATERPROOF

# IEB FILON FUTUR

## EUROPEAN LEADER OF LiFePO<sub>4</sub> CHARGERS

IEB is Europe's leading manufacturer of battery chargers. For 40 years, IEB has been synonymous with pioneering development and production of battery charging and power systems. Dedicated solutions in the field of lithium-ion battery charging systems and the new universal FILON FUTUR Expert charging technology are high-class developments. Below we present example configurations, the full offer can be found on our website [www.kon-tec.eu](http://www.kon-tec.eu). Our representatives will help you choose the right configuration for your needs.





# EQUALISERS

## SERIES CONNECTION

When the batteries are connected in series, balancers are used to keep the voltage of each battery at the same level during the charging or discharging process. When connecting batteries in series, the actual voltage of each can be at different levels due to the chemical composition of the cells or their temperature. Using the balancers, we extend the service life of batteries and increase the real capacity of the entire energy storage system.

NAME	VOLTAGE [V]	WEIGHT [kg]	DIMENSIONS [mm]
KT01	24V	0,125	70x70x27mm
KT03	24V	0,187	87x97x50mm



KT-01



KT-03

# MEASURING DEVICES

## PARAMETERS UNDER CONTROL

Battery meters with LCD display are used to monitor parameters of all types of batteries, such as: battery voltage, discharge current, power, impedance, internal resistance, capacity, state of charge (SoC), energy and time.

NAME	VOLTAGE [V]	CURRENT [A]	WEIGHT [kg]
LCD Display	DC 8V-100V	300	0,3
TK15 Coulometer	DC 8V-100V	350	0,35
Victron BMV-712 Smart Bluetooth	DC 6,5V-70V	500	1,02



LCD Display



TK15 Coulometer



Victron BMV-712 Smart Bluetooth







# ENERGY STORAGE SYSTEMS

## ENERGY INDEPENDENCE

Energy storage in residential buildings is a solution for storing green, free energy or reducing the cost of energy from the grid at peak demand. This solution will also work in the case of emergency power supply, ensuring normal operation of the residential building, even in the event of a power outage or bad weather.



### SAFETY

Lithium-iron-phosphate batteries, have a high safety rating.



### COST AND PERFORMANCE

Lowercost per cycle, easy installation

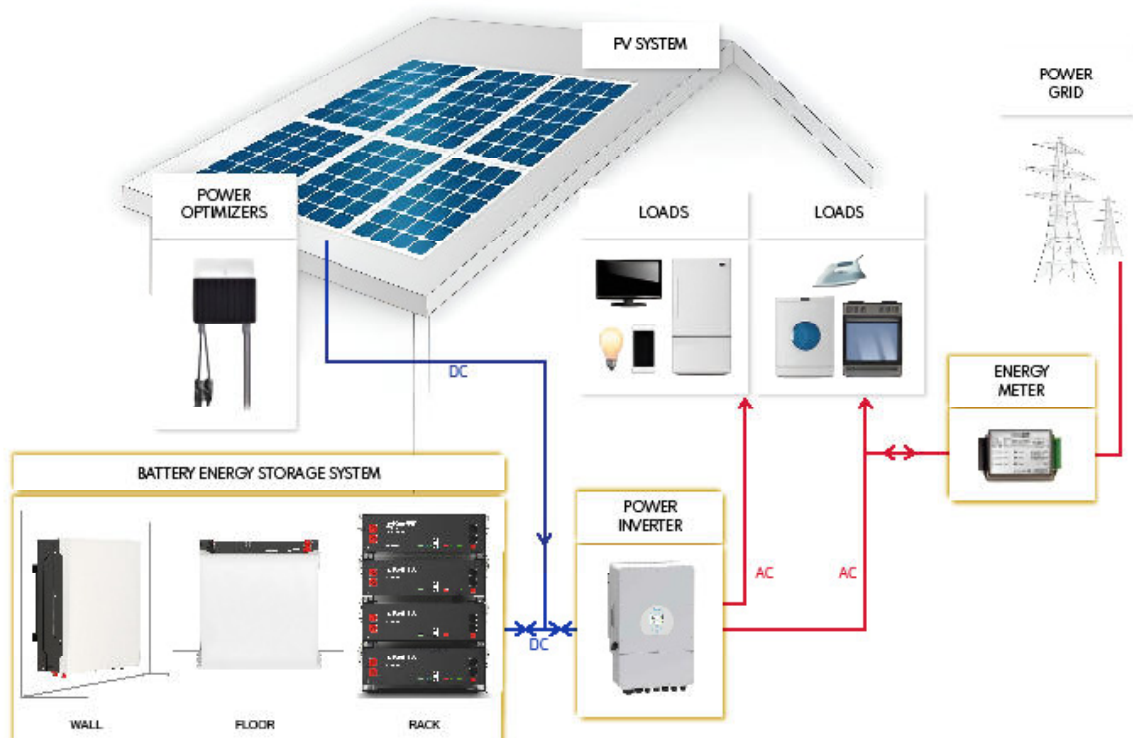


### > 6,000 CYCLES WITHOUT PARAMETERS CHANGE

more than 10 years of service life without any change in cell parameters, 6000 cycles or more.



### RS485 & CANBUS COMMUNICATION



# LOW VOLTAGE ENERGY STORAGE

FROM 5 kWh TO 160 kWh

KT-LFPES512100

## Safety

Low voltage battery, cobalt free cells with safe LiFePO<sub>4</sub> chemistry  
Conform to ul1973, iec62619, ce, un38.3, etc.

## Modularity

support up to 32 units connected in parallel, scalability  
in the range of 5kWh to 160kWh without external controller.

## Lifetime

6,000 cycles and more

## Compact and flexible

3U (133mm) height standard construction. Additional brackets sets for various installation options.

## Compatibility

compatible with almost all hybrid and off-grid inverters, e.g.  
SMA/Sofar/Solis/Goodwe/Growatt/Deye/Schneider/Victron and many more

## Cost and performance

lower cost per cycle,  
easy installation

Battery type	LiFePO <sub>4</sub>
Nominal capacity	100Ah
Energy	5,12kWh
Nominal voltage	51,2V
Communication	CAN/RS485
Series/parallel connection	No series connection. Parallel connection up to max 32 units.
Maximum charge voltage	56V
Cut-off voltage	43,2V
Lifetime	6000 cycles (96% DoD)
Dimensions	450x145x438±2mm
Weight	~51kg
Operating temperature	Charging: 0°C~50°C Discharging: -20°C~60°C Recommended operating temperature 15°C~35°C





# HIGH VOLTAGE ENERGY STORAGE

FROM 10 kWh TO 20 kWh

KT-LFPHV20550, KT-LFPHV30750, KT-LFPHV41050

**Safety** Cells without cobalt with safe LiFePO<sub>4</sub> chemistry, compliance with UL1973, IEC62619, CE, UN38.3, etc.

**Scalability** ranging from 10.24 kWh to 20.48 kWh and more

**Lifespan** 6000 cycles and more

**Convenient installation** The storage capacity can be expanded by stacking devices.

**Compatibility** Compatible with almost all inverters, with hybrid and off-grid systems from leading manufacturers.

**Long lifespan** 15-year structural lifespan

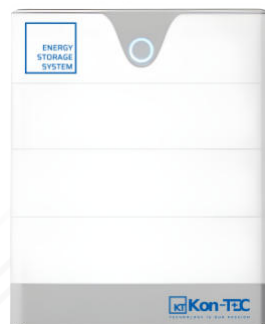
**Optional WiFi** Optional WiFi configuration

Battery type	LiFePO <sub>4</sub>
Nominal capacity	50Ah
Maximum charging current	50A
Maximum discharge current	50A
Communication	CAN/RS485
Compatible inverters	SMA, FRONIUS, Goodwe, Solis, Growatt, Lux power, SAJ
Lifespan	6000 cycles
WiFi	optional
Weight (one module) (KT...20550 - 2 m., KT...30750 - 3 m., KT...41050 - 4 m.)	~60kg
Operating temperature	Charging: 0°C~50°C Discharge: -10°C~50°C



KT-LFPHV20550

Usable energy	10.24KWh
Nominal voltage	204.8V
Voltage range	185.6V~233.6V
Dimensions (LxWxH)	63cm*44cm*59cm



KT-LFPHV30750

Usable energy	15.36KWh
Nominal voltage	307.2V
Voltage range	278.4V~350.4V
Dimensions (LxWxH)	63cm*44cm*74,5cm



KT-LFPHV41050

Usable energy	20.48KWh
Nominal voltage	409.6V
Voltage range	371.2V~467.2V
Dimensions (LxWxH)	63cm*44cm*90cm

# HIGH VOLTAGE INDUSTRY ENERGY STORAGE

70 kWh, 140 kWh and more

## KEY FEATURES

- High Energy Density: These systems are designed to store a large amount of energy in a relatively compact space, ensuring efficient use of available resources.
- Scalability: The ability to easily scale up or down allows for flexibility in meeting varying energy storage needs within industrial settings.
- Fast Charging and Discharging Rates: Quick charging and discharging capabilities are crucial for addressing dynamic energy demands in industrial processes.
- Long Cycle Life: Industrial applications require robust and durable energy storage solutions that can endure frequent charge and discharge cycles over an extended operational lifespan.
- Advanced Battery Management Systems (BMS): BMS ensures optimal performance, monitors individual cell conditions, and safeguards against overcharging or overheating.
- High Voltage Output: High-voltage systems enable efficient energy transmission and distribution within industrial facilities, minimizing energy losses.
- Compliance with Industry Standards: Adherence to relevant industry standards ensures compatibility and interoperability with existing industrial infrastructure and systems.

## DIMENSIONS



MODUŁY



BMS

# HIGH VOLTAGE INDUSTRY ENERGY STORAGE

70 kWh, 140 kWh and more

## 70 kWh

Number of modules in the cabinet	12
Number of packs in the cabinet	1
Number of modules in a pack	12
Capacity	69,12 kWh
Nominal voltage of the pack	460,8 V
Maximum charging voltage of the pack	518 V
Minimum voltage of the pack	360 V
Maximum continuous charging current	75A
Maximum continuous discharge current	150A
Communication protocol	CAN/RS485
Dimensions (width x depth x height)	800x800x2500 mm

## 140 kWh

Number of modules in the cabinet	(2 x 12) 24
Number of packs in the cabinet	2
Number of modules in a pack	12
Capacity	2x 69,12 kWh
Nominal voltage of the pack	460,8 V
Maximum charging voltage of the pack	518 V
Minimum voltage of the pack	360 V
Maximum continuous charging current	2 x 75A
Maximum continuous discharge current	2x 150A
Communication protocol	CAN/RS485
Dimensions (width x depth x height)	800x800x2500 mm

## PARAMETERS OF A SINGLE BATTERY MODULE 38.4V 150AH

CELL	
Cell Type	Lithium Iron Phosphate (LiFePO <sub>4</sub> ) Cell
Nominal voltage and capacity of a single cell	3.2V 150Ah
MODULE	
Cell configuration	12S1P
Nominal voltage	38.4V
Nominal capacity	150Ah
Nominal energy	5.76kWh
Internal resistance	≤30mΩ @1kHz AC
Maximum charging voltage	43.8V
Discharge cutoff voltage	30V
Maximum load current	150A @ 25±5°C, without BMS
Recommended charging current	≤75A (0,5C)
Recommended operating temperature	-20°C -65°C
Lifespan	≥5000 Cycles
Dimensions	203*640*210mm
Weight	45kg
Application	Internal
Certifications	IEC62619, UL1642, UN38.3, UL1973, CB, CE





# HYBRID INVERTERS

## DEYE SUN COMPATIBLE WITH OUR ENERGY STORAGE SYSTEMS

Deye SUN hybrid inverters are single or three-phase low-voltage (48V) hybrid inverters that enable increasing the energy independence and optimizing the direction of energy flow, and sources or loads where the energy is directed. This series product supports single-phase and three-phase parallel applications, it can be connected up to 16 units. With an intelligent monitoring platform, Deye full series inverter products support remote shutdown immediately after a failure occurs.

Can be combined with our professional energy storage system KT-LFP512100

Colour LCD touch display

IP 65 protection

6 time periods for charging/discharging the battery

48V low voltage battery, safe and reliable

up to 16 units parallel connection

DC and AC connectors pair to upgrade an existing solar system

Energy storage system with a diesel generator support

Unique Smart Load application

Network peak saving function

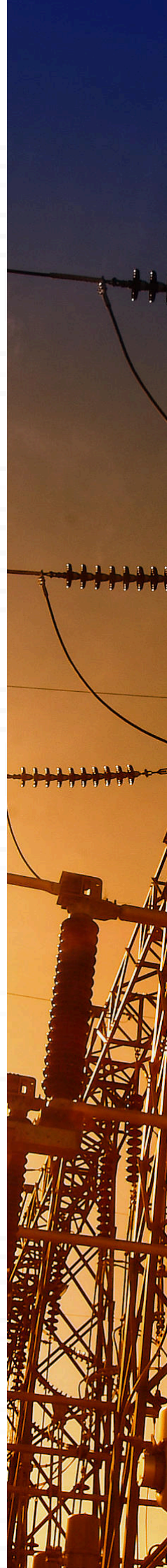
4ms fast switch from network to off-grid mode

and many more - you can check the exact specification at [www.kon-tec.eu](http://www.kon-tec.eu)

Deye Sun low-voltage  
One-phase:  
SUN-5K-SG01/03LP1-EU

Deye Sun low-voltage  
Three-phase:  
SUN-5K-SG04LP3-EU  
SUN-6K-SG04LP3-EU  
SUN-8K-SG04LP3-EU  
SUN-10K-SG04LP3-EU  
SUN-12K-SG04LP3-EU

Deye Sun high-voltage  
Three-phase:  
SUN-6K-SG01HP3-EU  
SUN-8K-SG01HP3-EU  
SUN-10K-SG01HP3-EU  
SUN-12K-SG01HP3-EU  
SUN-15K-SG01HP3-EU  
SUN-20K-SG01HP3-EU  
SUN-25K-SG01HP3-EU  
SUN-30K-SG01HP3-EU  
SUN-40K-SG01HP3-EU  
SUN-50K-SG01HP3-EU



# DEYE SUN

## SELECTED MODELS PARAMETERS

### SHARED DATA

<b>Efficiency</b>	
Max efficiency	97.60%
Euro efficiency	97.00%
MPPT efficiency	99.90%
<b>Protection</b>	
PV input lightning protection, protection against island operation, PV input string reverse polarity protection, isolation resistor detection, residual current monitoring module, output overcurrent protection, output short circuit protection, surge protection	
<b>Integration</b>	
Output surge protection	DC type II, AC type III
Grid regulation	CEI 0-21, VDE-AR-N 4105, NRS 097, IEC 62116, IEC 61727, G99, G98, VDE 0126-1-1, RD 1699, C10-11
EMC safety / standard	IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2
Operating temperature range (°C)	-45~60 °, >45°
Cooling	Intelligent cooling
Noise (dB)	<45 dB
BMS communication	RS485; CAN
Weight (kg)	33.6
IP protection	IP65
Type of installation	Wall mounted
Warranty	5 years

### SELECTED MODELS

#### Battery input data

	SUN-5K -SG03LP1-EU	SUN-5K -SG04LP3-EU	SUN-10K -SG04LP3-EU	SUN-10K -SG01HP3-EU	SUN-30K -SG01HP3-EU
Battery voltage range (V)	40~60	40~60	40~60	96~600	200~700
Max. charging current (A)	120	120	210	37	37+37
Max. discharging current (A)	120	120	210	37	37+37
External temperature sensor	Tak	Tak	Tak	-	-
Battery input number	-	-	-	1	2
Charging strategy for lithium battery	Selfadaptation to BMS system				

#### PV string input data

	SUN-5K -SG03LP1-EU	SUN-5K -SG04LP3-EU	SUN-10K -SG04LP3-EU	SUN-10K -SG01HP3-EU	SUN-30K -SG01HP3-EU
Max. input power DC	6500	6500	13000	13000	39000
Nominal input PV voltage (V)	370 (125~500)	550 (160~800)	550 (160~800)	1000	1000
Start voltage (V)	125	160	160	160	160
MPPT voltage range (V)	150~425	200~650	200~650	200~850	200~850
DV voltage range with full load (V)	300~425	350~650	350~650	300~850	500
PV input current (A)	13+13	13+13	26+13	26+26	36+36+36
Max. PV ISC (A)	17+17	17+17	34+17	40+40	50+50+50
Number of MPPT / Strings for MPPT	2/1+1	2/1+1	2/2+1	2/2+1	3/2+2+2

#### AC output data

	SUN-5K -SG03LP1-EU	SUN-5K -SG04LP3-EU	SUN-10K -SG04LP3-EU	SUN-10K -SG01HP3-EU	SUN-30K -SG01HP3-EU
Nominal AC output and UPS power (W)	5000	5000	10000	10000	30000
Max. AC output power (W)	5500	5500	11000	11000	33000
Nominal AC output current (A)	22.7	7.6	15.2	15.2	45.6
Max. AC current (A)	25	11.4	22.7	22.7	50.1
Max. continuous AC current (A)	35	45	45	50	100
Peak power (offgrid)	2 x nominal power, 10s				
Power factor	0,8 leading do 0,8 delayed				
Frequency and output voltage	50/60 Hz; L/N/PE 220/230 Vac (One-phase)				
Grid type	One phase		Three phase		



# BRICK DYNAMIC MANAGEMENT SYSTEM

## ENERGY MANAGEMENT ADAPTED TO YOUR NEEDS

The system consists of MASTER and SLAVE modules. The MASTER module manages the entire energy storage system that communicates with other modules via a separate communication bus. The system communicates with any external supervisor system (fleet management/control/monitoring/SCADA systems). It provides various communication interfaces, e.g. Modbus RTU (RS232/485) and CAN. The SLAVE module is equipped with measurement of cell voltage and temperature. It also has an active or passive balancing system based on a DC/DC converter.

### OPERATION SAFETY

Master module and each of the Slave modules of subordinates included in the system has a number of protections to ensure efficient operation of the energy storage system.

### MODULAR CONSTRUCTION

The system consists of Master and slave modules. This makes the BMS system easy to design and configuration.

### COMMUNICATION

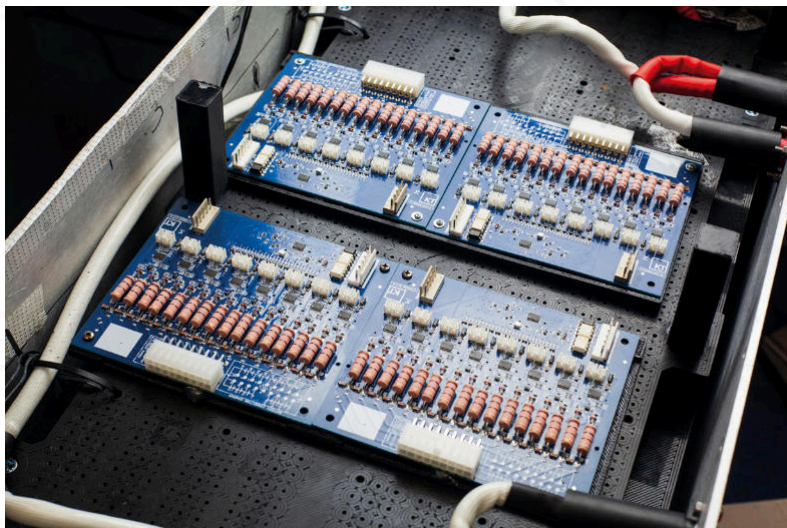
Depending on the user's needs, the Master module provides various communication interfaces, e.g. Modbus RTU (RS232/485), CAN, etc.

### EASY DIAGNOSTICS

Full set of operating parameters and information about irregularities in the operation of the energy storage system are available to the superior system via master module.

### INTERNAL LOGIC CONTROLLER

The option of using the PLC microcontroller function with programmable digital inputs/outputs.



# MASTER<sub>BDMS</sub>

## Measurements

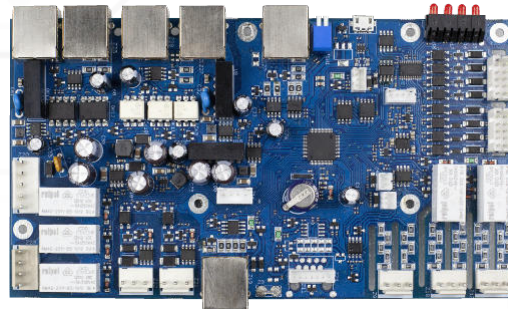
The Master module measures the current value flowing through the main battery bus and the battery voltage. It acts as an intermediary between the energy storage and the external world, transmitting a series of diagnostic and functional data to the master system.

## Diagnostics

Diagnostic software allows reading operational parameters and information about the current state of charge or the lifespan of the energy storage.

## Communication

The Master module communicates with other modules using an optically isolated communication bus and is equipped with the Modbus RTU protocol



MAIN PARAMETERS	MASTER
Supply voltage range:	9 - 110 VDC
Battery system maximum voltage range	980VDC
Maximum number of cells (series connection)	196
Accuracy of voltage measurement:	+/- 0,1 V
Voltage measurement accuracy:	- 200 to 200 A
Current measurement accuracy:	+/- 0,1 A
Power consumption in operating mode:	7,2 W
Power consumption in standby mode:	0,2 W
Operating temperature:	- 40°C to 85°C
Communication interfaces:	CAN i RS485
Communication protocol:	CAN, MODBUS RTU

# SLAVE<sub>BDMS</sub>

## MODULE SLAVE

Slave is a single module managing the connection, controlled by the master module, also serving as a link protection against failures.

## Modularity

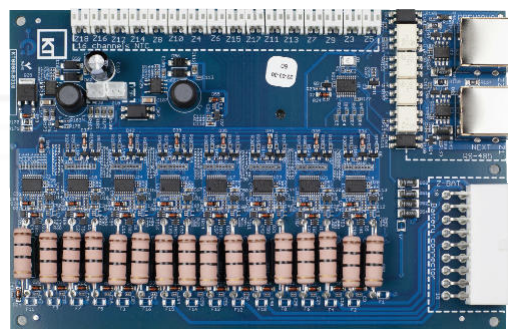
The user can build an energy storage system according to their needs.

## Work Safety

After the loss of communication between modules, the subordinate module can continue active cell balancing to the last set voltage, transition to passive balancing mode, or stop the balancing process.

## Scalability

Thanks to the use of subordinate modules, the system can be easily scalable. The internal communication interface allows backward compatibility between modules.



MAIN PARAMETERS	SLAVE
Single cell voltage range:	1,00 - 4,95 V
Balancing current:	< 500 mA
Cell voltage measurement accuracy:	+/- 0,05V
Current consumption in standby mode:	100 uA
Current consumption in operating mode:	12 mA
Cell voltage sampling time:	0,1s



LIFEPO4 BATTERIES APPLICATION:

- Replacement for SLA batteries (lead-acid and gel),
- Caravans and camper vans
- Specialized electric vehicles
- Electric drives
- Yachts, catamarans, houseboats
- Wheelchairs and carriages for disabled
- Hybrid photovoltaic systems
- Wind turbines
- Emergency lighting
- Appliances and toys 12V
- Power source for inverters 12V-/230V~
- Battery and energy storage management systems
- and more



<b>ONLINE SHOP</b>	<b><a href="http://www.kon-tec.eu">www.kon-tec.eu</a></b>
<b>E-MAIL ORDERS, TECHNOLOGY &amp; B2B</b>	<b><a href="mailto:info@kon-tec.eu">info@kon-tec.eu</a></b>
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<b>B2B SUPPORT AND SALES</b>	<b>+48 572 001 152</b>
<b>B2B SALES</b>	<b>+48 603 765 133</b>
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<b>MARKETING AND PROMOTION</b>	<b>+48 572 001 153</b>
<b>SERVICE AND TECHNICAL SUPPORT</b>	<b>+48 572 001 154</b>
<b>SALES OFFICE AND SERVICE</b>	<b>Boya-Żeleńskiego 12 Bud. B 35-105 Rzeszów Poland</b>