

# CLAYTON POWER



## Clayton Power Magazine

All-in-one LPS series.

All-in-one power solution optimises hydraulic services in the field.

Rapidly recharged for every stop and every job.

Solar charging is also good business.

**New 12 V - 280 Ah and 100 Ah  
Li-Ion Batteries.**

**Generate CSR-reports from  
charging history via app.**

**Green gardeners go electric.  
Fully recharged every day.**





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**Welcome to the modern world of Clayton Power**  
“Embrace a new era of power solutions with Clayton Power” says Allan Kock, CCO and continues “Our customer-centric approach means tailored solutions and innovative technology. Choose us for reliability, efficiency, and a partnership that puts you first”.

Please feel free to visit our new innovation center in Denmark, where we present cutting edge technology and can demonstrate the on-board power solutions of tomorrow.

Our new office space is available for customer visits, sales meetings or special events.

Contact [sales@claytonpower.com](mailto:sales@claytonpower.com) for more information.



# Clean and efficient power anywhere

## Development and manufacturing in Europe



**At Clayton Power, we create innovative mobile power solutions which help our customers adopt to greener energy solutions. Today, we are represented in more than 20 countries across Europe.**

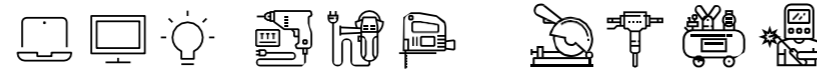
#### **Scalable production and delivery facilities.**

Clayton Power has experienced an increase in demand for its products. Our brand new production facility has been operational since March 2022. The production capacity has been increased significantly. The new production site ensures a much more efficient work flow with focus on test and quality. The result is a decrease in our lead time.

#### **Quality assurance**

We strive to produce efficient, scalable, reliable and high quality solutions. Our business objective is to develop and produce the best products in the market and become your preferred supplier.

Clayton Power holds an ISO 9001 standard. It defines the framework for an efficient quality management system. As well as the ISO 14001 International Standard to support environmental management and tackle climate change.



**1500 W**  
1 kWh Li-Ion

**HOT PRICE**



## All-in-one LPS series

The all-in-one Lithium Power Supply (LPS) provides power to your 230 VAC and 12 VDC appliances without the complexities of additional equipment. Even when the vehicle is switched off, the LPS II will still recharge and power your tools.

### LPS II 1500 W - 1 kWh SE

#### 230 V/50 Hz output

Peak: 2600 W  
Power: 1500 W

#### 12 VDC output

60 Seconds: 270 A  
Continuously: 180 A

#### Built-in Li-Ion Battery

Capacity: 1320 Wh (100 Ah)  
Efficient energy: 1050 Wh

#### Recharging

Alternator: 300 W  
Solar panels: N/A  
Grid: 550 W

#### More powerful and compact than ever

Sufficient power for your compressor, angle grinder and welding equipment whilst at the same time, your power tool batteries are recharging. You can focus on delivering the perfect service to your customers.

#### Heavy-duty 12 VDC tasks require an LPS II solution

Be it operating cranes and lifts, heaters, or working lights the LPS II's outlet of 350 A for one minute and 180 A continuously will be the reliable solution for your daily tasks.

#### A true industrial power solution with zero engine idling

No idling makes the LPS system environmentally-friendly, fuel saving and at the same time a competitive product on price, quality and durability.

**2000 W**  
1 kWh Li-Ion



### LPS II 2000 W - 1 kWh

#### 230 V/50 Hz output

Peak: 3000 W  
Power: 2000 W

#### 12 VDC output

60 Seconds: 270 A  
Continuously: 180 A

#### Built-in Li-Ion Battery

Capacity: 1320 Wh (100 Ah)  
Efficient energy: 1050 Wh

#### Recharging

Alternator: 500 W  
Solar panels: 400 W  
Grid: 720 W

**2500 W**  
1 kWh Li-Ion



### LPS II 2500 W - 1 kWh

#### 230 V/50 Hz output

Peak: 4000 W  
Power: 2500 W

#### 12 VDC output

60 Seconds: 270 A  
Continuously: 180 A

#### Built-in Li-Ion Battery

Capacity: 1320 Wh (100 Ah)  
Efficient energy: 1050 Wh

#### Recharging

Alternator: 500 W  
Solar panels: 400 W  
Grid: 720 W

**3000 W**  
2 kWh Li-Ion



### LPS II 3000 W - 2 kWh

#### 230 V/50 Hz output

Peak: 5000 W  
Power: 3000 W

#### 12 VDC output

60 Seconds: 350 A  
Continuously: 180 A

#### Built-in Li-Ion Battery

Capacity: 2112 Wh (160 Ah)  
Efficient energy: 1900 Wh

#### Recharging

Alternator: 500 W  
Solar panels: 400 W  
Grid: 720 W

### Accessories

LPS II Mounting Bracket (extra)



Super Charge DC-DC Converter (extra)



LPS II Remote (extra)



LPS Charging Cable Neutrik (included)



160 W sFlex Solar Panel 117 x 68 cm (extra)



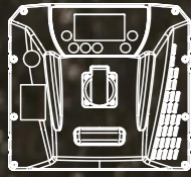
#### Easy overview and full control keep you in charge

The built-in display gives you an overview of remaining operation/charging time, combined with rapid recharge ensures there will be no surprises.

#### Smart functions, easy overview and adjustability

The LPS can be used in many setups and scenarios after your specific needs.

- + Adjustable 230 VAC charging
- + Adjustable 12 - 30 VDC charging
- + Adjustable Solar charging
- + Summary of charging history
- + Status overview
- + Jumpstart



# Power available in the vehicle at any time

“Our vehicles are our mobile workshop, where we keep spare parts, tools, welding equipment and other parts that we need to be able to carry out the daily work,” Lasse Kjær explains. The vehicle is selected because of the mobility, as it is important that he can drive to off-road places.

95 kg

Reduced payload

320 hrs

Annual reduced engine idling

416 litres

Annual reduced fuel

1115 kg/CO2

Annual carbon reduction

### Machinery service requires power

Forest contractor “Skoventreprenør Per Kjær APS” where Lasse Kjær is working, has a 3000 W LPS in the vehicle. The company “Skoventreprenør Per Kjær APS” spends 20% of the time on service and repair in the field. They often work in the countryside far from the company facilities, e.g., in the woods. In this case he is trimming a hedgerow of trees on an impassable location.

Machinery service needs power for:

- Angle grinder
- Battery chargers
- Welder
- Working light

### The solution:

- 1 x LPS II 3000 - 2 kWh
- 1 x bracket for fastening in the vehicle
- 1 x remote control for the LPS II



Charging while driving

### Access to power in the field is vital

It is important to have access to power on site in order to carry out the daily work. The tools are mostly electric, and the batteries must be recharged. It is quite easy to recharge the batteries from 230V because the all-in-one LPS automatically closes down when they are fully charged. Furthermore, there is an angle grinder and welding equipment for more comprehensive repairs. Both tools are supplied with power from the LPS.

### LPS battery system recharges while driving

“The LPS is easy to handle because it runs itself. It recharges while I am driving so there is always power available when I need it. So far, I have never been out of power,” says Lasse Kjær.

**Easy overview and full control keep you in charge**  
Overview of remaining operation/charging time, combined with rapid recharge ensures there will be no surprises.

From the main menu it is possible to find data for AC charging and 230 VAC output as well as DC charging and 12V DC output.

Power button for 230 VAC output

**DC OUT**

Heavy-duty 12 VDC tasks require an LPS II solution. Be it operating cranes and lifts, heaters, or working lights the LPS II's outlet of 350 A for one minute and 180 A continuously will be the reliable solution for your daily tasks.

**12V or 24V DC input**

The LPS is charged from any alternator via the 12V or 24V DC input. The DC IN shall be connected to the starter battery. The built-in booster will raise the voltage and at the same time also protect the starter battery.

Power button for 12V DC Output

**RCBO relay**

The RCBO relay is incorporated within the LPS. In the event of an AC overload, the safety device shuts down for the 230V AC output. The RCBO relay is also a fault current circuit breaker.

**230V output Schuko plug**

In front of the LPS it is possible to connect 230V equipment or an extension cord.

**Remote and data**

There is an M12 connection for the remote control. The remote control can be used for turning on/off the LPS.

The M12 data connection is for upload of software updates, change of parameters or withdrawal of data from the LPS via a can modem.

**230V IN and OUT**

The grey Neutrik connector is included for 230V AC output.

The blue Neutrik connector is for 230V AC input. The charging cable with the blue Neutrik is shipped together with LPS II.

**C1 and C2 connection**

C1: For charging from the vehicle, it is required to connect C1 to D+ or the ignition key.

C2: For charging from solar panels, it is required to connect to C2.

# Compact and powerful: All-in-one and everything included

# Cutting-Edge Technology: Optimize, redesign and perform

## Metal cage for noise reduction and safety

Vibration and safety tested for leisure, industrial and automotive use.

RoHS Directive 2011/65/EU, Low Voltage Directive 2014/35/EU, EMC 2014/30/EU, E-Marking

## High energy density Li-Ion Battery Cells

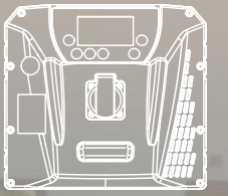
High-end and compact LiFePO4 battery cells with high energy density and long lifetime.

## Compact components designed for harsh environments

All boards within Clayton Power's LPS are coated to ensure maximum functionality even in challenging environments. The inverter, charger, solar regulator, and DC booster have been designed to make the LPS II as compact and efficient as possible.

## Efficient high-voltage AC unit

Redesign of all functionalities for making the LPS unit as ultra compact as possible. The high-voltage AC inverter has an impressive 94% efficiency at 1000 W and high peak performance for start-up of heavy-duty loads.



# Rapidly **recharged** for every stop and every job



## 500 W standard

1 kWh LPS standard.  
From 0-80% in 1 hr : 22 minutes.



## 1000 W Super Charger

1 kWh LPS with Super Charger.  
From 0-80% in 48 minutes.

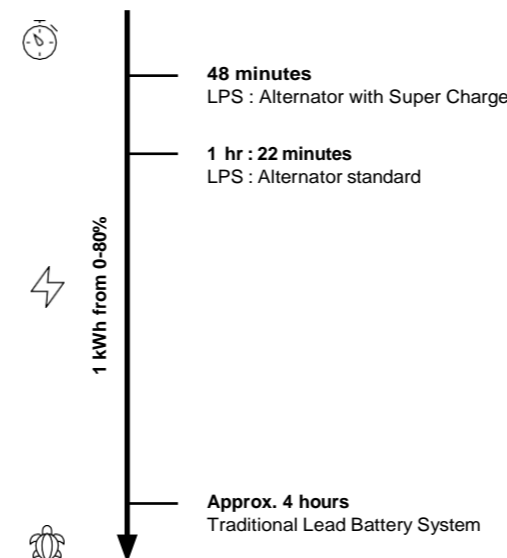


### Efficient charging even with short drives

Even after a short charge, the LPS is ready to go. You can charge your LPS from the van rapidly while driving, from solar panels or the mains. The LPS charges with the built-in DC-DC converter from all modern Euro 6 vehicle's alternator, as standard with 45 A (500 W).

### Double up on charging power with Super Charge DC-DC Converter

Adding Super charge is possible if the vehicle has a 150 A alternator. Super Charge doubles the charging power from the alternator to 90 A (approx. 1000 W). Even short drives make you fully operative and engine idling unnecessary. One kWh can be charged from 0-80% in only 48 minutes.





# Solar charging is also good business

The LPS II recharges quickly both from the solar panels and from the vehicle when driving. This combination ensures a steady recharge.

Example with 300W recharging from solar panels on the vehicle roof:

**700** hrs

Yearly recharging from solar panels

**210** litres

Yearly fuel reduction

**567** kg/CO<sub>2</sub>

Yearly carbon reduction

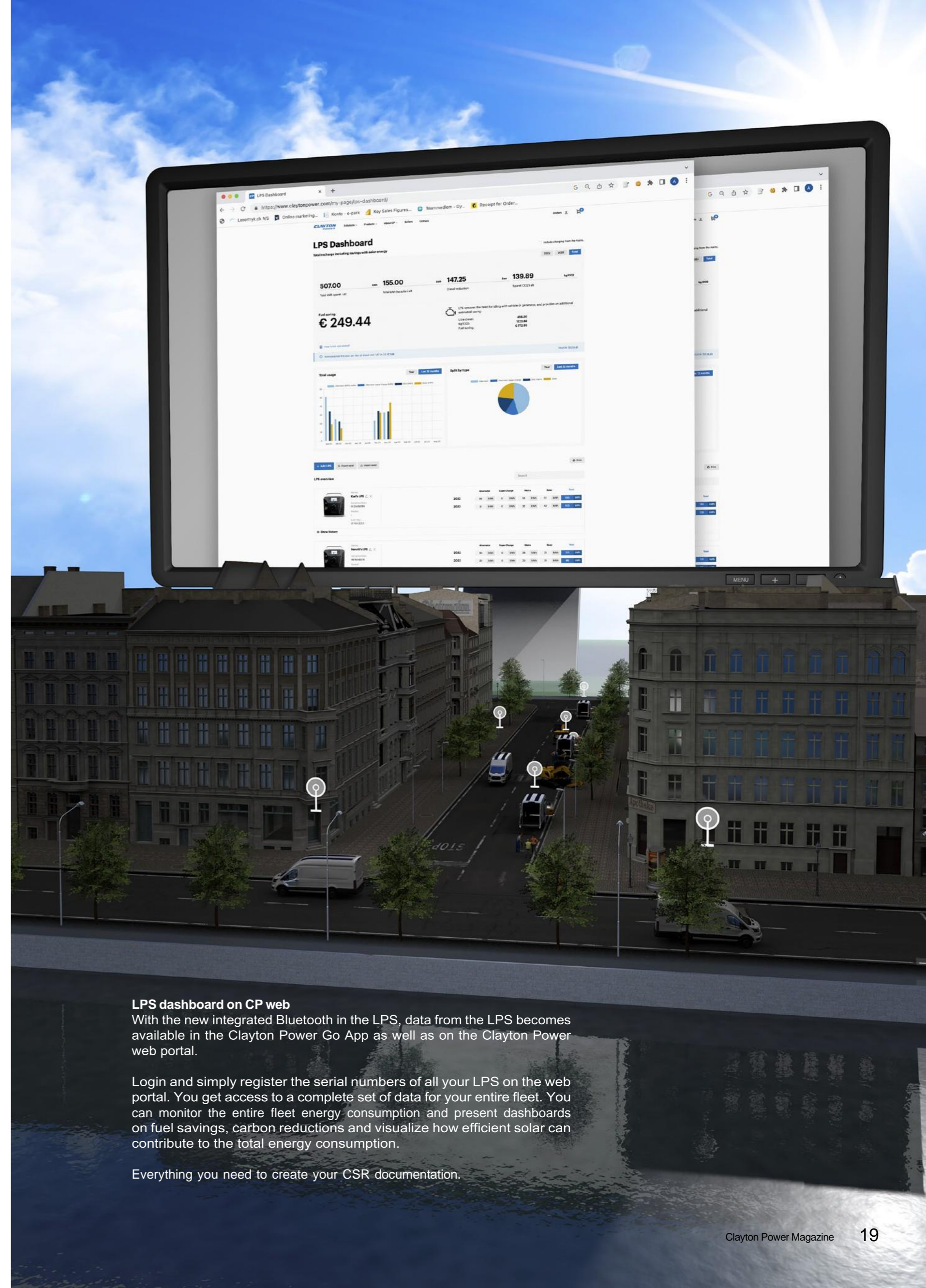
There are approx. 2100 hours of sunshine in London per year and 2800 in Berlin.

# Generate CSR-reports from charging history via app



## Easy access and overview with app

The Clayton Power Go App will provide access to the charging history, real-time consumption in Watt and the exact operation time. From the energy meter you can see exactly how much energy is left and how much is being charged from solar, alternator and mains.



## LPS dashboard on CP web

With the new integrated Bluetooth in the LPS, data from the LPS becomes available in the Clayton Power Go App as well as on the Clayton Power web portal.

Login and simply register the serial numbers of all your LPS on the web portal. You get access to a complete set of data for your entire fleet. You can monitor the entire fleet energy consumption and present dashboards on fuel savings, carbon reductions and visualize how efficient solar can contribute to the total energy consumption.

Everything you need to create your CSR documentation.

# Taking battery **technology** to new heights

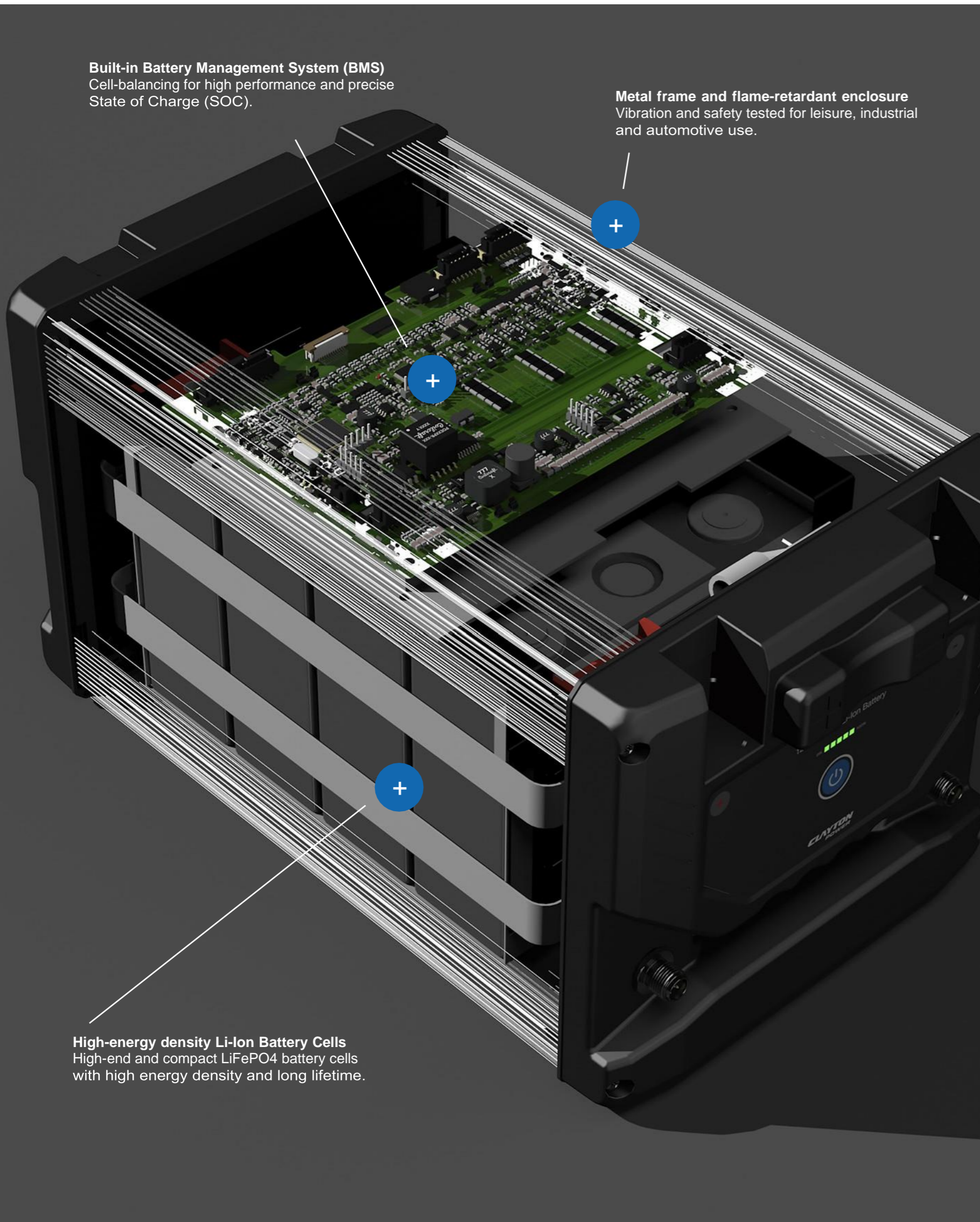
From 192 kg lead batteries into 28 kg lithium



#### **New G4 Lithium Battery Series**

We are excited to introduce our new range of G4 Lithium Batteries. We will introduce two variants, 280Ah and 100Ah. The G4 Lithium Batteries can be used as capacity extension to our LPS II family range as well as stand-alone.

As always, we place quality and safety first. The design and choice of material stand out in comparison to alternative products.



### New 12 V - 280 Ah and 100 Ah Li-Ion Batteries with ultra high energy density and long lifetime

- + Safe battery technology – LiFePO4
- + Integrated Battery Management system
- + Ready for serial and parallel connection
- + Integrated power switch
- + Designed for heavy duty environments and requirements
- + Metal frame and flame-retardant enclosure
- + CAN bus communication for interconnections and remote control

Specifications:	CP Li-Ion Battery 100 Ah	CP Li-Ion Battery 280 Ah
Battery chemistry	LiFePO4	LiFePO4
Capacity	100 Ah (1280 Wh)	280 Ah (3584 Wh)
Available capacity	80 Ah (1024 Wh)	235 Ah (3008 Wh)
Continuous discharge current	200A	200 A
Continuous charge current	175 A	140 A
Cycle Life 80%DOD	2000 cycles @ (25 C, 80% DOD)	6000 cycles @ (25 C, 80% DOD)
Nominal battery voltage	12.8 VDC	12.8 VDC
Operation voltage discharge	14.4 VDC	14.4 VDC
Operation voltage charge	10.8 VDC	10.8 VDC
Connection terminals	M8 screw	M8 screw
Weight	11 kg	28 kg
Dimensions in mm (HxWxL)	187,4 x 197 x 343,3	234,4 x 197 x 438,3

# Scalable and **ultra compact** power solutions



**The most compact high-energy density battery ever seen**

#### Superior charging and discharging rates

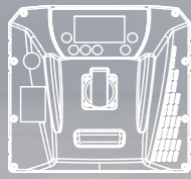
The G4 Lithium Ion Batteries have been equipped with the cutting edge technology of the LPS II and combined with the best in class weight energy ratio, superior charging and discharging rates, and long lifespan. We believe we have created one of the best performing lithium batteries in the market.



#### Capacity extension to the LPS ensures all future needs

The introduction of the G4 battery range offers the LPS II customers more flexibility. If the need should arise, the LPS II can easily be upgraded with one or multiple G4 batteries increasing the capacity of the LPS II. The battery is connected to the LPS with a simple communication cable and a DC-DC converter.

The LPS II will automatically detect G4 extension and update the information in the display with adequate run-time and energy-meter data.



# All-in-one power solution optimises hydraulic services in the field

Hansa-Flex in Belgium carries out hydraulic service at the customer's site. They have a fully equipped service van including an LPS II power supply from Clayton Power with access to 230V and 12V. "With the LPS I can work the whole day without any problems", says Christian Malais from Hansa-Flex.

95 kg

Reduced payload

330 hrs

Annual reduced engine idling

429 litres

Annual reduced fuel

1145 kg/CO2

Annual carbon reduction

### Hydraulic service requires power

Different equipment is necessary for repairs and for carrying out the hydraulic service. A lot of the equipment requires 230V. On site Christian Malais uses a peeling machine, a cutting machine and a hydraulic hose pressing machine. This equipment is charged automatically by the LPS and the solar panels. Safety is important of course. The LPS also supplies the warning light which requires 12V.

Hydraulic services need power for:

- Battery chargers
- Cutting machine
- Hydraulic hose pressing machine
- Light beacons
- Working light

### The solution:

- 1 x LPS II 3000 - 2 kWh
  - 1 x bracket for fastening in the vehicle
  - 1 x remote control for the LPS II
- Hansa-Flex also has solar panels on the roof.



Solar panels on the roof



Charging while driving



### Flexibility to work everywhere

Hansa-Flex often works in places without any access to power. Previously, they were reliant on power from the client. "Now I can just work independently, completely on my own without any problems", states Christian Malais.

### Hansa-Flex goes green

Hansa-Flex has solar panels on the roof of this vehicle. The LPS contains a solar regulator, so it is easy to connect solar panels to the LPS. Input from the solar panels can be monitored on the display of the LPS.

# Development and **innovation** in Europe



**We always put our customers first, making sure we consistently meet their needs and exceed their expectations.**

#### **Innovation**

Innovation is an important part of our core business. We have carried out development projects for some of the biggest companies in the world. We constantly optimize and simplify our products to make them fit the technological changes that we all experience every day.

#### **In-house development**

At Clayton Power, we have our own development team. It makes us flexible, and we can easily adapt our products to new demands and the global technological development. We develop everything in-house, hardware, software and mechanical design. The specialists in the development team work closely together and inspire each other. At the production site new ideas can be tested at an early stage. Test before the actual design phase helps us find the right path in the beginning of the process.

# Green gardeners go electric. Fully recharged every day.

More than sufficient power for recharging  
all tool batteries in the gardener's vehicle



The all-in-one LPS  
charges all batteries



No more expensive  
Aspen petrol

#### Using electric equipment on a daily basis is highly beneficial

Previously, we bought a lot of Aspen petrol. Now we have electric hedge trimmer, lawn mower, brush cutters, blower, and leaf collector. It depends on the tasks how many batteries we use during a day. It is between 2 and 8 batteries. 4Hoeje Landscape Gardeners has not been out of power since they installed the LPS in the vehicle. Before then they used an inverter and it was only possible to recharge while driving. This was often a problem.

#### The solution:

- 1 x LPS II 1500 - 1 kWh
- 1 x LPS bracket
- 1 x remote control
- 2 x 2,30 m solar panels
- 1 x Cable set for two solar panels

#### Working environment is important

4Hoeje Landscape Gardeners has replaced the fuel driven equipment with cordless electric equipment because it is less stressful for the employees. The electric equipment has less vibrations, and there are no exhaust fumes.



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info@fischerpanda.co.uk



Stihl  
AR 2000 = 1 kWh



4x Stihl  
AP 300 = 1 kWh

3x Husqvarna  
BLI300 = 1 kWh

Husqvarna  
BLI950X = 1.2 kWh



# **CLAYTON**

## **POWER**

**Clayton Power A/S**  
Pakhusgaarden 42-48  
DK-5000 Odense C  
Denmark

**CP Production Facilities**  
Middelfartvej 9G  
DK-5000 Odense C  
Denmark

**Clayton Power UK**  
Sony UK Technology Centre,  
Pencoed Technology Park,  
Pencoed,  
South Wales, CF35 5HZ

**Plug and go - You've got the power!**

[www.claytonpower.com](http://www.claytonpower.com)