



## Powerful solutions for the power tools industry

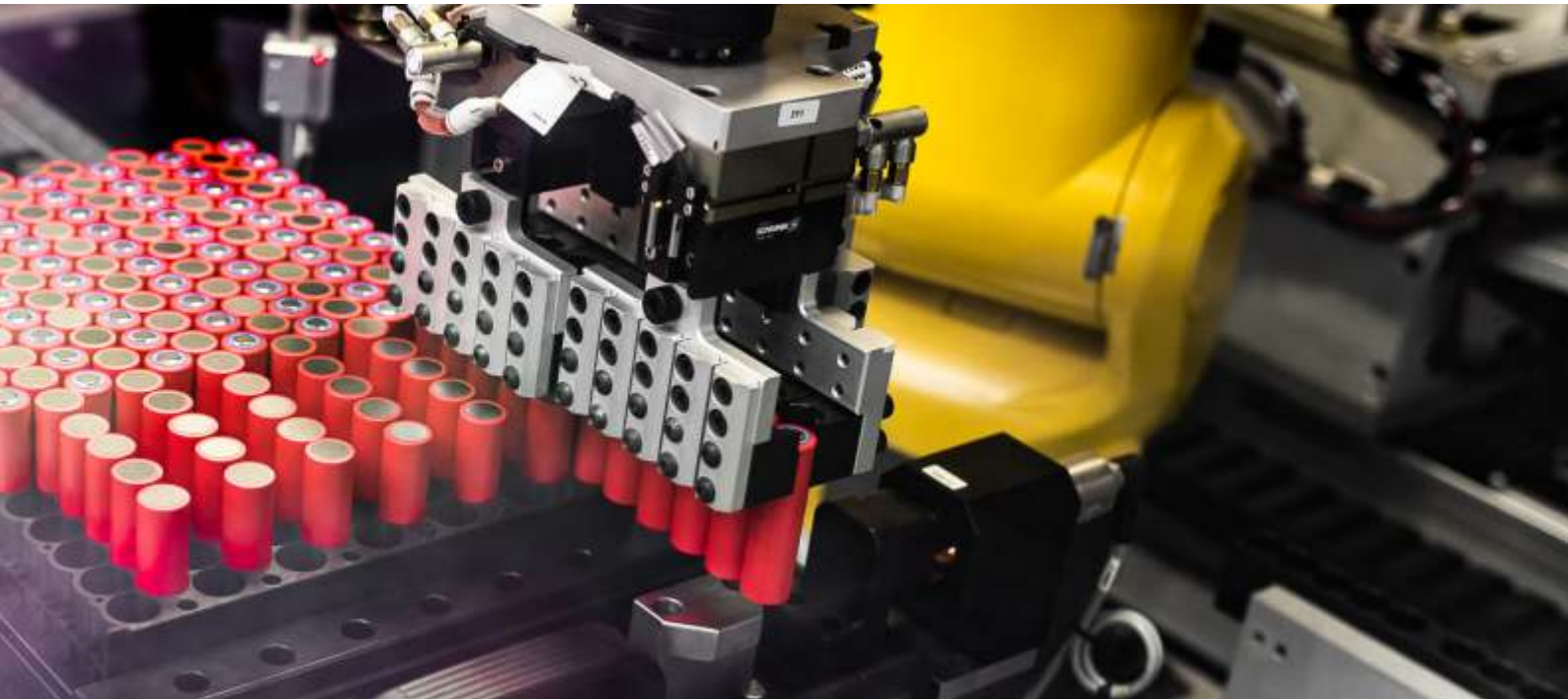
Advanced lithium-ion battery systems  
for optimal performance

# Providing advanced battery systems for 25+ years

Leading the way for the power tools industry

EMBS is a leading manufacturer of advanced battery systems and has specialised in rechargeable lithium-ion batteries for over 25 years. We produce 3.5 million units annually for a wide range of systems of varying capacities. Power tools play a crucial role in many industries.

But achieving optimal power tool performance relies on the best-quality battery packs. As experts in the power tool field, we provide custom lithium-ion battery systems for many of the world's major professional power tool manufacturers, supporting them to deliver high-quality, reliable power, every time.



Optimising battery packs via more efficient and scalable assembly processes.



Developing in-house prototypes at each stage of the project.



Designing complete battery systems, with a core focus on quality and performance.



Performing complex laboratory testing to ensure optimal performance.



Sourcing high-quality, affordable battery cell components.



Delivering cost-effective production lines and assembly processes.

# Driving innovation through expertise

Solutions that boost productivity and enhance safety

Our expert R&D team uses the Advanced Product Quality Planning (APQP) approach to support you across multiple stages of battery system design, including mechanical and electrical engineering, BMS development, software management, system integration and materials research.

## Benefit from our full technical service

We support you at all stages of battery design and testing, thanks to:

- Access to leading cell brands and fully tested alternative cells, offering the high currents that are crucial for power tools.
- Experience in designing and selecting high-current connectors of various materials, including nickel, aluminum, copper and other multi-layered or sandwich materials.
- Rapid prototyping for quick verification of assumptions.
- An expert R&D team dedicated to developing solutions for our clients' systems.
- Partnerships with power tool industry leaders.
- A state-of-the-art testing laboratory capable of the full range of power tool battery tests, and the ability to download power characteristic profiles.

By cooperating with major external certification bodies in Poland and around the world, we have a track record of certifying products for major international markets, including certification to IEC and UL standards.

## Testing & Validation

With our fully equipped testing laboratory, we conduct a full range of testing services to the highest possible standards, including quality assurance tests for complex products. Our battery testing expertise includes:



UN  
UN 38.3  
transport tests



IEC  
IEC 62133  
tests



Periodic  
tests



Mechanical  
tests





# Battery systems for peak power tool performance

## High-quality power you can rely on

Power tools such as saws, drills and sanders all need reliable, high-quality batteries to perform at their best. But power tool manufacturers face various challenges when it comes to developing the most suitable batteries for their products. First, there is sourcing high-quality cells to determine the battery's capacity, maximum power and lifespan. Then there is the use of alternative cells, which may cost less and are sourced more easily, but also usually perform at lower levels and are less reliable, meaning they require independent testing.

Battery testing poses another key challenge: while it's necessary to ensure safety and compliance with industry regulations, testing entire battery systems requires significant expertise and resources. At EMBS, we are proud to provide custom lithium-ion battery packs for many of the world's major professional power tool manufacturers. Our long-standing partnerships with these companies are testament to our commitment to quality, innovation and customer service.

## Advanced Battery Systems

We have an excellent understanding of the technology-driven market and, consequently, the needs and expectations expressed by our customers. Together with our customers, we will demonstrate a return on investment, bring your products to market and develop a significant competitive advantage. This will be achieved not only by our many years of experience, but also by our global presence, efficient supply chain and world-class production facility.

Our lithium-ion batteries, optimized for performance, functionality, and durability, are available in capacities ranging from 1 Wh to 3 kWh and voltages from 3.6V to 60V, supported by high-volume manufacturing and custom design capabilities.



# Tailored solutions for every need

## Custom battery systems for every power tool application

We understand that every customer has their own requirements and that every single project is unique. Our flexible services can be tailored to your specific needs. So whatever the size of your operation or specialist requirements, we have the expertise, technology and resources to deliver the right solution, quickly and efficiently.

Our focus on innovation and commitment to quality make us the ideal partner for any power tool manufacturer, whether you need a custom battery pack for a new power tool, or want a replacement pack for an existing product. So trust EMBS to be your reliable partner for custom lithium-ion battery packs, and together we can take your power tools to the next level.

## Functionality and a long service life

We pride ourselves on delivering lithium batteries for power tools that are both functional and durable. We use high-quality welding techniques to ensure that each pack is assembled to the highest possible standards. Our team of designers works closely with our customers to develop optimum designs that meet their specific requirements.

We provide high welding quality, optimum design, and internal testing to guarantee excellent functionality and a long service life of our battery packs.

To achieve our high standards, we've developed dedicated teams of experts in product engineering, welding, and mechanical design, who work together to deliver the best solutions.





# Power tool 18V battery system

This compact battery is designed to offer optimal performance for power tools. The integrated BMS provides enhanced safety, while the battery can be completely charged in just 45 minutes using 6 A. The special design also allows for easy heat dissipation and fan cooling while charging.



## Key features



### Easy customisable

You can tailor the battery design to match your exact requirements, making it entirely compatible for every application.

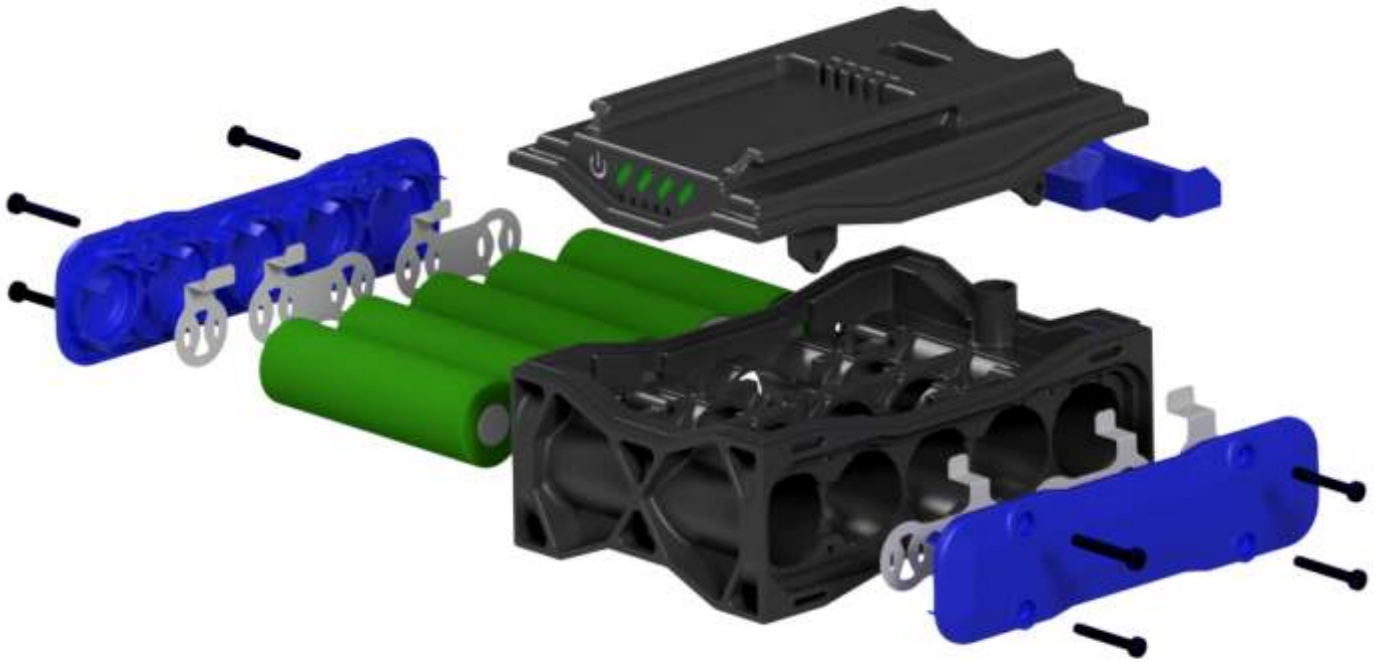


### Advanced BMS

Our specially designed BMS provides several advanced features to aid functionality and optimise performance, including Bluetooth connectivity.



# Power tool 18V battery system



## Technical specifications

Parameters	Standard
Voltage (nominal)	18 V
Capacity (nom.)	4 Ah
Energy (nom.)	72 Wh
Max constant discharge current	up to 50 A
Charging current (nom.)	2 A
Discharge temperature range	-15 to 60°C
Charging temperature range	0 to 50°C
Tightness degree	IP 20
Dimensions (L x W x H)	126.4 x 87.9 x 65.2 mm
Mass	~ 550 g
Certification	CE



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# Tailored battery solutions for power tools

Industry-leading lithium-ion  
battery systems

EMBS Sp. z o.o.  
ul. Alberta Einsteina 36  
44-109 Gliwice, Poland  
+48 32 330 2650  
sales@embatterysystems.com  
www.embatterysystems.com

Get in touch

