



Driving the automated logistics industry

Using our lithium-ion experience
to get AGVs moving

Leading the industry in advanced battery systems

The world leader in the design and production of li-ion batteries

We pride ourselves in being a leader in the design and manufacture of advanced battery systems, having excelled in the industry for over 25 years. Our expert team specialises in designing and producing the highest quality lithium-ion batteries, making a range of systems with varying features.

Automated Guided Vehicles (AGVs) are prevalent in several industries, including manufacturing, warehousing, and logistics. They are used primarily for the transportation of materials. They must have reliable batteries providing long-lasting power, which is exactly what batteries from EMBS provide.

We can help you:

- optimise your battery packs using efficient and scalable assembly processes,
- design a tailored battery system offering both high performance and quality,
- source high-quality yet competitively priced components,
- create in-house prototypes for every stage of the project,
- maximise performance via complex laboratory testing,
- achieve cost-effective production lines and assembly processes.



25+ years of battery design and production experience.



Internal and external alternative cell tests to hasten time to market and save money.



Our own laboratories for advanced testing and R&D tests.



Rapid and agile prototyping to ensure brief compliance and boost speed to market.



Batteries tailored to meet the requirements of external certifications.



Easily scalable production lines, allowing for the quick manufacture of products, regardless of order size.



Produced in Europe using the highest quality components.



Expert engineers ensure exceptional service and the highest quality end products.

Driving innovation through expertise

Boost productivity, reduce cost and improve safety

Li-ion batteries are being used in the automated logistics industry more and more. By ensuring the correct chemistry and cell selection, our li-ion battery solutions continually meet customer requirements for AGV and AMR applications. By working alongside our team of experts, we can ensure the selection of the perfect li-ion battery for your specific application and its environment.

If there's no off-the-shelf solution, we can provide tailored li-ion battery solutions, ensuring they meet your exact requirements. Our battery solutions will help you to boost productivity, plus they'll reduce costs and improve the safety of the work environment.

What's more, you'll know that you're using certified and tested batteries, designed to meet the most exacting of standards. Our testing services ensure all batteries are manufactured to the highest possible standard. Our modern, well-equipped internal testing laboratory allows us to carry out periodic quality assurance testing for complex products, ensuring a complete technical service.

Our AGV batteries are specifically designed to be highly durable, as well as compact and lightweight, making them the ideal choice for use in various environments. Advanced features like intelligent battery management systems and fast charging capabilities will help you up productivity and optimise operations.

Our range of testing options includes:



UN 38.3 transport tests



IEC 62133



Periodic tests



Mechanical tests



Nail penetration tests



Cell tests



Elevate AGV and AMR performance

Boost performance by upgrading to li-ion batteries

Automated internal logistics platforms are becoming more and more prevalent in warehouses and similar environments. Their roles vary, but often involve the transportation of materials, along with picking and packing, and inspecting and maintaining equipment.

It used to be the case that AGVs and AMRs used lead-acid batteries – notorious for having short lifespans and a requirement for frequent maintenance and replacement.



But now many manufacturers are changing to lithium-ion batteries, mindful of their higher lifespan, increased performance, and low maintenance requirements— providing high-quality li-ion batteries are used, as not all li-ion batteries are equal, with quality varying depending on factors like materials, chemistry type, design, quality assurance and testing.

By using our exceptional knowledge of li-ion batteries, as well as leveraging our significant position within the industry, we can boost your productivity and efficiency, while also driving down costs and enhancing safety.

Benefits of our lithium-ion battery systems include:



long run time, made possible by high energy density,



fast charging to reduce application downtime,



li-ion batteries don't have memory effect and can perform both deep and shallow cycles, which together with fast charging ensure high performance level,



fully customisable voltage range and shape to conform with available space within the application,



equipped with advanced BMS which often offer communication feature (for example CAN),



many chemistry types, ensuring suitable options are available for nearly all applications,



high energy density, leading to compact and lightweight battery systems – vital for smaller applications.

Universal 24V battery system

A battery system offering high performance, along with high capacity and a modular system to boost performance of industrial and commercial machinery, including AGVs. Performance can be boosted by connecting batteries in parallel.



Key features



Easy replacement

Maintenance free battery that's the perfect replacement for old lead-acid batteries, plus also offers significantly improved performance.



Modular design

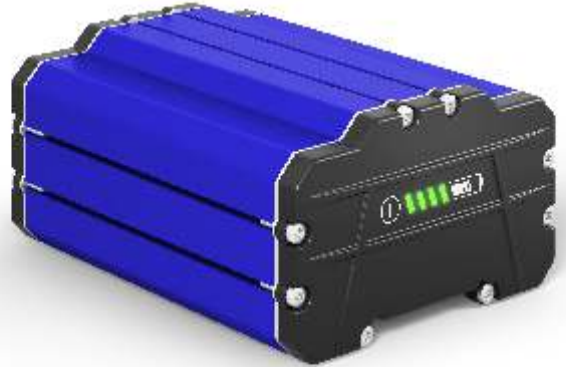
Modular design allows two batteries to be connected in parallel, ensuring simpler production and greater adaptability.

Technical specifications

Parameters	Standard
Voltage (nominal)	21.8 V
Capacity (nom.)	49 Ah
Energy (nom.)	1067 Wh
Max constant discharge current	20 A
Charging current (nom.)	16.5 A
Discharge temperature range	-5 to 60°C
Charging temperature range	0 to 45°C
Tightness degree	IP 20
Dimensions (L x W x H)	177 x 140 x 170 mm
Mass	~ 7 kg
Certification	CE, UN 38.8

Universal 36V battery system

A universal battery for AGVs and AMRs. NMC 21700 cells offer a long service life and high energy density. Aluminium housing contributes towards solid construction, making the system highly durable and resistant to mechanical damage. Advanced battery management system (BMS) designed to protect your application.



Key features



Advanced BMS

The advanced battery management system (BMS) provides solid electronic protection, ensuring error-free application usage.



Thermal management

The unique outer design and increased cell contact surface help dissipate heat, boosting the battery's performance.

Technical specifications

Parameters	Standard
Voltage (nominal)	36 V
Capacity (nom.)	14.7 Ah
Energy (nom.)	534 Wh
Discharge current (nom.)	≤14 A
Charging current (nom.)	7 A
Discharge temperature range	-5 to 60°C
Charging temperature range	0 to 45°C
Tightness degree	IP 54
Dimensions (L x W x H)	187 x 140 x 85 mm
Mass	~ 3.3 kg
Certification	CE, UN 38.3
Communication	UART, CAN (optional)

Universal LFP 48V battery system

Designed from scratch by EMBS experts, this versatile battery can be used in many applications. It combines technological excellence, a long lifecycle, and exceptional modular design, plus has a high capacity.



Key features



Superb performance

Modern LFP cells offer an excellent lifecycle, plus provide extra safety and high energy density.



Plug&Play

Universal Plug&Play system with single or multiple batteries, providing exceptional convenience and high performance.

Technical specifications

Parameters	Standard
Voltage (nominal)	48 V
Capacity (nom.)	30 Ah
Energy (nom.)	1440 Wh
Discharge current (nom.)	40-60 A*
Charging current (nom.)	15 A
Discharge temperature range	-20 to 60°C
Charging temperature range	0 to 55°C
Tightness degree	IP X4
Dimensions (L x W x H)	490 x 170 x 135 mm
Mass	~ 12 kg
Certification	CE, UN 38.3
Communication	CAN

* Max continues discharge current and max peak discharge current will be verified with end application and environmental conditions.



EMBS_0124_10_1.1_ENG



Advanced battery systems

for AGV and AMR applications

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

