aentron | ENERGY SOLUTIONS

E-Industry energy solutions

Flexible, modular and robust

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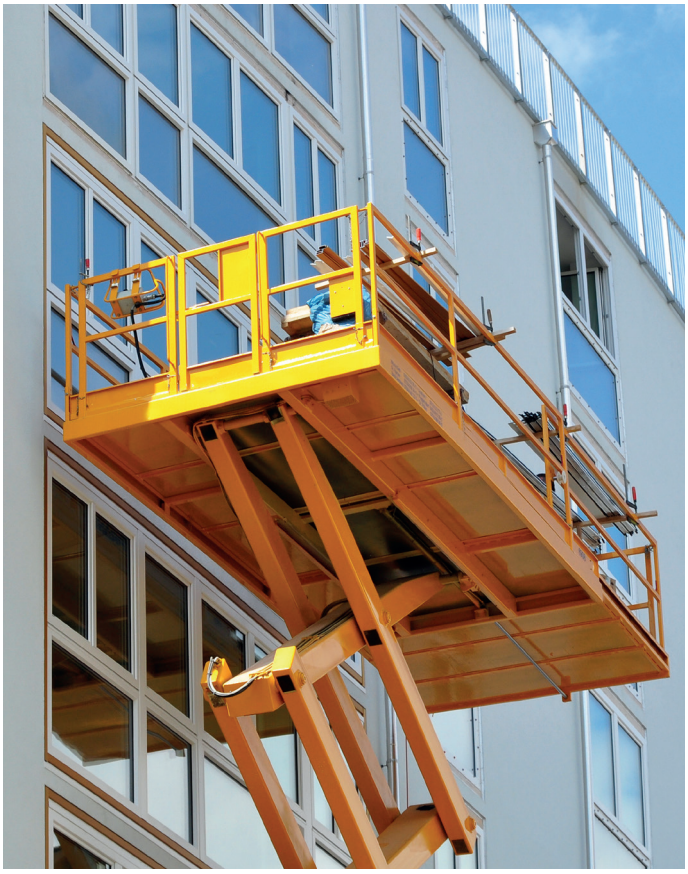
E-Industry applications

Flexible and powerful battery solutions to the highest industrial demands



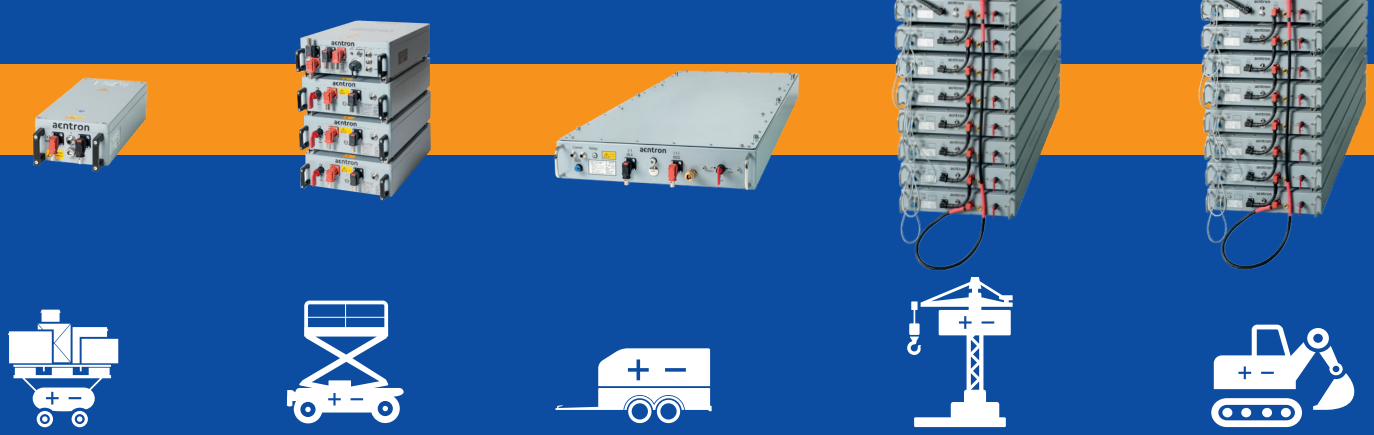
E-Industry: robust and reliable

Companies in the construction, industrial, and logistics sectors depend on durable, powerful equipment to get the job done. No matter how challenging the conditions or application, industrial-grade equipment and special vehicles without mains electricity must on demand 24/7 operate reliably, efficiently and at full power. At aentron, we develop and manufacture robust and powerful battery solutions that reliably provide the power required, even in harsh environments. Our battery systems are engineered to withstand dust, dirt and extreme weather conditions as well as mechanical loads. They are also IP-66 certified for industrial applications.

The use of our battery systems in the industrial environment significantly reduces emissions in many areas. With aentron battery technology, industrial companies can use electrical energy to reduce diesel dependence, noise levels, and CO2 emissions during operation. Low maintenance and operating costs have a positive impact on total costs of ownership and enable significant savings potential.

E-Industry application scenarios

AUTONOMOUS GUIDED VEHICLES	STATIONARY CONSTRUCTION AND INDUSTRIAL EQUIPMENT	POWER SUPPLY FOR CONSTRUCTION SITES	INDUSTRIAL AND CONSTRUCTION EQUIPMENT	INDUSTRIAL AND CONSTRUCTION MACHINERY
1 - 2 kWh 12/24/48 Vdc	2 - 8 kWh 24/48/80 Vdc	10 - 150 kWh 48 - 400 Vdc	50 - 200 kWh 400 - 900 Vdc	200 - 500 kWh 600 - 900 Vdc



Innovative battery technology

- Dust and water resistant: IP 66
- Modular and scalable configuration
- Robust metal housing
- Recycle- and reusable
- Fast charging capable
- Safety: Integrated BMS
- Low and high temperature operation: -20°C to +60°C
- Plug & play: Power at the touch of a button
- 360° mechanical integration
- Made in germany

Scalable for customised energy solutions

aentron lithium-ion energy storage systems enable you to create modular and scalable battery solutions. We provide operating voltages from 12, 24, 48 Vdc up to 900 Vdc with capacities from 1 kWh to 1 MWh. Due to the aentron battery management system, all lithium-ion energy products can be combined with each other, used as standalone or in conjunction with products from other manufacturers or customer solutions. aentron's certified and safe energy storage systems provide the highest level of flexibility for individual energy solutions.

HV-Energy System

1 - 900 Vdc

10 kWh Modul

24/48 Vdc
R-Type Imax = 300 A (Standalone)

2 kWh Modul

12/24/48 Vdc
M-Type Imax = 60 A (Standalone)
R-Type Imax = 200 A (Standalone)

1 kWh Modul

12/24/48 Vdc
M-Type Imax = 60 A (Standalone)

Certified quality and safety

Special vehicles, material handling, transport and industrial equipment: applications place high demands on an energy storage system. Here, aentrons industrial batteries deliver full power on demand. Our technology enables a cost-effective, emissions-free alternative to other conventional solutions. Numerous standards and certifications demonstrate our batteries' ability to both suit demanding industrial applications i.e. 3 shift applications and maintain the highest safety standards.

Technical data

	1 kWh Lithium-Ionen M-Type (60 A)	2 kWh Lithium-Ionen M-Type (60 A)	2 kWh Lithium-Ionen R-Type (200 A)	10kWh Lithium-Ionen R-Type (300 A)	aentron Energy Controller (400 A)
Voltage	12 Vdc/24 Vdc*/48 Vdc	12 Vdc/24 Vdc/48 Vdc	12 Vdc/24 Vdc/48 Vdc	24 Vdc*/48 Vdc	1-900 Vdc
Capacity	70 Ah/40 Ah/20 Ah	139 Ah/81 Ah/40 Ah	139 Ah/81 Ah/40 Ah	460 Ah/203 Ah	-
Energy	1.006/1.023/1.023 Wh	2.046/2.046/2.046 Wh	2.004/2.046/2.046 Wh	10.230/10.230 Wh	10 kWh - 1 MWh
Cell chemistry	Li-NMC	Li-NMC	Li-NMC	Li-NMC	Li-NMC
Temperature range	-20 °C - + 60 °C / Discharge 0 °C - + 50 °C / Charge	-20 °C - + 60 °C / Discharge 0 °C - + 50 °C / Charge	-20 °C - + 60 °C / Discharge 0 °C - + 50 °C / Charge	-20 °C - + 60 °C / Discharge 0 °C - + 50 °C / Charge	Operating range: -30°C - + 100°C
Dimensions	40 cm x 16 cm x 9 cm	42,22 cm x 31 cm x 11,5 cm	42,22 cm x 31 cm x 11,5 cm	170 cm x 60 cm x 15,5 cm	42,22 cm x 31 cm x 11,5 cm
Weight	approx. 9 kg	approx. 22 kg	approx. 22 kg	approx. 130 kg	approx. 9 kg
Certifications and standards (excerpt)	UN 38,3, CE-93-68-EU, VDE 01000, VDE 0701-702, IP66	UN 38,3, CE-93-68-EU, VDE 01000, VDE 0701-702, IP66, ECE-R10 (EMC) DNV-GL Type Approved	UN 38,3, CE-93-68-EU, VDE 01000, VDE 0701-702, IP66, ECE-R10 (EMC), DNV-GL Type Approved	UN 38,3, CE-93-68-EU, VDE 01000, VDE 0701-702, IP66, ECE-R10 (EMC), DNV-GL Type Approved	UN 38,3, CE-93-68-EU, VDE 01000, VDE 0701-702, IP66, ECE-R10 (EMC), DNV-GL Type Approved

*UN38.3 expected as of first half of 2021

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aentron specialises in the development and production of energy storage devices for maritime, industrial, e-mobility and building power storage applications. aentron power solutions are state-of-the-art, scalable, robust and safe lithium-ion battery-systems – Made in Germany.

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