

Tektronix® +



Elektro-Automatik



Your Powerhouse for High-Performance Testing

Turnkey systems for EV battery and fuel cell testing



TEST SYSTEMS

Getting ready for the future

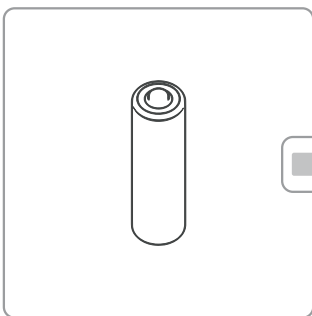
EA test systems cover the latest market challenges

The electrification of the world is moving forward and with it the demands on both research and development and series production are increasing. For example, new batteries or fuel cells for electric vehicles must offer a greater range and allow faster charging. The EV voltage values range from 400 V to 800 V and sometimes even higher. As a result, test systems need to be more flexible and efficient than ever, both now and in the future. At the same time, throughput must also increase in order to meet the growing demand in the market.

EA Elektro-Automatik has recognized the changing times and therefore relies on four specialized test systems that meet all these requirements which are optimally aligned to their particular application focus.

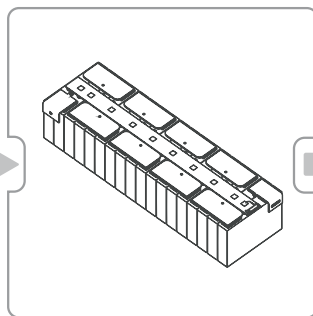
Perfect for your specific application

Test systems optimized for the different characteristics of each DUT



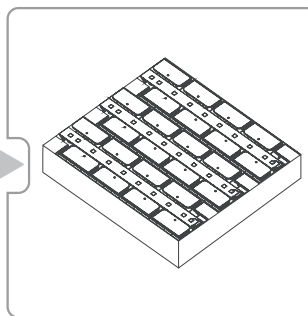
Battery Cell Test System
EA-BCTS 20010-600-18

High throughput
High Currents



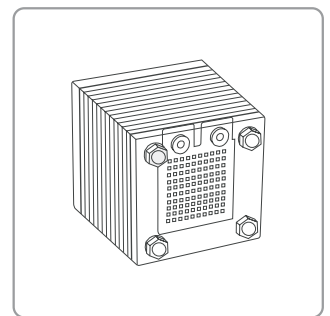
Battery Module Test System
EA-BMTS 20200-840-2

High power
High throughput



Battery Pack Test System
EA-BPTS 20920-720

High power
High voltage



Fuel Cell Test System
EA-FCTS 20920-720

High power
Regenerative Load

Overview of EA Test Systems

Choose your matching system for high-performance testing



EA-BCTS 20010-600-18

Battery Cell Test System

The BCTS 20010-600-18 provides 18 individual channels for high current cell testing. Each channel works as a cell cycler device which can perform the function of charging and discharging.

- Equipped with EA-BT 20000 Triple with regenerative energy recovery
- 18 individual test channels with 0 – 10 V and 0 – 600 A per channel
- Integrated DC contactors for each channel
- Integrated Reverse Polarity Detection for each channel
- Up to 1 ms command and measurement speed per channel



EA-BMTS 20200-840-2

Battery Module Test System

The BMTS 20200-840-2 provides 2 individual channels for high capacity battery module testing. Each channel works as a cycler device which can perform the function of charging and discharging.

- Equipped with EA-BT 20000 with regenerative energy recovery
- 2 individual 60 kW high power channels with 0 – 200 V and 0 – 840 A per channel
- Integrated DC contactors for each channel
- Active pre-charge to avoid inrush currents
- Zero Current Turn-off to protect DC contactors



EA-BPTS 20920-720 Battery Pack Test System

The BPTS 20920-720 provides a powerful system for high capacity battery pack testing. The system works as a cyclers device which can perform the function of charging and discharging.

- Equipped with EA-BT 20000 with regenerative energy recovery
- High power system of 180 kW with 0 – 920 V and 0 – 720 A
- Up to 1 ms command and measurement speed
- Integrated DC contactor
- Active pre-charge to avoid inrush currents
- High density 42U rack with redundant safety system



EA-FCTS 20920-720 Fuel Cell Test System

The FCTS 20920-720 provides a powerful system for high power fuel cell testing. The system works as an electronic load to test fuel cells.

- Equipped with EA-BT 20000 with regenerative energy recovery
- High power electronic load of 180 kW with 0 – 920 V and 0 – 720 A
- Full energy regeneration with a very high efficiency of up to 96.5%
- Integrated DC contactor
- High density 42U rack with redundant safety system



Facing the future successfully with solutions from EA



High efficiency

- Up to 96.5% of supplied energy returned to the grid by the regenerative system
- Reduced energy cost
- Reduced infrastructure costs due to lower cooling requirements
- EA's regenerative test systems deliver substantial energy savings letting the system pay for itself



Space-saving systems

- Our compact test system racks deliver up to 180 kW of power in just 0.6 square meters (6.5 square feet), maximizing facility floor space
- This efficient design allows customers to optimize production areas, reduce operational costs, and increase overall productivity without sacrificing power or performance



Safety features

- Safety features that protect the battery or fuel cell
 - Temperature monitoring for each channel to prevent thermal runaway
 - Reverse polarity detection – additional sense line to avoid DUT damage by mistakes
 - 2-channel fast stop system
 - Overcurrent, overvoltage, overpower and overtemperature monitoring in each test channel
- DC contactors integrated for each channel
- Active pre-charge
 - Pre-charge internal capacitors before closing the DC contactor to avoid inrush currents and sparks during contactor closing
- Zero current turn-off for contactor protection
 - Currents are set to zero before DC contactor opening
- DC contactors integrated into fast stop chain to clearly separate the DUT from the test system in an emergency situation contactor opening

Leading-edge power electronics made by EA

Wide application spectrum. Technological excellence.
Global customer reach.

The EA Elektro-Automatik Group is Europe's leading supplier in the area of power electronics for R & D and industrial applications. At the headquarters in Germany in the industrial center of North Rhine-Westphalia, 450 qualified associates, in a facility of 19000 m², research, develop and manufacture high-tech devices such as programmable power supplies, high-power supplies and electronic loads with mains feedback.

Development partner in forward looking sectors

With high performance criteria and a broad application spectrum, EA has established itself as the development partner in forward looking industries. Thus, EA equipment is being used in battery and fuel cell technology. It is used in wind and solar energy, electrochemicals, process technology, telecommunications, automobile industry and many more future orientated sectors.

Automated quality assurance

Results and experience from decades of R&D flow continually into new solutions. Automatic test systems with specially developed soft- and hardware assure consistently high product quality. Flexible production processes support fast reaction to changing customer requirements.

Global customer reach, value sharing

As a globally active company, EA maintains close contact with national and international customers and partners. The sales network includes branches in China, USA and Singapore, a sales office in Spain and an extensive service and partner network. EA continues to expand and, as a mid-size employer, takes full responsibility for development and production in Germany. Value based joint working is characterised by mutual respect and open communication.

Technological excellence is driving innovation of tomorrow

The foundation of the company in 1974 was based on innovation, a tradition which is maintained today. What started with the development of simple mains adaptors is continued today in the overall concept of technology leadership. With highly specialised power supply systems for a multitude of applications, EA is driving the future of power electronics – technologically excellent for high performance and designed for resource protection and energy saving.

