

HMI for electric vehicles

Advanced and versatile.

www.eao.com/electric-vehicles





Intuitive. Modern. Versatile.
For applications in electric vehicles.

New technologies and changing requirements for modern interior vehicle design require flexible and innovative solutions. *Versatile and secure HMIs play a central role here.*

Electric vehicles that transport people and goods, delivery vans and small commercial vehicles, need to be equipped with reliable HMI solutions for comfort and work functions. EAO is your expert partner, offering an ideal selection of HMIs.

Electrification is one of the megatrends of our time. Increasingly stringent conditions concerning emissions and noise control, scarce resources as well as rising goods and service traffic are essential factors for the mobility of the future – particularly given the ever-expanding scope of metropolitan areas worldwide.

New drive systems require new control concepts

The changeover to electric drive systems enables new, simplified control concepts. In the electric commercial vehicle and delivery van market in particular, it is essential that controls are the right balance of intelligent and haptic. Control via touchscreen is a convenient option for some functions and typically associated with comfort. However, tactile feedback and ability to rapidly find the relevant control pushbutton is important to users, particularly for work- and safety-relevant vehicle functions; at the same time, it is critical that the driver is not distracted. Haptic HMIs minimise the risk of the driver having to divert their line of sight from the road in order to operate a function – which increases safety in road traffic.

Individual advice from experts

Using HMI components and systems from EAO in electric vehicles offers striking benefits in terms of design, individuality and high quality. We can adapt the versatile EAO product range to your individual designs, colour or livery concepts, and other specifications. Our products meet complex demands in terms of safety and user comfort, both for the vehicle interior and for components which are exposed to the outdoors when operating electric vehicle charging stations.

In addition to the versatile range of EAO standard products, we also offer the option of configuring ideal, customised HMIs for your application. Our in-house expertise in industrial and UX design is at your disposal for user-oriented and functional product designs. Contact us and benefit directly from our services in product, UX design and interaction design – for a positive user experience.

EAO is your reliable partner for the development of intuitive solutions that precisely correspond to your specific needs. We find solutions for you that exceed your expectations – in visual design, haptic response, illumination and precision operation.

Versatile Universal switch
for safety-relevant applications.

As a vehicle manufacturer, you need reliable products that you can adapt to your vehicles in the way you want. The Series 09 Universal switch combines the highest concentration of technical features that are ideal for use in electric vehicles. Featuring many freely configurable product variants, the Universal switch is so versatile that it can be used for almost any function in the vehicle interior. With diagnosis capability thanks to resistance coding (NAMUR) as well as the option of two redundant switch signals, the Universal switches are proven even for safety-relevant applications.

Manufacturing competence and IATF 16949

The Series 09 modules are produced in our automotive competence centre located in Germany. This allows us to apply years of comprehensive experience as an original equipment manufacturer (OEM) in the automotive industry to the heavy duty and special vehicle markets. At the same time, this offers EAO customers high quality, durable and intuitive products and services. The development and production process complies with the high automotive standards (IATF 16949, 100% product traceability, 100% EOL testing etc.).



Modular and reliable.



Universal Switch Series 09

Attractive and versatile in the vehicle interior – including for safety-relevant areas. The Series 09 universal switch has been specially designed for use in vehicle interiors, particularly for cars, electric vehicles, buses, trucks and special vehicles. It is suitable for various applications as well as safety-relevant functions.

The Series 09 universal switch is available in two variants – STANDARD and DUAL CONTACT – and offers universal configuration options. The basic versions include switches with white symbol illumination, and the option of no, one or three red LED status indicators. Red symbol illumination for use as a warning light switch is also available as a standard configuration. Versions without a mechanical function, which are available as insertable indicators or blind plug, complete the range.

The Series 09 universal switch is the best choice for numerous applications and is unique on the market with its variety of configuration possibilities.

Typical application examples

- SOS and hazard light switch
- Parking brake
- Transmission control
- Blind spot assistant
- Special functions for delivery vehicles (working light, door opener, etc.)

Advantages

- Ideal for safety-relevant applications
- Wide range of designs and application-specific configuration options
- Ergonomic, modular design with IP5K4 protection rating
- ISO 7000 or custom symbols
- Developed and manufactured in accordance with IATF 16949

Further information is available at www.eao.com/09-universal-switch



In-Cabin Keypads Series 09

Modular and reliable, for vehicle interiors. These configurable HMIs are developed in accordance with IATF 16949 and can be combined within a modular design – for reliable and safe E1 applications in the interiors of heavy-duty and special vehicles.

Technological advances and high-tech vehicle design are of growing importance for both heavy-duty and special vehicles. This trend is reflected by the Series 09 In-Cabin Keypads with their high-quality modular automotive design, which provides up to IP5K4 front protection.

These durable HMIs are developed in accordance with the internationally recognized automotive standard IATF 16949 and feature impressive application-specific configuration options for the illumination and the communication interfaces as well as the possibility to make a customised selection and arrangement of the symbols.

Advantages

- Programmable RGB halo ring and symbol illumination (can be controlled separately)
- High-quality modular automotive design with IP5K4 front protection
- Reliable HMI developed according to recognised automotive standard IATF 16949
- Available with CAN bus connection or as hard-wired variants
- Interchangeable ISO 7000 or customer-specific symbols

Further information is available at www.eao.com/09-in-cabin



Robust and attractive.



Pushbutton, illuminated pushbutton
Series 82

The Series 82 from EAO features vandal-proof, attractive HMI control units for use even in harsh and environments. They are best suited for applications in industry, in public areas, for access controls or even charging stations exposed to the weather.

These attractive pushbuttons with robust housing made from stainless steel or lightweight anodised aluminium are compliant with both IK10 and IP65/IP67, making them ideal for public areas and other exposed applications – including use on electric vehicle charging stations.

These robust pushbuttons are versatile in use and provide a reliable long-term option. This is thanks to a mechanical service life of more than one million switching cycles and the ability to mark the lenses with symbols or text by means of high-contrast and long-lasting laser labelling.

Advantages

- Vandal-resistant: impact resistant to IK10, front protection up to IP65/IP67
- Gold-plated silver contacts available for low voltages and currents
- Optional single or bi-colour LED illumination and laser markings
- Excellent tactile feedback
- Long service life: > 1 million cycles of operation

Further information is available at www.eao.com/82



Our references as OEM supplier.



Charging socket module
Compact. Robust. Versatile.

Cutting-edge technology in the tightest of spaces: Thanks to its compact construction, this charging socket module is flexible and offers you individual applications. Designed for external use on hybrid and electric vehicles. Available in a range of variants, tried and tested in Audi, Porsche and Lamborghini models.

The combination of two charging buttons and a status display produces a user-friendly interface. The charging socket model also impresses with its robustness against external environmental factors.

Advantages

- Easy handling
- Robust against water, dust or dirt, etc.
- Long service life

Further information is available at www.eao.com/ladedosen-modul



Seat belt buckle switches
Reliable. Uncompromising.

EAO's extremely robust and reliable contact switches make an important contribution to advanced safety when installed in a vehicle. We achieve consistently high quality through meticulous development and precise processing expertise.

Seat belt buckle switches are used to detect when seat belts are buckled securely – one of the most important safety-relevant functions in a vehicle. Our resistor-coded switch variants also enable additional diagnostic functions.

Advantages

- A range of switch variants with extremely compact designs
- High level of safety, high reliability and robustness
- Long service life
- Compliance with all legally required standards
- Compliance with the latest safety requirements

Further information is available at www.eao.com/gurtschloss



EAO Automotive.
Your expert for custom-tailored HMI Solutions.



Virtually no other market unites technology, design and safety at such a high standard as the automotive industry. As a specialist in this complex market environment, EAO Automotive uses its HMI expertise to develop solutions for the heavy-duty, special-purpose vehicle, truck, bus and electric vehicle market.

EAO Automotive GmbH in Auerbach, Germany, has been part of EAO Group since 1991. Around 100 employees at that site develop and produce custom-tailored HMI solutions for the automotive industry. They manufacture high-quality HMI products such as switches, handbrake modules and

boot lid switches for the Volkswagen Group's premium brands, meaning that EAO HMIs are also found in Audi, Porsche and Bentley cockpits.

With decades of experience in the automotive industry, paired with expertise in safety-relevant components and design and quality awareness, EAO Automotive is systematically developing into an HMI excellence centre for the heavy-duty, special-purpose vehicle, truck and bus markets.

In addition to Series 09 products, EAO Automotive also develops individual solutions for highly demanding operating environments such as:

- HMIs for charging sockets on electric and hybrid vehicles
- HMIs for modern gear box controls
- Cockpit HMIs for safety-relevant functions such as electronic parking brakes

We work closely with our customers to develop innovative and intuitive control elements that are available globally.

The highest performance.
Experts with passion.

Partnerships.
Connected through design.



EAO's cutting-edge production plants, our many years of experience and our dedicated, expert employees are the cornerstone of our reliable HMI Components and Systems for the automotive industry.

Our passion for the interaction between humans and vehicles allows us to develop innovative, intuitive, ergonomic and high-quality products that are reliable and safe in operation.

Our adherence to international standards in combination with comprehensive product testing has made EAO into an established and reliable partner when it comes to planning, developing and implementing your optimal HMI solutions.

We use our in-house laboratories to subject our HMI products to various batteries of tests and assessments under the most realistic conditions.

EAO Automotive utilises a comprehensive quality management system which covers all business areas and processes. In addition to full outgoing goods inspections, EAO guarantees complete product traceability.

EAO Automotive is certified in accordance with

- IATF 16949 (automotive)
- ISO 14001 (environmental management)

Thanks to our great level of commitment, the technical expertise and our impressive consulting services, we are a reliable partner to the automotive industry.

For many years now, EAO has served the automotive industry as an established expert supplier of modular HMI Components and Systems as well as control and indicator units.

Thanks to our close customer relationships and many years of experience in all aspects of creating HMI solutions, EAO is one of the leading development partners for numerous vehicle manufacturers and system suppliers.

Here are a few highlights from our list of references:



Reliable assembly.
Short delivery times.



Thanks to our international production sites and our global delivery and support centres, we offer you efficient, sustainable logistics and can optimise your supply chain.

With four value-creating partners in Europe, Asia and North America, as well as other strong partnerships around the world, we are able to offer the following:

- Qualified vendors worldwide
- Consistent multi-location processes
- Integrated quality measures throughout the supply chain

To us, speedy assembly, short delivery times and secure processing are all part of good customer service. And so too is comprehensive production expertise, as exemplified by the following:

- PCB design
- SMT placement, assembly and inspection
- Cable and connector assembly

EAO also has long-standing experience in building HMI Components, which allows us to offer our customers truly expert consultation in the areas of machining, surface treatments, sheet metal forming, injection moulding, marking, PCB placement, and the integration of complete HMI solutions.

Visit our website. EAO.COM

EAO, the expert partner for Human Machine Interfaces (HMIs), offers a variety of innovative, intuitive and reliable HMI Products and Services.

Online product configurator

Build your tailored product in the online product configuration system and obtain technical specifications and 3D data at the same time. The right HMI for you, step by step: www.eao.com/products

EAO downloads

Find more extensive documents such as catalogues, data sheets, certificates and brochures to read and use for research: www.eao.com/downloads

Related documents

Find out more about our innovative, intuitive and reliable HMI Products and Solutions.



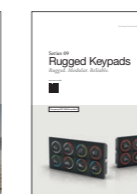
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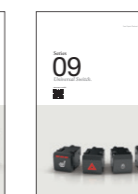
Automotive
Brochure



HD & SV
Brochure



Series 09
Brochure



Series 09
Brochure



Series 82
Brochure

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