eao

Your Expert Partner for **Human Machine Interfaces**

Series 82

Robust and attractive.

www.eao.com/82



Series 82

Robust and attractive.

With Series 82, EAO offers the optimal vandal-resistant, stylish HMI control units *for the use in harsh industrial environments, public areas and for access control.*

EAO, the expert partner for Human Machine Interfaces (HMIs), offers its visually attractive Series 82 range of HMI Solutions that are resistant to vandalism and sealed for use in harsh environments.

It is common to expose actuators and indicators to harsh operating conditions. For example in the food and beverage industry, where alkaline cleaning agents and corrosion severely affect HMIs. In addition, external factors in the form of hard-to-remove dirt, fine dust, along with severe vibrations and blunt impacts commonly encountered in heavy-duty and special-vehicles applications also require HMIs to offer a very high level of resistance.

EAO's Series 82 combines various HMI functions for operating machines and devices and offers a robust HMI solution for numerous applications in the mechanical engineering industry and other infrastructure.



HMI Functions
- Push buttons
- Illuminated push buttons
- Selector switches
- Keylock switches

Typical applications
- Ticketing and vending machines
- Machinery and factory equipment
- Food and beverage
- People movers
- Access control and security systems
- Audio and video equipment
- Medical equipment
- Heavy duty and special vehicles
- Buses and coaches
- Building infrastructure

The attractive housings, pressure covers and front bezels made of anodised aluminium or stainless steel not only give the actuators and Indicators a modern, robust design, but also withstand harsh conditions. For particularly challenging ambient conditions, EAO's Series 82 also offers push buttons with rear enclosures or overmoulded variants with cable connections, which are even more vibration-resistant.

Materials
- Stainless steel SUS 304 / 316L
- Aluminium (natural anodised), other colours on request

Mechanical characteristics
- Actuation force: 3.5 N to 7 N
- Terminals: Plug-in terminal 2.8 mm x 0.5 mm, screw terminal, M12 connector or cable connection, PCB adapter available for printed circuit board mounting

Mechanical lifetime
- Push buttons: > 1 million cycles of operation
- Selector- and Key Switches: > 500 000 cycles of operation

Advantages.

- Robust and durable control units
- Gold-plated silver contacts for low voltages and currents
- Optional single or bi-colour LED illumination
- Excellent tactile feedback
- Long lasting, even in demanding ambient conditions

Ambient conditions

- Temperature
  – Storage temperature –40 °C … +80 °C
  – Operating temperature –30 °C … +70 °C
- Operating humidity: 45 % … 85 % RH (no condensation)

Electrical characteristics

- Rated insulation voltage 250 VAC
- Conventional thermal current: I_{TH} 5 A, according to CB
- Electrical life: >50 000 cycles (full load)
- Switching capacity: AC-15 (cos φ 0.3) and DC-13 (according to IEC 60947-5-1)

	24 V	110 V	220 V
AC-15	1.0 A	1.0 A	0.5 A
DC-13	0.7 A	0.2 A	0.1 A

Operating data switching element*

Silver Contacts

	Minimum Values	Maximum Values
Voltage	17 VAC/DC	240 V
Current	50 mA AC/DC	3 A

Gold plated Silver Contacts

	Minimum Values	Maximum Values
Voltage	1 VAC/DC	24 V
Current	5 mA AC/DC	200 mA

* according to UL 508

For specifications of the minimum switching capacity see details in the online catalogue.

Switching system

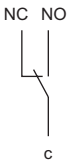
- Switching element:
  Snap-action switching element
- Contact arrangement:
  NO/NC contact (changeover)
- Switching action:
  Momentary or maintained
- Contact materials:
  Silver alloy or gold-plated silver alloy

Switching element

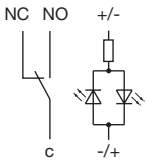
- Contact resistance:
  ≤50 mΩ, according to IEC 60512-2 (standard version, in new state)
- Dielectric strength:
  1500 VAC, according to IEC 60947-5

Wiring diagram

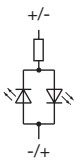
Pushbutton



Illuminated pushbutton



Indicator



Further information and the Online Product Configurator are available at www.eao.com/82



Vandal resistant and long lasting.



Robust push buttons and illuminated push buttons

With the push buttons and illuminated push buttons of Series 82, we offer vandal-proof and attractively designed push buttons for use in harsh environments. With their robust stainless steel, brass or anodised aluminium housings, these innovatively designed switches are protected according to IK10 impact resistance and IP65/IP67 sealing requirements, which makes them ideally suited for exposed public use and industrial applications.

The switches are available with momentary or maintained action, and with or without LED illumination. Choose from single or bi-colour LED's and central dot or modern ring illumination.

Using laser, it is possible to engrave practically any symbol or text in any language onto the flat lens stainless steel versions of Series 82 products. Laser markings provide an attractive high contrast dark grey legend that is durable and resistant to fading.

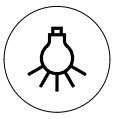
Advantages

- 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

Standard symbols

Various standard symbols are available.
Here are a number of examples:

On/Off	Standby	Info
		

Light	Bell	Door open
		



Illuminated Selector Switch

The illuminated selector switch from Series 82 fits seamlessly into the modern design of its series with its high-quality stainless steel housing and is built for strength and enduring durability. Its corrosion resistance and high protection degree make it ideal for use in demanding and harsh environments.

With its timeless design and excellent ergonomics, the selector switch ensures both style and functionality. The clearly perceptible tactile feedback enables intuitive and safe user guidance. The bright illumination of the operating handle, available in various colours, ensures clear visibility of the switch and its switching positions in all lighting conditions. This guarantees safety and effective function in a wide range of applications.

Typical applications

- Selection of operating modes in machine controls
- Switching between production steps, operating modes or system functions
- Control of signal and display units
- Operation of door and gate systems



Keylock Switch

The durable Series 82 keylock switch is reliable in preventing accidental or unauthorised operation, even in harsh industrial environments. It is suitable for applications requiring access authorisation or safety-related functions.

Typical applications

- Activation of security-related functions
- Switching between operating modes with access authorisation
- Access control for doors, control cabinets, etc.

Series 82. Enhanced protection. Fast mounting.



Series 82 offers product variants that fulfil high requirements of harsh environments thanks to reliable, enhanced protection. These versatile pushbuttons which are overmoulded at the rear are available with an integrated M12 connector or with cable connections.

In addition to the overmoulded rear of the device and associated resistance to vibration and impact, both of these robust and attractively designed illuminated pushbutton variants also feature a housing made from SUS 316L stainless steel. In addition, a cleaning-agent-resistant Tritan light guide provides protection against wear and tear and ensures consistent clarity of both the dot and the ring illumination.

For the pushbuttons and indicators with lasered symbols, the integrated D shaped anti-twist protection in these robust Series 82 variants allows quick installation and easy alignment of the symbols in control panels and other HMIs.

Advantages

- Easy and flexible mounting thanks to M12 connector and cable options
- Low back panel depth with 90°-offset version.
- Housing made of SUS 316L stainless steel
- Cleaning-agent-resistant Tritan light guide
- Overmoulded on the rear with IP67 protection and high resistance to vibration and impact

The overmoulded rear, IP67 protection and vibration-resistant connection options enable an extremely resistant HMI connection, making this option ideal for use in challenging environments.



Overmoulded and with M12 connector.

These switches utilise a robust M12 connector. This connection method saves customers time when it comes to mounting as well as enabling a highly resilient HMI connection. The rear of the device is also IP67-compliant thanks to the overmoulding of the switch and connector, ensuring that the HMI has complete and reliable protection. The overmoulded version also offers very high resistance to vibrations and impact.

The optional enhanced protection is available for selected 22 mm diameter illuminated pushbuttons with a maximum switching voltage of 35 VDC. Overall, this version of the Series 82 illuminated pushbutton is ideal for extremely harsh operating conditions that require reliable complete protection with no compromises.

Typical applications

- Food and beverage industry
- Machinery and production facilities
- Marine applications



Overmoulded and with cable connection.

Series 82 pushbuttons with cable connections are also overmoulded, meaning extended rear protection with IP67 protection and excellent resistance to vibration and impact. These pushbuttons are equipped with a 200 mm cable that is available in a straight version or with a 90° offset from the product, depending on the application or customer requirement. This offers advantages in terms of flexibility in mounting, with the 90°-offset cable exit point also enabling use with low-depth back panels.

The products can be optimised for the different application and mounting scenarios by selecting the appropriate connector. The cable version with M12 connector is intended for use in machinery and is impressively robust and easy to mount while the cable version with tin-plated cable also offers R118 certification, making this product version ideal for applications in heavy-duty or special-purpose vehicles.

Typical applications

- Food and beverage industry
- Machinery and production facilities
- Heavy-duty and special vehicles
- Passenger transportation systems and busses
- Access control and security systems
- Ticketing machines and vending machines

Series 82. With illuminated symbols.



Vivid and robust LED status indication.

Many HMI applications require status feedback to ensure that they function reliably or can be operated conveniently. For example, the user must be able to know at all times whether the machine or device is switched on or off. Such feedback is just as important in the food and beverage industry as it is with measurement machinery or medical devices. In harsh operating conditions such as those found in heavy duty or special vehicles, visual HMI feedback is very often useful and sometimes even indispensable. Illuminated symbols for pushbuttons also provide quick and easily understood visual recognition of operational status.

Illuminated symbols meet these requirements with vivid LED illumination. Whether for status indication or easy location, the red, green, blue, white or red/green LEDs with standard symbols (others on request) provide high-contrast, high-visibility illumination.

Combined with its modern Series 82 design, the added benefit of attractive symbol illumination enhances both the visual appeal and functionality of any application along with a high degree of front protection (IP65/IP67) and a long service life.

In all, symbol illumination is ideal for a variety of applications that impose strict requirements – in terms of design and functionality.

Advantages

- High-contrast, vivid illuminated symbols
- Robust, attractive and modern design
- High IP65/IP67 protection and long service life
- Single or bi-colour LEDs available
- Standard symbols available (others on request)

Illuminated symbols (others on request)

On/Off	Standby	Info
		

Bell	Door open	SOS
		

Accessories.



PCB adapter

Series 82

For easy and safe PCB assembly

The PCB adapter allows the proven pushbuttons and indicators of the Series 82 to be reliably integrated into a printed circuit board assembly. The adapter enables a stable and time-saving plug connection between the HMIs with 2 or 5 contacts and the printed circuit board.

The PCB adapter is particularly suitable for applications in which Series 82 pushbuttons with 19 or 22 mm mounting cut-outs are combined with other components and integrated into larger control units or systems.

With this assembly option, the Series 82 offers another way to optimise installation for your specific application, in addition to the existing versatile connection options.



Plug-in cable

Series 82

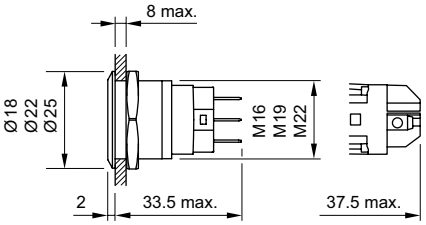
Quickly installed, quickly removed.

With the plug-in cable, products from Series 82 can be installed quickly and securely into the application. In addition to the advantage of a fast and reliable plug connection, the product with its ergonomic release latch also offers the option of easily removing a product from the installation again.

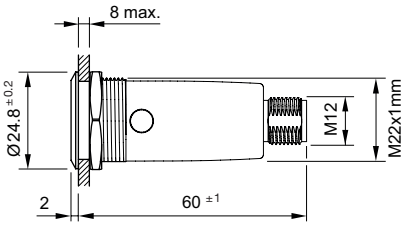
Dimensions, mounting and terminals.

Dimensions

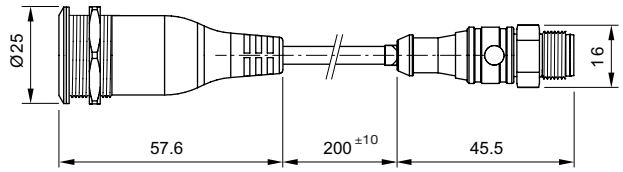
Plug-in terminal | Screw terminal

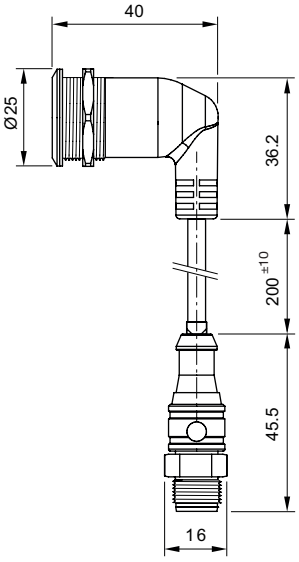


Terminal M12

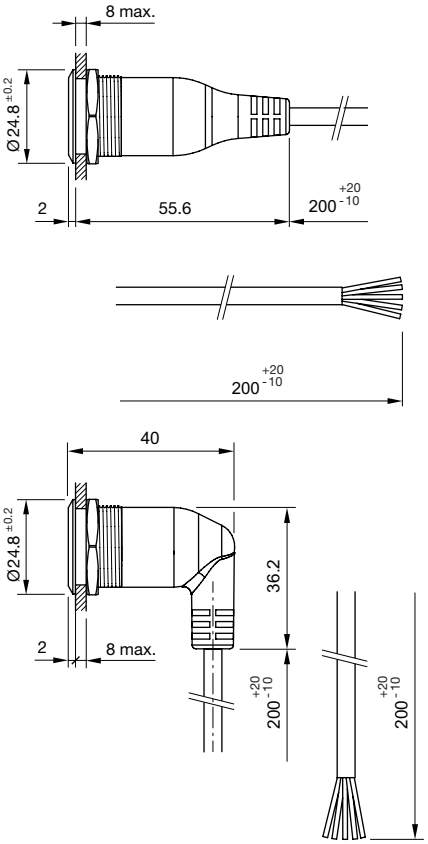


Cable connection with connector M12

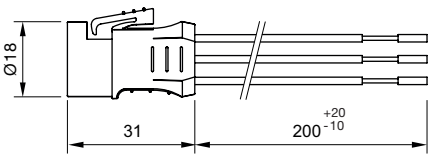




Cable connection



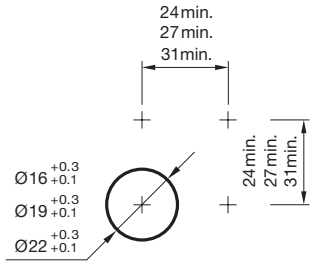
Plug-in cable



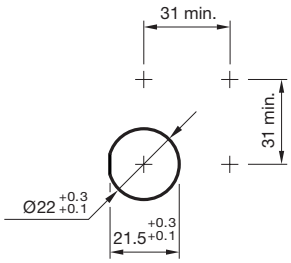
Mounting cut-outs

Standard version

Ø 16 mm, Ø 19 mm, Ø 22 mm



Cable connection, cable connection with connector M12



Terminals

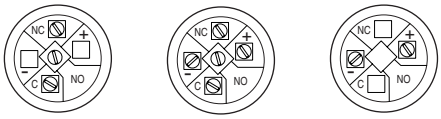
Plug-in terminal

Pushbutton | Illuminated pushbutton | Indicator

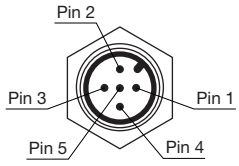


Screw terminal

Pushbutton | Illuminated pushbutton | Indicator

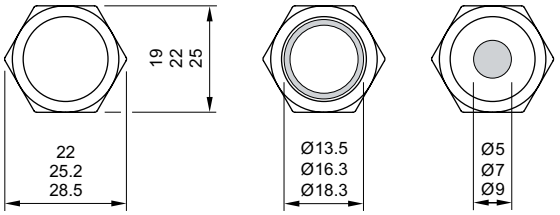


Connector M12, cable connection with connector M12



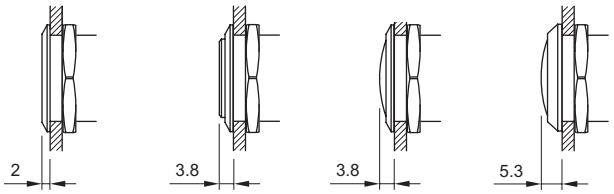
Front view

Non-illuminated | Ring illuminated | Central dot illuminated

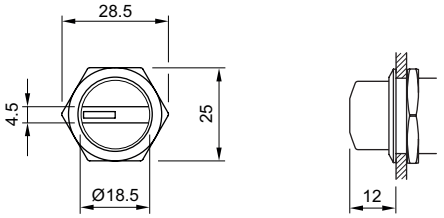


Front ring | Lens | Illumination

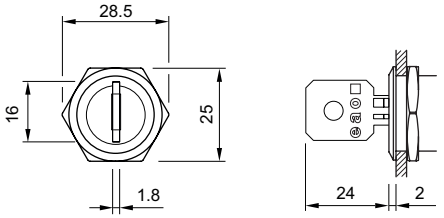
flat / flush – ring/dot | flat / raised – ring | flat / convex – ring | raised / convex –



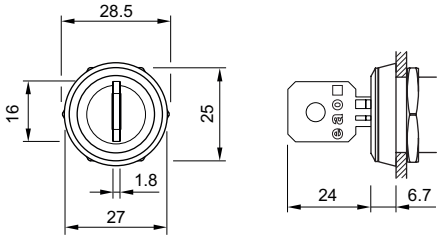
Front and side view selector switch



Front and side view keylock switch



with distancing ring



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.

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

To us, speedy assembly, short delivery times and secure processing are all part of good customer service.

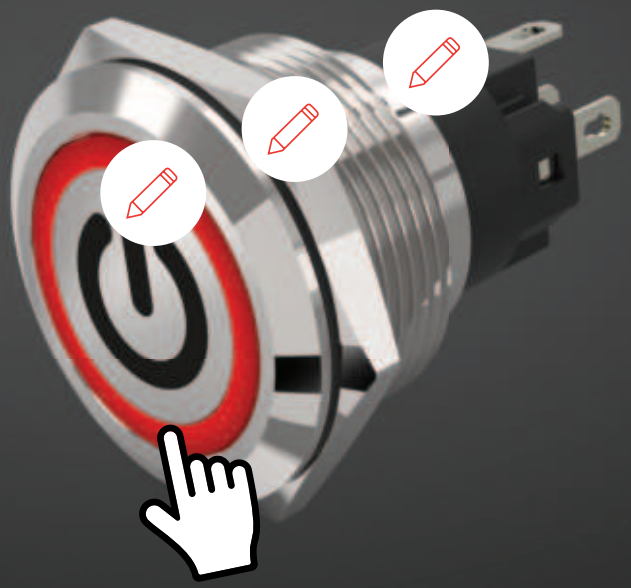
Part number system (standard version)

Series	–	Diameter		Material		Bezel/Lens		Connection/ SE Contacts		.	Switching action		Illumination		LED colour		LED voltage		.	Laser Engraving	
82		4	16 mm	1	Stainless steel	1	Selector Switch	1	Plug-in/ Silver		0	Indicator	0	no LED	0	no LED	0	no LED		B001	On/Off
		5	19 mm	5	Aluminium natural anodized	2	Keylock Switch	2	Srew/ Silver		1	Momentary	1	Ring	1	red	2	6 VAC/ DC		B002	Stand By
		6	22 mm			5	flush/ flat	3	Plug-in/ Gold plated		2	Maintained	2	Dot	2	blue	3	12 VAC/ DC		B003	Light
						6	flush/ raised flat	4	Screw/ Gold plated				A	Symbol illumination	3	green	4	24 VAC/ DC		B004	Information
						7	flush/ convex	5	Cable without connector, 180°/silver						4	yellow	5	110 VAC		B005	Bell
								7	M12 connector, integrated, silver						5	white	6	230 VAC		B006	Door open
								A	Cable with M12 connector, 180°/ silver						A	red/ green bi-colour				BXXX	Any other symbol
								C	Cable without connector, 90°/silver												
								G	Cable with M12 connector, 90°/ silver												

Please note

The overview of the part number system does not conclusively show the product portfolio of Series 82 and not all combinations can be realised.

Online Product Configurator



Configure your Series 82 products.
Quick and easy to your HMI Device.

Visit us at hmi.eao.com

- Intuitive use
- Numerous product combinations and variants
- Responsive user interface
- Photorealistic 3D representations
- 3D CAD data and datasheets
- 24 h ordering – fast delivery

Configure and order your Series 82 Switches.
Make it yours!



hmi.eao.com

eao

Your Expert Partner for **Human Machine Interfaces**

Diversity and individuality in HMI Components.

EAO develops and manufactures one of the world's largest ranges of industrial HMI products.

A variety of mounting depths, designs and combinations of options make our products hugely versatile. But what makes every EAO component really stand out are the cutting-edge materials, innovative technologies, and complete user-friendly interfaces. We also modify our standard components individually in accordance with our customers' needs.

Design experts of EAO can simplify your search for the perfect products by analysing their exact application requirements and, based on their needs, determine the characteristics of the required components.

Because EAO offers one of the most comprehensive ranges of products, it is easy for everyone to select the right fit, according to:
- Electrical ratings – the right specifications for the task
- Actuation preferences – the most appropriate switch type
- Physical configuration and mounting needs – style and placement
- Special requirements – illumination and symbols
- International and market approvals

HMI functions

Some of the HMI functions that EAO offers are:
- Pushbuttons
- Illuminated pushbuttons
- Mushroom-head pushbuttons
- Selector switches
- Keylock switches and key-insert switches
- Indicators
- Buzzers
- Potentiometer
- E-Stops and stop switches
- Door opening pushbuttons
- And many more

HMI features

EAO's engineers analyse the application requirements of our customers. This ensures that our HMI Components always perform to the correct standard for:
- Front protection
- Switch rating
- Mounting cut-out
- Terminal selection
- Certification
- Design
- Ergonomics
- Materials

Value Added Services

EAO makes it simple for designers to find the perfect equipment by analysing customers' exact application requirements and making the following adaptations to suit their needs:
- Marking
- Illumination
- Enhanced mechanical design
- Enhanced electronic design
- Software
- Cables and connections
- Assembled products/kits

Expert manufacturers. EAO creates possibilities since 1947.



Founding year: 1947
Number of employees: 600
Headquarters: Olten, Switzerland
Manufacturing Companies: Switzerland, Germany, North America, China
Sales Companies: 10
Distribution countries: 50
Core markets: Transportation, Automotive, Heavy Duty & Special Vehicles, Machinery

EAO AG, a Swiss, family-owned company founded in 1947, has developed into one of the world's leading manufacturers of high-quality industrial switches, complete custom HMI panels and interface systems, and specialised automotive switch systems.

Efficient and modern development processes, effective global supply chains and skilled project and consultation management represent additional services that we offer our customers and business partners around the world.

Your solution-focused expert and partner
We do much more than just manufacture individual control elements. As a solution-focused partner, we provide the option of technically and mechanically customizing existing HMI Components in line with our customers' individual requirements. From simple control elements through to sophisticated HMI Systems, from serial production through to installation – we offer the entire range of HMI services and inspire the confidence of our customers.

EAO Contact.
Your centre of excellence.

Headquarters

EAO Holding AG
Tannwaldstrasse 88
CH-4600 Olten
Telephone +41 62 286 92 00
info@eao.com

Manufacturing Companies

Switzerland
EAO AG
Tannwaldstrasse 88
CH-4600 Olten
Telephone +41 62 286 91 11
info@eao.com

Business Unit Systems
Tannwaldstrasse 88
CH-4600 Olten
Telephone +41 62 286 91 11
logistics.esy@eao.com

China
EAO (Guangzhou) Ltd.
3/F, Block G4, South China
New Materials Innovation Park
31 Kefeng Road
Guangzhou Science City
CN-Guangzhou, PRC
Telephone +86 20 3229 0390
sales.ecn@eao.com

EAO (Guangzhou) Logistics Co., Ltd.
5th Floor, Hengfeng Building,
No. 10 Jinzhong Road,
Huangpu District, Guangzhou City

Germany
EAO Automotive GmbH & Co. KG
Richard-Wagner-Straße 3
DE-08209 Auerbach/Vogtland
Telephone +49 3744 8264 0
sales.esa@eao.com

North America
EAO Corporation
One Parrott Drive
Shelton
US-CT 06484
Telephone +1 203 951 4600
sales.eus@eao.com

Sales Companies

China
EAO (Guangzhou) Ltd.
3/F, Block G4, South China
New Materials Innovation Park
31 Kefeng Road
Guangzhou Science City
CN-Guangzhou, PRC
Telephone +86 20 3229 0390
sales.ecn@eao.com

EAO (Shanghai) Office
Rm.401, Lihpao Plaze,
NO.159 Shenwu Road,
Minhang District,
CN-Shanghai, 201106.
PRC
Telephone +86 21 6095 0717
sales.ecn@eao.com

France
EAO France SAS
27 rue Maurice Flandin
FR-69003 Lyon
Telephone +33 426 298 588
sales.efr@eao.com

Germany, Austria, Czech Republic, Poland, Slovakia
EAO GmbH
Langenberger Straße 570
DE-45277 Essen
Telephone +49 201 8587 0
sales.ede@eao.com

Hong Kong (Asia Pacific)
EAO (Far East) Ltd.
Room 701-703, 7/F
Kai Tak Commercial Building
317 & 319 Des Voeux Road Central
Hong Kong
Telephone +852 27 86 91 41
sales.ehk@eao.com

India
EAO India Pvt Ltd.
B159, Sector 63
IN-Noida U.P. 201037
Telephone +91 98110 48316
sales.ein@eao.com

Italy
EAO Italia S.r.l.
Centro Direzionale Summit –
Palazzo C1
Via Brescia 26
IT-20063 Cernusco sul Naviglio (MI)
Telephone +39 029 247 0722
sales.eit@eao.com

Japan
EAO Japan Co. Ltd.
Net 1 Mita Bldg. 3F
3-1-4 Mita Minato-ku
JP-Tokyo 108-0073
Telephone +81 3 5444 5411
sales.ejp@eao.com

Netherlands, Belgium
EAO Benelux B.V.
Kamerlingh Onnesweg 46
NL-3316 GL Dordrecht
Telephone +31 78 653 17 00
sales.enl@eao.com

North America
EAO Corporation
One Parrott Drive
Shelton
US-CT 06484
Telephone +1 203 951 4600
sales.eus@eao.com

Switzerland
EAO AG
Tannwaldstrasse 88
CH-4600 Olten
Telephone +41 62 286 95 00
sales.ech@eao.com

United Kingdom, Denmark, Finland, Ireland, Norway, Sweden
EAO Ltd.
Highland House
Albert Drive
Burgess Hill
GB-West Sussex RH15 9TN
Telephone +44 1444 236 000
sales.euk@eao.com

EAO reserves the right to change specifications without further notice.

700.066.BR82-DT.03/02.2026