

Series

# 82

*Robust and attractive.*

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# Series 82

*Robust and attractive.*

With Series 82, EAO offers the optimal pushbutton for vandal-resistant, stylish HMI controls used in harsh industrial environments, public areas and building management.

EAO, the expert and partner for Human Machine Interfaces (HMIs), offers pushbuttons that are both resistant to vandalism and visually attractive in the form of the Series 82, for use in harsh environments.

With their robust stainless steel, brass or anodised aluminium housings, these innovatively designed switches are protected to IK10 impact resistance and IP67 sealing requirements, which makes them ideal for use in exposed public buildings and areas.

The switches are available with momentary or maintained action, and with or without LED illumination, with a choice in turn of central dot or ring illumination. The ring illumination is particularly striking and attractive.

The switching elements are offered either with silver alloyed or in addition gold-plated contacts for reliably switching low voltages and currents.

#### Typical applications

- Exposed public areas  
e.g. ticketing and vending machines
- Industrial  
Machinery and factory equipment
- Lifting and moving  
Elevators and people movers
- Building management  
Access control and security systems
- Audio and video equipment
- Medical equipment







#### Laser Markings

Using a CO<sup>2</sup> laser it is possible to engrave practically any symbol or text in any language onto the stainless steel versions of the Series 82 products.

Laser markings are highly resilient, do not fade and last for an extraordinarily long time – ideal conditions for these vandal resistant indicators, pushbuttons and illuminated pushbuttons.

#### Standard symbols

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

On/Off	Standby	Info
		
Light	Bell	Door open
		

## Advantages.

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

### Materials

- Stainless steel SUS 304
- Stainless steel chrome coloured
- Brass gold coloured
- Aluminium (natural anodised), other colours on request

### Mechanical characteristics

- Mechanical lifetime: > 1 million cycles of operation
- Actuation force: 4 N to 7 N
- Terminals: Soldering/plug-in terminals 2.8 x 0.5 mm or screw terminal

### Operating data switching element\*

#### Silver Contacts

	Minimum Values	Maximum Values
Voltage	17 VAC/DC	240 V
Current	50 mA AC/DC	3 A
Power	1 W (1 VA)	720 W (720 VA)

#### Gold plated Silver Contacts

	Minimum Values	Maximum Values
Voltage	1 VAC/DC	24 V
Current	5 mA AC/DC	200 mA
Power	5 mW (5 mVA)	5 W (5 VA)

\* according to DIN EN 60947-5-4, methods of assessing the performance of low-voltage contacts.

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

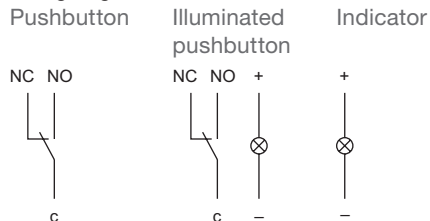
### Switching system

- 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:  $\leq 50 \text{ m}\Omega$ , according to IEC 60512-2
- Isolation resistance:  $> 1000 \text{ M}\Omega$ , according to IEC 60512-3
- Dielectric strength: 1500 VAC, according to IEC 60947-5

### Wiring diagram



## Properties and illuminations.

### Electrical characteristics

- Rated insulation voltage 250 VAC
- Conventional thermal current:  
I<sub>TH</sub> 5 A, according to CB
- Electrical life: > 50000 cycles (full load)
- Switching capacity: AC-15 (cosφ0.3) 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

### Ambient conditions

- Temperature
  - Storage temperature –40 °C to +80 °C
  - Operating temperature –30 °C to +70 °C
- Operating humidity: 45 % to 85 % RH (no condensation)
- Front protection: IP65, IP67, according IEC 60529
- Impact resistance: IK10, according to IEC 62262
- Approvals: CE, CB, UL, C UL, CCC

### LED illumination

- Red
- Green
- Yellow
- Blue
- White

LED, series resistor and polarity protection are built in.

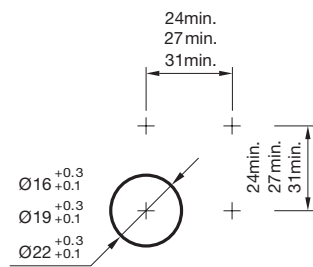
Voltage	Tolerance	Current
6 VAC/DC	± 10 %	7 mA
12 VAC/DC	± 10 %	7 mA
24 VAC/DC	± 10 %	7 mA
110 VAC	± 10 %	2 mA
230 VAC	± 10 %	1.5 mA



# Dimensions, mounting and terminals.

## Mounting cut-outs

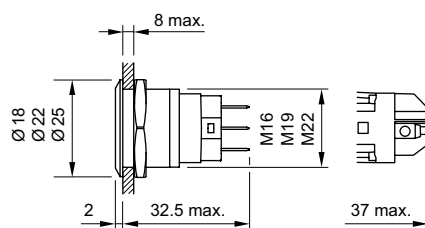
Ø 16 mm, Ø 19 mm, Ø 22 mm



## Dimensions

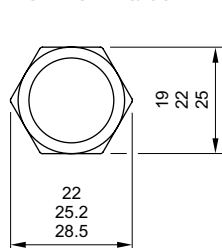
Side view

Solder/plug-in terminal | Screw terminal

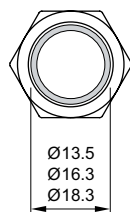


## Front view

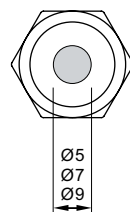
Non-illuminated



Ring illuminated

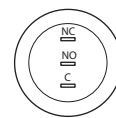


Central dot illuminated

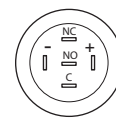


## Solder/plug-in terminal

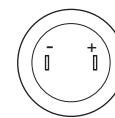
Pushbutton



Illuminated pushbutton

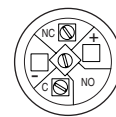


Indicator lamps

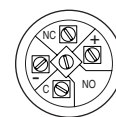


## Screw terminal

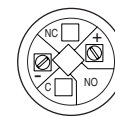
Pushbutton



Illuminated pushbutton



Indicator



## Front ring | Lens | Illumination

flat/flush

flat/raised

flat/convex

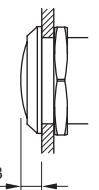
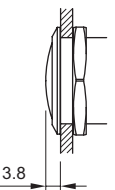
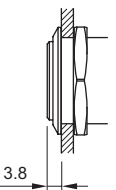
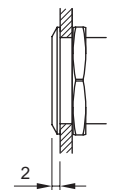
raised/convex

ring/dot

ring

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

Series	Diameter		Material		Bezel/Lens		Connection/SE Contacts		Switching action	Illumination		LED colour		LED voltage		Laser Engraving														
82	4	16mm	1	Stainless steel	5	flush/flat	1	Solder/Silver	0	Indicator	0	no LED	0	no LED	0	no LED	B001	On/Off												
	5	19mm	2	Chrome colour	6	flush/raised flat	2	Srew/Silver	1	Momentary	1	Ring	1	red	2	6VAC/DC	B002	Stand By												
	6	22mm	3	Gold colour	7	flush/convex	3	Solder/Gold plated	2	Maintained	2	Dot	2	blue	3	12VAC/DC														
																			5	Aluminium natural anodized	8	raised/convex	4	Screw/Gold plated	3	green	4	24VAC/DC	B004	Information
	5	white	6	230VAC	B006	Door open																								
				BXXX	Any other symbol																									

*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

EAO Systems AG  
Tannwaldstrasse 88  
CH-4600 Olten  
Telephone +41 62 286 91 11  
sales.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

**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. 403, Block 5#  
CIFI Century Square, Lane 28  
NO. 21, Danba Road  
Putuo District  
CN-Shanghai, PRC  
Telephone +86 21 6095 0717  
sales.ecn@eao.com

**France**  
EAO France SAS  
5, rue Henri François  
FR-77330 Ozoir-la-Ferrière  
Telephone +33 1 64 43 37 37  
sales.efr@eao.com

**Germany, Austria,  
Poland, Czech Republic**  
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.  
Unit A1, 1/F, Block A  
Tin On Industrial Building  
777 Cheung Sha Wan Road  
Lai Chi Kok, Kln  
HK-Hong Kong  
Telephone +852 27 86 91 41  
sales.ehk@eao.com

**Italy**  
EAO Italia S.r.l.  
Centro Direzionale Summit –  
Palazzo D1  
Via Brescia 28  
IT-20063 Cernusco sul Naviglio (MI)  
Telephone +39 02 92 471934  
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 Schweiz AG  
Tannwaldstrasse 86  
CH-4600 Olten  
Telephone +41 62 286 95 00  
sales.ech@eao.com

**United Kingdom, 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