

Series

# 82

*Robust and attractive.*

[www.eao.com](http://www.eao.com)



# 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, choose from single or bi-colour LED's and 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 single or bi-colour LED 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

#### Gold plated Silver Contacts

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

\* 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.

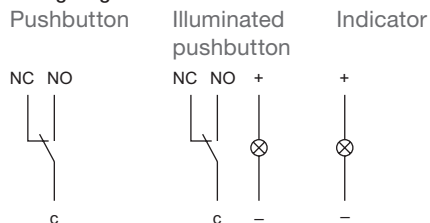
### Switching system

- 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:  
 $I_{TH}$  5 A, according to CB
- Electrical life: > 50 000 cycles (full load)
- Switching capacity: AC-15 ( $\cos\varphi$  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

### Ambient conditions

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

### LED illumination

- Red
- Green
- Yellow
- Blue
- White
- Red/green bi-colour

LED, series resistor and polarity protection are built in.

### Single LED

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

### Bi-colour LED

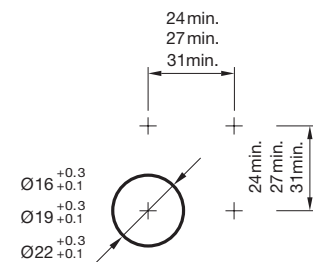
Voltage	Tolerance	Current
24 VDC	$\pm 10\%$	7 mA / 7 mA



## Dimensions, mounting and terminals.

### Mounting cut-outs

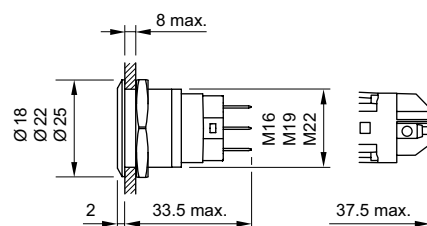
Ø 16 mm, Ø 19 mm, Ø 22 mm



### Dimensions

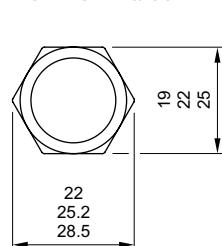
Side view

Solder/plug-in terminal | Screw terminal

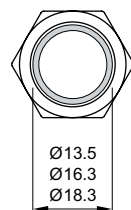


### Front view

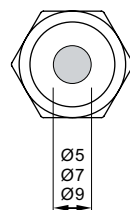
Non-illuminated



Ring illuminated

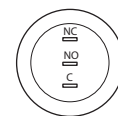


Central dot illuminated

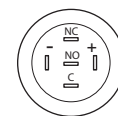


### Solder/plug-in terminal

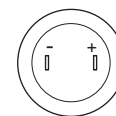
Pushbutton



Illuminated pushbutton

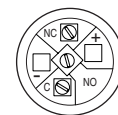


Indicator lamps

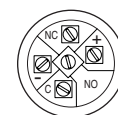


### Screw terminal

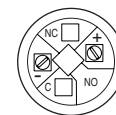
Pushbutton



Illuminated pushbutton



Indicator



### Front ring | Lens | Illumination

flat/flush

flat/raised

flat/convex

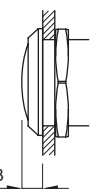
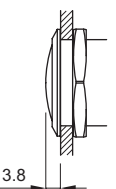
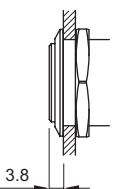
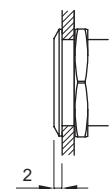
raised/convex

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		B003	Light
				5	Aluminium natural anodized	8	raised/convex	4	Screw/Gold plated						3	green	4	24VAC/DC		B004	Information
															4	yellow	5	110VAC		B005	Bell
															5	white	6	230VAC		B006	Door open
															A	red/green bi-colour				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.



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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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