

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<sub>2</sub> 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	17VAC/DC	240V
Current	50mA AC/DC	3A
Power	1W (1VA)	720W (720VA)

#### Gold plated Silver Contacts

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

\* 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.

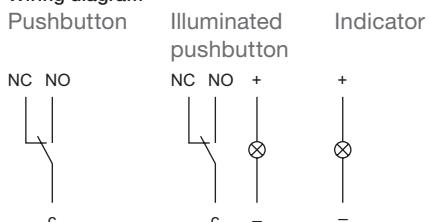
### Switching system

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

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

### 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 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.

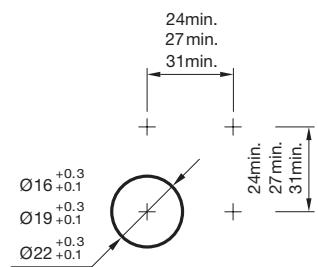
Voltage	Tolerance	Current
6VAC/DC	$\pm 10\%$	7mA
12VAC/DC	$\pm 10\%$	7mA
24VAC/DC	$\pm 10\%$	7mA
110VAC	$\pm 10\%$	2mA
230VAC	$\pm 10\%$	1.5mA



## Dimensions, mounting and terminals.

### Mounting cut-outs

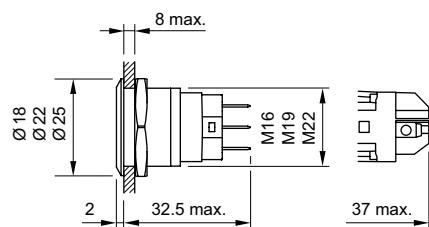
Ø 16 mm, Ø 19 mm, Ø 22 mm



### Dimensions

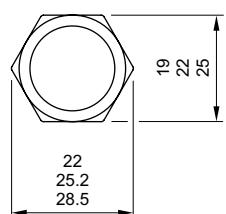
Side view

Solder/plug-in terminal | Screw terminal

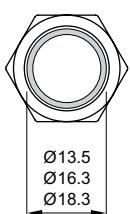


### Front view

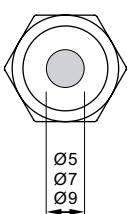
Non-illuminated



Ring illuminated



Central dot illuminated

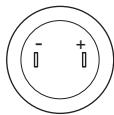
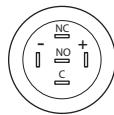
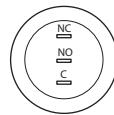


### Solder/plug-in terminal

Pushbutton

Illuminated pushbutton

Indicator lamps

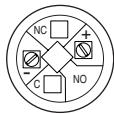
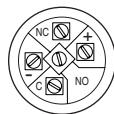
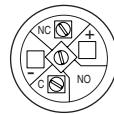


### Screw terminal

Pushbutton

Illuminated pushbutton

Indicator



### Front ring | Lens | Illumination

flat/flush

flat/raised

ring/dot

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.

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.

### Part number system

Series	-	Diameter	Material	Bezel/Lens	Connection/ SE Contacts	.	Switching action	Illuminati- on	LED colour	LED voltage	.	Laser Engraving
82		4	16mm	1	Stainless steel	5	flush/ flat	1	Solder/ Silver	0	no LED	B001 On/Off
		5	19mm	2	Chrome colour	6	flush/ raised flat	2	Screw/ Silver	1	red	B002 Stand By
		6	22mm	3	Gold colour	7	flush/ convex	3	Solder/ Gold plated	2	blue	B003 Light
				5	Alumi- nium natural anodized	8	raised/ convex	4	Screw/ Gold plated	3	green	B004 Information
										4	yellow	B005 Bell
										5	110VAC	B006 Door open
										6	230VAC	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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