

Series

14

Attractive, compact and reliable.

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Series 14

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EAO, the expert partner for Human Machine Interfaces (HMIs), offers with its attractive Series 14 a wide range of compact and reliable actuators and indicators for sophisticated applications.

Series 14 has an impressively timeless design, with indicators, buzzers, illuminated pushbuttons, mushroom-head pushbuttons, keylock switches and selector switches for flush or raised mounting. 22.3 mm or 30.5 mm versions are available for mounting in accordance with industrial standards.

In addition to its high degree of protection (IP67), EAO's Series 14 also provides excellent tactile feedback and reliable switching – even in low-voltage and low current applications. These two characteristics are distinctly beneficial when programming at main operator panels or setting up a machine.

Combined with a compact construction, a service life of up to 2 million cycles of operation, high-grade materials and consistent illumination, these actuators and indicators are ideal for sophisticated applications. 22.3 mm and 30.5 mm versions are also designed for mounting in accordance with industrial standards, even with low back panel depths.

With a range of connection options including plug-in, solder and a PCB mount adaptor the Series 14 can be easily integrated into assembly processes of machine manufacturers.

There are two switching element types for the Series 14 to cover both sensitive electronic signal level switching and general industrial switching. The low level, 2.0 mm solder/plug-in and PCB mount version offers a light tactile feedback and a switch rating from 10 μ A/100 μ V up to 100 mA/42 VAC/DC. The snap action solder or 2.8 mm plug-in version has a strong, precise tactile action and switches from 12V/20 mA up to 250 VAC and 5 A (gold-plated silver alloy). The switching elements are also defined by their long service life, extremely low bounce time and stable contact resistance.

EAO offers a variety of innovative, intuitive and reliable products and services for the machinery industry.

Typical applications

- Industrial machinery and process automation
- Panel building
- Lifting and moving
- Transportation
- Construction machinery and special vehicles

Functions of the Series

- Indicator
- Buzzer
- Illuminated pushbutton
- Mushroom-head pushbutton
- Keylock switch
- Selector switch

Switching system

Self-cleaning, double-break snap-action system with side soldering terminals. It is possible to stack up to four switching elements per switch (max. 4 NC and 4 NO contacts).

Materials

- Lens
Aluminium, plastic polyamide 12, stainless steel
- Front ring
Aluminium, plastic polyamide 12, stainless steel
- Contact material
Silver or gold-plated silver contacts
- Actuator case material
Polyamide
- Switch case, snap-action switching element
 - Solder/plug-in terminal
Diallyl phthalate DAP, polyamide 66, polysulfone, heat-resistant and self-extinguishing
 - Soldering terminal
PA 6.6 Ultramid
- Low-level switch housing
 - Polysulfone, heat-resistant and self-extinguishing

Mechanical characteristics

- Soldering terminal
 - max. wire diameter: 2 wires, 1 mm² each
 - max. stranded cable wire cross-section:
2 cables, 0.75 mm² each
- Plug-in terminal/universal terminal
 - 2.8 x 0.5 mm / 2.0 x 0.5 mm

Advantages.

- Attractive 22.3 mm or 30.5 mm design (flush)
- Up to 4 NO and 4 NC contacts
- Low back panel depth
- High IP67 protection
- Low-level switching possible

Mechanical life

- Snap-action switching element
 - Momentary action:
2 million cycles of operation
 - Maintained action:
1 million cycles of operation
- Low-level switching element
 - Momentary action:
5 million cycles of operation
 - Maintained action:
1 million cycles of operation

Ambient conditions

- Temperature
 - Storage temperature: -40°C to $+85^{\circ}\text{C}$
 - Operating temperature: -25°C to $+55^{\circ}\text{C}$
- Resistance to shock (semi-sinusoidal)
 - max. 150 m/s^2 , pulse width 11 ms, 3-axis, in accordance with EN IEC 60068-2-27
- Resistance to vibration (sinusoidal)
 - max. 100 m/s^2 from 10 Hz to 500 Hz, in accordance with EN IEC 60068-2-6

Environmental resistance

- Humid heat, constant in accordance with EN IEC 60068-2-78
- Humid heat, cyclic in accordance with EN IEC 60068-2-30

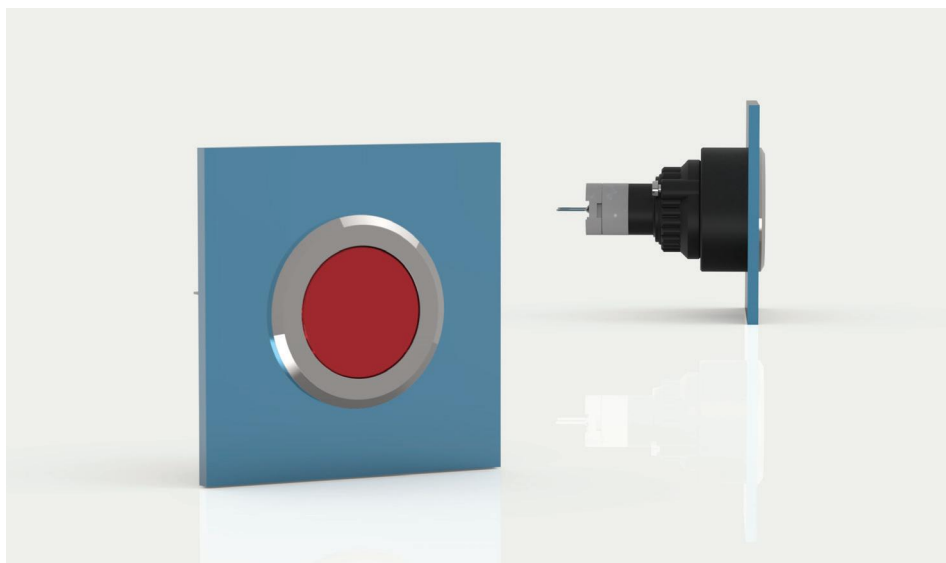
Degrees of protection (front)

In accordance with EN IEC 60529

- Indicator: IP67
- Buzzer: IP65
- Illuminated pushbutton: IP67
- Mushroom-head pushbutton: IP67
- Selector switch: IP67
- Keylock switch: IP65

Standards and directives

- CB (IEC 61058)
- CSA
- CQC
- ENEC (EN 61058)
- DNV
- UL
- EMC



Highlights from Series 14.



Indicator

EAO indicators are universal in nature and are deployed for applications worldwide that depend on reliable visual feedback. Typical areas of use are mechanical engineering, control system engineering, public and private passenger transportation, heavy-duty and special-purpose vehicles, and building installations.

High-grade materials such as aluminium or stainless steel, combined with visually appealing plastic lenses and illumination with a broad range of colours increase the quality of the machine.

- Large selection of lenses in different forms
- Flush design
- Wide range of colours for lenses and illumination
- Wide range of symbols and markings (also customised)
- Full-face, uniform and glare-free illumination
- Reliable LED illumination with a long service life
- Low energy consumption



Keylock switches

Keylock switches are used worldwide to prevent accidental and unauthorised operations. They also enable access control systems to be implemented for user groups.

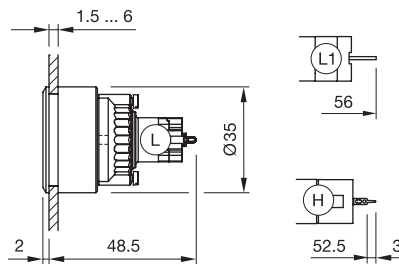
- Large selection of lock systems
- Raised design
- Different switching angles
- Two possible switch positions
- Very long service life of mechanical and electrical components
- Variety of combinations of momentary and maintained positions
- Solder, plug-in and PCB connections

Product structure of Series 14.

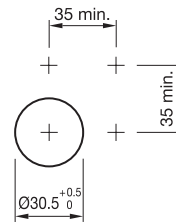


Dimensions and mounting cut-outs.

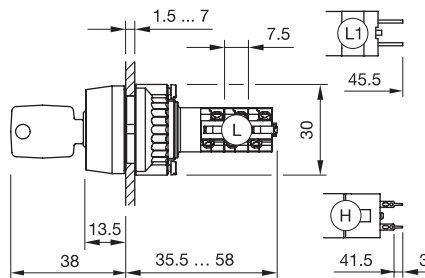
Dimensions flush design
Indicator



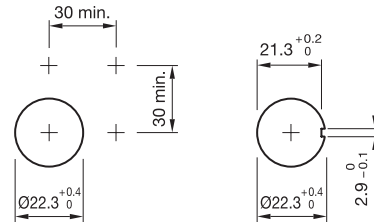
Mounting cut-outs flush design



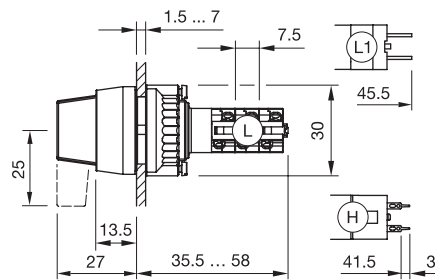
Dimensions raised design
Keylock switch



Mounting cut-outs raised design



Selector switch



Please refer to the product catalogue for additional specifications.

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

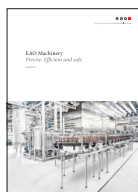
Build your tailored product in the online product configuration system and obtain technical specifications and 3D data at the same time. The right HMI for you, step by step: eao.com/products

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Related documents

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



Machinery
Brochure



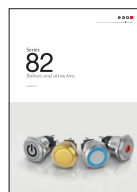
Series 45
Main catalogue



Series 61
Brochure



Series 71
Brochure



Series 82
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Series 84
Brochure

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.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
Nextdoor – Bâtiment Silex
15 rue des Cuirassiers
CS 33821
FR-69487 Lyon Cedex O3
Telephone +33 9 74 18 93 41
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.
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 +39 029 247 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 Schweiz AG
Tannwaldstrasse 86
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