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Your Expert Partner for **Human Machine Interfaces**

Series 71

Unique PCB mounting system.

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Series 71

Unique PCB mounting system.

Unique printed circuit board (PCB) technology enables the Series 71 to provide versatile and modular opportunities for deployment in applications such as machinery and control cabinet engineering.

EAO Series 71 is an attractive range of flush mount switches with excellent tactile feedback, IP65 sealing and contact blocks that can be fitted to any PCB.

The high-quality pushbuttons, illuminated pushbuttons, keylock switches, selector switches and indicators can be combined in any arrangement and mounted on the same PCB level. The combination of PCB soldered contact blocks and the reliable twist and lock fixing mechanism offers easy assembly without the need for mounting studs.

Thanks to a variety of actuators and switching elements, this series also has a modular structure that enables a diverse range of configuration options. It also enables efficient storage.

The flush-mounted construction gives each application a modern front design and protects the control devices from damage.

The round, square or rectangular lenses have a large area for text/symbols and bright LED illumination to help customers design intuitive operator controls.

Typical applications

- Machinery and control systems
- Control cabinet engineering
- Special vehicles
- Conveyor systems
- Process automation
- And many other applications

Functions of the series

- Indicator
- Pushbuttons
- Illuminated pushbuttons
- Mushroom-head pushbuttons
- Keylock switches
- Selector switches

Switching system

Self-cleaning, double-break snap-action system, with up to two normally open and two normally closed contacts.

Materials

- Lens
  Polycarbonate (PC), in accordance with UL 94 V0, or anodised aluminium
- Front bezel
  Polyetherimide (PEI), in accordance with UL 94 V0, or anodised aluminium
- Contact material
  AgNi, 2 µm gold-plated
- Switching element
  Polyethylene terephthalate (PETP), in accordance with UL 94 V0
- Actuator case material
  Polyetherimide (PEI), in accordance with UL 94 V0

Mechanical characteristics

- Terminals
  PCB terminal, gold-plated brass
- Tightening torque
  For fixing nut: max. 50 Ncm
- Actuating torque
  Selector/keylock switch 4 Ncm to 8 Ncm
- Actuating force: Pushbutton 2 N to 3 N
- Actuating distance: Pushbutton 3 mm
- Selector/keylock switch 2-position, 3-position
  Momentary contact approx. 42° approx. 2 x 42°
  Latching contact approx. 90° approx. 2 x 90°
- Bounce time ≤ 1 ms

Advantages.

- Unique PCB mounting
- A variety of switching functions
- Modular design and flush mounting
- IP65 front protection

- Mechanical life
  - Pushbutton latching contact
    1 million cycles of operation
  - Pushbutton momentary contact
    2 million cycles of operation
  - Keylock switch
    50 000 cycles of operation
  - Selector switch
    100 000 cycles of operation
- Resistance to soldering heat
  - Manual soldering 350 °C, 3 seconds
  - Mechanical soldering 260 °C, 5 seconds

Electrical properties

- Contact resistance when new ≤ 50 mΩ
- Insulation resistance ≥ 10^{12} Ω
- Breaking capacities
  - Alternating current (AC): cosφ 0.7 to 0.8
    250 VAC / 3 A
  - Direct current:
    24 VDC / 3 A
    250 VDC / 0.5 A
- Recommended minimum operating data
  - 5 VAC / 10 mA
- Dielectric strength
  - 2000 VAC, 50 Hz, 1 min. between all terminals and earth

Ambient conditions

- Temperatur
  - Storage temperature –40 °C to +85 °C
  - Operating temperature –25 °C to +55 °C
- Resistance to shock (semi-sinusoidal)
  - max. 500 m/s², pulse width 11 ms, 3-axis in accordance with EN IEC 60068-2-27
- Resistance to vibration (sinusoidal)
  - max. 100 m/s² from 10 Hz to 500 Hz, in accordance with EN IEC 60068-2-6
- Environmental resistance
  - Humid heat, constant
    56 days, +40 °C/93 % relative humidity, in accordance with EN IEC 60068-2-78

Front protection

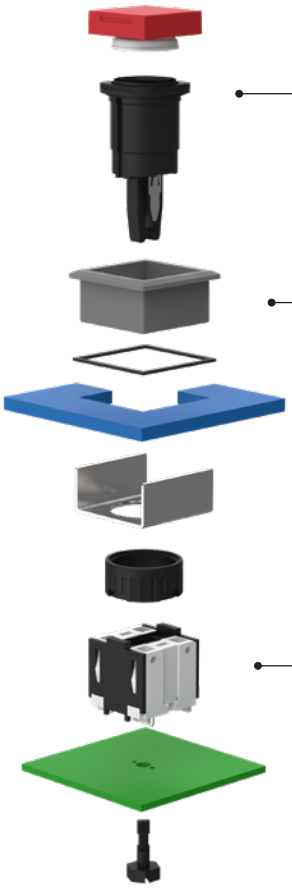
- IP65

Standards and directives

- Declaration of Conformity
  - CE
  - 2011/65/EU (RoHS

	Series				
	14	61	71	82	84
Functions					
Pushbutton	■	■	■	■	■
Illuminated pushbutton	■	■	■	■	■
Indicator	■	■	■	■	■
Selector switch	■	■	■		
Illuminated selector switch		■	■		
Keylock switch	■	■	■		
Emergency stop switch		■			■
Stop switch		■			
Buzzer	■	■			
Mushroom-head pushbutton	■	■	■		■
Potentiometer		■			

Product structure of Series 71.



Functions
Indicator
Pushbutton
Illuminated pushbutton
Mushroom-head pushbutton
Keylock switch
Selector switch

Front bezel
Square
Rectangular
Round

Switching elements (PCB)
Switching element 1 NC/1 NO
Switching element 2 NC/2 NO
Lamp element

Highlights.



Illuminated pushbutton

Series 71

EAO pioneered illuminated pushbuttons. These modular switches and indicators are used even in harsh conditions around the world. They are used anywhere where reliable visual and tactile feedback is crucial.

The PCB connectors of the Series 71 consume little space and are therefore suitable for many applications. The locking pins on each switching element allow mounting to the front panels without PCB mounting studs.

- Flush mount lenses
- Plastic or metal lenses
- With or without symbol
- IP65 front protection



Keylock switch

Series 71

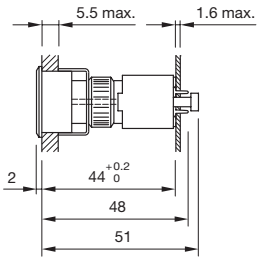
Keylock switches are used worldwide to prevent accidental and unauthorised operation. Additionally, they allow access authorisation for user groups to be implemented.

- Modular design
- Square, rectangular or round shape
- 2-positions or 3-positions
- Keylock switches with two keys each
- Standard DOM311 lock

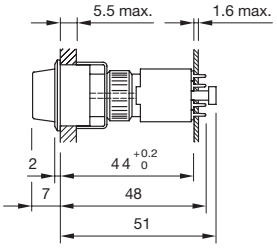
Dimensions and mounting cut-outs.

Dimensions

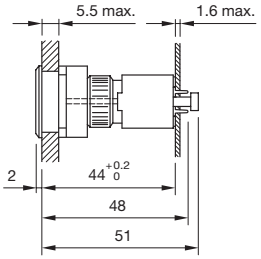
Indicator, illuminated pushbutton (square/rectangular)



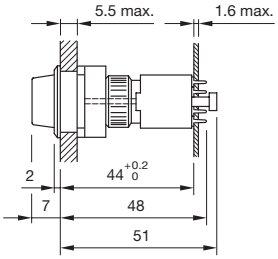
Selector switch (square)



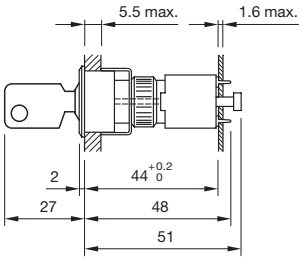
Indicator, illuminated pushbutton (round)



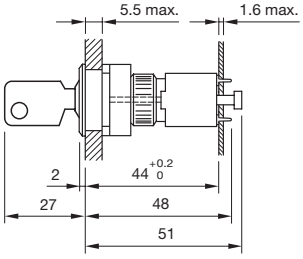
Selector switch (round)



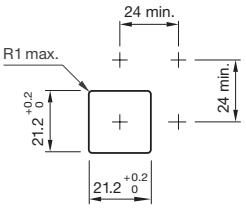
Keylock switch (square/rectangular)

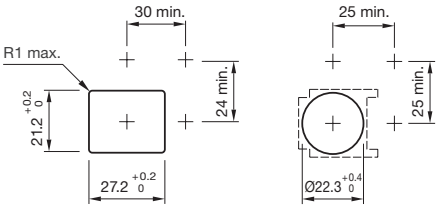


Keylock switch (round)



Mounting cut-outs





Services.

Value Added Services
The EAO range of standard components is rounded off with our value added services, which offer the means to make the following customer-specific adjustments to the components:

- Labelling
- Illumination
- Mechanical adjustments
- Electronic adjustments
- Software
- Cable and plug mounting
- Complete product and/or kitting service



Online product configurator
Build your tailored product in the online product configuration system at www.eao.com and obtain technical specifications and 3D data at the same time.



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EAO reserves the right to change specifications without further notice.

700.066.BR71-PRODUCTS.03/5.15