

Series

84

Attractive, versatile and functional.

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With the versatility of the Series 84, EAO offers a modern product range suitable for a wide selection of industrial applications. *A unique range of illumination options make this series particularly appealing.*

The Series 84 combines design and functionality in a versatile manner. Combined with innovative illumination options and IP67 protection, this product range is ideal for challenging environments with high visual expectations.

The illumination is a highlight that makes this series particularly attractive. Multiple illuminations in a single switching element can allow for a consolidation of status indicators thus eliminating panel space and additional costs of extra actuators and Indicators.

Bi-colour illumination – Simplified status displays

This illumination system enables two status to be easily displayed using a single indicator in green/red and green/yellow.

Halo illumination – Simply attractive

Halo illumination is suitable where users require a simple and clearly visible status indicator. It makes simply every application an experience.

Multi-colour halo illumination – For maximum flexibility in PCB assembly

This illumination has been specially designed for SMD LEDs. In addition to the bi-colour LED in the centre, it is possible to display up to eight colours on a single indicator.

Halo Compact – The all-in-one solution for pre-configured status indicators

The new Halo Compact enables up to eight different status indications to be displayed easily, making this multi-functional illuminated switch element suitable for a wide variety of applications.

Visually appealing lens and actuators in a variety of colours, front designs and materials also highlight the modern appearance of the Series 84.

These high-grade products can be combined with either a 12VDC or 24VDC LED. Both versions switch low voltages and currents reliably – lasting up to 1 million cycles of operation. Soldered, plug, PCB and flat ribbon cable terminals are also available.

Typical applications

- Industrial machinery
- Measurement and control engineering
- Lifting and handling equipment
- Process automation
- Special vehicles
- Ticketing machines
- Medical equipment

Functions of the series

- Indicator
- Pushbuttons
- Illuminated pushbuttons

Switching system

Single break contact snap action switch with two independent contacts and a short travel tactile switching action. Guaranteed reliability in switching, even with low switch ratings. Contact features: One normally-open contact, momentary action.

The Halo Compact switching element is also fitted with an integrated electronic high-side switch to provide optional maintained action. The type of illumination is selected using the 24 V pin connector.

Material

- Lens
 - Polycarbonate (PC), in accordance with UL 94 V2 or anodised aluminium
- Actuator housing
 - Polyetherimide (PEI) in accordance with UL 94 V0
- Halo Compact housing
 - Ixef 1521 natural (PA)
 - Hotmelt (sealing compound)
- Connecting cable
 - Polyvinyl chloride (PVC), heat-resistant for a short period up to 105 °C
- Switching element
 - Thermoplastic polyester (PET, PBT), in accordance with UL 94 V0
 - Polyacetal (POM), in accordance with UL 94 HB
- Contact material
 - Gold-plated silver alloy

Advantages.

- Attractive design and reliable operation
- IP67 front protection
- Powerful, consistent illumination with innovative technologies
- Animated illumination options for a wide variety of potential applications
- Available with soldered, plug, PCB and flat ribbon cable terminals

Mechanical characteristics

- Mounting cut-out: Diameter 22.5 mm
- Actuating force: 4.0N ± 0.2 N
- Cycles of operation: 1 million
- Terminals
 - Plug-in terminals 2.8 x 0.8 mm (solderable)
 - Flat ribbon cable 0.5 mm²

Electrical properties

- Switching element operating data
 - Voltage 50 mVAC/DC to 42 VAC/DC
 - Current 10 µA to 100 mA
 - Power max. 2 W
- Operating data LED
 - Voltage 12 VDC oder 24 VDC
 - Current 10 mA
 - Illumination single chip LED, red, green, yellow, orange, blue and white
- Halo Compact operating data
 - Voltage 24 VDC ± 10 %
 - Current max. 100 mA
- Output

Integrated electronic switch for locking function with illuminated pushbuttons (high-side switch)

Ambient conditions

- Temperatur
 - Storage temperature –40 °C to +85 °C
 - Operating temperature –25 °C to +70 °C
- Resistance to shock (semi-sinusoidal)

max. 100 m/s², pulse width 11 ms, 3-axis, in accordance with EN IEC 60068-2-27
- Resistance to vibration (sinusoidal)

max. 50 m/s² from 10 Hz to 500 Hz, 10 cycles, 3-axis, in accordance with EN IEC 60068-2-6

Degree of protection

- IP67 front protection
- IP67 rear protection optional (full-mould version with mounted actuator)

Mounting

A robust mounting flange is used for easy mounting and secure attachment on printed circuit boards (PCBs).

| Function | Series | | | | | |
|-----------------------------|--------|----|----|----|----|----|
| | 14 | 45 | 61 | 71 | 82 | 84 |
| Pushbutton | ■ | ■ | ■ | ■ | ■ | ■ |
| Illuminated pushbutton | ■ | ■ | ■ | ■ | ■ | ■ |
| Indicator | ■ | ■ | ■ | ■ | ■ | ■ |
| Selector switch | ■ | ■ | ■ | ■ | | |
| Illuminated selector switch | | ■ | ■ | ■ | | |
| Keylock switch | ■ | ■ | ■ | ■ | | |
| Emergency stop switch | | ■ | ■ | | | ■ |
| Stop switch | | ■ | ■ | | | |
| Buzzer | ■ | | ■ | | | |
| Mushroom-head pushbutton | ■ | ■ | ■ | ■ | | ■ |
| Potentiometer | | ■ | ■ | | | |

Highlights.



Halo Compact

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This innovative all-in-one solution is the ideal addition to the Series 84. These switching elements offer the ability to illuminate the front bezel in a circular fashion in five different colours. There is also the option of using a white LED to illuminate the middle of the lens.

The Halo Compact enables up to eight different, pre-configured light sequences to be controlled using one switching element.

- All-in-one solution for the most common status displays
- Eight pre-configured light sequences
- Five different LED colours (red, green, yellow, white or blue)
- Top version with bi-colour LED illumination
- Integrated electronic switch for locking function



Illuminated text and symbols

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Illuminated text and symbols help the user to operate functions intuitively. This is why the Series 84 lens range offers numerous illuminable ISO standard symbols such as “On/Off” or “Standby”, and features high-demand, versatile lenses with halo illumination. Symbols can be illuminated in red, green, yellow, orange, blue or white thanks to the corresponding LEDs.

The bi-colour LED version can also be used to display two different status using one and the same indicator.

EAO’s state-of-the-art laser engraving system enables just about any symbol and text to be reproduced at customer’s request in any language.

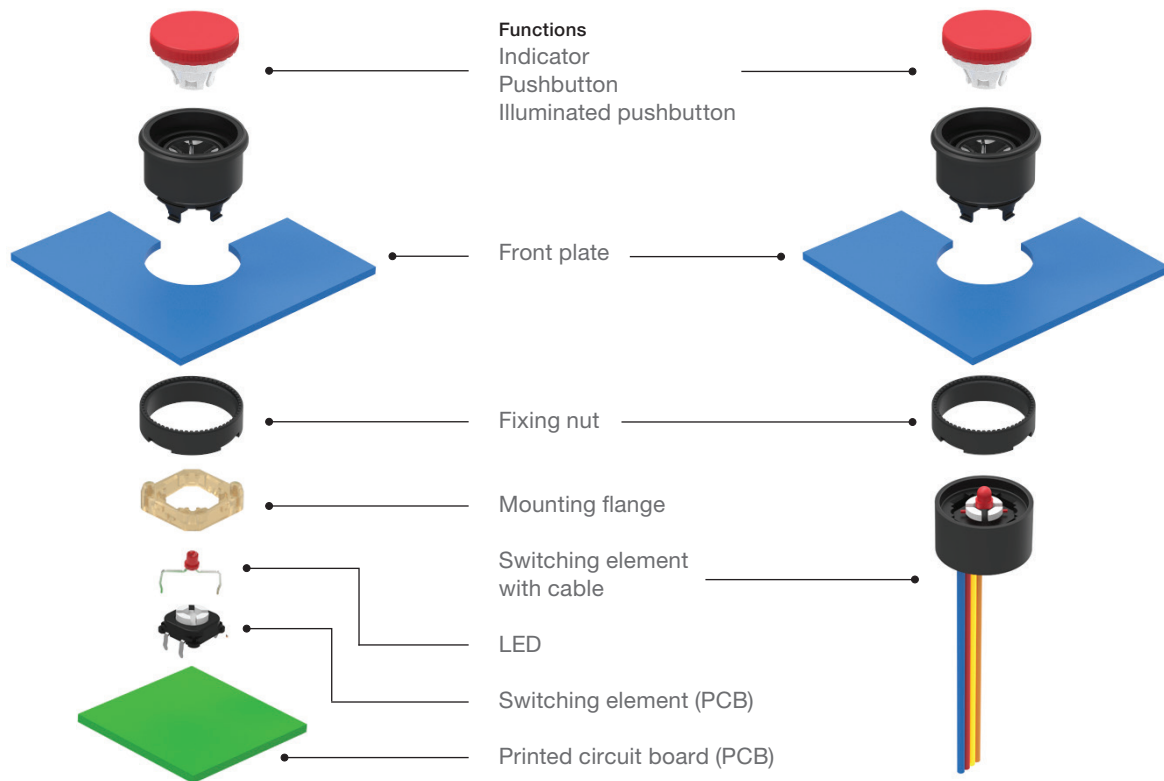
This Value Added Service makes each function attractive and also more intuitive to use.

- Illuminated ISO standard symbols such as “On/Off” and “Standby” available
- Symbols in red, green, yellow, orange, blue, white or with a bi-colour version illuminable in red/green
- Long-lasting text and symbol markings
- Practically any symbol and any text possible

Product structure of Series 84.

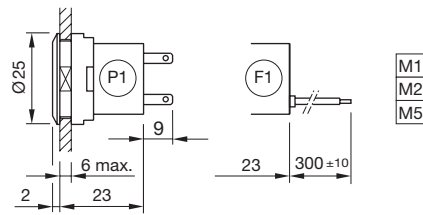
PCB mounting

Solder/plug-in and cable terminal

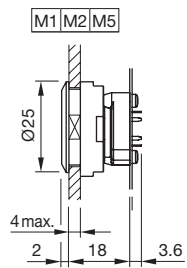


Dimensions and mounting cut-outs.

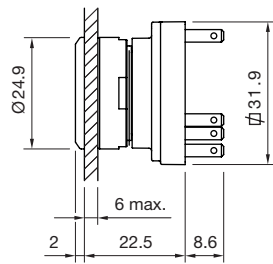
Dimensions Standard version



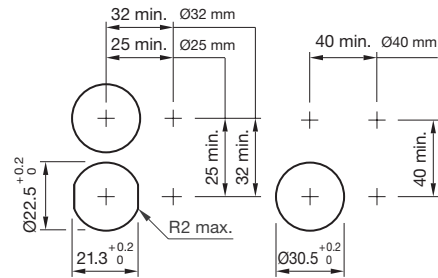
PCB version



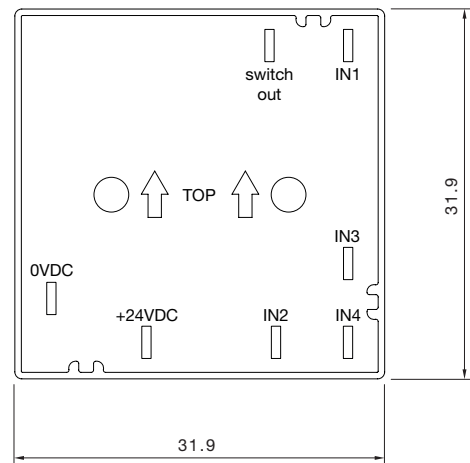
Halo Compact version



Mounting cut-outs



Component layout



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.

EAO downloads

Find more extensive documents such as catalogues, data sheets, certificates and brochures to read and use for research under downloads at www.eao.com.



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