Product Profile

The Series 84 consists of indicators, pushbuttons and low depth monoblock Emergency-stop switches. The indicators and pushbuttons are a modular system of lens, actuator and switching element with connections using plug-in terminals. Within the many different colours, the lenses are available either in plastic or anodised aluminium.

Technical data see page 126

Emergency-stop switches
- IP65 Protection (Emergency-stop switches)
- Switch Rating for emergency-stop switch: 3A/120VAC, 1.5A/240VAC
- LED Voltage for Emergency-stop switch: 5-30VDC
- Compact Emergency-stop meets EN 60947-5-1, EN 60947-5-5 and DIN EN ISO 13850
- Mounting into 22.5mm mounting hole
- Switching elements with solder/plug-in terminal or ribbon cable, 300 mm long

Actuators/Elements
- IP67 Protection (Switches and Indicators)
- Illumination using Single or Multi-LED’s in red, orange, yellow, green, blue or white
- Switch Rating for indicator and pushbutton: 10 mA – 100 mA, 50 mVAC/VDC – 42VAC/VDC
- Flush Mounting into 22.5 mm mounting hole
- Switching elements with solder/plug-in terminal or ribbon cable, 300 mm long

Detailed product selectors pages see 122-125
Choose one component from each of the coloured sections to assemble a complete switch.
For other options or further information please contact your local sales office.

**Indicator actuator**
Indicator actuator for flush mount, black plastic, IP67 front protection, 22.5 mm mounting

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>84-0100.0</td>
<td>Plastic</td>
</tr>
<tr>
<td>84-0200.7</td>
<td>Aluminium</td>
</tr>
</tbody>
</table>

For complete indicator: order lens 84.7205.X00X or 84-7202.X00A

**Actuator Halo Illumination**
Halo Indicator actuator for flush mount, plastic translucent, IP67 front protection, 22.5 mm mounting

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>84-0090.7</td>
<td>Plastic</td>
</tr>
</tbody>
</table>

For complete switch also order **A**

**Illum. pushbutton actuator**
Pushbutton actuator for flush mount, black plastic, impulse function; IP67 front protection, 22.5 mm mounting

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>84-1101.0</td>
<td>Plastic</td>
</tr>
<tr>
<td>84-1201.2</td>
<td>Aluminium</td>
</tr>
<tr>
<td>84-1201.4</td>
<td>Aluminium</td>
</tr>
<tr>
<td>84-1201.5</td>
<td>Aluminium</td>
</tr>
<tr>
<td>84-1201.6</td>
<td>Aluminium</td>
</tr>
<tr>
<td>84-1201.7</td>
<td>Aluminium</td>
</tr>
</tbody>
</table>

For complete switch also order **A**

**Actuator Halo Illumination**
Halo Pushbutton actuator for flush mount, plastic translucent, IP67 front protection, 22.5 mm mounting

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>84-1091.7</td>
<td>Plastic translucent</td>
</tr>
</tbody>
</table>

For complete pushbutton: order lens 84.7205.X00X or 84-7202.X00A

**Indicator element**
Indicator element, 24VDC LED, plug-in terminals

<table>
<thead>
<tr>
<th>Colour</th>
<th>Part No.</th>
<th>Colour</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>84-8001.2620</td>
<td>Red/Green</td>
<td>84-8005.8620</td>
</tr>
<tr>
<td>Orange</td>
<td>84-8001.3620</td>
<td>Yellow/Green</td>
<td>84-8005.7620</td>
</tr>
<tr>
<td>Yellow</td>
<td>84-8001.4620</td>
<td>Single-chip LED</td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>84-8001.5620</td>
<td>Single-chip LED</td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td>84-8001.6620</td>
<td>Single-chip LED</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>84-8001.9620</td>
<td>Single-chip LED</td>
<td></td>
</tr>
</tbody>
</table>

For complete switch also order **A**
Choose one component from each of the coloured sections to assemble a complete switch.

For other options or further information please contact your local sales office.

### Indicator element

Indicator element, bi-colour, 24VDC, ribbon cable 300 mm, three strands, 1NO

<table>
<thead>
<tr>
<th>Colour</th>
<th>Part No.</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red/Green</td>
<td>84-8005.8640</td>
<td></td>
</tr>
<tr>
<td>Yellow/Green</td>
<td>84-8005.7640</td>
<td></td>
</tr>
</tbody>
</table>

### Switching element

Switching element, 24VDC LED, plug-in terminals, 1NO

<table>
<thead>
<tr>
<th>Colour</th>
<th>Part No.</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>84-8511.2620</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td>Orange</td>
<td>84-8511.3620</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td>Yellow</td>
<td>84-8511.4620</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td>Green</td>
<td>84-8511.5620</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td>Blue</td>
<td>84-8511.6620</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td>White</td>
<td>84-8511.9620</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td></td>
<td>84-8510.0020</td>
<td>No LED - switching element only</td>
</tr>
</tbody>
</table>

Switching element, 24VDC, IP67; ribbon cable 300 mm, four strands, 1NO

<table>
<thead>
<tr>
<th>Colour</th>
<th>Part No.</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>84-8511.2640</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td>Orange</td>
<td>84-8511.3640</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td>Yellow</td>
<td>84-8511.4640</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td>Green</td>
<td>84-8511.5640</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td>Blue</td>
<td>84-8511.6640</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td>White</td>
<td>84-8511.9640</td>
<td>Single-chip LED</td>
</tr>
<tr>
<td></td>
<td>84-8510.0040</td>
<td>No LED - switching element only</td>
</tr>
</tbody>
</table>

### Accessories

Lens, plastic for flush mount, round indicator and pushbutton actuators

<table>
<thead>
<tr>
<th>Colour</th>
<th>Part No.</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>84-7111.200</td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td>84-7111.400</td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>84-7111.500</td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td>84-7111.600</td>
<td></td>
</tr>
<tr>
<td>Clear</td>
<td>84-7111.700</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>84-7121.000</td>
<td>Not for illumination</td>
</tr>
</tbody>
</table>

Lens, plastic; transparent; illuminated ring; flat

<table>
<thead>
<tr>
<th>Colour</th>
<th>Part No.</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>84-7111.201</td>
<td></td>
</tr>
<tr>
<td>Orange</td>
<td>84-7111.301</td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td>84-7111.401</td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>84-7111.501</td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td>84-7111.601</td>
<td></td>
</tr>
<tr>
<td>Clear</td>
<td>84-7111.701</td>
<td></td>
</tr>
</tbody>
</table>

Not recommended for Halo Illumination
Choose one component from each of the coloured sections to assemble a complete switch.

For other options or further information please contact your local sales office.

**A Accessories**

Recomended Lens for Halo illumination, aluminium, flat raised

<table>
<thead>
<tr>
<th>Colour</th>
<th>Part No.</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>84-7211.200A</td>
<td>for Halo</td>
</tr>
<tr>
<td>Yellow</td>
<td>84-7211.400A</td>
<td>for Halo</td>
</tr>
<tr>
<td>Green</td>
<td>84-7211.500A</td>
<td>for Halo</td>
</tr>
<tr>
<td>Blue</td>
<td>84-7211.600A</td>
<td>for Halo</td>
</tr>
<tr>
<td>Aluminium</td>
<td>84-7211.800A</td>
<td>for Halo</td>
</tr>
<tr>
<td>Black</td>
<td>84-7211.000A</td>
<td>for Halo</td>
</tr>
</tbody>
</table>

Recomended Lens for Halo illumination, aluminium, convex raised

<table>
<thead>
<tr>
<th>Colour</th>
<th>Part No.</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>84-7202.200A</td>
<td>for Halo</td>
</tr>
<tr>
<td>Yellow</td>
<td>84-7202.400A</td>
<td>for Halo</td>
</tr>
<tr>
<td>Green</td>
<td>84-7202.500A</td>
<td>for Halo</td>
</tr>
<tr>
<td>Blue</td>
<td>84-7202.600A</td>
<td>for Halo</td>
</tr>
<tr>
<td>Aluminium</td>
<td>84-7202.800A</td>
<td>for Halo</td>
</tr>
<tr>
<td>Black</td>
<td>84-7202.000A</td>
<td>for Halo</td>
</tr>
</tbody>
</table>

Lens, aluminium flat – with dot

<table>
<thead>
<tr>
<th>Colour</th>
<th>Part No.</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>84-7215.200</td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td>84-7215.400</td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td>84-7215.500</td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td>84-7215.600</td>
<td></td>
</tr>
<tr>
<td>Aluminium</td>
<td>84-7215.800</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>84-7215.000</td>
<td></td>
</tr>
</tbody>
</table>

**A Accessories**

Lens remover for flush mount, mounting tool and switching element remover

<table>
<thead>
<tr>
<th>Colour</th>
<th>Part No.</th>
<th>Image</th>
<th>Part No.</th>
<th>Thread</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>84-7215.200</td>
<td>1</td>
<td>61-9480.5</td>
<td></td>
</tr>
<tr>
<td>Yellow</td>
<td>84-7215.400</td>
<td>2</td>
<td>61-9481.6</td>
<td>M16</td>
</tr>
<tr>
<td>Green</td>
<td>84-7215.500</td>
<td>3</td>
<td>704-945.6</td>
<td>M20</td>
</tr>
<tr>
<td>Blue</td>
<td>84-7215.600</td>
<td>4</td>
<td>84-996</td>
<td></td>
</tr>
<tr>
<td>Aluminium</td>
<td>84-7215.800</td>
<td></td>
<td>84-996</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>84-7215.000</td>
<td></td>
<td>84-997</td>
<td></td>
</tr>
</tbody>
</table>

Emergency-stop switch enclosure with 22.5 mm Ø mounting hole, 65 mm (a) x 65 mm (h) x 57 mm (d), anti twist hole. Cable gland M16 or M20, IP66

<table>
<thead>
<tr>
<th>Colour</th>
<th>Part No.</th>
<th>Image</th>
<th>Part No.</th>
<th>Product description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>61-9730.0</td>
<td>1</td>
<td>61-9730.0</td>
<td>Lens remover for flush mount</td>
</tr>
<tr>
<td>Yellow</td>
<td>84-997</td>
<td>2</td>
<td>84-997</td>
<td>Mounting tool</td>
</tr>
<tr>
<td>Green</td>
<td>84-998</td>
<td>3</td>
<td>84-998</td>
<td>Switching element remover</td>
</tr>
<tr>
<td>Blue</td>
<td>84-996</td>
<td>4</td>
<td>84-996</td>
<td>Mounting tool, E-stop</td>
</tr>
</tbody>
</table>
Series 84
Product Selector

Part Number Assistant

Featured here are our product combinations.

Other options available on request.

Bi-colour LED red/green
84-8515.8640 84-8005.8640 84-8005.8620

Bi-colour LED yellow/green
84-8515.7640 84-8005.7640 84-8005.7620

Black
Yellow
84-8511.4340 84-8001.4340 84-8511.4320 84-8001.4320 84-8511.4640 84-8001.4640 84-8511.4620 84-8001.4620

Bezel material
Plastic
Aluminium

Orange
84-8511.3340 84-8001.3340 84-8511.3320 84-8001.3320 84-8511.3640 84-8001.3640 84-8511.3620 84-8001.3620

Dimensions / Mounting types: Refer to last page

Switching element for Illum. pushbutton
Indicator

Illuminated pushbutton Indicator
Illum. pushbutton Indicator
Illum. pushbutton Indicator
Illum. pushbutton Indicator
Illum. pushbutton Indicator
Illum. pushbutton Indicator
Illum. pushbutton Indicator
Illum. pushbutton Indicator

Terminal
Cable 300 mm
Plug-in 2.8 x 0.8 mm

Power
2 W

Current
10µA …100 mA at 240Ω

Voltage
50 mVAC/DC … 42 VAC/DC

Switch rating:

Actuator for Illum. pushbutton
Indicator

Front protection
IP40
IP67
IP67
IP40
IP67
IP67
IP67
IP67
IP67

Mounting hole
22.5 mm dia.
30.5 mm dia.
22.5 mm dia.
22.5 mm dia.

25 mm dia.
22.5 mm dia.
22.5 mm dia.
22.5 mm dia.
22.5 mm dia.
22.5 mm dia.
22.5 mm dia.
22.5 mm dia.
22.5 mm dia.

Natural 84-1201.7 84-0200.7 84-1221.7 84-1201.7 84-1221.7
White translucent 84-1091.7 84-0090.7

Actuator (with bezel)

LED colour
bezel colour
Lens colour

Marking plate
Engraving on plate “START”; 4 mm letters; black filled

Switching element

LEDs and LED-series resistors are integrated

Switch rating:
Voltage 50mVAC/DC; ... 42VAC/DC
Current 10µA... 100 mA at 240Ω

Power 2 W

Terminal
Cable 300 mm
Plug-in 2.8 x 0.8 mm

Operating voltage/current of LED
12VDC, 10 mA
12VDC, 10 mA

Bi-colour possible X X X X X X X X X X

Black
Red
Orange
Yellow
Green
Blue
Translucent
Grey

Other options available on request.

Features:

Natural 84-1201.7 84-0200.7 84-1221.7

LEDs: 12 VDC; plug-in; 2.8 x 0.8 mm; cable 300 mm

Spot illumination:
Aluminium

Mounting type
Level with bezel
Level with bezel
Level with bezel
Raised above bezel
Raised above bezel
Raised above bezel
Raised above bezel
Raised above bezel

Bi-colour LED red/green
Black

Bi-colour LED yellow/green

Bi-colour LED red/white

Non-illuminated

Accessories (optional)

Accessories part
Description
Marking plate
Legend frame
Legend plate insert

Part No.
61-9707.7
61-9980.0
704.968.0
704.968.1

Example of complete switch

Illuminated pushbutton consisting of

Items no.
Part
1
Lenses: plastic; green; transparent; raised 84-7115.500
2
Actuator: aluminium; natural; IP67 84-1201.7
3
Switching element: LED white; 12VDC; 10mA; plug-in terminal 2.8 x 0.8 mm 84-8511.9320

Marking plate
Engraving on marking plate “START”; 4 mm letters; black filled

Dimensions / Mounting types: Refer to last page
<table>
<thead>
<tr>
<th>Bezel colour</th>
<th>Opaque Plastic</th>
<th>Opaque Aluminium</th>
<th>Opaque Bi-colour LED yellow/green</th>
<th>Opaque Bi-colour LED red/green</th>
<th>Opaque White</th>
<th>Opaque Blue</th>
<th>Opaque Green</th>
<th>Opaque Red</th>
<th>Opaque Orange</th>
<th>Opaque Grey</th>
<th>Opaque Transparent</th>
<th>Opaque Bi-colour possible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plastic</td>
<td>84-7121.000</td>
<td>84-7125.000</td>
<td>84-7121.800</td>
<td>84-7125.800</td>
<td>84-1201.000</td>
<td>84-1201.6</td>
<td>84-1201.7</td>
<td>84-1201.2</td>
<td>84-1201.4</td>
<td>84-1201.5</td>
<td>84-1201.6</td>
<td>84-1201.7</td>
</tr>
<tr>
<td>Flush</td>
<td>84-7201.000</td>
<td>84-7201.200</td>
<td>84-7201.400</td>
<td>84-7202.200</td>
<td>84-7201.000</td>
<td>84-7201.4</td>
<td>84-7201.5</td>
<td>84-7201.6</td>
<td>84-7201.7</td>
<td>84-7201.8</td>
<td>84-7201.9</td>
<td>84-7201.9</td>
</tr>
<tr>
<td>Raised above bezel</td>
<td>84-7201.000</td>
<td>84-7201.000</td>
<td>84-7201.200</td>
<td>84-7202.200</td>
<td>84-7201.000</td>
<td>84-7201.4</td>
<td>84-7201.5</td>
<td>84-7201.6</td>
<td>84-7201.7</td>
<td>84-7201.8</td>
<td>84-7201.9</td>
<td>84-7201.9</td>
</tr>
<tr>
<td>Level with bezel</td>
<td>84-7201.000</td>
<td>84-7201.000</td>
<td>84-7201.200</td>
<td>84-7202.200</td>
<td>84-7201.000</td>
<td>84-7201.4</td>
<td>84-7201.5</td>
<td>84-7201.6</td>
<td>84-7201.7</td>
<td>84-7201.8</td>
<td>84-7201.9</td>
<td>84-7201.9</td>
</tr>
<tr>
<td>Size 25 mm dia.</td>
<td>84-8001.2620</td>
<td>84-8001.3620</td>
<td>84-8001.4620</td>
<td>84-8001.5620</td>
<td>84-8001.6620</td>
<td>84-8001.9620</td>
<td>84-8515.8640</td>
<td>84-8005.8640</td>
<td>84-8005.8620</td>
<td>84-8005.8620</td>
<td>84-8510.0040</td>
<td>84-8510.0020</td>
</tr>
<tr>
<td>Mounting type</td>
<td>22.5 mm dia.</td>
<td>IP40</td>
<td>IP40</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
</tr>
<tr>
<td>25mm dia.</td>
<td>84-2101.0</td>
<td>84-1101.0</td>
<td>84-1201.0</td>
<td>84-1201.2</td>
<td>84-1201.4</td>
<td>84-1201.6</td>
<td>84-1201.7</td>
<td>84-1091.7</td>
<td>84-0090.7</td>
<td>84-1091.0</td>
<td>84-0090.7</td>
<td>84-1201.0</td>
</tr>
<tr>
<td>25 mm dia.</td>
<td>22.5 mm dia.</td>
<td>IP40</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
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<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
</tr>
<tr>
<td>25 mm dia.</td>
<td>22.5 mm dia.</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
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<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
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</tr>
<tr>
<td>25 mm dia.</td>
<td>22.5 mm dia.</td>
<td>IP67</td>
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<tr>
<td>25 mm dia.</td>
<td>22.5 mm dia.</td>
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<tr>
<td>40 mm dia.</td>
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<tr>
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<tr>
<td>25 mm dia.</td>
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<td>IP67</td>
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<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
<td>IP67</td>
</tr>
</tbody>
</table>

### Accessories part
- Marking plate
- Legend frame
- Legend plate insert
- Front protective cap
- Blind plug
- Flat receptacle
- Insulation sleeve
- Plug
- Lens remover
- Mounting tool
- Dismantling tool

### Specifications
- **Switching element:** LED white; 12 VDC; 10 mA; plug-in terminal 2.8 x 0.8 mm
- **Marking plate:** Engraving on marking plate “START”; 4 mm letters; black filled
- Specific symbols and markings are available on request.

### Related Links
- www.eao.com/84STD-ps_en
Series 84 PCB
Product Number Selector
Part Number Assistant

Featured here are our product combinations. Other options available on request.

Lens ①

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>Illuminated ring</td>
<td>84-7111.201</td>
<td>84-7115.200</td>
<td>84-7115.200</td>
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<td>84-7111.203</td>
<td>84-7111.203</td>
<td>84-7111.203</td>
<td>84-7111.300</td>
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<td>84-7111.205</td>
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<td>84-7111.301</td>
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<td>Transparent</td>
<td>84-7111.700</td>
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<td>84-7111.701</td>
<td>84-7111.701</td>
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<td>84-7111.110</td>
<td>84-7111.110</td>
<td></td>
</tr>
</tbody>
</table>

Material
- Plastic
- Aluminium

Marking on plate possible
X
X
X
X
X
X
X
X
X
X

Bi-colour possible
X
X
X
X
X
X
X
X
X
X

Shape
- Flush
- Convex
- Mushroom

Mounting type
- Level with bezel
- Raised above bezel

Flange ②

<table>
<thead>
<tr>
<th>Front dimension</th>
<th>25 mm dia.</th>
<th>25 mm dia.</th>
<th>25 mm dia.</th>
<th>25 mm dia.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting hole</td>
<td>10-2602.320L</td>
<td>10-2602.320CL</td>
<td>10-2602.320CL</td>
<td>10-2602.320CL</td>
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<tr>
<td>Front protection</td>
<td>Indicator Plastic</td>
<td>Indicator Plastic</td>
<td>Indicator Plastic</td>
<td>Indicator Plastic</td>
</tr>
<tr>
<td>Black</td>
<td>84-1001.0</td>
<td>84-1010.0</td>
<td>84-1020.0</td>
<td>84-1030.0</td>
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<td>Red</td>
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<td>84-2020.0</td>
<td>84-2030.0</td>
<td>84-2040.0</td>
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<td>Yellow</td>
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<td>84-3020.0</td>
<td>84-3030.0</td>
<td>84-3040.0</td>
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<tr>
<td>Green</td>
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<td>84-4030.0</td>
<td>84-4040.0</td>
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<td>84-5020.0</td>
<td>84-5030.0</td>
<td>84-5040.0</td>
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<td>84-6020.0</td>
<td>84-6030.0</td>
<td>84-6040.0</td>
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<tr>
<td>White translucent</td>
<td>84-7010.0</td>
<td>84-7020.0</td>
<td>84-7030.0</td>
<td>84-7040.0</td>
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<td>Colourless transparent</td>
<td>84-8010.0</td>
<td>84-8020.0</td>
<td>84-8030.0</td>
<td>84-8040.0</td>
</tr>
</tbody>
</table>

Flange material
- Plastic
- Aluminium

Actuator (with bezel) ③

<table>
<thead>
<tr>
<th>Front dimension</th>
<th>25 mm dia.</th>
<th>25 mm dia.</th>
<th>25 mm dia.</th>
<th>25 mm dia.</th>
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</thead>
<tbody>
<tr>
<td>Mounting hole</td>
<td>Indicator Plastic</td>
<td>Indicator Plastic</td>
<td>Indicator Plastic</td>
<td>Indicator Plastic</td>
</tr>
<tr>
<td>Black</td>
<td>84-1001.0</td>
<td>84-1010.0</td>
<td>84-1020.0</td>
<td>84-1030.0</td>
</tr>
<tr>
<td>Red</td>
<td>84-2010.0</td>
<td>84-2020.0</td>
<td>84-2030.0</td>
<td>84-2040.0</td>
</tr>
<tr>
<td>Yellow</td>
<td>84-3010.0</td>
<td>84-3020.0</td>
<td>84-3030.0</td>
<td>84-3040.0</td>
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<tr>
<td>Green</td>
<td>84-4010.0</td>
<td>84-4020.0</td>
<td>84-4030.0</td>
<td>84-4040.0</td>
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<tr>
<td>Blue</td>
<td>84-5010.0</td>
<td>84-5020.0</td>
<td>84-5030.0</td>
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<tr>
<td>Natural</td>
<td>84-6010.0</td>
<td>84-6020.0</td>
<td>84-6030.0</td>
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<td>White translucent</td>
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<td>84-7040.0</td>
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<tr>
<td>Colourless transparent</td>
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<td>84-8020.0</td>
<td>84-8030.0</td>
<td>84-8040.0</td>
</tr>
</tbody>
</table>

Flange material
- Plastic
- Aluminium

Flange
- 22.5 mm dia.
- 30.5 mm dia.

Bezel material
- Plastic
- Aluminium

LED ④

<table>
<thead>
<tr>
<th>LED series resistor has to be defined by user.</th>
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<tbody>
<tr>
<td>LED for switching element*</td>
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<tr>
<td>Red</td>
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<tr>
<td>Orange</td>
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<tr>
<td>Yellow</td>
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<tr>
<td>Green</td>
</tr>
<tr>
<td>Blue</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>Bi-colour LED red/green</td>
</tr>
<tr>
<td>Bi-colour LED yellow/green</td>
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</table>

LED for Halo
- up to 8 pcs. possible

Switching element ⑤

<table>
<thead>
<tr>
<th>Switch rating:</th>
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<tbody>
<tr>
<td>Voltage 50 mVAC/DC ... 42 VAC/DC</td>
</tr>
<tr>
<td>Current 10 mA ... 100 mA at 240 V</td>
</tr>
<tr>
<td>Power 2 W</td>
</tr>
</tbody>
</table>

Terminal, PCB mount
- X

Switching element for
- Illum. pushbutton
- Indicator

Example of complete switch ⑥

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Part No.</th>
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<tbody>
<tr>
<td>1</td>
<td>84-7111.203</td>
</tr>
<tr>
<td>2</td>
<td>84-1201.2</td>
</tr>
<tr>
<td>3</td>
<td>92-960.0</td>
</tr>
<tr>
<td>4</td>
<td>10-2602.320L</td>
</tr>
<tr>
<td>5</td>
<td>92-851.342</td>
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</tbody>
</table>

Dimensions / Mounting types: Refer to last page

Accessories:
- Refer to Product Selector Series 84
Non-illuminated (Non-illuminated lens and bezel)

<table>
<thead>
<tr>
<th>Opacity</th>
<th>Colour</th>
<th>Lens colour</th>
<th>Actuator (with bezel)</th>
<th>Front protection</th>
<th>Bezel material</th>
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</thead>
<tbody>
<tr>
<td>Plastic</td>
<td>Plastic</td>
<td>Plastic</td>
<td>Aluminium</td>
<td>IP67</td>
<td>Plastic</td>
</tr>
<tr>
<td>Aluminum</td>
<td>Plastic</td>
<td>Plastic</td>
<td>Plastic</td>
<td>IP67</td>
<td>Aluminium</td>
</tr>
<tr>
<td>Plastic</td>
<td>Plastic</td>
<td>Plastic</td>
<td>Plastic</td>
<td>IP67</td>
<td>Aluminium</td>
</tr>
<tr>
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<td>Plastic</td>
<td>Plastic</td>
<td>Plastic</td>
<td>IP67</td>
<td>Aluminium</td>
</tr>
</tbody>
</table>

Other options available on request.

Part Number Assistant
Product Selector
Series 84 PCB

Illuminated pushbutton consisting of Item no. Part Part No. Colour of metal part For in-depth information, please refer to the EAO catalogue.

Example of complete switch

Terminal, PCB mount
Power 2 W Current 10 µA …100 mA at 240 Ω Voltage 50 mVAC/DC … 42 VAC/DC

Switch rating:

- Red 2.1 VDC, 20 mA
- Yellow 2.2 VDC, 20 mA
- Green 3.5 VDC, 20 mA
- Blue 3.5 VDC, 20 mA
- White 3.5 VDC, 20 mA
- Bi-colour LED yellow/green 2.0/3.2 VDC, 20 mA
- Bi-colour LED red/green 1.9/3.5 VDC, 20 mA

For in-depth information, please refer to the EAO catalogue.

www.eao.com/84PCB-ps_en
Emergency-stop

Switching system
The Normally closed contacts have forced opening according to EN IEC 60947-5-1

Material
Connection cable
Polyvinylchloride (PVC), operating temperature up to +65 °C
Mushroom-head cap
Polybutyleneterephthalate (PBT), as per UL 94 V0 (red items)
Actuator housing
Polyamide (PA 66), as per UL 94 V0, Flat ribbon cable-cover
Polyamide (PA 6.6), as per UL 94 V0
Material of contact
Silver alloy gold plated

Mechanical characteristics
Front panel thickness
Standard 1 ... 4 mm
With emergency-stop protective shroud Typ-Nr. 84-902, 1-3 mm
Mounting hole
22.5 mm dia. as per EN IEC 60947-5-1 with anti-twist device
Terminals
Soldering terminals 2.8 x 0.5 mm (solderable), CuSn6 tin-plated
Flat ribbon cable 2-, 4-, or 6-poles 0.35 mm² (AWG 22)
Tightening torque
Fixing nut 80 Ncm
Actuating force
22 N ±4 N
Actuating travel
approx. 4 mm to release the internal operation part
Mechanical lifetime
≥50 000 cycles of operations

Electrical characteristics

Standards
The devices comply with: EN IEC 60947-5-1, EN IEC 60947-5-5
(Emergency-stop), DIN EN ISO 13850, EN IEC 60204
Illumination
LED red with pole reversal, constant current source
Operation Voltage
5VDC ... 30VDC
Current consumption
9.7 mA ... 12.4 mA
Rated Operational Voltage Ue
250VAC, as per EN IEC 60947-1
Rated Insulation Voltage Ui
250V, as per EN IEC 60947-1
Rated Impulse Withstand Voltage Uimp
2.5kV, as per EN IEC 60947-1
Contact resistance
New state ≤50mΩ, as per DIN IEC 60512-2-3
Isolation resistance
>1011 Ω between the opened contacts at 500VDC, as per DIN IEC 60512-2-10

Electrical life
≥50 000 cycles of operations (inductive cos φ 0.4), as per EN IEC 60947-5-1
Voltage 120 VAC 240VAC 125VDC 250VDC
Current 3 A 1.5 A 0.55 A 0.27 A

Reduced load ≥50 000 cycles of operations (resistive)
Voltage 1VAC/DC 42VAC/DC
Current 100 mA 200 mA

Conventional free air thermal current Ith
5A, as per EN IEC 60947-5-1
the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

Switch rating
Switch rating AC with silver contact (gold plated), service category
AC-15, as per EN IEC 60947-5-1
Voltage 120 VAC 240VAC
Current 3 A 1.5 A
Switch rating DC for silver contact (gold plated), service category
DC-13, as per EN IEC 60947-5-1 (inductive)
Voltage 12VDC 24VDC 48VDC 60VDC 125VDC 250VDC
Current plug 5 A 4 A 2.1 A 1.7 A 0.55 A 0.27 A
Current cable 3 A 3 A 2.1 A 1.7 A 0.55 A 0.27 A

Recommended minimum operational data
Silver contacts (gold plated)
Voltage 1VAC/DC
Current 1 mA

Electric strength
500VAC, 50Hz, 1 min, as per DIN IEC 60512-2

Rated conditional short-circuit current
1000A, type of short-circuit unit 6A gG, as per EN IEC 60947-5-1

Protection class
Class II, as per EN IEC 60947-5

Overvoltage category
II, as per EN IEC 60947-1

Degree of pollution
3, as per EN IEC 60947-1

Environmental conditions
Operating temperature
−25 °C ... +65 °C
Front protection
IP65, as per EN IEC 60529

Shock resistance
semi-sinusoidal)
max. 150 m/s², pulse width 11 ms, 3-axis, as per EN IEC 60068-2-27

Vibration resistance
(sinusoidal)
max. 50 m/s² at 10 Hz ... 500 Hz, 10 cycles, 3-axis, as per EN IEC 60068-2-6
### Technical Data Series 84

#### Climate resistance
**Damp heat, cyclic**
96 hours, +25 °C / 97%, +55 °C / 93% relative humidity, as per EN IEC 60068-2-30

**Damp heat, steady**
56 days, +40 °C / 93% relative humidity, as per EN IEC 60068-2-78

**Dry heat**
96 hours, +70 °C, as per EN IEC 60068-2-2

**Low temperature**
96 hours, −40 °C, as per EN IEC 60068-2-1

**Saline mist**
96 Stunden, +35 °C in chemical solution NaCl, as per EN IEC 60068-2-11

#### Approvals
**SEV**
**UL**
**Declaration of conformity**
**CE**

#### Switching element illuminated pushbutton

**Switching system**
Short-travel switching system with 2 independent contact points and tactile operation. Guarantees reliable switching even of very light loads. Fitted with 1 normally open contact.

#### Material
**Connection cable**
Polyvinylchloride (PVC), short-time heat-resistant up to 105 °C

**Material of contact**
Silver alloy gold plated

**Switching element**
Thermoplastic polyester (PET, PBT), as per UL 94 V0 and Polyacetale (POM), as per UL 94 HB

#### Mechanical characteristics
**Terminals**
Plug-in terminals 2.8 x 0.8 mm (solderable)
Flat ribbon cable 0.5 mm²
PCB terminal

**Actuating force**
4.0 N ±0.2 N (measured at the lens)

**Actuating travel**
~0.5 mm

**Rebound time**
≤1 ms

**Resistance to heat of soldering**
260 °C, 5 s (PCB assembly)
350 °C, 10 s (when using a soldering iron) as per EN IEC 60068-2-20

**Mechanical lifetime**
≥1 million cycles of operations

#### Electrical characteristics

**Illumination**
Single-Chip or Multi-Chip LED, green, orange, red, yellow, white and blue

**Operation Voltage**
12 VDC
24 VDC

**Current consumption**
40 mA
20 mA

**Contact resistance**
Starting value (initial) ≤100 mΩ, as per DIN IEC 60512-2

**Isolation resistance**
≥1 G Ω between all terminals at 100VDC, as per DIN IEC 60512-2

**Electrical life**
as per EN IEC 60512-5
- 5 million cycles of operation 24 VAC, 50 mA at 480Ω
- 5 million cycles of operation 24 VAC, 100 mA at 240Ω
- 2 million cycles of operation 42 VAC, 50 mA at 840Ω
- 2 million cycles of operation 42 VAC, 100 mA at 420Ω
- 300 000 cycles of operation 42 VAC, 100 mA at cos φ 0.4
- 250 000 cycles of operation 42 VAC, 200 mA at cos φ 0.395
- 1 million cycles of operation 12 VDC, 250 mA at 48 Ω
- 1 million cycles of operation 24 VDC, 50 mA at 480Ω
- 1 million cycles of operation 24 VDC, 100 mA at 240Ω
- 5 million cycles of operation 42 VDC, 25 mA at 1680Ω
- 1.5 million cycles of operation 42 VDC, 50 mA at 840Ω
- 100 000 cycles of operation 42 VDC, 100 mA at 420Ω
- 500 000 cycles of operation 24 VDC, 200 mA at L/R=30 ms
- 300 000 cycles of operation 42 VDC, 100 mA at L/R=30 ms
- 100 000 cycles of operation 42 VDC, 200 mA at L/R=30 ms

**Switch rating**
Voltage 50 mVAC/DC ... 42 VAC/DC
Current 10 uA ... 100 mA
Power max. 2W

**Electric strength**
500 VAC, 50Hz, 1 min. as per DIN IEC 60512-2

#### Environmental conditions
**Storage temperature**
−40 °C ... +85 °C

**Operating temperature**
−25 °C ... +70 °C

**Protection degree**
For IP67 back protection, cable version only, use blind plug Typ-Nr. 84-900

**Shock resistance**
(semi-sinusoidal)
max. 100 m/s², pulse width 11 ms, 3-axis, as per EN IEC 60068-2-27

**Vibration resistance**
(sinusoidal)
max. 50 m/s² at 10 Hz ... 500Hz, 10 cycles, 3-axis, as per EN IEC 60068-2-6
Actuator

Material

Lens
Polycarbonate (PC), as per UL 94 V2 or Aluminium anodised

Actuator housing
Polyetherimid (PEI), as per UL 94 V0 or Aluminium anodised

Mechanical characteristics

Mounting hole
22.5 mm dia. and 30.5 mm dia.

Tightening torque
Fixing nut max. 80 Ncm

Actuating force
4.0 N ±0.2 N (measured at the lens)

Actuating travel
Total switching travel 1.2 mm

Mechanical lifetime
≥1 million cycles of operations

Electrical characteristics

Electrostatic breakdown value
Plastic case ≤15 kV
Aluminium case ≤ 5 kV
as per IEC 61000-4-2, mounted in plastic front panel

Environmental conditions

Storage temperature
−40 °C ... +85 °C

Operating temperature
−25 °C ... +70 °C

Front protection
IP67, IP65 and IP40, as per EN IEC 60529

Climate resistance
Damp heat, cyclic
96 hours, +25 °C / 97%, +55 °C / 93% relative humidity, as per
EN IEC 60068-2-30

Damp heat, state
56 days, +40 °C / 93% relative humidity, as per EN IEC 60068-2-78

Rapid change of temperature
100 cycles, −40 °C ... +80 °C, as per EN IEC 60068-2-14
84 Complete Indicator, Complete Pushbutton
Flush, plug-in terminals, Flat ribbon, PCB

84 Emergency-stop switch
ISO 13850, Illuminated, Non-Illuminated, Plug-in, Flat ribbon
84 Cut-outs
Indicator, Pushbutton

ISO 13850, illuminated, Non-Illuminated, Plug-in, Ribbon Cable

84 PCB-Layout, Indicator

**Single-LED**
Drilling plan (Elementsise)
A Fixing holes for mounting flange (92-960.0)
B Holes for LED
C Holes for centering pins

**Bi-colour-LED**
Drilling plan (Elementsise)
A Fixing holes for mounting flange (92-960.0)
B Holes for Bi-colour LED: BA1 (green) +
BA2 (yellow or red) = Anodes, BK = Cathode
C Holes for centering pins

**Hyper mini SMD-LED**
Drilling plan (Elementsise)
A Fixing holes for mounting flange (84-960.0)

84 PCB-Layout, Pushbutton actuators

**Single-LED**
Drilling plan (Elementsise)
A Fixing holes for mounting flange (92-960.0)
B Holes for LED
C Holes for contact pins
Pad max. Ø 2.5 mm
Through-connection recommended

**Bi-colour-LED**
Drilling plan (Elementsise)
A Fixing holes for mounting flange (92-960.0)
B Holes for Bi-colour LED: BA1 (green) +
BA2 (yellow or red) = Anodes, BK = Cathode
C Holes for contact pins
Pad max. Ø 2.5 mm
Through-connection recommended

**Hyper mini SMD-LED**
Drilling plan (Elementsise)
A Fixing holes for mounting flange (84-960.0)