## Series

## Characteristics

The compact Series 56 is especially suited for:

- Front mounting
- Rear mounting
- Glass mounting

It is characterised by a large ring illumination and an excellent tactile feel.

## Functions

The Series 56 incorporates the following functions:

- Indicator
- Pushbutton
- Illuminated pushbutton
- Lever switch
- Sound module
- Flashing warning beacon


## Market segments

The EAO Series 56 is especially suited for applications in the segments:

- Public transportation
- Building technology

Please refer to the EAO website to obtain detailed information regarding this series www.products.eao.com Configure a product to your exact needs and request a quotation.


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## 56 <br> Front mounting

Single side indicator


The preview is based on a sample product. This can differ from your current configuration.

## Additional Information

- Please fill in the form and forward it to your local EAO partner by e-mail or fax. The electronic form is available at http://www.eao.com/offer56


Dimensions [mm] [mm]


Mounting cut-outs [mm]

## Equipment consisting of



Each part listed below includes all the black components shown in the 3D-drawing

To obtain a complete unit, please select the red components from the pages shown.

## Front cap

$\square$ Plastic colourless flush
$\square$ Plastic colourless raised
$\square$ Plastic colourless half round

## Marking (Text or symbol)



| Illumination | $\square$ LED red | $\square$ LED yellow |  |
| :--- | :--- | :--- | :--- | :--- |
| $\square$ LED green | $\square$ LED white | $\square$ LED blue |  |

## Supply voltage illumination

[^0]Cable exit

| $\square$ cable exit right | $\square$ cable exit left |
| :--- | :--- |

## Cable length

| $\square \mathrm{A}=200 \mathrm{~mm}$ | $\square \mathrm{~A}=500 \mathrm{~mm}$ | $\square \mathrm{~A}=1000 \mathrm{~mm}$ | $\square \mathrm{~A}=1500 \mathrm{~mm}$ |
| :--- | :--- | :--- | :--- | :--- |


| Cable and Connector type |  |
| :--- | :--- |
| Cable | Connector |
| $\square 2 \times 0.24 \mathrm{~mm}^{2}$ | $\square$ core end-sleeves |
|  | $\square$ AMP Connector Mate-N-Lok (Wiring diagram 2) |
|  | $\square$ DEUTSCH connector (Wiring diagram 2) |
|  | $\square$ AMP Connector $2.8 \times 0.8($ Wiring diagram 1) |
|  | $\square$ AMP Connector $6.3 \times 0.8($ Wiring diagram 2) |

## Housing

$\square$ housing D73 (standard)
The drawings you will find from page 36
The component layout No. 1 you will find from page 36


## 56 Front mounting

Single side pushbutton


The preview is based on a sample product. This can differ from your current configuration.

## Additional Information

- Please fill in the form and forward it to your local EAO partner by e-mail or fax. The electronic form is available at http://www.eao.com/offer56


Dimensions [mm]


Mounting cut-outs [mm]

## Equipment consisting of



Each part listed below includes all the black components shown in the 3D-drawing

To obtain a complete unit, please select the red components from the pages shown.

| Lens |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\square$ flush, plastic | $\square$ flush, aluminium | $\square$ raised, aluminium |  |  |  |  |  |  |  |
| $\square$ green RAL 6024 | $\square$ naturel | $\square$ naturel |  |  |  |  |  |  |  |
| $\square$ red RAL 3020 | $\square$ green | $\square$ green |  |  |  |  |  |  |  |
| $\square$ blue RAL 5017 | $\square$ red | $\square$ red |  |  |  |  |  |  |  |
| $\square$ yellow RAL 1023 | $\square$ blue | $\square$ blue |  |  |  |  |  |  |  |
| $\square$ grey RAL 7040 | $\square$ yellow | $\square$ yellow |  |  |  |  |  |  |  |
| $\square$ black RAL 9017 | $\square$ black | $\square$ black |  |  |  |  |  |  |  |
| $\square$ orange RAL 2003 |  |  |  |  |  |  |  |  |  |

## Lens marking

$\square$ without symbol

| $\square$ with symbol aluminium, raised (milled) |
| :--- |
| $\square$ with symbol aluminium, flat (engraved/lasered) |
| Symbol colour |

## Illumination

| $\square$ without illumination |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| $\square$ with illumination | $\square 8$ green | $\square 8$ red | $\square 8$ blue | $\square 8$ yellow |



Tolerance $+25 \% . . .-30 \%$

## Cable exit

$\square$ cable exit right

```
\(\square\) cable exit left
```


## Cable length

| $\square \mathrm{A}=200 \mathrm{~mm}$ | $\square \mathrm{~A}=500 \mathrm{~mm}$ | $\square \mathrm{~A}=1000 \mathrm{~mm}$ | $\square \mathrm{~A}=1500 \mathrm{~mm}$ | $\square \ldots \ldots \mathrm{~mm}$ |
| :--- | :--- | :--- | :--- | :--- |

## Cable and Connector type

| Cable | Connector |
| :--- | :--- |
| $\square 2 \times 0.5 \mathrm{~mm}^{2}$ (Wiring diagram 5) | $\square$ core end-sleeves |
| $\square 4 \times 0.5 \mathrm{~mm}^{2}$ (Wiring diagram 1, 2, 3, 4) | $\square$ AMP Connector Mate-N-Lok (Wiring diagram 3, 4) |
|  | $\square$ DEUTSCH connector (Wiring diagram 3, 4) |
|  | $\square$ AMP Connector 2.8×0.8 (Wiring diagram 1, 2) |
|  | $\square$ AMP Connector 6.3×0.8 (Wiring diagram 3, 4) |

## Housing

$\square$ housing D73 (standard)
$\square$ housing reworked $50 \times 50 \mathrm{~mm}$
$\square$ housing reworked $68.5 \times 50 \mathrm{~mm}$
The drawings you will find from page 36
The component layouts No. 2 and 3 you will find from page 36


Wiring diagram 3


[^1]
## Lever switch



The preview is based on a sample product. This can differ from your current configuration.

## Additional Information

- Lever aluminium naturel anodized
- Two switching positions
- Switching action: 0-maintain
- $45^{\circ}$ switching angle
- Switching element see technical data Series 04


Dimensions [mm]


Mounting cut-outs [mm]


Each part listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

| Part No. | Weight |
| :--- | :--- |
| 704.107 .1 | 0.314 kg |

F~- -
Wing digan 1

## Multi-Tone Sound Module



Each part listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.


Dimensions [mm]


Mounting cut-outs [mm]


The preview is based on a sample product. This can differ from your current configuration.

## Additional Information

- The descriptions of the standard tone sequences see "Application guidelines"
- Please fill in the form and forward it to your local EAO partner by e-mail or fax. The electronic form is available at http://www.eao.com/offer56


## Front cap

| Front cap | $\square$ Plastic black raised |
| :--- | :--- |
| $\square$ Plastic black flush |  |


| Front cap marking |  |
| :--- | :--- |
| $\square$ without symbol | $\square$ with symbol |

## Volume adjustment

$\square$ Manually (3-/5-Tone Sequences Module)

| Tone sequence | $\square 5$-tone | $\square 6$-tone |
| :--- | :--- | :--- |
| $\square$ 3-tone | $\square$ |  |

Supply voltage

| $\square 24$ VDC (5-Tone Sequences Module) | $\square 16 \ldots 63$ VDC (3-/6-Tone Sequences Module) | $\square 50 \ldots 143$ VDC (3-/6-Tone Sequences Module) |
| :--- | :--- | :--- |
| Tolerance $\pm 30 \%$ |  |  |

## Cable exit

| $\square$ cable exit right | $\square$ cable exit left |
| :--- | :--- |

## Cable length

| $\square A=200 \mathrm{~mm}$ | $\square \mathrm{~A}=500 \mathrm{~mm}$ | $\square \mathrm{~A}=1000 \mathrm{~mm}$ | $\square \mathrm{~A}=1500 \mathrm{~mm}$ | $\square \ldots \mathrm{~mm}$ |
| :--- | :--- | :--- | :--- | :--- |

## 56 <br> Front mounting

## Cable and Connector type

| Cable | Connector |
| :--- | :--- |
| $\square 4 \times 0.25 \mathrm{~mm}^{2}$ | $\square$ core end-sleeves |
| $\square 4 \times 0.5 \mathrm{~mm}^{2}$ | $\square$ AMP Connector Mate-N-Lok |
| $\square 6 \times 0.5 \mathrm{~mm}^{2}$ | $\square$ DEUTSCH connector |
|  | $\square$ AMP Connector $2.8 \times 0.8$ |
|  | $\square$ AMP Connector $6.3 \times 0.8$ |

## Housing

$\square$ housing D73 (standard)
The drawings you will find from page 36
The component layouts No. 4 and 5 you will find from page 36


| 6 -Tone sequence | $16 . . .63 \mathrm{VDC}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Tone | green | yellow | brown |
|  | 1 | 16-63 VDC | OV | OV |
|  | 2 | 0 V | 16-63 VDC | OV |
|  | 3 | 16-63 VDC | 16-63 VDC | OV |
|  | 4 | 0 V | 0 V | 16-63 VDC |
| - brown | 5 | 16-63 VDC | 0 V | 16-63 VDC |
| green | 6 | 0 V | 16-63 VDC | 16-63 VDC |
| o yellow | 50 ... | 3 VDC |  |  |
| ov ownite | Tone | green | yellow | brown |
|  | 1 | 50-143 VDC | OV | OV |
|  | 2 | 0 V | 50-143 VDC | OV |
|  | 3 | 50-143 VDC | $50-143$ VDC | OV |
|  | 4 | 0 V | 0 V | 50-143 VDC |
|  | 5 | 50-143 VDC | 0 V | 50-143 VDC |
|  | 6 | 0 V | 50-143 VDC | 50-143 VDC |

Wiring diagram 3

## Flashing warning beacon



Each part listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.


Dimensions [mm]


Mounting cut-outs [mm]


The preview is based on a sample product. This can differ from your current configuration.

## Additional Information

- Please fill in the form and forward it to your local EAO partner by e-mail or fax. The electronic form is available at http://www.eao.com/offer56


## Front cap

$\square$ Plastic colourless raised

## Illumination

$\square$ LED white

## Supply voltage

## $\square 24$ VDC

Tolerance $\pm 30$ \%

## Cable exit

| $\square$ cable exit right | $\square$ cable exit left |
| :--- | :--- |

## Cable length

| $\square \mathrm{A}=200 \mathrm{~mm}$ | $\square \mathrm{~A}=500 \mathrm{~mm}$ | $\square \mathrm{~A}=1000 \mathrm{~mm}$ | $\square \mathrm{~A}=1500 \mathrm{~mm}$ | $\square \ldots$ |
| :--- | :--- | :--- | :--- | :--- |

## Cable and Connector type

| Cable | Connector |
| :--- | :--- |
| $\square 2 \times 0.24 \mathrm{~mm}^{2}$ | $\square$ core end-sleeves |
|  | $\square$ AMP Connector Mate-N-Lok (Wiring diagram 2) |
|  | $\square$ DEUTSCH connector (Wiring diagram 2) |
|  | $\square$ AMP Connector $2.8 \times 0.8($ Wiring diagram 1) |
|  | $\square$ AMP Connector $6.3 \times 0.8$ (Wiring diagram 2) |

## Front mounting

## Housing

$\square$ housing D73 (standard)
$\square$ housing reworked $50 \times 50 \mathrm{~mm}$
$\square$ housing reworked $68.5 \times 50 \mathrm{~mm}$
The drawings you will find from page 36
The component layout No. 1 you will find from page 36


Single side indicator


Each part number listed below includes all the black components shown in the 3D-drawing.


Dimensions [mm]



The preview is based on a sample product. This can differ from your current configuration.

## Additional Information

- Please fill in the form and forward it to your local EAO partner by e-mail or fax. The electronic form is available at http://www.eao.com/offer56

Mounting cut-outs [mm]

Front cap
$\square$ Plastic colourless flush
$\square$ Plastic colourless half round

Marking (Text or symbol)
$\square$ without marking
$\square$ with marking

## Illumination

| $\square$ LED green | $\square$ LED red | $\square$ LED yellow | $\square$ LED white |
| :--- | :--- | :--- | :--- | :--- |

## Supply voltage

$\square 24$ VDC

## 56 <br> Rear mounting

## Cable exit

$\square$ cable exit right

$$
\square \text { cable exit left }
$$

Cable length

| $\square \mathrm{A}=200 \mathrm{~mm}$ | $\square \mathrm{~A}=500 \mathrm{~mm}$ | $\square \mathrm{~A}=1000 \mathrm{~mm}$ | $\square \mathrm{~A}=1500 \mathrm{~mm}$ |
| :--- | :--- | :--- | :--- | :--- |

## Cable + Connector type

| Cable | Connector |
| :--- | :--- |
| $\square 2 * 0.24 \mathrm{~mm}^{2}$ | $\square$ core end-sleeves |
|  | $\square$ AMP Connector Mate-N-Lok (Wiring diagram 2) |
|  | $\square$ DEUTSCH connector (Wiring diagram 2) |
|  | $\square$ AMP Connector 2.8×0.8 (Wiring diagram 1) |
|  | $\square$ AMP Connector $6.3 \times 0.8$ (Wiring diagram 2) |

## Housing

| $\square$ housing D73 (standard) | $\square$ housing reworked $50 \times 50 \mathrm{~mm}$ | $\square$ housing reworked $68.5 \times 50 \mathrm{~mm}$ |
| :--- | :--- | :--- |

The drawings you will find from page 36
The component layout No. 1 you will find from page 36


Single side pushbutton


Each part listed below includes all the black components shown in the 3D-drawing.


Dimensions [mm]


Mounting cut-outs [mm]


The preview is based on a sample product. This can differ from your current configuration.

## Additional Information

- Please fill in the form and forward it to your local EAO partner by e-mail or fax. The electronic form is available at http://www.eao.com/offer56

| Lens |  |  |
| :--- | :--- | :--- |
| $\square$ flush, plastic | $\square$ flush, aluminium | $\square$ raised, aluminium |
| $\square$ green RAL 6024 | $\square$ naturel | $\square$ naturel |
| $\square$ red RAL 3020 | $\square$ green | $\square$ green |
| $\square$ blue RAL 5017 | $\square$ red | $\square$ red |
| $\square$ yellow RAL 1023 | $\square$ blue | $\square$ blue |
| $\square$ light-grey RAL 7040 | $\square$ yellow | $\square$ yellow |
| $\square$ black RAL 9017 | $\square$ black | $\square$ black |
| $\square$ orange RAL 2003 |  | $\square$ |

## Lens marking

$\square$ without symbol
$\square$ with symbol aluminium, raised (milled)
$\square \square$ with symbol aluminium, flat (engraved/lasered)
Symbol colour $\quad$ with symbol plastic, flat (engraved/lasered)

| Illumination |
| :--- |
| $\square$ without illumination     <br> $\square$ with illumination $\square 8$ green $\square 8$ red $\square 8$ blue $\square 8$ yellow | |  |
| :--- |

## Supply voltage

| Supply voltage | $\square 36 \mathrm{VDC}$ | $\square 48 \mathrm{VDC}$ | $\square 72 \mathrm{VDC}$ | $\square 110 \mathrm{VDC}$ |
| :--- | :--- | :--- | :--- | :--- |
| $\square 24 \mathrm{VDC}$ | $\square$ |  |  |  |

Tolerance $+25 \%$... $-30 \%$

## 56 Rear mounting

## Cable exit

$\square$ cable exit right

$\square$ cable exit left

Cable length

| $\square \mathrm{A}=200 \mathrm{~mm}$ | $\square \mathrm{~A}=500 \mathrm{~mm}$ | $\square \mathrm{~A}=1000 \mathrm{~mm}$ | $\square \mathrm{~A}=1500 \mathrm{~mm}$ |
| :--- | :--- | :--- | :--- | :--- |

## Cable + Connector type

Cable
$\square 2 \times 0.5 \mathrm{~mm}^{2}$ (Wiring diagram 5)
$\square 4 \times 0.5 \mathrm{~mm}^{2}$ (Wiring diagram 1, 2, 3, 4

| Connector |
| :--- |
| $\square$ core end-sleeves |
| $\square$ AMP Connector Mate-N-Lok (Wiring diagram 3, 4) |
| $\square$ DEUTSCH connector (Wiring diagram 3, 4) |
| $\square$ AMP Connector $2.8 \times 0.8$ (Wiring diagram 1, 2) |
| $\square$ AMP Connector $6.3 \times 0.8$ (Wiring diagram 3, 4) |

## Housing

$\square$ housing D73 (standard)
The drawings you will find from page 36
The component layout No. 2 you will find from page 36


Wiring diagram 3


Wiring diagram 5

Multi-Tone Sound Module


Each part listed below includes all the black components shown in the 3D-drawing.


Dimensions [mm]


Mounting cut-outs [mm]


The preview is based on a sample product. This can differ from your current configuration.

## Additional Information

- Please fill in the form and forward it to your local EAO partner by e-mail or fax. The electronic form is available at http://www.eao.com/offer56


## Front cap

$\square$ Plastic black flush $\quad \square$ Plastic black raised

| Front cap marking |  |
| :--- | :--- |
| $\square$ without symbol | $\square$ with symbol |

## Volume adjustment

$\square$ Manually (3-/5-Tone Sequences Module)

## Tone sequence

| $\square$ 3-tone | $\square$ 5-tone |  | $\square$ 6-tone |
| :---: | :---: | :---: | :---: |
| Supply voltage |  |  |  |
| $\square 24$ VDC (5-Tone Sequences Module) | $\square 16 \ldots 63$ VDC (3-/6-Tone Sequences Module) |  | $\square 50 \ldots 143$ VDC (3-/6-Tone Sequences Module) |
| Tolerance $\pm 30$ \% |  |  |  |
| Cable exit |  |  |  |
| $\square$ cable exit right | $\square$ cable exit left |  |  |
| Cable length |  |  |  |
| $\square \mathrm{A}=200 \mathrm{~mm} \quad \square \mathrm{~A}=500 \mathrm{~mm}$ | $\square \mathrm{A}=1000 \mathrm{~mm}$ | $\square \mathrm{A}=1500 \mathrm{~mm}$ | $\square \ldots \mathrm{mm}$ |

## 56 Rear mounting

## Cable + Connector type

| Cable | Connector |
| :--- | :--- |
| $\square 4 \times 0.25 \mathrm{~mm}^{2}$ | $\square$ core end-sleeves |
| $\square 4 \times 0.5 \mathrm{~mm}^{2}$ | $\square$ AMP Connector Mate-N-Lok |
| $\square 6 \times 0.5 \mathrm{~mm}^{2}$ | $\square$ DEUTSCH connector |
|  | $\square$ AMP Connector $2.8 \times 0.8$ |
|  | $\square$ AMP Connector $6.3 \times 0.8$ |

## Housing

$\square$ housing D73 (standard)
The drawings you will find from page 36
The component layouts No. 4, 5 and 6 you will find from page 36


| 6 -Tone sequence | $16 . . .63$ VDC |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Tone | green | yellow | brown |
|  | 1 | 16-63 VDC | OV | OV |
|  | 2 | 0 V | 16-63 VDC | OV |
|  | 3 | 16-63 VDC | 16-63 VDC | OV |
|  | 4 | 0 V | 0 V | 16-63 VDC |
| - brown | 5 | 16-63 VDC | 0 V | 16-63 VDC |
| green | 6 | 0 V | 16-63 VDC | 16-63 VDC |
| oyellow | $50 . .143 \mathrm{VDC}$ |  |  |  |
| OV ownite | Tone | green | yellow | brown |
|  | 1 | 50-143 VDC | OV | OV |
|  | 2 | 0 V | 50-143 VDC | OV |
|  | 3 | 50-143 VDC | $50-143$ VDC | OV |
|  | 4 | 0 V | 0 V | 50-143 VDC |
|  | 5 | 50-143 VDC | 0 V | $50-143$ VDC |
|  | 6 | 0 V | 50-143 VDC | 50-143 VDC |

Wiring diagram 3

## Single side pushbutton



Each part listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.


Dimensions [mm]


Mounting cut-outs [mm]


The preview is based on a sample product. This can differ from your current configuration.

## Additional Information

- Front bezel $\varnothing 87 \mathrm{~mm}$
- Cable exit left
- Housing D73 (standard)
- Other cable cover are available
- Please fill in the form and forward it to your local EAO partner by e-mail or fax. The electronic form is available at http://www.eao.com/offer56

| Lens |  |  |
| :---: | :---: | :---: |
| $\square$ flush, plastic | $\square$ flush, aluminium | $\square$ raised, aluminium |
| $\square$ green RAL 6024 | $\square$ naturel | $\square$ naturel |
| $\square$ red RAL 3020 | $\square$ green | $\square$ green |
| $\square$ blue RAL 5017 | $\square$ red | $\square$ red |
| $\square$ yellow RAL 1023 | $\square$ blue | $\square$ blue |
| $\square$ light-grey RAL 7040 | $\square$ yellow | $\square$ yellow |
| $\square$ black RAL 9017 | $\square$ black | $\square$ black |
| orange RAL 2003 |  |  |

## Lens marking

$\square$ without symbol

| $\square$ with symbol aluminium, raised (milled) |  |
| :--- | :--- |
| $\square$ with symbol aluminium, flat (engraved/lasered) |  |
| Symbol colour | with symbol plastic, flat (engraved/lasered) |


| Illumination |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| $\square$ without illumination |  |  |  |  |
| $\square$ with illumination | $\square 8$ green | $\square 8$ red | $\square 8$ blue | $\square 8$ green $/ 2$ red |

## Supply voltage

| Supply voitage | $\square 36$ VDC | $\square 48$ VDC | $\square 72$ VDC | $\square 110$ VDC |
| :--- | :--- | :--- | :--- | :--- |

Tolerance $+25 \% \ldots-30 \%$

## 56 Glass mounting

## Cable length

$\square A=200 \mathrm{~mm}$

$$
\square \mathrm{A}=500 \mathrm{~mm}
$$

$\square \mathrm{A}=1000 \mathrm{~mm}$
$\square \mathrm{A}=1500 \mathrm{~mm}$
$\square$ $\qquad$ mm

## Cable + Connector type

| Cable | Connector |
| :--- | :--- |
| $\square 2 \times 0.5 \mathrm{~mm}^{2}$ (without illumination, wiring diagram 5) | $\square$ core end-sleeves |
| $\square \square 4 \times 0.5 \mathrm{~mm}^{2}$ (Wiring diagram 1, 2, 3, 4) | $\square$ AMP Connector Mate-N-Lok (Wiring diagram 3, 4) |
|  | $\square$ DEUTSCH connector (Wiring diagram 3, 4) |
|  | $\square$ AMP Connector $2.8 \times 0.8($ Wiring diagram 1, 2) |
|  | $\square$ AMP Connector $6.3 \times 0.8($ Wiring diagram 3, 4) |

The component layouts No. 2 and 3 you will find from page 36


Wiring diagram 3



Wiring diagram 5

## Double side pushbutton



Each part listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.


Dimensions [mm]


Mounting cut-outs [mm]


The preview is based on a sample product. This can differ from your current configuration.

## Product features

- Front bezel $\varnothing 87 \mathrm{~mm}$
- Cable exit left
- Housing D73 (standard)
- Please fill in the form and forward it to your local EAO partner by e-mail or fax. The electronic form is available at http://www.eao.com/offer56

| Lens |  |  |
| :--- | :--- | :--- |
| $\square$ flush, plastic | $\square$ flush, aluminium | $\square$ raised, aluminium |
| $\square$ green RAL 6024 | $\square$ naturel | $\square$ naturel |
| $\square$ red RAL 3020 | $\square$ green | $\square$ green |
| $\square$ blue RAL 5017 | $\square$ red | $\square$ red |
| $\square$ yellow RAL 1023 | $\square$ blue | $\square$ blue |
| $\square$ light-grey RAL 7040 | $\square$ yellow | $\square$ yellow |
| $\square$ black RAL 9017 | $\square$ black | $\square$ black |
| $\square$ orange RAL 2003 |  |  |

## Lens marking

$\square$ without symbol

| $\square$ with symbol aluminium, raised (milled) | $\begin{aligned} & \text { Symbol-No. } \\ & 00.835 \end{aligned}$ |  | $\begin{aligned} & \text { Symbol-No. } \\ & 00.868 \end{aligned}$ |  | Symbol-No. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\square$ with symbol aluminium, flat (engraved/lasered) |  |  |  |  |  |  |
| $\square$ with symbol plastic, flat (engraved/lasered) |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Symbol colour | $\square$ black |  |  | $\square$ white |  |  |

## 56 Glass mounting

| Illumination |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $\square$ without illumination |  |  |  |  |
| $\square$ with illumination | $\square 16$ green | $\square 16 \mathrm{red}$ | $\square 8 \mathrm{red} / 2$ green | $\square 8$ green/2 red |

Supply voltage illumination
$\square 24 \mathrm{VDC}$

```
\square110 VDC
```

Tolerance $+25 \%$... $-30 \%$

## Cable length

| $\square \mathrm{A}=200 \mathrm{~mm}$ | $\square \mathrm{~A}=500 \mathrm{~mm}$ | $\square \mathrm{~A}=1000 \mathrm{~mm}$ | $\square \mathrm{~A}=1500 \mathrm{~mm}$ | $\square \_\mathrm{mm}$ |
| :--- | :--- | :--- | :--- | :--- |

## Cable + Connector type

| Cable | Connector |
| :--- | :--- |
| $\square 2 \times 0.5 \mathrm{~mm}^{2}$ (without illumination, wiring diagram 1, 2) | $\square$ core end-sleeves |
| $\square \square 4 \times 0.5 \mathrm{~mm}^{2}$ (Wiring diagram 1, 2, 3, 4) | $\square$ AMP Connector Mate-N-Lok (Wiring diagram 3, 4) |
|  | $\square$ DEUTSCH connector (Wiring diagram 3, 4) |
|  | $\square$ AMP Connector $2.8 \times 0.8($ Wiring diagram 1, 2) |
|  | $\square$ AMP Connector $6.3 \times 0.8($ Wiring diagram 3, 4) |

The component layouts No. 2 and 3 you will find from page 36



## Multi-Tone Sound Module



Each part listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.


Dimensions [mm]


Mounting cut-outs [mm]

Thevew is based on a sample product. This can differ from your current configuration.

## Product features

- Front bezel $\varnothing 87 \mathrm{~mm}$
- Cable exit left
- Housing D73 (standard)
- Please fill in the form and forward it to your local EAO partner by e-mail or fax. The electronic form is available at http://www.eao.com/offer56

| Front cap |  |  |  |
| :---: | :---: | :---: | :---: |
| $\square$ Plastic black flush |  | $\square$ Plastic black raised |  |
| Front cap marking |  |  |  |
| $\square$ without symbol |  | $\square$ with symbol |  |
| Volume adjustment |  |  |  |
| $\square$ Manually (3-/5-Tone Sequences Module) |  | $\square$ Automatically (6-Tone Sequences Module) |  |
| Tone sequence |  |  |  |
|  |  |  |  |
| Supply voltage |  |  |  |
| $\square 24$ VDC (5-Tone Sequences Module) | $\square 16 \ldots 63$ | Sequences Module) | $\square 50 . .143 \mathrm{VDC}$ |
| Tolerance $\pm 30 \%$ |  |  |  |

Cable exit

| $\square$ cable exit right | $\square$ cable exit left |
| :--- | :--- |

## Cable length

$\square A=200 \mathrm{~mm}$

| Cable + Connector type |  |
| :--- | :--- |
| Cable | Connector |
| $\square 4 * 0.5 \mathrm{~mm}^{2}$ | $\square$ core end-sleeves |
|  | $\square$ AMP Connector Mate-N-Lok |
|  | $\square$ DEUTSCH connector |
|  | $\square$ AMP Connector $2.8 \times 0.8$ |
|  | $\square$ AMP Connector $6.3 \times 0.8$ |

[^2]
## 56 <br> Glass mounting



| 6 -Tone sequence | $16 . . .63$ VDC |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Tone | green | yellow | brown |
|  | 1 | 16-63 VDC | OV | OV |
|  | 2 | 0 V | 16-63 VDC | OV |
|  | 3 | 16-63 VDC | 16-63 VDC | OV |
|  | 4 | 0 V | 0 V | 16-63 VDC |
|  | 5 | 16-63 VDC | 0 V | 16-63 VDC |
|  | 6 | 0 V | 16-63 VDC | 16-63 VDC |
|  | $50 . . .143$ VDC |  |  |  |
|  | Tone | green | yellow | brown |
|  | 1 | 50-143 VDC | OV | OV |
|  | 2 | 0 V | 50-143 VDC | OV |
|  | 3 | 50-143 VDC | 50-143 VDC | OV |
|  | 4 | 0 V | 0 V | $50-143$ VDC |
|  | 5 | 50-143 VDC | 0 V | 50-143 VDC |
|  | 6 | 0 V | 50-143 VDC | 50-143 VDC |

Wiring diagram 3

Front

## Front bezel

## Additional Information

- Special colours for front bezel on request


Front bezel, front dimension $87 \times 87 \mathrm{~mm}$

| For single side indicator and single <br> side pushbutton, front mounting | RAL 3020 | Plastic red | $\mathbf{5 6 - 2 2 0 0}$ | 0.026 kg |
| :--- | :--- | :--- | :--- | :--- |
|  | RAL 1023 | Plastic yellow | $\mathbf{5 6 - 2 4 0 0}$ | 0.026 kg |
|  | RAL 6024 | Plastic green | $\mathbf{5 6 - 2 5 0 0}$ | 0.026 kg |
|  | RAL 5017 | Plastic blue | $\mathbf{5 6 - 2 6 0 0}$ | 0.026 kg |
|  |  | Metal matt chrome | $\mathbf{5 6 - 4 6 0 0}$ | $\mathbf{0 . 0 8 5} \mathrm{kg}$ |

Front bezel, front dimension Ø 87 mm

| For single side indicator and single <br> side pushbutton; double side push- <br> button external | RAL 9017 | Pastic black | $\mathbf{5 6 - 1 0 0 0}$ | 0.018 kg |
| :--- | :--- | :--- | :--- | :--- |
|  | RAL 3020 | Plastic red | $\mathbf{5 6 - 1 2 0 0}$ | 0.018 kg |
|  | RAL 2003 | Plastic orange | $\mathbf{5 6 - 1 3 0 0}$ | 0.018 kg |
|  | RAL 1023 | Plastic yellow | $\mathbf{5 6 - 1 4 0 0}$ | 0.018 kg |
|  | RAL 6024 | Plastic green | $\mathbf{5 6 - 1 5 0 0}$ | 0.018 kg |
|  | RAL 5017 | Plastic blue | $\mathbf{5 6 - 1 6 0 0}$ | 0.018 kg |
|  | RAL 7043 | Plastic darkgrey | $\mathbf{5 6 - 1 8 0 0}$ | 0.018 kg |
|  | RAL 7040 | Plastic lightgrey | $\mathbf{5 6 - 1 8 0 0 A}$ | 0.018 kg |
|  |  | Metal matt chrome | $\mathbf{5 6 - 3 6 0 0}$ | $\mathbf{0 . 0 7} \mathrm{kg}$ |

## Front bezel internal

## Additional Information

- For double side pushbutton

|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Dimension | Colour | Front bezel | Part No. |  |

Front bezel internal

| $\varnothing 87 \mathrm{~mm}$ | RAL 3020 | Plastic red | $\mathbf{5 6 - 5 2 0 0}$ | 0.09 kg |
| :--- | :--- | :--- | :--- | :--- |
|  | RAL 2003 | Plastic orange | $\mathbf{5 6 - 5 3 0 0}$ | 0.09 kg |
|  | RAL 1023 | Plastic yellow | $\mathbf{5 6 - 5 4 0 0}$ | 0.09 kg |
|  | RAL 6024 | Plastic green | $\mathbf{5 6 - 5 5 0 0}$ | 0.09 kg |
|  | RAL 5017 | Plastic blue | $\mathbf{5 6 - 5 6 0 0}$ | 0.09 kg |
|  | RAL 7043 | Plastic darkgrey | $\mathbf{5 6 - 5 8 0 0}$ | 0.09 kg |
|  | RAL 7040 | Plastic lightgrey | $\mathbf{5 6 - 5 8 0 0 A}$ | 0.09 kg |
|  |  | Metal matt chrome | $\mathbf{5 6 - 7 6 0 0}$ | $\mathbf{0 . 1 1 5} \mathrm{kg}$ |

## 56

Accessories

Front bezel for blind and visually impaired persons round

## Additional Information

- For single side pushbutton, double side pushbutton external
- Special colours for front bezel on request

|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Marking | Colour ally impa | Front bezel | Part No. | Weight |
| Braille + Open | RAL 3020 | Plastic red | 56-1291 | 0.018 kg |
|  | RAL 2003 | Plastic orange | 56-1391 | 0.018 kg |
| Braille + Close | RAL 2003 | Plastic orange | 56-1392 | 0.018 kg |
| Braille + Open | RAL 1023 | Plastic yellow | 56-1491 | 0.018 kg |
| Braille + Close | RAL 1023 | Plastic yellow | 56-1492 | 0.018 kg |

## Front bezel for blind and visually impaired persons triangular

## Additional Information

- For single side pushbutton
- SOS character height 15 mm , black printed according TSI/PRM and braille SOS as per DIN 32976
- Special colours for front bezel on request

| Marking | Colour | Front bezel | Part No. | Weight |
| :---: | :---: | :---: | :---: | :---: |
| Front bezel for blind and visually impaired persons triangular, front dimension $106 \times 101 \mathrm{~mm}$ |  |  |  |  |
| Braille + SOS | RAL 1023 | Plastic yellow | 56-8000.A | 0.029 kg |
|  | RAL 1028 | Plastic melon yellow | 56-8000.1A | 0.029 kg |
|  | RAL 3020 | Plastic red | 56-8000.3A | 0.029 kg |
|  | RAL 6020 | Plastic green | 56-8000.5A | 0.029 kg |

Rear side

## Switching element

## Additional Information

- For the third switching element the terminal marking insert is to be ordered separately


Dimensions [mm]
PIT = Push-in terminal,
P3 $=$ Plug-in terminal $6.3 \times 0.8 \mathrm{~mm}$,
P4 $=$ Double plug-in terminal $6.3 \times 0.8 \mathrm{~mm}$,
X = Screw terminal

|  |  | Switching system | Contacts | Contact material | Terminal | Part No. |  | Weight |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Switching element |  |  |  |  |  |  |  |  |
| 250 VAC | 6 A | Snap-action switching element | 1 NO | Gold | Push-in Terminal | 704.907 .1 | 3 | 0.02 kg |
|  |  |  | 1 NC | Gold | Push-in Terminal | 704.907 .2 | 1 | 0.02 kg |
|  |  |  | 2 NO | Gold | Push-in Terminal | 704.907.3 | 5 | 0.027 kg |
|  |  |  | 2 NC | Gold | Push-in Terminal | 704.907 .4 | 4 | 0.027 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Gold | Push-in Terminal | 704.907 .5 | 2 | 0.027 kg |
|  |  |  | 1 NO | Silver | Push-in Terminal | 704.908 .1 | 3 | 0.02 kg |
|  |  |  | 1 NC | Silver | Push-in Terminal | 704.908 .2 | 1 | 0.02 kg |
|  |  |  | 2 NO | Silver | Push-in Terminal | 704.908 .3 | 5 | 0.027 kg |
|  |  |  | 2 NC | Silver | Push-in Terminal | 704.908 .4 | 4 | 0.027 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Silver | Push-in Terminal | 704.908 .5 | 2 | 0.027 kg |

## 56 Accessories



|  |  | Switching system | Contacts | Contact material | Terminal | Part No. |  | Weight |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 500 VAC | 10 A | Snap-action switching element | $1 \mathrm{NC}+1 \mathrm{NO}$ | Gold | Double plug $6.3 \times 0.8 \mathrm{~mm}$ | 704.901.5/D | 2 | 0.033 kg |
|  |  |  | 1 NO | Silver | Double plug $6.3 \times 0.8 \mathrm{~mm}$ | 704.905.1/D | 3 | 0.026 kg |
|  |  |  | 1 NC | Silver | Double plug $6.3 \times 0.8 \mathrm{~mm}$ | 704.905.2/D | 1 | 0.026 kg |
|  |  |  | 2 NO | Silver | Double plug $6.3 \times 0.8 \mathrm{~mm}$ | 704.905.3/D | 5 | 0.033 kg |
|  |  |  | 2 NC | Silver | Double plug $6.3 \times 0.8 \mathrm{~mm}$ | 704.905.4/D | 4 | 0.033 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Silver | $\begin{aligned} & \text { Double plug } \\ & 6.3 \times 0.8 \mathrm{~mm} \end{aligned}$ | 704.905.5/D | 2 | 0.033 kg |

Switching element

| 500 VAC | 10 A | Slow-make switching element | 1 NO | Silver | Double plug $6.3 \times 0.8 \mathrm{~mm}$ | 704.915.1/D | 3 | 0.025 kg |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1 NC | Silver | Double plug $6.3 \times 0.8 \mathrm{~mm}$ | 704.915.2/D | 1 | 0.025 kg |
|  |  |  | 2 NO | Silver | Double plug $6.3 \times 0.8 \mathrm{~mm}$ | 704.915.3/D | 5 | 0.032 kg |
|  |  |  | 2 NC | Silver | Double plug $6.3 \times 0.8 \mathrm{~mm}$ | 704.915.4/D | 4 | 0.032 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Silver | $\begin{aligned} & \text { Double plug } \\ & 6.3 \times 0.8 \mathrm{~mm} \end{aligned}$ | 704.915.5/D | 2 | 0.032 kg |

## Switching element

| 500 VAC | 10 A | Snap-action switching element | 1 NO | Gold | Screw | 704.901 .1 | 3 | 0.021 kg |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 1 NC | Gold | Screw | 704.901 .2 | 1 | 0.021 kg |
|  |  |  | 2 NO | Gold | Screw | 704.901 .3 | 5 | 0.028 kg |
|  |  |  | 2 NC | Gold | Screw | 704.901 .4 | 4 | 0.028 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Gold | Screw | 704.901 .5 | 2 | 0.028 kg |
|  |  |  | 1 NO | Silver | Screw | 704.900 .1 | 3 | 0.021 kg |
|  |  |  | 1 NC | Silver | Screw | 704.900 .2 | 1 | 0.021 kg |
|  |  |  | 2 NO | Silver | Screw | 704.900 .3 | 5 | 0.028 kg |
|  |  |  | 2 NC | Silver | Screw | 704.900 .4 | 4 | 0.028 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Silver | Screw | 704.900 .5 | 2 | 0.028 kg |
|  |  |  | 1 NO | Palladium | Screw | 704.902 .1 | 3 | 0.021 kg |
|  |  |  | 1 NC | Palladium | Screw | 704.902.2 | 1 | 0.021 kg |
|  |  |  | 2 NO | Palladium | Screw | 704.902 .3 | 5 | 0.028 kg |
|  |  |  | 2 NC | Palladium | Screw | 704.902 .4 | 4 | 0.028 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Palladium | Screw | 704.902 .5 | 2 | 0.028 kg |

## 56 Accessories

|  |  | Switching system | Contacts | Contact material | Terminal | Part No. |  | Weight |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | witc | ent |  |  |  |  |  |  |
| 500 VAC | 10 A | Slow-make switching element | 1 NO | Gold | Screw | 704.911 .1 | 3 | 0.021 kg |
|  |  |  | 1 NC | Gold | Screw | 704.911 .2 | 1 | 0.021 kg |
|  |  |  | 2 NO | Gold | Screw | 704.911 .3 | 5 | 0.028 kg |
|  |  |  | 2 NC | Gold | Screw | 704.911 .4 | 4 | 0.028 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Gold | Screw | 704.911 .5 | 2 | 0.028 kg |
|  |  |  | 1 NO | Silver | Screw | 704.910 .1 | 3 | 0.021 kg |
|  |  |  | 1 NC | Silver | Screw | 704.910 .2 | 1 | 0.021 kg |
|  |  |  | 2 NO | Silver | Screw | 704.910 .3 | 5 | 0.028 kg |
|  |  |  | 2 NC | Silver | Screw | 704.910 .4 | 4 | 0.028 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Silver | Screw | 704.910 .5 | 2 | 0.028 kg |
|  |  |  | 1 NO | Palladium | Screw | 704.912 .1 | 3 | 0.021 kg |
|  |  |  | 1 NC | Palladium | Screw | 704.912 .2 | 1 | 0.021 kg |
|  |  |  | 2 NO | Palladium | Screw | 704.912 .3 | 5 | 0.028 kg |
|  |  |  | 2 NC | Palladium | Screw | 704.912 .4 | 4 | 0.028 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Palladium | Screw | 704.912 .5 | 2 | 0.028 kg |

Contacts: $\mathrm{NC}=$ Normally closed, $\mathrm{NO}=$ Normally open

| 11 | $13 \quad 21$ | 13 | 1121 | 1323 |
| :---: | :---: | :---: | :---: | :---: |
| 4 | 14 | 1 | 44 | 1 |
| 1 |  | $\rceil$ |  |  |
| 12 | 1422 | 14 | 1222 | 1424 |
| Wiring diagram 1 | Wiring diagram 2 | Wiring diagram 3 | Wiring diagram 4 | Wiring diagram 5 |

Switching element ring cable lug


Dimensions [mm]

|  |  | Switching system | Contacts | Contact material | Terminal | Part No. |  | Weight |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Switching element for ring cable shoe |  |  |  |  |  |  |  |  |
| 500 VAC | 10 A | Snap-action switching element | 1 NO | Silver | Screw | 704.900.1B | 3 | 0.021 kg |
|  |  |  | 1 NC | Silver | Screw | 704.900.2B | 1 | 0.021 kg |
|  |  |  | 2 NO | Silver | Screw | 704.900.3B | 5 | 0.028 kg |
|  |  |  | 2 NC | Silver | Screw | 704.900.4B | 4 | 0.028 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Silver | Screw | 704.900.5B | 2 | 0.028 kg |
| Switching element for ring cable shoe |  |  |  |  |  |  |  |  |
| 500 VAC | 10 A | Slow-make switching element | 1 NO | Gold | Screw | 704.911.1B | 3 | 0.021 kg |
|  |  |  | 1 NC | Gold | Screw | 704.911.2B | 1 | 0.021 kg |
|  |  |  | 2 NO | Gold | Screw | 704.911.3B | 5 | 0.028 kg |
|  |  |  | 2 NC | Gold | Screw | 704.911.4B | 4 | 0.028 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Gold | Screw | 704.911.5B | 2 | 0.028 kg |
|  |  |  | 1 NO | Silver | Screw | 704.910.1B | 3 | 0.021 kg |
|  |  |  | 1 NC | Silver | Screw | 704.910.2B | 1 | 0.021 kg |
|  |  |  | 2 NO | Silver | Screw | 704.910.3B | 5 | 0.028 kg |
|  |  |  | 2 NC | Silver | Screw | 704.910.4B | 4 | 0.028 kg |
|  |  |  | $1 \mathrm{NC}+1 \mathrm{NO}$ | Silver | Screw | 704.910.5B | 2 | 0.028 kg |

Contacts: NC = Normally closed, NO = Normally open

| 11 | 1321 | 13 | 1121 | $13 \quad 23$ |
| :---: | :---: | :---: | :---: | :---: |
| 4 | 14 | 1 | 4 | 11 |
| , | $\rangle$ | $\rangle$ |  |  |
| 12 | 1422 | 14 | 1222 | $14 \quad 24$ |
| Wiring diagram 1 | Wiring diagram 2 | Wiring diagram 3 | Wiring diagram 4 | Wiring diagram 5 |

## 56 <br> Accessories

## Mounting

## Cable cover standard

## Additional Information

- Additional cable covers are available on request


Mounting cut-outs [mm]

| Product attribute | Cable cover | Part No. | Weight |
| :---: | :---: | :---: | :---: |
| Cable cover standard |  |  |  |
| included in standard delivery | standard $0^{\circ}$ | 56-992 | 0.003 kg |
| Cable cover standard |  |  |  |
| specify Part No. in purchase order | standard $45^{\circ}$ | 56-992A | 0.005 kg |

## Cable cover funnel

## Additional Information

- Specify Part No. in purchase order

A Caution: Funnel shaped cable cover Part No. 56-992B, C, D, E, F are not replacable after first mounting


Dimensions [mm]


Mounting cut-outs [mm]

|  |  |  |
| :--- | :--- | :--- |
|  | Part No. | Weight |
|  | Cable cover |  |
|  |  |  |
|  |  | $56-992 B$ |

## Bezel cover

| Product attribute | Dimension | Material | Colour | Mounting type | Part No. | Weight |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Bezel cover |  |  |  |  |  |  |
| 0.8 mm thick | $40 \times 26 \mathrm{~mm}$ | Aluminium | natural anodized | adhesive | 56-993 | 0.005 kg |

## 56 <br> Accessories

Mounting set for rear mounting

| Product attribute | Art.-Nr. | Gewicht |
| :---: | :---: | :---: |
| Mounting set for rear mounting |  |  |
| For front panel thickness 2 mm | 56-991 | 0.034 kg |
| Mounting set for rear mounting |  |  |
| For front panel thickness 3 mm | 56-991D | 0.035 kg |

Dismantling tool


## Anti-slip mat

Additional Information

- For dismounting of front bezel
- 3 mm dick

| Dimension | Colour |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  | Part No. | Weight |  |
|  | Anti-slip mat |  |  |  |
| $100 \times 100 \mathrm{~mm}$ |  | white |  |  |

Counterpart set for plug-in housing $2.8 \times 0.8 \mathrm{~mm}$

## Additional Information

- (set of 10 pieces)


Counterpart set for plug-in housing $6.3 \times 0.8 \mathrm{~mm}$

Additional Information

- (set of 10 pieces)

| Part No. | Weight |
| :---: | :---: |

## Sealing

|  |  |
| :--- | :--- |
|  | Weight |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

## 56 Drawings

Drawings




Standard type

Component layout 3


Component layout 4


## 56 <br> Technical data

## Indicator

## Material

## Connection cable

Halogene free Polyolefine mixture

## Lens

Polycarbonate (PC), as per UL94 Vo

## Front bezel

Zinc matt chromium plated or Polybutylenterephthalat (PBT), as per UL94 V0

## Actuator

Polycarbonate (PC), as per UL94 V0

## Mechanical characteristics

## Terminals

Cable 2-poles with plug-in connection $2.8 \times 0.8 \mathrm{~mm}$
Flat plug-in housing rectangular, AMP No. 626 057-0
Counterpart to AMP Flat plug-in housing
(not part of delivery)
Receptacle housing AMP No. 626 056-0
Receptacle socket AMP No. 160 655-2

## Wire cross-section

$0.24 \mathrm{~mm}^{2}$

## Wire length

200 mm with AMP connector $2.8 \times 0.8 \mathrm{~mm}$

## Fixing screws

For front mounting M4×8mm

## Tightening torque

For screws for front mounting $80 \mathrm{Ncm} . . .100 \mathrm{Ncm}$
Key (mounting and dismantling)
Hexagon socket wrench size 2.5 mm

## Environmental conditions

## Storage temperature

$-45^{\circ} \mathrm{C} \ldots+90^{\circ} \mathrm{C}$

## Operating temperature

$-40^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$

## Protection degree

Front side IP 67
Rear side IP 65

## Climate resistance

Damp heat, cyclic
96 hours, $+25^{\circ} \mathrm{C} / 97 \%,+55^{\circ} \mathrm{C} / 93 \%$ relative humidity, as per EN IEC 60068-2-30

Damp heat, state
56 days, $+40^{\circ} \mathrm{C} / 93 \%$ relative humidity, as per EN IEC 60068-2-78
Rapid change of temperature
100 cycles, $-40^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$, as per EN IEC 60068-2-14

## Shock resistance

(semi-sinusoidal)
max. $250 \mathrm{~m} / \mathrm{s}^{2}$, pulse width 11 ms , as per EN IEC 60068-2-27

## Vibration resistance

(sinusoidal)
max. $100 \mathrm{~m} / \mathrm{s}^{2}$ at $10 \mathrm{~Hz} \ldots 2000 \mathrm{~Hz}$, as per EN IEC $60068-2-6$

## Approvals

## Approbations

CQC
NFF

## Declaration of conformity

CE

## Electrical characteristics

## Illumination

15 LED green, red, yellow, white or blue
Supply voltage 24, 110VDC
Tolerance -30\% ... +25 \%
Current consumption < 50 mA
Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination

## Units compliant to

EN 61058-1, EN 50081-1, EN 50082-1, EN 50082-2,
EN 50121-3-2, EN 50155

Multi-Tone Sound Module

## Material

## Connection cable

Halogene free Polyolefine mixture
Housing switching unit and speaker cap
Polycarbonate (PC), as per UL94 V0

## Front bezel

Zinc matt chromium plated or Polybutylenterephthalat (PBT), as per UL94 Vo

## Housing

Tritan (Copolyeste)

## Mechanical characteristics

## Terminals

200 mm with crimped metal sleeves
3-tone sequences module: $4 \times 0.5 \mathrm{~mm}^{2}$ or $4 \times 0.25 \mathrm{~mm}^{2}$
5 -tone sequences module: $6 \times 0.5 \mathrm{~mm}^{2}$
6 -tone sequences module: $6 \times 0.5 \mathrm{~mm}^{2}$

## Fixing screws

For front mounting M4×8mm (3x)

## Tightening torque

For screws for front mounting $80 \mathrm{Ncm} \ldots 100 \mathrm{Ncm}$
Key (mounting and dismantling)
Hexagon socket wrench size 2.5 mm

## Electrical characteristics

## Units compliant to

EN 61000-6-2, EN 61000-6-3, EN 50121-3-2

## Operating voltage/-current

Operation voltage $24 \mathrm{VDC} \pm 30 \%$, 5 -tone sequences module Operation voltage range $16 \ldots 63$ / $50 \ldots 143 \mathrm{VDC}, 3$-tone sequences module/ 6 -tone sequences module
Current rating < 50 mA depending on voltage and volume

## Electric strength

$4000 \mathrm{VAC}, 50 \mathrm{~Hz}, 1 \mathrm{~min}$, between all terminals and mounting plate/front element

## Acoustic characteristics

## 5-tone sequences:

The volume of each tone sequence is configured in five steps by 6 dB , adjustable from the rear side. All sounds are controlled using a wire cable.
The tones can be played in any sequence at different volumes, durations and intervals.

## 3-tone sequences:

The volume of each tone sequence can be changed in 17 steps of 1.5 dB each, by means of the tone-editing programme or "external" by wire. Tone sequence 1 and 2 are being activated by wire, whereby sequence 3 is being activated binarily. All sounds are controlled using a wire cable. In order to symplify the definition of the Multi-Tone Sound Module, a "volume control box" is at EAO customer's disposal as an accessory.
The tones can be played in any sequence at different volumes, durations and intervals.

## 6-tone sequences:

The «MTSM self-adjusting» offers six individual tone sequences that can be emitted at different frequencies, number of repeats and durations. The volume can be pre-set so it is always a specified number of decibels above the ambient noise. The six tone sequences are controlled in a binary manner, via three wires.

## Frequency range

500 Hz ... $3000 \mathrm{~Hz} \pm 1 \%$
$480 \mathrm{~Hz} \ldots 3000 \mathrm{~Hz} \pm 1 \%$ (6-tone sequences module)

## Time range of tone sequence

$0 \ldots \infty$ (endless)

## Acoustic pressure level

3-/5-tone sequences module:
$90 \mathrm{~dB}(\mathrm{~A}) 10 \mathrm{~cm}$ @ 1 kHz
Level 17 for 3-tone sequences module
Level 5 for 5 -tone sequences module
6 -tone sequences module:
Max. $100 \mathrm{db} @ 10 \mathrm{~cm} @ 1 \mathrm{kHz}$

## Environmental conditions

## Storage temperature

$-45^{\circ} \mathrm{C} \ldots+90^{\circ} \mathrm{C}$

## Operating temperature

$-40^{\circ} \mathrm{C} \ldots+85^{\circ} \mathrm{C}$

## Protection degree

3-/6-tone sequences module:
Front side IP 69K oder IP 40
Rear side IP 65
5-tone sequences module:
Front side IP 69K
Rear side IP 65

## 56 <br> Technical data

## Climate resistance

Damp heat, cyclic
48 hours, $+25^{\circ} \mathrm{C} / 97 \%,+55^{\circ} \mathrm{C} / 93 \%$ relative humidity,
as per EN IEC 60068-2-30
Saline mist 96 hours, as per EN IEC 60068-2-11

## Shock resistance

(semi-sinusoidal)
max. $50 \mathrm{~m} / \mathrm{s}^{2}$, pulse width 30 ms , as per EN 61373

## Approvals

## Approbations

CQC
E1
NFF

## Declaration of conformity

CE
TSI/PRM

## Vibration resistance

Max. $7.9 \mathrm{~m} / \mathrm{s}^{2}$ at $10 \mathrm{~Hz} \ldots 150 \mathrm{~Hz}$, as per EN 61373

Pushbutton

## Switching system

Self-cleaning, double-breaking snap-action switching system
1 Normally Open contact, momentary function

## Material

## Connection cable

Halogene free Polyolefine mixture

## Lens

Aluminium anodized or Polybutylenterephthalat (PBT), as per UL94 V0

## Front bezel

Zinc matt chromium plated or Polybutylenterephthalat (PBT), as per UL94 V0

## Actuator

Polycarbonate (PC), as per UL94 V0

## Material of contact

Gold plated silver

## Mechanical characteristics

## Terminals

Cable 4-poles with plug-in connection $2.8 \times 0.8 \mathrm{~mm}$
Flat plug-in housing rectangular, AMP No. 626 057-0
Counterpart to AMP Flat plug-in housing
(not part of delivery)
Receptacle housing AMP No. 626 056-0
Receptacle socket AMP No. 160 655-2
Other version :
Cable 4 poles with plug-in connection $6.3 \times 0.8 \mathrm{~mm}$
Flat plug-in housing rectangular, AMP No. 180 901-0
Counterpart to AMP Flat plug-in housing
(not part of delivery)
Receptacle housing AMP No. 180 900-0
Receptacle socket AMP No. 160 860-2

## Wire cross-section

$0.5 \mathrm{~mm}^{2}$

## Wire length

200 mm with AMP connector $2.8 \times 0.8 \mathrm{~mm}$

## Fixing screws

Single side pushbutton for front mounting M4 x8mm
Double side pushbutton for glass mounting M4×25mm
Single side pushbutton for glass mounting $\mathrm{M} 4 \times 20 \mathrm{~mm}$
(for glass $\geq 5 \mathrm{~mm}$ )
Single side pushbutton for glass mounting M4×16 (for 4 mm glass)

## Tightening torque

Screws for single side pushbutton for front mounting $80 \mathrm{Ncm} . . .100 \mathrm{Ncm}$
Screws for single side- and double side pushbutton for glass mounting 50 Ncm
Key (mounting and dismantling)
Hexagon socket wrench size 2.5 mm

## Actuating force

6N... 12N

## Actuating travel

$\sim 0.5 \mathrm{~mm}$

## Mechanical lifetime

2 million cycles operation

Electrical characteristics

## Illumination

Ready status, 8 LED green, red or yellow
Optical switch on status, 2 LED green or red
(3 LED for special versions)
Supply voltage 24 VDC
Tolerance +25\% ... -30\%
Current consumption < 50 mA
Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination

## Units compliant to

EN 61058-1, EN 61000-6-2, EN 61000-6-3, EN 50155

## Switch rating

min. 5VDC, 5 mA
max. 137 VDC/NAC, max. 200 mA

## Electric strength

$4000 \mathrm{VAC}, 50 \mathrm{~Hz}$, 1 min , between all terminals and mounting plate/front element

Environmental conditions

## Storage temperature

$-45^{\circ} \mathrm{C} \ldots+90^{\circ} \mathrm{C}$
Operating temperature
$-40^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$

## Protection degree

Front side IP 67
Back side IP 65

## Climate resistance

Damp heat, cyclic
96 hours, $+25^{\circ} \mathrm{C} / 97 \%,+55^{\circ} \mathrm{C} / 93 \%$ relative humidity, as per EN IEC 60068-2-30

Damp heat, state
56 days, $+40^{\circ} \mathrm{C} / 93 \%$ relative humidity, as per EN IEC 60068-2-78
Rapid change of temperature
100 cycles, $-40^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$, as per EN IEC 60068-2-14

## Shock resistance

(semi-sinusoidal)
max. $250 \mathrm{~m} / \mathrm{s}^{2}$, pulse width 11 ms , as per EN IEC 60068-2-27

## Vibration resistance

(sinusoidal)
$\mathrm{max} .100 \mathrm{~m} / \mathrm{s}^{2}$ at $10 \mathrm{~Hz} \ldots 500 \mathrm{~Hz}$, as per EN IEC 60068-2-6

## Approvals

## Approbations

CQC
NFF

## Declaration of conformity

CE
TSI/PRM

## Flashing warning beacon

## Material

## Connection cable

Halogene free Polyolefine mixture

## Lens

Polycarbonate (PC), as per UL94 V0

## Front bezel

Zinc matt chromium plated or Polybutylenterephthalat (PBT), as per UL94 V0

## Actuator

Polycarbonate (PC), as per UL94 Vo

## Wire cross-section

$0.24 \mathrm{~mm}^{2}$

## Wire length

200 mm with AMP connector $2.8 \times 0.8 \mathrm{~mm}$

## Fixing screws

For front mounting M4×8mm

## Tightening torque

For screws for front mounting $80 \mathrm{Ncm} .$. 100 Ncm
Key (mounting and dismantling)
Hexagon socket wrench size 2.5 mm

Mechanical characteristics

## Terminals

Cable 2-poles with plug-in connection $2.8 \times 0.8 \mathrm{~mm}$
Flat plug-in housing rectangular, AMP No. 626 057-0
Counterpart to AMP Flat plug-in housing
(not part of delivery)
Receptacle housing AMP No. 626 056-0
Receptacle socket AMP No. 160 655-2

## 56 Technical data

## Electrical characteristics

## Illumination

3 LED white
Supply voltage $24 \mathrm{VDC} \pm 30$ \%
Current consumption $<500 \mathrm{~mA}$
Blitzfrequenz 1 Hz
Impulsdauer 50 ms
Pausendauer 950 ms
Einschaltdauer 5\%
Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination

## Units compliant to

EN 61000-6-2, EN 61000-6-3, EN 50121-3-2

## Environmental conditions

## Storage temperature

$-45^{\circ} \mathrm{C} \ldots+90^{\circ} \mathrm{C}$

## Operating temperature

$-40^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$

## Protection degree

Front side IP 67
Rear side IP 65

## Climate resistance

Damp heat, cyclic
96 hours, $+25^{\circ} \mathrm{C} / 97 \%,+55^{\circ} \mathrm{C} / 93 \%$ relative humidity, as per EN IEC 60068-2-30

Damp heat, state
56 days, $+40^{\circ} \mathrm{C} / 93 \%$ relative humidity, as per EN IEC 60068-2-78
Rapid change of temperature
100 cycles, $-40^{\circ} \mathrm{C} \ldots+80^{\circ} \mathrm{C}$, as per EN IEC 60068-2-14

## Shock resistance

(semi-sinusoidal)
max. $250 \mathrm{~m} / \mathrm{s}^{2}$, pulse width 11 ms , as per EN IEC 60068-2-27

## Vibration resistance

(sinusoidal)
max. $100 \mathrm{~m} / \mathrm{s}^{2}$ at $10 \mathrm{~Hz} \ldots 2000 \mathrm{~Hz}$, as per EN IEC $60068-2-6$

## Approvals

## Approbations

CQC
NFF

## Declaration of conformity

CE

EAO reserves the right to alter specifications without further notice.

## Slow-make switching element

## Switching system

The double-break, slow-make switching element is equipped with one or two independent contact systems, acting as normally open or normally closed contact. The normally closed contact has forced opening.
Slow-make contacts with forced action are ideal for high switch ratings.
Up to three switching elements can be snapped to each actuator. For the emergency-stop pushbutton use the slow-make switching element (max. 3).

## Material

## Material of contact

Hardsilver, gold-silver, silver-palladium (for aggressive atmospheres)

## Switch housing

Polycarbonate (PC)

## Mechanical characteristics

## Terminals

Screw terminals
Plug-in terminals $6.3 \times 0.8 \mathrm{~mm}$
max. wire cross-section $2 \times 2.5 \mathrm{~mm}^{2}$
max. wire cross-section of stranded cable $2 \times 1.5 \mathrm{~mm}^{2}$
For switches with plug-in terminals it is necessary to provide insulation sleeves and to maintain a spacing of 65 mm between rows (mounting cut-outs)

## Tightening torque

Screws at the mounting flange max. 25-30 Ncm
Screws at switching element max. 50 Ncm

## Actuating force

1 Normally closed 2 N
1 Normally open 3.1 N

## Actuating travel

$5.8 \mathrm{~mm} \pm 0.2 \mathrm{~mm}$
Rebound time
$\leq 1 \mathrm{~ms}$

## Mechanical lifetime

(with 1 switching element)
Pushbutton maintained action
Pushbutton momentary action
Selector switch maintained action 1.25 m
Selector switch momentary action 2.5 million Cycles of operation Emergency-stop switch
Keylock switch maintained action
Keylock switch momentary action

## Electrical characteristics

## Standards

The switches comply with the "Standards for low-voltage switching devices" EN IEC 60947-5-1

## Rated Insulation Voltage $\mathbf{U}_{\mathbf{i}}$

500 VAC/600VDC, as per EN IEC 60947-5-1

## Contact resistance

New state $\leq 50 \mathrm{~m} \Omega$ as per DIN IEC 60512-2-4

## Isolation resistance

$\geq 10 \mathrm{M} \Omega$ between open contacts at 500 VDC , as per DIN IEC 60512-3-1

## Electrical life

6050 cycles of operations

## Conventional free air thermal current $\mathrm{I}_{\mathrm{th}}$

As per EN IEC 60947-5-1
6 A for plug-in terminals
10A for screw terminals
the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

## Switch rating

At switch rating AC for gold-silver, silver-palladium and hardsilver contacts, service category AC-15, as per EN IEC 60947-5-1 ( $\cos \varphi 0.3$ )

Voltage 230VAC 400VAC 500VAC
Current 7A 5A 4A
At switch rating DC for gold-silver and hardsilver contacts, service category DC-13, as per EN IEC 60947-5-1

Voltage 24VDC 60VDC 110VDC 250VDC
Current 10A 5A 2.5A 0.6A
Recommended minimum operational data
Gold-silver contacts:
Voltage 24VDC 110VDC
Current 5 mA 2 mA
Hardsilver contacts:
Voltage 24VDC 110VDC
Current 50 mA 10 mA

## Protection class

Indicators and switches, fit for mounting into devices with protection class II

## 56 <br> Technical data

## Environmental conditions

## Storage temperature

$-40^{\circ} \mathrm{C} \ldots+85^{\circ} \mathrm{C}$
Operating temperature
$-40^{\circ} \mathrm{C} \ldots+55^{\circ} \mathrm{C}$
(other temperatures on request)

## Protection degree

IP 00

## Shock resistance

(single impacts, semi-sinusoidal)
$300 \mathrm{~m} / \mathrm{s}^{2}$ puls width 11 ms , as per EN IEC 60068-2-27

## Vibration resistance

(sinusoidal)
$100 \mathrm{~m} / \mathrm{s}^{2}$ at $10 \mathrm{~Hz} \ldots 500 \mathrm{~Hz}$, amplitude 0.75 mm , as per EN IEC 60068-2-6

## Approvals

## Approbations

CB (IEC 60947)
CCC
CSA
Germanischer Lloyd
GOST
NFF 16-102
UL
Declaration of conformity
CE

## Snap-action switching element

## Switching system

The double-break, snap-action switching element is equipped with one or two independent contact systems, acting as normally open or normally closed contact. The snap-action switching element is fitted with self-cleaning contacts.
Up to three switching elements can be snapped to each actuator. Snap-action switching elements are not permissible for emergencystop pushbuttons!

## Material

## Material of contact

Hardsilver, gold-silver, silver-palladium (for aggressive atmospheres)

## Switch housing

Polycarbonate (PC)

Mechanical characteristics

## Terminals

Screw terminals
Plug-in terminals $6.3 \times 0.8 \mathrm{~mm}$
max. wire cross-section $2 \times 2.5 \mathrm{~mm}^{2}$
max. wire cross-section of stranded cable $2 \times 1.5 \mathrm{~mm}^{2}$
For switches with plug-in terminals it is necessary to provide insulation sleeves and to maintain a spacing of 65 mm between rows (mounting cut-outs)

## Tightening torque

Screws at the mounting flange max. 25-30 Ncm
Screws at switching element max. 50 Ncm

## Actuating travel

$5.8 \mathrm{~mm} \pm 0.2 \mathrm{~mm}$
Rebound time
$\leq 3 \mathrm{~ms}$

## Mechanical lifetime

(with 1 switching element)
Pushbutton maintained action $\quad 1.5$ million Cycles of operation
Pushbutton momentary action 3 million Cycles of operation
Selector switch maintained action 1.25 million Cycles of operation
Selector switch momentary action 2.5 million Cycles of operation
Keylock switch maintained action 25000 Cycles of operation
Keylock switch momentary action 50000 Cycles of operation

Electrical characteristics

## Standards

The switches comply with the "Standards for low-voltage switching devices" EN IEC 60947-5-1

Rated Insulation Voltage $\mathbf{U}_{\mathbf{i}}$
500VAC/600VDC, as per EN IEC 60947-5-1

## Contact resistance

New state $\leq 50 \mathrm{~m} \Omega$ as per DIN IEC 60512-2-4
Isolation resistance
$\geq 10 \mathrm{M} \Omega$ between open contacts at 500 VDC , as per
DIN IEC 60512-3-1

## Electrical life

50000 cycles of operations

## Actuating force

1 Normally closed 1.9 N
1 Normally open 2 N

Conventional free air thermal current $\mathrm{I}_{\mathrm{th}}$
As per EN IEC 60947-5-1
6 A for plug-in terminals
10A for screw terminals
the maximum current in continuous operation and at ambient temperature must not exceed the quoted maximum values.

## Switch rating

At switch rating AC for gold-silver, silver-palladium and hardsilver contacts, service category AC-15, as per EN IEC 60947-5-1 ( $\cos \varphi 0.3$ )

Voltage 230VAC 400VAC 500VAC
Current 6A 4A 2.5A
At switch rating DC for gold-silver and hardsilver contacts, service category DC-13, as per EN IEC 60947-5-1

Voltage 24VDC 60VDC 110VDC
Current 10A 3A 1A
Recommended minimum operational data
Gold-silver contacts:
Voltage 5VDC 24VDC 110VDC
Current 15 mA 5 mA 2 mA
Hardsilver contacts:
Voltage 24VDC 110VDC
Current 50 mA 10 mA
Protection class
Indicators and switches, fit for mounting into devices with protection class II

Environmental conditions

## Storage temperature

$-40^{\circ} \mathrm{C} \ldots+85^{\circ} \mathrm{C}$
Operating temperature
$-40^{\circ} \mathrm{C} . .+55^{\circ} \mathrm{C}$
(other temperatures on request)

## Protection degree

IP 00

## Shock resistance

(single impacts, semi-sinusoidal)
$300 \mathrm{~m} / \mathrm{s}^{2}$ puls width 11 ms , as per EN IEC 60068-2-27

## Vibration resistance

## (sinusoidal)

$100 \mathrm{~m} / \mathrm{s}^{2}$ at $10 \mathrm{~Hz} \ldots 500 \mathrm{~Hz}$, amplitude 0.75 mm , as per EN IEC 60068-2-6

## Approvals

## Approbations

CB (IEC 60947)
CCC
CSA
Germanischer Lloyd
GOST
NFF 16-102
UL

## Declaration of conformity

CE

## Slow-make switching element PIT

## Switching system

The double-break, slow-make switching element is equipped with one or two independent contact systems, acting as normally open or normally closed contact. The normally closed contact has forced opening.
Slow-make contacts with forced action are ideal for high switch ratings.
Up to three switching elements can be snapped to each actuator. For the emergency-stop pushbutton use the slow-make switching element (max. 3).

## Material

## Material of contact

Hardsilver and gold-silver

## Switch housing

Polycarbonate (PC)

## Mechanical characteristics

## Terminals

PIT push-in terminal
Skinning 8 mm
Wire cross-section:
Wire 0.2 to $1.0 \mathrm{~mm}^{2}$
Stranded wire 0.2 to $1.0 \mathrm{~mm}^{2}$ without core and sleeve
Stranded wire 0.2 to $0.75 \mathrm{~mm}^{2}$ with core and sleeve

## Tightening torque

Screws at the mounting flange max. 25 Ncm

## Actuating force

1 Normally closed 2 N
1 Normally open 3.1 N

## Actuating travel

$5.8 \mathrm{~mm} \pm 0.2 \mathrm{~mm}$
Rebound time
$\leq 1 \mathrm{~ms}$

## 56

## Mechanical lifetime

| (with 1 switching element) |  |
| :--- | ---: |
| Pushbutton maintained action | 1.5 million Cycles of operation |
| Pushbutton momentary action | 3 million Cycles of operation |
| Selector switch maintained action | 1.25 million Cycles of operation |
| Selector switch momentary action | 2.5 million Cycles of operation |
| Emergency-stop switch | 50000 Cycles of operation |
| Keylock switch maintained action | 25000 Cycles of operation |
| Keylock switch momentary action | 50000 Cycles of operation |

## Electrical characteristics

## Standards

The switches comply with EN IEC 60947-1/EN IEC 60947-5-1

## Rated Insulation Voltage $\mathbf{U}_{\mathbf{i}}$

500VAC/600VDC, as per EN IEC 60947-5-1

## Contact resistance

New state $\leq 50 \mathrm{~m} \Omega$ as per DIN IEC 60512-2-4

## Isolation resistance

$\geq 10 \mathrm{M} \Omega$ between open contacts at 500 VDC , as per
DIN IEC 60512-3-1

## Electrical life

6050 cycles of operations

## Conventional free air thermal current $\mathrm{t}_{\text {th }}$

6A, 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

At switch rating AC for gold-silver and hardsilver contacts, service category AC-15, as per EN IEC 60947-5-1 $(\cos \varphi$ 0.3)

Voltage 250VAC
Current 6A
At switch rating DC for gold-silver and hardsilver contacts, service category DC-13, as per EN IEC 60947-5-1

## Recommended minimum operational data

Gold-silver contacts:
Voltage 24VDC
Current 5 mA
Hardsilver contacts:
Voltage 24VDC
Current 50 mA

## Protection class

Indicators and switches, fit for mounting into devices with protection class II

Environmental conditions

## Storage temperature

$-40^{\circ} \mathrm{C} \ldots+85^{\circ} \mathrm{C}$

## Operating temperature

$-40^{\circ} \mathrm{C} \ldots+55^{\circ} \mathrm{C}$
(other temperatures on request)

## Protection degree

IP 20

## Shock resistance

(single impacts, semi-sinusoidal)
$300 \mathrm{~m} / \mathrm{s}^{2}$ puls width 11 ms , as per EN IEC 60068-2-27

## Approvals

## Approbations

CB (IEC 60947)
CSA
Germanischer Lloyd
GOST
NFF 16-102
UL
Declaration of conformity
CE

## Material

## Material of contact

Hardsilver and gold-silver

## Switch housing

Polycarbonate (PC)

## Mechanical characteristics

## Terminals

PIT push-in terminal
Skinning 8 mm
Wire cross-section:
Wire 0.2 to $1.0 \mathrm{~mm}^{2}$
Stranded wire 0.2 to $1.0 \mathrm{~mm}^{2}$ without core and sleeve
Stranded wire 0.2 to $0.75 \mathrm{~mm}^{2}$ with core and sleeve

## Tightening torque

Screws at the mounting flange max. 25 Ncm

## Actuating force

1 Normally closed 1.9 N
1 Normally open 2 N

## Actuating travel

$5.8 \mathrm{~mm} \pm 0.2 \mathrm{~mm}$

## Rebound time

$\leq 3 \mathrm{~ms}$

## Mechanical lifetime

(with 1 switching element)
Pushbutton maintained action
Pushbutton momentary action
1.5 million Cycles of operation

3 million Cycles of operation
Selector switch maintained action 1.25 million Cycles of operation
Selector switch momentary action 2.5 million Cycles of operation
Emergency-stop switch
Keylock switch maintained action
Keylock switch momentary action 50000 Cycles of operation 25000 Cycles of operation 50000 Cycles of operation

At switch rating DC for gold-silver and hardsilver contacts, service category DC-13, as per EN IEC 60947-5-1

Voltage 24VDC 110VDC
Current 6A 1.0A

## Recommended minimum operational data

Gold-silver contacts:
Voltage 24 VDC
Current 5 mA
Hardsilver contacts:
Voltage 24VDC
Current 50 mA

## Protection class

Indicators and switches, fit for mounting into devices with protection class II

## Environmental conditions

## Storage temperature

$-40^{\circ} \mathrm{C} \ldots+85^{\circ} \mathrm{C}$

## Operating temperature

$-40^{\circ} \mathrm{C} \ldots+55^{\circ} \mathrm{C}$
(other temperatures on request)

## Protection degree

IP 20

## Shock resistance

(single impacts, semi-sinusoidal)
$300 \mathrm{~m} / \mathrm{s}^{2}$ puls width 11 ms , as per EN IEC 60068-2-27

## Vibration resistance

(sinusoidal)
$100 \mathrm{~m} / \mathrm{s}^{2}$ at $10 \mathrm{~Hz} \ldots 500 \mathrm{~Hz}$, as per EN IEC 60068-2-6 and
EN 61373 Increased broad band noise, class 1B

## Approvals

## Approbations

CB (IEC 60947) CSA
Germanischer Lloyd
GOST
NFF 16-102
UL

## Declaration of conformity

CE

Conventional free air thermal current $\mathrm{I}_{\mathrm{th}}$
6A, 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

At switch rating AC for gold-silver and hardsilver contacts, service category AC-15, as per EN IEC 60947-5-1 $(\cos \varphi 0.3)$

Voltage 250VAC
Current 6A

Application guidelines

## Suppressor circuits

When switching inductive loads such as relays, DC motors, and DC solenoids, it is always important to absorb surges (e.g. with a diode) to protect the contacts. When these inductive loads are switched off, a counter emf can severely damage switch contacts and greatly shorten lifetime.

Fig. 1 shows an inductive load with a free-wheeling diode connected in parallel. This free-wheeling diode provides a path for the inductor current to flow when the current is interrupted by the switch. Without this free-wheeling diode, the voltage across the coil will be limited only by dielectric breakdown voltages of the circuit or parasitic elements of the coil. This voltage can be kilovolts in amplitude even when nominal circuit voltages are low (e. g. 12VDC) see Fig. 2.

The free-wheeling diode should be chosen so that the reverse breakdown voltage is greater than the voltage driving the inductive load. The DC blocking voltage (VR) of the free-wheeling diode can be found in the datasheet of a diode. The forward current should be equal or greater than the maximum current flowing through the load.

To get an efficient protection, the free-wheeling diode must be connected as close as possible to the inductive load!


Multi-Tone Sound Module, standard tone sequence


Diagram

| F1 | Frequency 1 of a tone sequence |
| :--- | :--- |
| T2 | Playing time tone 1 |
| T4 | Break |
| N | Number of repetitions of tone 1 |
| F2 | Frequency 2 of a tone sequence |
| T5 | Playing time tone 2 |
| T6 | Break |
| M | Number of repetitions of tone 2 |
| A | Volume level $( \pm 8 \mathrm{~dB})$ @ 10 cm |
| B | Number of repetitions of the complete tone sequence, or blockage of the tone sequence |
| T1 | Fade-in tone 1 and 2 |
| T3 | Fade-out tone 1 and 2 |


| Tone sequences 1-5 Transportation (T) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Parameter | Sequence 1 Door orientation signal | Sequence 2 Door opening signal | Sequence 3 Warning signal for door closing | Sequence 4 Door out of order signal | Sequence 5 Hussle Alarm |
| Tone 1 | F1 | 500 Hz | 800 Hz | 2000 Hz | 1400 Hz | 875 Hz |
|  | T2 | 500 ms | 300 ms | 500 ms | 50 ms | 1000 ms |
|  | T4 | 900 ms | 700 ms | 200 ms | 100 ms | 250 ms |
|  | N | $\infty$ | 1 | $\infty$ | 3 | 3 |
| Tone 2 | F2 | deactivated | 830 Hz | deactivated | deactivated | deactivated |
|  | T5 | deactivated | 500 ms | deactivated | deactivated | deactivated |
|  | T6 | deactivated | 0 ms | deactivated | deactivated | deactivated |
|  | M | deactivated | 1 | deactivated | deactivated | deactivated |
| General | A | $3 / 78 \mathrm{~dB}$ (A) | $3 / 78 \mathrm{~dB}$ (A) | $5 / 90 \mathrm{~dB}$ (A) | $3 / 78 \mathrm{~dB}$ (A) | $3 / 78 \mathrm{~dB}$ (A) |
|  | B | $\infty$ | $\infty$ | 1 | 1 | 1 |
|  | T1 | 0 ms | 0 ms | 0 ms | 0 ms | 0 ms |
|  | T3 | 0 ms | 0 ms | 0 ms | 0 ms | 0 ms |

## 56 Application guidelines

Tone sequences 1-3 Transportation (T1)

|  | Parameter | Sequence 1 Door enabled | Sequence 2 <br> Door closing | Sequence 3 <br> Signal for visual impaired people |
| :---: | :---: | :---: | :---: | :---: |
| Tone 1 | F1 | 1500 Hz | 1900 Hz | 600 Hz |
|  | T2 | $\infty$ | 50 ms | 50 ms |
|  | T4 | 250 ms | 50 ms | 20 ms |
|  | N | $\infty$ | $\infty$ | 2 |
| Tone 2 | F2 | deactivated | deactivated | 500 Hz |
|  | T5 | deactivated | deactivated | 1000 ms |
|  | T6 | deactivated | deactivated | 900 ms |
|  | M | deactivated | deactivated | 1 |
| General | A | $17 / 90 \mathrm{db}$ (A) | $17 / 90 \mathrm{~dB}$ (A) | $9 / 78 \mathrm{~dB}(\mathrm{~A})$ |
|  | B | $\infty$ | $\infty$ | $\infty$ |
|  | T1 | 0 ms | 0 ms | 0 ms |
|  | T3 | 0 ms | 0 ms | 0 ms |


| Tone sequences 6-10 Machinery (M) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Parameter | Sequence 6 | Sequence 7 | Sequence 8 | Sequence 9 | Sequence 10 |
| Tone 1 | F1 | 750 Hz | 2500 Hz | 2000 Hz | 2500 Hz | 1000 Hz |
|  | T2 | 100 ms | 300 ms | 250 ms | 100 ms | 500 ms |
|  | T4 | 200 ms | 500 ms | 200 ms | 100 ms | 100 ms |
|  | N | 1 | 1 | 1 | 2 | 1 |
| Tone 2 | F2 | 500 Hz | 2000 Hz | 1000 Hz | 2000 Hz | 1500 Hz |
|  | T5 | 450 ms | 500 ms | 250 ms | 100 ms | 500 ms |
|  | T6 | 100 ms | 400 ms | 200 ms | 100 ms | 100 ms |
|  | M | 1 | 1 | 1 | 2 | 1 |
| General | A | $4 / 84 \mathrm{~dB}(\mathrm{~A})$ | $4 / 84 \mathrm{~dB}(\mathrm{~A})$ | $5 / 90 \mathrm{~dB}(\mathrm{~A})$ | $5 / 90 \mathrm{~dB}(\mathrm{~A})$ | $4 / 84 \mathrm{~dB}(\mathrm{~A})$ |
|  | B | $\infty$ | $\infty$ | $\infty$ | $\infty$ | $\infty$ |
|  | T1 | 0 ms | 0 ms | 0 ms | 0 ms | 0 ms |
|  | T3 | 200 ms | 0 ms | 500 ms | 0 ms | 0 ms |

Multi-Ton Sound Modul, self adjusting, standard Tone sequence


Diagram

| F1 | Frequency 1 of a tone sequence |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| T2 | Playing time tone 1 | F4 | Frequency 4 of a tone sequence |  |
| T4 | Break |  | T9 | Playing time tone 4 |
| N | Number of repetitions of tone 1 | T10 | Break |  |
| F2 | Frequency 2 of a tone sequence | K | Number of repetitions of tone 4 |  |
| T5 | Playing time tone 2 | A | Basic volume level |  |
| T6 | Break | Number of repetitions of tone 2 | D | Acoustic pressure difference |
| M | Frequency 3 of a tone sequence | Number of repetitions of the complete tone sequence, <br> or blockage of the tone sequence |  |  |
| F3 | Playing time tone 3 | Break | T1 | Fade-in tone 1 to 4 |
| T7 | T3 | Fade-out tone 1 to 4 |  |  |
| T8 |  |  |  |  |


| Tone sequences 6 1-6 |  |  |  |  |  |  | Sequence 6 Customer specific |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Parameter | Sequence 1 Door enabled | Sequence 2 Door closing | Sequence 3 Customer specific | Sequence 4 Customer specific | Sequence 5 Customer specific |  |
| Tone 1 | F1 | 1500 Hz | 1900 Hz | - | - | - | - |
|  | T2 | 250 ms | 100 ms | - | - | - | - |
|  | T4 | 250 ms | 50 ms | - | - | - | - |
|  | N | $\infty$ | 1 | - | - | - | - |
| Tone 2 | F2 | deactivated | deactivated | - | - | - | - |
|  | T5 | deactivated | deactivated | - | - | - | - |
|  | T6 | deactivated | deactivated | - | - | - | - |
|  | M | deactivated | deactivated | - | - | - | - |
| Tone 3 | F3 | deactivated | deactivated | - | - | - | - |
|  | T7 | deactivated | deactivated | - | - | - | - |
|  | T8 | deactivated | deactivated | - | - | - | - |
|  | L | deactivated | deactivated | - | - | - | - |
| Tone 4 | F4 | deactivated | deactivated | - | - | - | - |
|  | T9 | deactivated | deactivated | - | - | - | - |
|  | T10 | deactivated | deactivated | - | - | - | - |
|  | K | deactivated | deactivated | - | - | - | - |
| General | A | 48 dB (A) @ 1.5 m | $48 \mathrm{~dB}(\mathrm{~A}) @ 1.5 \mathrm{~m}$ | - | - | - | - |
|  | D | +2 db | +2 db | - | - | - | - |
|  | B | $\infty$ | $\infty$ | - | - | - | - |
|  | T1 | 0 ms | 0 ms | - | - | - | - |
|  | T3 | 0 ms | 0 ms | - | - | - | - |

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[^0]:    $\square 24$ VDC

[^1]:    Wiring diagram 5

[^2]:    The component layout No. 5 you will find from page 36

