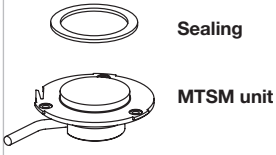
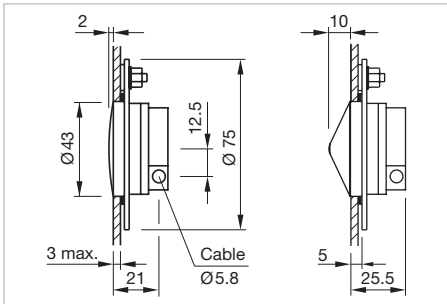


Multi-Tone Sound Module

Equipment consisting of



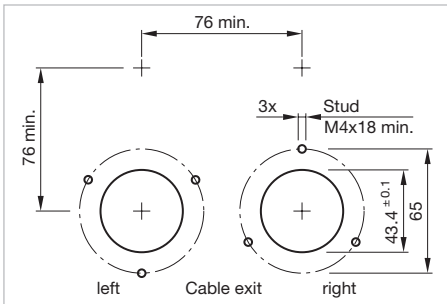
Each part listed below includes all the black components shown in the 3D-drawing.



Dimensions [mm]



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



Mounting cut-outs [mm]

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

- Plastic black flush Plastic black raised

Front cap marking

- without symbol with symbol

Volume adjustment

- Manually (3-/5-Tone Sequences Module) Automatically (6-Tone Sequences Module)

Tone sequence

- 3-tone 5-tone 6-tone

Supply voltage

- 24 VDC (5-Tone Sequences Module) 16 ... 63 VDC (3-/6-Tone Sequences Module) 50 ... 143 VDC (3-/6-Tone Sequences Module)

Tolerance ±30 %

Cable exit

- cable exit right cable exit left

Cable length

- A = 200mm A = 500mm A = 1000mm A = 1500mm _____ mm

56 Rear mounting

Cable + Connector type

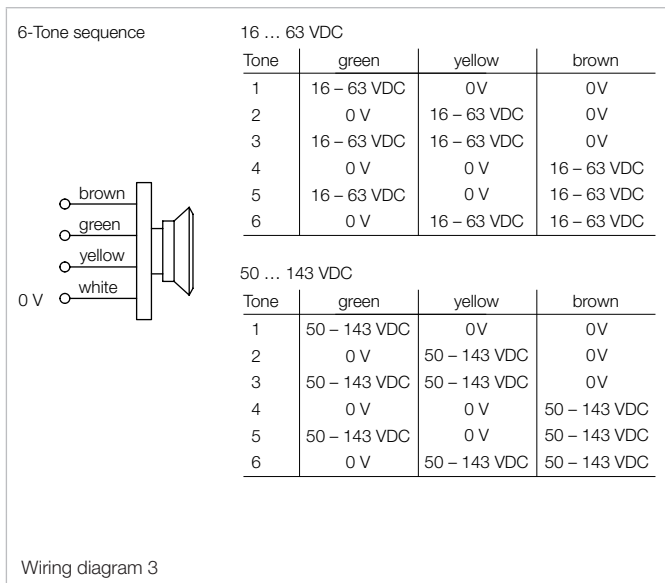
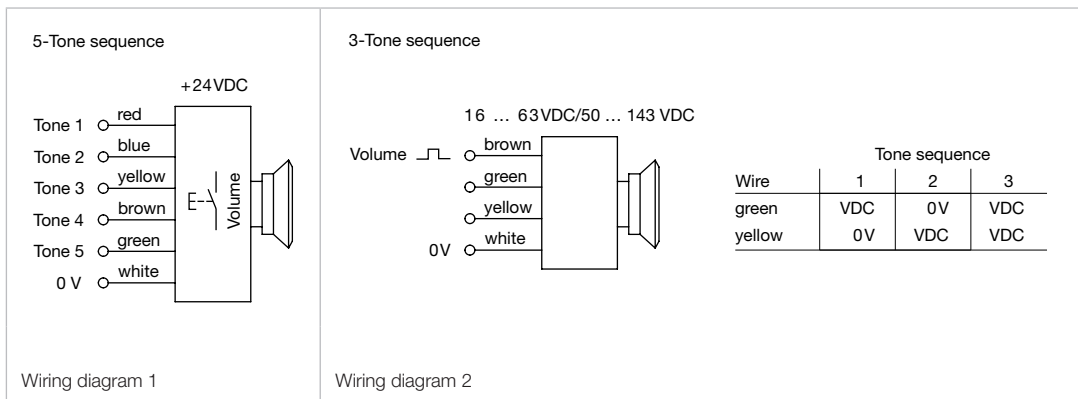
Cable	Connector
<input type="checkbox"/> 4x0.25mm ²	<input type="checkbox"/> core end-sleeves
<input type="checkbox"/> 4x0.5mm ²	<input type="checkbox"/> AMP Connector Mate-N-Lok
<input type="checkbox"/> 6x0.5mm ²	<input type="checkbox"/> DEUTSCH connector
	<input type="checkbox"/> AMP Connector 2.8x0.8
	<input type="checkbox"/> AMP Connector 6.3x0.8

Housing

<input type="checkbox"/> housing D73 (standard)	<input type="checkbox"/> housing reworked 50x50mm	<input type="checkbox"/> housing reworked 68.5x50mm
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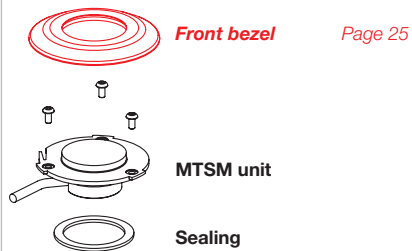
The drawings you will find from page 36

The component layouts No. 4, 5 and 6 you will find from page 36



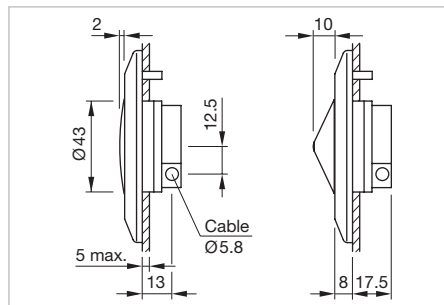
Multi-Tone Sound Module

Equipment consisting of



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

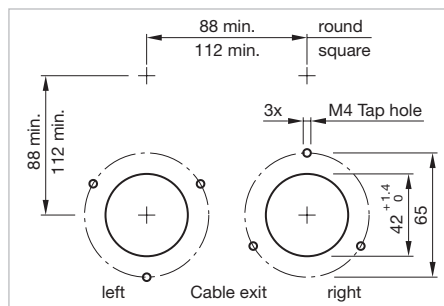
To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm]



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



Mounting cut-outs [mm]

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

- Plastic black flush Plastic black raised

Front cap marking

- without symbol with symbol

Volume adjustment

- Manually (3-/5-Tone Sequences Module) Automatically (6-Tone Sequences Module)

Tone sequence

- 3-tone 5-tone 6-tone

Supply voltage

- 24 VDC (5-Tone Sequences Module) 16 ... 63 VDC (3-/6-Tone Sequences Module) 50 ... 143 VDC (3-/6-Tone Sequences Module)

Tolerance $\pm 30\%$

Cable exit



- cable exit right cable exit left

Cable length

- A = 200mm A = 500mm A = 1000mm A = 1500mm _____ mm


Front
Front bezel
Additional Information

- Special colours for front bezel on request

Product attribute	Colour	Front bezel	Part No.	Weight
 Front bezel, front dimension 87 x 87 mm				
For single side indicator and single side pushbutton, front mounting	RAL 3020	Plastic red	56-2200	0.026 kg
	RAL 1023	Plastic yellow	56-2400	0.026 kg
	RAL 6024	Plastic green	56-2500	0.026 kg
	RAL 5017	Plastic blue	56-2600	0.026 kg
		Metal matt chrome	56-4600	0.085 kg
 Front bezel, front dimension Ø 87 mm				
For single side indicator and single side pushbutton; double side pushbutton external	RAL 9017	Pastic black	56-1000	0.018 kg
	RAL 3020	Plastic red	56-1200	0.018 kg
	RAL 2003	Plastic orange	56-1300	0.018 kg
	RAL 1023	Plastic yellow	56-1400	0.018 kg
	RAL 6024	Plastic green	56-1500	0.018 kg
	RAL 5017	Plastic blue	56-1600	0.018 kg
	RAL 7043	Plastic darkgrey	56-1800	0.018 kg
	RAL 7040	Plastic lightgrey	56-1800A	0.018 kg
	Metal matt chrome	56-3600	0.07 kg	

Front bezel internal
Additional Information

- For double side pushbutton

Dimension	Colour	Front bezel	Part No.	Weight
 Front bezel internal				
Ø 87 mm	RAL 3020	Plastic red	56-5200	0.09 kg
	RAL 2003	Plastic orange	56-5300	0.09 kg
	RAL 1023	Plastic yellow	56-5400	0.09 kg
	RAL 6024	Plastic green	56-5500	0.09 kg
	RAL 5017	Plastic blue	56-5600	0.09 kg
	RAL 7043	Plastic darkgrey	56-5800	0.09 kg
	RAL 7040	Plastic lightgrey	56-5800A	0.09 kg
		Metal matt chrome	56-7600	0.115 kg

56 Front mounting

Cable and Connector type

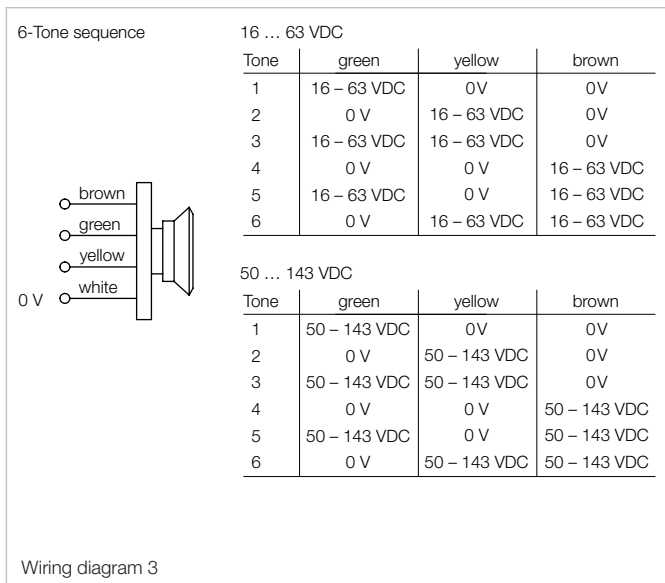
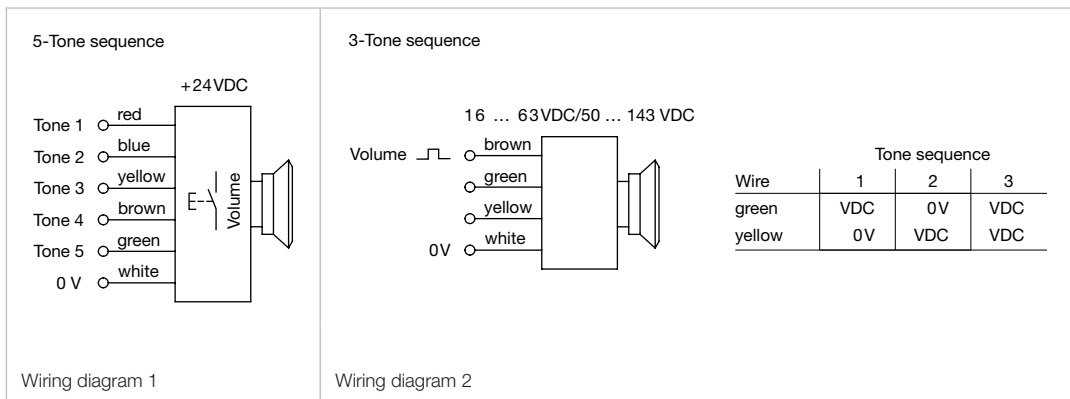
Cable	Connector
<input type="checkbox"/> 4x0.25mm ²	<input type="checkbox"/> core end-sleeves
<input type="checkbox"/> 4x0.5mm ²	<input type="checkbox"/> AMP Connector Mate-N-Lok
<input type="checkbox"/> 6x0.5mm ²	<input type="checkbox"/> DEUTSCH connector
	<input type="checkbox"/> AMP Connector 2.8x0.8
	<input type="checkbox"/> AMP Connector 6.3x0.8

Housing

<input type="checkbox"/> housing D73 (standard)	<input type="checkbox"/> housing reworked 50x50mm	<input type="checkbox"/> housing reworked 68.5x50mm
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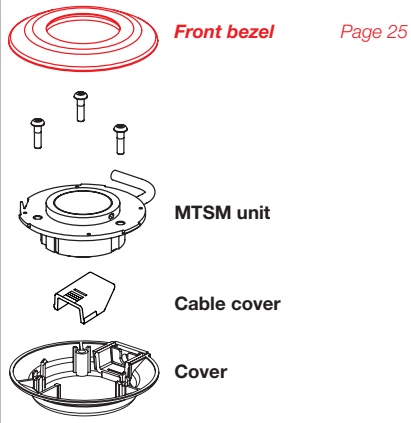
The drawings you will find from page 36

The component layouts No. 4 and 5 you will find from page 36



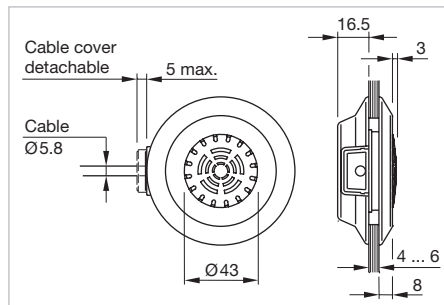
Multi-Tone Sound Module

Equipment consisting of

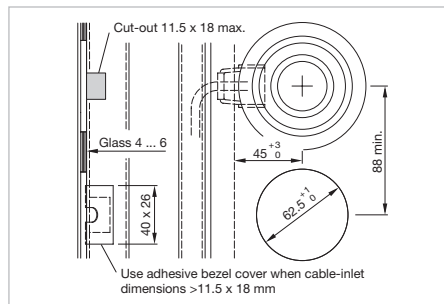


Each part listed below includes all the black components shown in the 3D-drawing.

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



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 Ø 87 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

- Plastic black flush Plastic black raised

Front cap marking

- without symbol with symbol

Volume adjustment

- Manually (3-/5-Tone Sequences Module) Automatically (6-Tone Sequences Module)

Tone sequence

- 3-tone 5-tone 6-tone

Supply voltage

- 24 VDC (5-Tone Sequences Module) 16...63 VDC (3-/6-Tone Sequences Module) 50...143 VDC (3-/6-Tone Sequences Module)

Tolerance ±30 %

Cable exit

- cable exit right cable exit left

Cable length

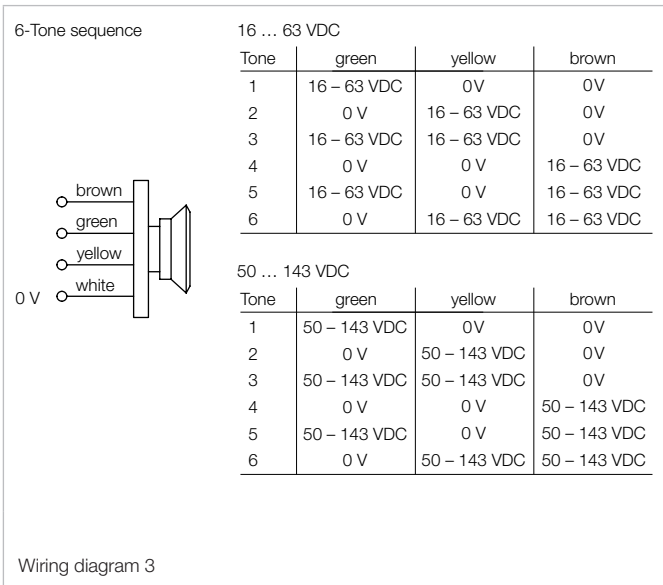
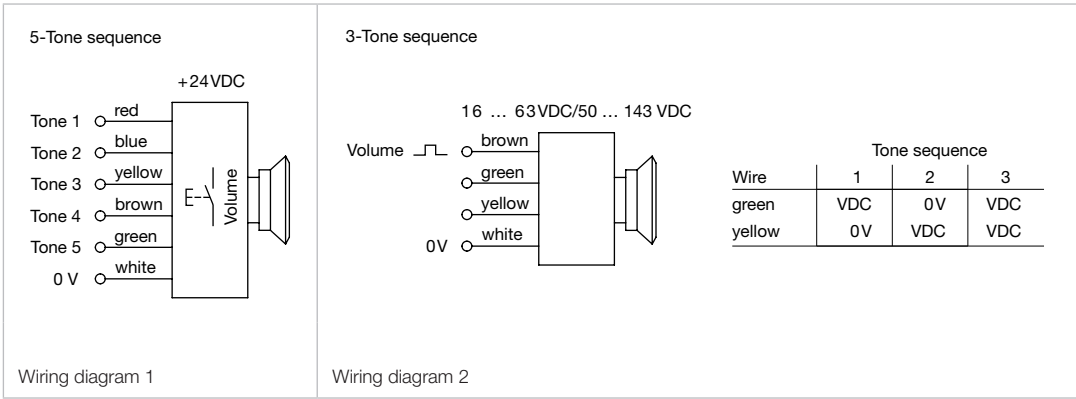
- A = 200 mm A = 500 mm A = 1000 mm A = 1500 mm _____ mm

Cable + Connector type

Cable	Connector
<input type="checkbox"/> 4*0.5mm ²	<input type="checkbox"/> core end-sleeves
	<input type="checkbox"/> AMP Connector Mate-N-Lok
	<input type="checkbox"/> DEUTSCH connector
	<input type="checkbox"/> AMP Connector 2.8x0.8
	<input type="checkbox"/> AMP Connector 6.3x0.8

The component layout No. 5 you will find from page 36

56 Glass mounting

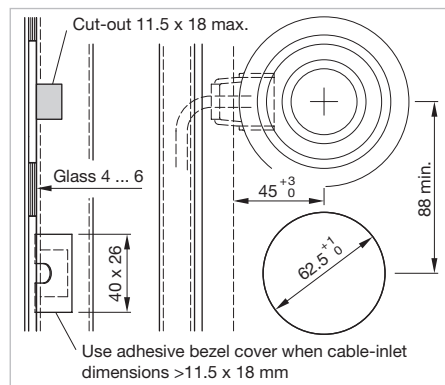


Mounting



Cable cover standard

Additional Information

- Additional cable covers are available on request



Mounting cut-outs [mm]

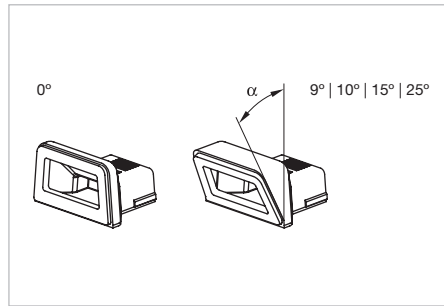
Product attribute	Cable cover	Part No.	Weight
	Cable cover standard		
included in standard delivery	standard 0°	56-992	0.003 kg
	Cable cover standard		
specify Part No. in purchase order	standard 45°	56-992A	0.005 kg

Cable cover funnel

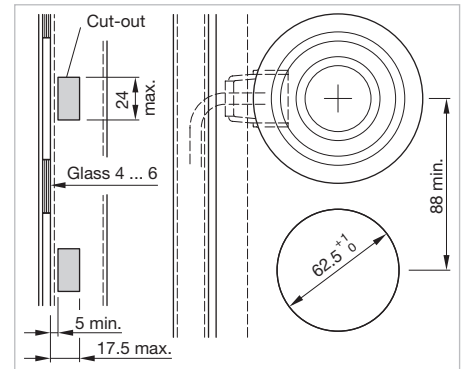
Additional Information

- Specify Part No. in purchase order


▲ **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]



Cable cover	Part No.	Weight
	Cable cover funnel	
funnel 0°	56-992B	0.01 kg
funnel 10°	56-992C	0.01 kg
funnel 15°	56-992D	0.01 kg
funnel 25°	56-992E	0.01 kg
Funnel 9°	56-992F	0.01 kg

Bezel cover

Product attribute	Dimension	Material	Colour	Mounting type	Part No.	Weight
	Bezel cover					
0.8 mm thick	40 x 26 mm	Aluminium	natural anodized	adhesive	56-993	0.005 kg

56 Accessories


Mounting set for rear mounting

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

Dismantling tool

Additional Information


- For front bezel

Part No.	Weight
 <p>Dismantling tool</p>	
57-9901	0.012 kg

Anti-slip mat


Additional Information

- For dismantling of front bezel
- 3 mm dick

Dimension	Colour	Part No.	Weight
 <p>Anti-slip mat</p>			
100 x 100 mm	white	56-999	0.033 kg


Counterpart set for plug-in housing 2.8 x 0.8 mm**Additional Information**

- (set of 10 pieces)


Part No.	Weight
 <p>Counterpart set for plug-in housing 2.8 x 0.8 mm</p>	
56-994	0.012 kg

Counterpart set for plug-in housing 6.3 x 0.8 mm**Additional Information**

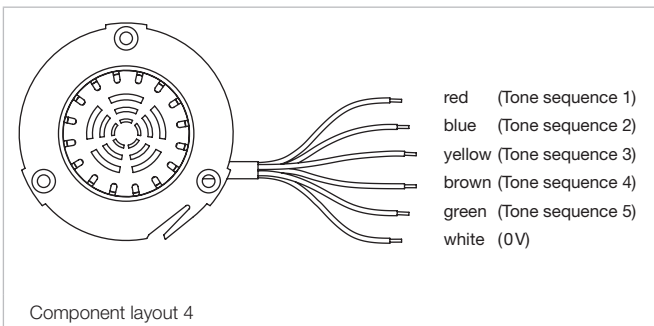
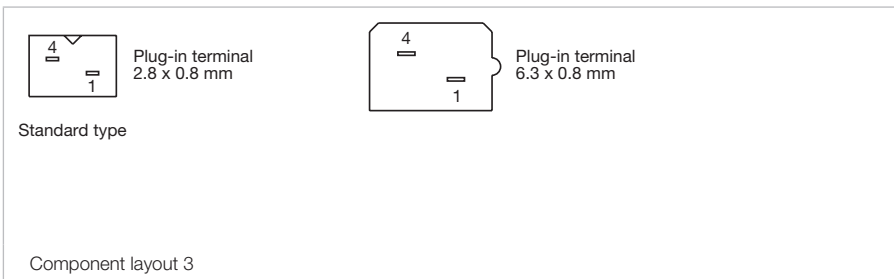
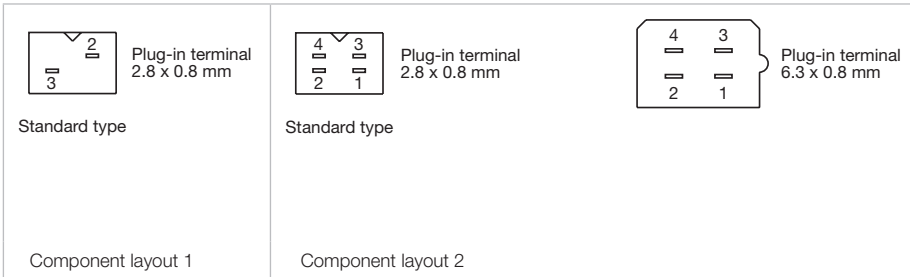
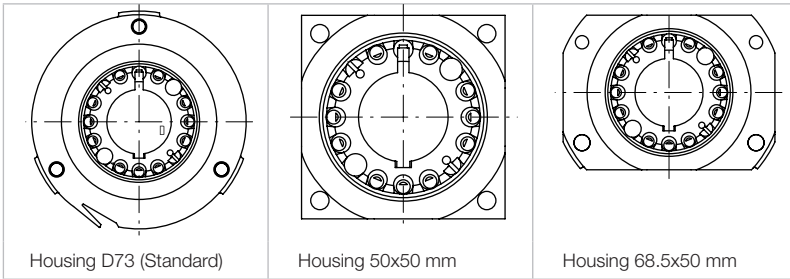
- (set of 10 pieces)

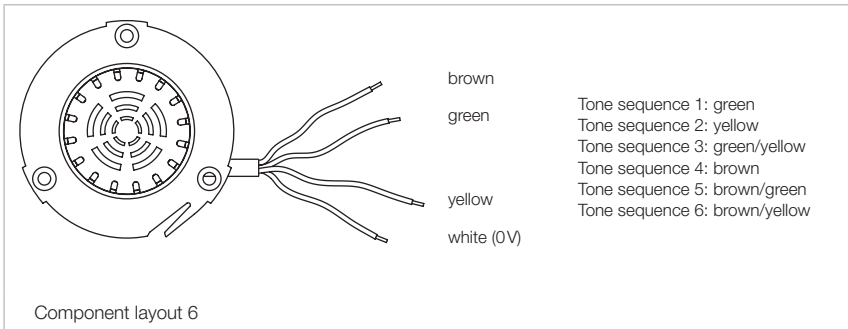
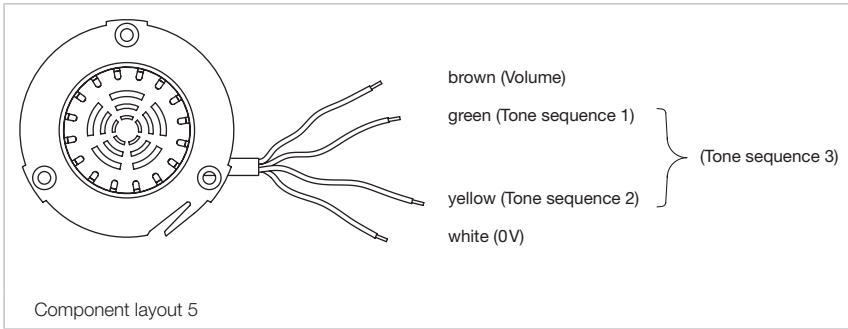
Part No.	Weight
 <p>Counterpart set for plug-in housing 6.3 x 0.8 mm</p>	
56-995	0.012 kg

Sealing

Part No.	Weight
 <p>Sealing black, glass mounting</p>	
56-990	0.004 kg

Drawings





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 V0

Housing

Tritan (Copolyeste)

Mechanical characteristics
Terminals

200mm with crimped metal sleeves
3-tone sequences module: 4 x 0.5 mm² or 4 x 0.25 mm²
5-tone sequences module: 6 x 0.5 mm²
6-tone sequences module: 6 x 0.5 mm²

Fixing screws

For front mounting M4 x 8 mm (3x)

Tightening torque

For screws for front mounting 80Ncm ... 100Ncm
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 VDC ±30 %, 5-tone sequences module
Operation voltage range 16 ... 63 / 50 ... 143 VDC, 3-tone sequences module / 6-tone sequences module
Current rating < 50 mA depending on voltage and volume

Electric strength

4000 VAC, 50 Hz, 1 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 Hz ±1 %
480 Hz ... 3000 Hz ±1 % (6-tone sequences module)

Time range of tone sequence

0 ... ∞ (endless)

Acoustic pressure level

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

Environmental conditions
Storage temperature

-45 °C ... +90 °C

Operating temperature

-40 °C ... +85 °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

Climate resistance

Damp heat, cyclic
48 hours, +25 °C/97 %, +55 °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 m/s², pulse width 30 ms, as per EN 61373

Vibration resistance

Max. 7.9 m/s² at 10 Hz ... 150 Hz, as per EN 61373

Approvals

Approbations

CQC
E1
NFF

Declaration of conformity

CE
TSI/PRM

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 x 0.8 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 x 0.8 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 mm²

Wire length

200 mm with AMP connector 2.8 x 0.8 mm

Fixing screws

Single side pushbutton for front mounting M4 x 8 mm

Double side pushbutton for glass mounting M4 x 25 mm

Single side pushbutton for glass mounting M4 x 20 mm
(for glass ≥ 5 mm)

Single side pushbutton for glass mounting M4 x 16 (for 4 mm glass)

Tightening torque

Screws for single side pushbutton for front mounting
80 Ncm ... 100 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

6 N ... 12 N

Actuating travel

~0.5 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