Indicator

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 V0

Mechanical characteristics

Terminals
Cable 2-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

Wire cross-section
0.24 mm^2

Wire length
200 mm with AMP connector 2.8 x 0.8 mm

Fixing screws
For front mounting M4 x 8 mm

Tightening torque
For screws for front mounting 80 Ncm … 100 Ncm
Key (mounting and dismantling)
Hexagon socket wrench size 2.5 mm

Electrical characteristics

Illumination
15 LED green, red, yellow, white or blue
Supply voltage 24, 110 VDC
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

Environmental conditions

Storage temperature
-45 °C … +90 °C

Operating temperature
-40 °C … +80 °C

Protection degree
Front side IP 67
Rear side IP 65

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

Shock resistance
(semi-sinusoidal)
max. 250 m/s^2, pulse width 11 ms, as per EN IEC 60068-2-27

Vibration resistance
(sinusoidal)
max. 100 m/s^2 at 10 Hz … 2000 Hz, as per EN IEC 60068-2-6

Approvals

Approbations
CQC
NFF

Declaration of conformity
CE

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
200 mm 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 80 Ncm … 100 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 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

Multi-Tone Sound Module

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 mm^2

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
Switch rating
min. 5 VDC, 5 mA
max. 137 VDC/VAC, max. 200 mA

Electric strength
4000 VAC, 50 Hz, 1 min, between all terminals and mounting plate/front element

Environmental conditions

Storage temperature
-45 °C … +90 °C

Operating temperature
-40 °C … +80 °C

Protection degree
Front side IP 67
Back side IP 65

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

Pushbutton

Shock resistance
(semi-sinusoidal)
max. 250 m/s², pulse width 11 ms, as per EN IEC 60068-2-27

Vibration resistance
(sinusoidal)
max. 100 m/s² at 10 Hz … 500 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 V0

Mechanical characteristics

Terminals
Cable 2-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

Wire cross-section
0.24 mm^2

Wire length
200 mm with AMP connector 2.8 x 0.8 mm

Fixing screws
For front mounting M4 x 8 mm

Tightening torque
For screws for front mounting 80 Ncm … 100 Ncm
Key (mounting and dismantling)
Hexagon socket wrench size 2.5 mm

Electrical characteristics

Illumination
3 LED white
Supply voltage 24 VDC ±30 %
Current consumption < 500 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 °C … +90 °C

Operating temperature
-40 °C … +80 °C

Protection degree
Front side IP 67
Rear side IP 65

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

Shock resistance
(semi-sinusoidal)
max. 250 m/s^2, pulse width 11 ms, as per EN IEC 60068-2-27

Vibration resistance
(sinusoidal)
max. 100 m/s^2 at 10 Hz … 2000 Hz, as per EN IEC 60068-2-6

Approvals

Approbations
CQC
NFF

Declaration of conformity
CE