Series 57

Characteristics
The Series 57 is especially suited for:

- Front mounting

It is characterised by a extra large operating area, two independently illuminated feedback rings and an excellent tactile feedback.

Functions
The Series 57 incorporates the following functions:

- Illuminated pushbutton
- Warning indicator

Market segments
The EAO Series 57 is especially suited for applications in the segment:

- Public transportation

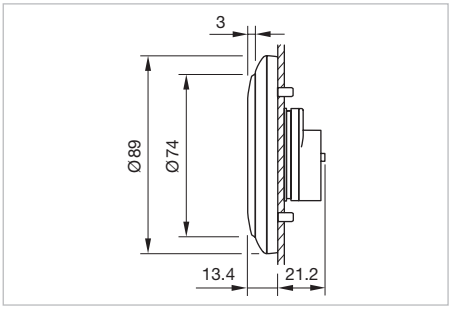
Please refer to the EAO website to obtain detailed information regarding this series **www.products.eao.com**
Configure a product to your exact needs and request a quotation.

Overview

57 Front mounting

Single side pushbutton

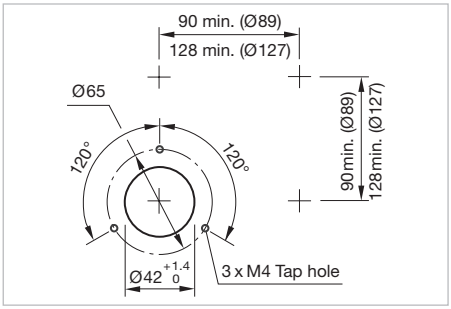
The preview is based on a sample product. This can differ from your current configuration.



Dimensions [mm]

Product features

- User friendly, extra large operating area of Ø 74 mm
- Two independently illuminated feedback rings
- Raised, illuminated symbols conform to TSI PRM & ADA
- Integrated finding tone for visually impaired persons
- Cable and front bezel are available as single parts
- 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/offer57

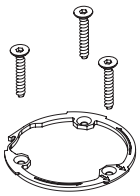


Mounting cut-outs [mm]

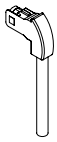
Equipment consisting of

Front bezel

Switching unit



Fixing ring



Cable

Front bezel		
plastic		aluminium
☐ green RAL 6032	☐ red RAL 3000	☐ natural anodized
☐ blue RAL 5015	☐ yellow RAL 1023	
☐ grey RAL 7040	☐ black RAL 9017	

Symbol insert		
plastic		aluminium
☐ green RAL 6032	☐ red RAL 3000	☐ natural anodized
☐ blue RAL 5015	☐ yellow RAL 1023	
☐ grey RAL 7040		

Symbol

☐ Symbol plastic
☐ Symbol aluminium, natural anodized

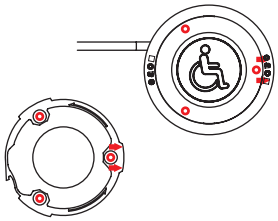
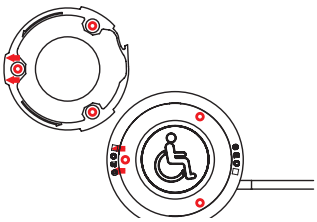
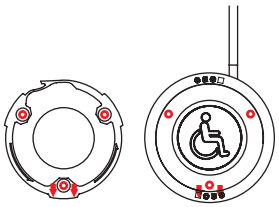
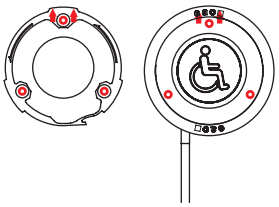
☐ Symbol aluminium, natural anodized

							
☐ black RAL 9011	☐ black RAL 9011	☐ black RAL 9011	☐ black RAL 9011 ☐ white RAL 9003	☐ black RAL 9011	☐ black RAL 9011	☐ black RAL 9011	☐ black RAL 9011

Symbol illumination	
☐ with (only plastic symbol inserts)	☐ without

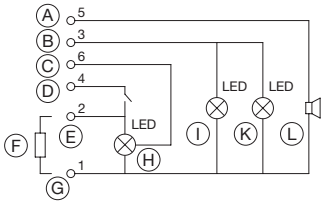
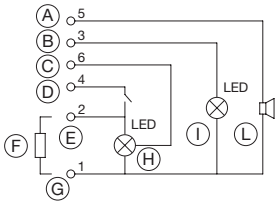
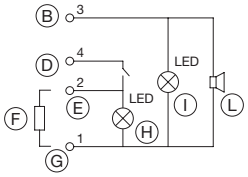
Finding tone	
☐ standard 65 dB (A)	☐ without

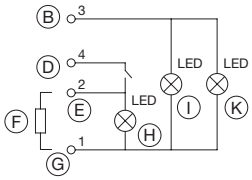
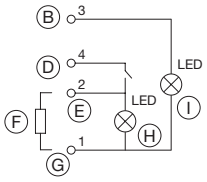
Supply voltage	
☐ 16 – 63 VDC	☐ 50 – 143 VDC

Cable exit			
☐ cable exit left	☐ cable exit right	☐ cable exit top	☐ cable exit bottom
			

Cable length			
☐ A = 200 mm	☐ A = 1000 mm	☐ A = 2000 mm	☐ _____ mm

Cable and Connector type				
Cable	Connector	Connector pin assignment		
☐ 4 x 0.24 mm²	☐ Core end-sleeves		☐ standard	☐ special
☐ 4 x 0.50 mm²	☐ AMP MateNLok	Pin 1	1	___
☐ 6 x 0.24 mm²	☐ WAGO X-COM 769	Pin 2	2	___
☐ 6 x 0.50 mm²	☐ DEUTSCH connector	Pin 3	3	___
		Pin 4	4	___
		Pin 5	5	___
		Pin 6	6	___

Symbol illumination	Finding tone	Number of strands	Wiring diagram
X	X	6	VDC = 16 - 63VDC/50 - 143VDC 
–	X	6	VDC = 16 - 63VDC/50 - 143VDC 
–	X	4	VDC = 16 - 63VDC/50 - 143VDC 

Symbol illumination	Finding tone	Number of strands	Wiring diagram
X	–	4	VDC = 16 - 63VDC/50 - 143VDC 
–	–	4	VDC = 16 - 63VDC/50 - 143VDC 

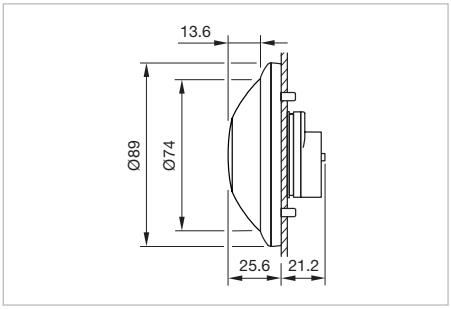
Legend

A = VDC finding tone
B = VDC outer ring/symbol
C = VDC inner ring
D = VDC
E = Switch
F = Load
G = 0 V
H = Inner ring
I = Outer ring
K = Symbol
L = Finding tone

57 Front mounting

Warning indicator

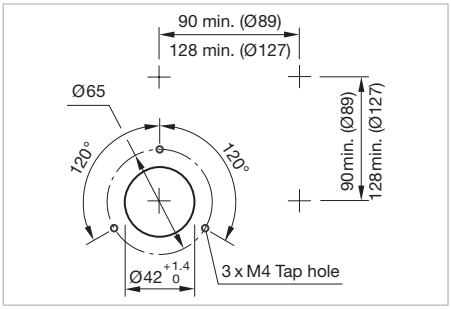
The preview is based on a sample product. This can differ from your current configuration.



Dimensions [mm]

Product features

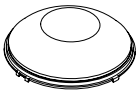
- Extra large illuminated lens, Ø 74 mm
- LEDs ensure an optimal illumination
- Cable and front bezel are available as single parts
- Please fill in the form and forward it to your local EAO partner by e-mail or fax. The electronic form is available at http://www.eao.com/offer57



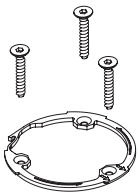
Mounting cut-ots [mm]

Equipment consisting of

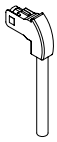
Front bezel



Illumination unit



Fixing ring

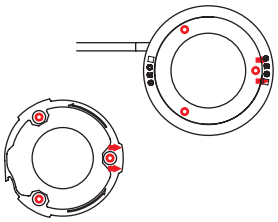
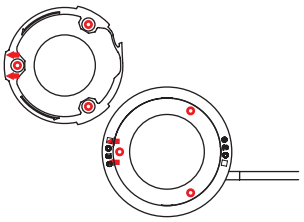
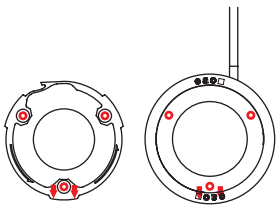
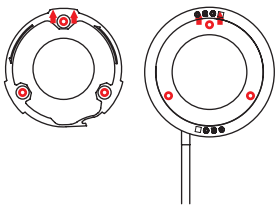


Cable

Front bezel		
plastic		aluminium
☐ green RAL 6032	☐ red RAL 3000	☐ natural anodized
☐ blue RAL 5015	☐ yellow RAL 1023	
☐ grey RAL 7040	☐ black RAL 9017	

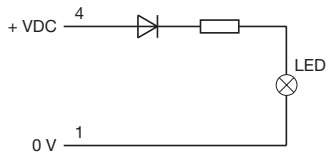
Illumination	
☐ red	☐ yellow

Supply voltage
☐ 110 VDC

Cable exit			
☐ cable exit left	☐ cable exit right	☐ cable exit top	☐ cable exit bottom
			

Cable length			
☐ A = 200 mm	☐ A = 1000 mm	☐ A = 2000 mm	☐ _____ mm

Cable + Connector type				
Cable	Connector	Connector pin assignment		
☐ 2 x 0.50 mm²	☐ Core end-sleeves		☐ standard	☐ special
	☐ AMP MateNLok	Pin 1	1	___
	☐ WAGO X-COM 769	Pin 4	4	___
	☐ DEUTSCH connector			

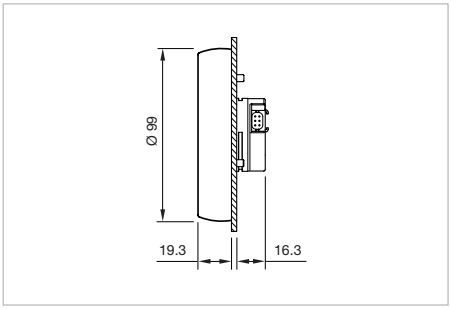


Wiring diagram 1

57 Front mounting

Emergency call button

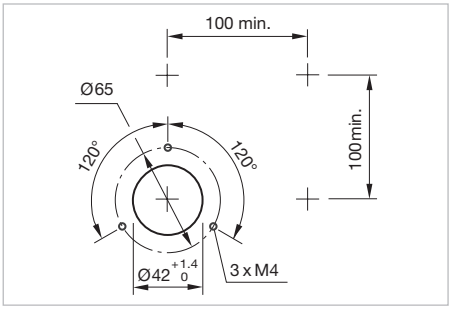
Product can differ from the current configuration.



Dimensions [mm]

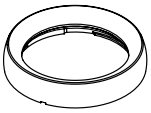
Product features

- User friendly, extra large operating area of Ø 74 mm
- Two yellow illuminated, individually controllable feedback rings
- Raised bell symbol conform to TSI PRM & ADA
- Robust front ring protects against accidental actuation
- 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/offer57



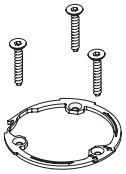
Mounting cut-outs [mm]

Equipment consisting of

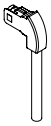


Front bezel

Switching unit



Fixing ring



Cable

Front bezel

Aluminium large

☐ red anodized

Symbol insert

☐ Symbol plastic, red RAL 3000

☐ Symbol aluminium, red anodized

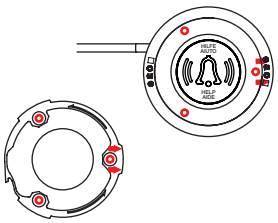
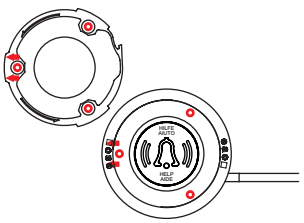
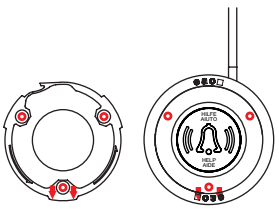
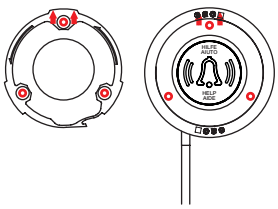
Supply voltage

☐ 16 – 63 VDC

Cable length

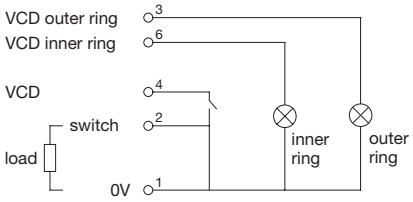
☐ A = 200 mm (standard)	☐ A = 1000 mm	☐ A = 2000 mm	☐ _____ mm

Cable exit

☐ cable exit left	☐ cable exit right	☐ cable exit top	☐ cable exit bottom
			

Cable and Connector type				
Cable	Connector	Connector pin assignment		
☐ 6 * 0.24 mm²	☐ core end-sleeves		☐ standard	☐ special
☐ 6 * 0.50 mm²	☐ AMP Mate n Lok	Pin 1	1	___
	☐ Wago Xcom 769	Pin 2	2	___
	☐ DEUTSCH connector	Pin 3	3	___
		Pin 4	4	___
		Pin 5	5	___
		Pin 6	6	___

VDC = 16 - 63 VDC



Wiring diagram

57 Front mounting

Front

Front bezel

Additional Information

- Special colours for front bezel on request

Colour	Front bezel	Weight
 **Front bezel flush, Front dimension Ø 89 mm**		
RAL 9017 similar	Pastic black	0.018 kg
RAL 3000 similar	Plastic red	0.018 kg
RAL 1023 similar	Plastic yellow	0.018 kg
RAL 6032 similar	Plastic green	0.018 kg
RAL 5015 similar	Plastic blue	0.018 kg
RAL 7040 similar	Plastic grey	0.018 kg
	Aluminium natural anodized	0.070 kg
 **Front bezel flush, Front dimension Ø 127 mm**		
RAL 1023 similar	Plastic yellow	0.037 kg
RAL 5015 similar	Plastic blue	0.037 kg
 **Front bezel raised, Front dimension Ø 99 mm**		
	Aluminium red anodized	0.135 kg

Mounting

Dismantling tool

Part No.	Weight
 **Dismantling tool to front bezel**	
57-9901	0.011 kg

Mounting plate

Dimension	Mounting cut-out	Material	Part No.	Weight
 **Mounting plate**				
Ø 88 mm	Ø 42.5 mm	Chromstahl	**57-9905**	0.066 kg

Mounting enclosure

Product	Dimension	Mounting cut-out	Material	Part No.	Weight
 **Mounting enclosure flush version**					
suitable fort the most common in-wall flush boxes	100 x 100 mm	Ø 45 mm	Plastic black	**57-9903**	0.073 kg
 **Mounting enclosure surface version**					
for direct wall mounting, with cable relief, break-out cable entries	100 x 100 mm	Ø 45 mm	Plastic black	**57-9904**	0.118 kg

57 Technical data

Single side pushbutton

Switching system

The Series 57 is equipped with an electronic high side switch, is short circuit proof and overload protected. In case of over current the switch opens automatically (protection against destruction).

Material

Connection cable
Halogen-free, flame retardant, cross-linked by e-beam irradiation
Polymer according to EN 50306-2

Front bezel
Polyamide (PA66-GF25)
Aluminium natural anodized

Housing
Polyamide (PA66-GF25)

Symbol insert
Polyamide (PA66-GF25)
Aluminium natural anodized

Lens/Symbols
Polyamide (PA12)

Mechanical characteristics

Terminals
AMP Mini Universal MateNLok
WAGO X-COM 769
DEUTSCH connector
Open ends with core end-sleeves

Wire cross-section
Wire 4-/6-poles 0.24 mm²
Wire 4-/6-poles 0.5 mm²

Cable length
200 mm, 1000 mm, 2000 mm

Fixing screws
Countersunk screws M4 x 10 mm

Tightening torque
max. 100 Ncm

Key (mounting and dismantling)
Hexagon socket wrench size 2.5 mm

Actuating force
max. 15 N

Actuating travel
~0.5 mm

Mechanical lifetime
2 million cycles of operation

Electrical characteristics

Illumination
Side-LED green for outer ring
Side-LED red for inner ring
Point-LED white for symbol illumination

Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination

Finding tone
Standard tone sequence tone 1: 500 Hz, Tone 2: 700 Hz
Sound pressure level: 65 dB (A) ±4 dB @ 10cm
(see graphic in «Application guidelines»)

Units compliant to
EN 60947-5-1
EN 50155
EN14752

EMC
EN 61000-6-2, EN 61000-6-3, EN 50121-3-2, ESD min. 20 kV

Cables according to
EN 50306-2; VDE 0260-306-2
EN 50306-4; VDE 0260-306-4
NFF 63808 / NFF 61030

Symbole and illumination
TSI PRM & ADA

Operating voltage
16 … 63 VDC (min./max.)
50 … 143 VDC (min./max.)

Switch rating
max. 250 mA

Standby current
16 … 63 VDC without tone: < 2 mA @ 24 VDC
50 … 143 VDC without tone: < 2 mA @ 110 VDC
16 … 63 VDC with tone: < 10 mA @ 24 VDC
50 … 143 VDC with tone: < 4 mA @ 110 VDC

Note: Only pin 1 (0 V) und pin 4 (VDC) connected

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 … +85 °C

Protection degree
Front side IP 69 K
Rear side IP 67

Impact resistance
IK07

Climate resistance
Damp heat, cyclic
48 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
Salt spray 96 h (DIN EN 60068-2-11)

Rapid change of temperature
5 cycles, -45 °C … +90 °C, as per EN IEC 60068-2-14

Shock resistance
50 g, pulse width 11 ms, 6 shocks/axis as per
DIN EN 60068-2-27

Vibration resistance
Broad band noise as per EN 61373 class 1B
10 g from 10 Hz ... 500 Hz, as per DIN EN 60068-2-6

Approvals

Approbations
E1
EBC
NFF

Declaration of conformity
CE
TSI/PRM

Warning indicator

Material

Connection cable
Halogen-free, flame retardent, cross-linked by e-beam irradiation
Polymer according to EN 50306-2

Lens
Polyamide (PA12)

Front bezel
Polyamide (PA66-GF25)

Housing
Polyamide (PA66-GF25)

Mechanical characteristics

Terminals
AMP Mini Universal MateNLok
WAGO X-COM 769
DEUTSCH connector
Open ends with core end-sleeves

Wire cross-section
Cable 2-poles 0.5mm²

Cable length
200 mm; 1000 mm; 2000 mm

Fixing screws
Countersunk screws M4 x 10 mm

Tightening torque
max. 100 Ncm

Key (mounting and dismantling)
Hexagon socket wrench size 2.5 mm

Electrical characteristics

Illumination
LED red, yellow
Supply voltage 110 VDC ±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 60947-5-1
EN 50155
EN14752

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

Cables according to
EN 50306-2; VDE 0260-306-2
EN 50306-4; VDE 0260-306-4
NFF 63808 / NFF 61030

Environmental conditions

Storage temperature
-45 °C … +90 °C

Operating temperature
-40 °C … +85 °C

Protection degree
Front side IP 69K

57 Technical data

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

Rapid change of temperature
5 cycles, -45 °C … +90 °C, as per EN IEC 60068-2-14

Shock resistance
(semi-sinusoidal)
max. 500 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

Declaration of conformity
CE

Emergency call button

Switching system

The Series 57 is equipped with an electronic high side switch, is short circuit proof and overload protected. In case of over current the switch opens automatically (protection against destruction).

Material

Connection cable
Halogen-free, flame retardant, cross-linked by e-beam irradiation
Polymer according to EN 50306-2

Front bezel
Aluminium anodized

Housing
Polyamide (PA66-GF25)

Symbol insert
Polyamide (PA66-GF25)
Aluminium anodized

Lens/Symbols
Polyamide (PA12)

Mechanical characteristics

Terminals
AMP Mini Universal MateNLok
WAGO X-COM 769
DEUTSCH connector
Open ends with core end-sleeves

Wire cross-section
Wire 6-poles 0.24 mm²
Wire 6-poles 0.5 mm²

Cable length
200 mm, 1000 mm, 2000 mm
Fixing screws
Countersunk screws M4 x 10 mm

Tightening torque
max. 100 Ncm

Key (mounting and dismantling)
Hexagon socket wrench size 2.5 mm

Actuating force
max. 15 N

Actuating travel
~0.5 mm

Mechanical lifetime
2 million cycles of operation

Electrical characteristics

Illumination
Side-LED yellow for outer ring
Side-LED yellow for inner ring

Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination

Units compliant to
EN 60947-5-1
EN 50155
EN14752

EMC
EN 61000-6-2
EN 61000-6-3
EN 50121-3-2
ESD min. 20 kV

Cables according to
EN 50306-2; VDE 0260-306-2
EN 50306-4; VDE 0260-306-4
NFF 63808 / NFF 61030

Symbole and illumination
TSI PRM & ADA

Operating voltage
16 … 63 VDC (min./max.)

Switch rating
max. 250 mA

Standby current
16 … 63 VDC: < 2 mA @ 24 VDC

Note: Only pin 1 (0 V) und pin 4 (VDC) connected

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 … +85 °C

Protection degree
Front side IP 69 K
Rear side IP 67

Impact resistance
IK07

Climate resistance
Damp heat, cyclic
48 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
Salt spray 96 h (DIN EN 60068-2-11)

Rapid change of temperature
5 cycles, -45 °C … +90 °C, as per EN IEC 60068-2-14

Shock resistance
50 g, pulse width 11 ms, 6 shocks/axis as per DIN EN 60068-2-27

Vibration resistance
Broad band noise as per EN 61373 class 1B
10 g from 10 Hz ... 500 Hz, as per DIN EN 60068-2-6

Approvals

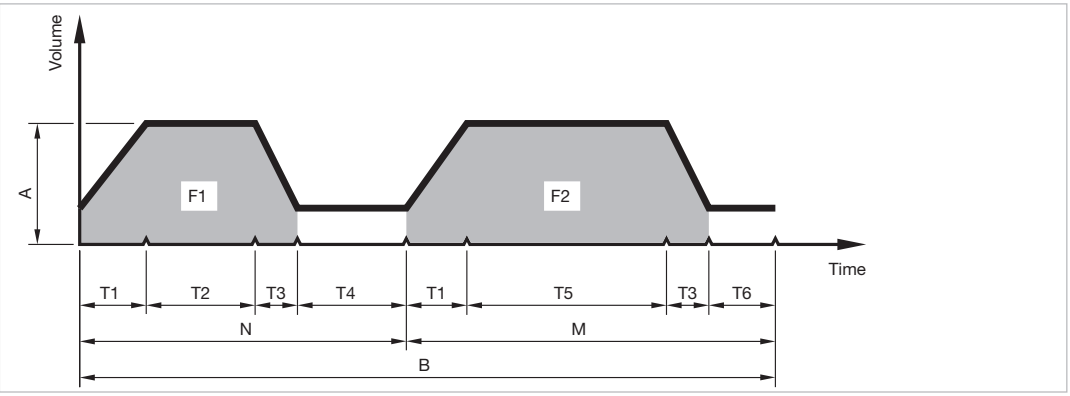
Approbations
E1
EBC
NFF

Declaration of conformity
CE
TSI/PRM

EAO reserves the right to alter specifications without further notice.

57 Application guidelines

Finding tone



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 (±8 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 sequence		
	Parameter	Standard Finding tone
Tone 1	F1	500 Hz
	T2	100 ms
	T4	200 ms
	N	1
Tone 2	F2	700 ms
	T5	100 ms
	T6	900 ms
	M	1
General	A	65 dB (A)
	B	∞
	T1	100 ms
	T3	100 ms

Other finding tone on request.