Inhalt

1. Bestimmungsgemäße Verwendung

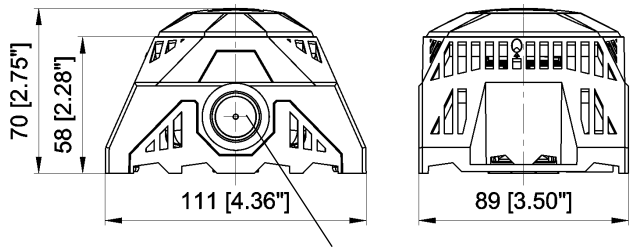
Schallgeber der PA- Serie sind für die Signalisierung von z.B. Gefahrzuständen in Industrie, Gewerbe und Gebäudebereichen bestimmt. Bei Nutzung der Schallgeber-Signalleuchten-Kombination (PA L 1-R) besteht zusätzlich die Möglichkeit der optischen Signalisierung.
Die Schallgeber erzeugen akustische Signale in 70 verschiedenen Tonarten, die mit Hilfe eines internen Schalters ausgewählt werden können. Es besteht die Möglichkeit, durch externe Ansteuerung auf maximal 3 weitere Töne umzuschalten.
Die Geräte nur in unbeschädigtem Zustand innerhalb der spezifizierten Kenndaten betreiben. Die Funktion des Gerätes ist nur gewährleistet, wenn Ober- und Unterteil korrekt zusammengefügt sind.
Die Geräte sind für den Einsatz im Innen- und Außenbereich geeignet.

2. Lieferumfang

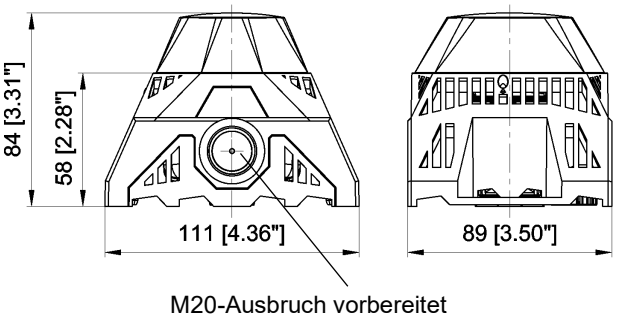
Der Lieferumfang besteht aus:
1x Signalgerät
1x Membrannippel M20 *(Optional: Kabelverschraubung - M12-Stecker)*
1x Dichtung für untere Kabeldurchführung
1x Kurzanleitung

3. Abmessungen

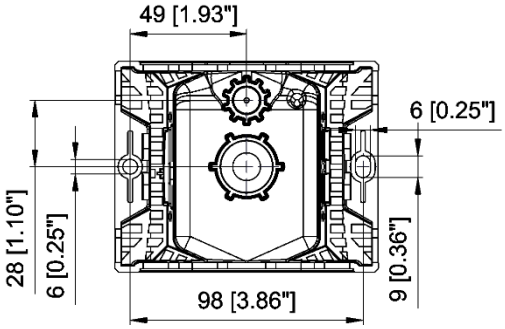
PA 1-R



PA L 1-R



Es ist geeignetes Befestigungsmaterial zu verwenden.



Bohrbild; Ansicht von unten

4. Technische Daten

4.1 Allgemein

	PA 1-R	PA L 1-R
Lichtstärke	-	16 cd (klar)
Leuchtmittel	-	20x RGBW
Farben RGBW-LED	-	blau, rot, grün, gelb, orange, violett, magenta zusätzlich über externe Ansteuerung: weiß
Max. Schallpegel	105 dB (A) @1m, DIN-Ton (Ton-Nr. 2)	
Lautstärkeregelung	max. - 20 dB	
Töne	70	
Einschaltdauer	100%	
Anschlussklemmen	0,14 - 1,5mm² feindrähtig/ eindrähtig / AWG24 - AWG 14	
Schutzart	IP 66 (EN 60529), Type 4 & 4x	
Schlagfestigkeit	IK08	IK07
Schutzklasse	II	
Betriebstemperatur	-25 °C…+50 °C (UL-Zulassung siehe Seite 3, englischsprachiges Kapitel)	
Lagertemperatur	-25°C…+70°C	
Max. rel. Luftfeuchte	90%	
Kabeleinführung	1x M20 vorgeprägt, 1x 10mm vorgeprägt	
Dichtbereich der Durchführungstülle	7 – 13 mm	Bei Verwendung von Kabeldurchmessern < 7 mm eine Kabelverschraubung mit ausreichender Schutzart vorsehen
Gehäusematerial	PC / ABS	
Haubenmaterial	PC/ABS	PC Makrolon
Einbaulage	beliebig	
Haubenfarben	--	klar, weiß, gelb, orange, rot, grün, blau RGBW-Version: weiß

4.2 Elektrische Kenndaten AC-Version / DC-Version

	PA L 1-R						
Bemessungsspannungsbereich (Begrenzung siehe Zulassung)	12V - 48V DC			24V - 48V AC 50/60Hz		115V - 230V AC 50/60Hz	
Arbeitsspannungsbereich	10V - 60V DC			18V – 53V AC		95V - 253V AC	
	12V DC	24V DC	48V DC	24V AC	48V AC	115V AC	230V AC
Bemessungsstromaufnahme **Leuchte** (max)	173mA	90mA	58mA	165mA	110mA	46mA	32mA
Bemessungsstromaufnahme **Schallgeber** (max)	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Bemessungsstromaufnahme **kombiniert** (max)	258mA	129mA	77mA	208mA	144mA	55mA	38mA
Leistungsaufnahme **kombiniert** (max)	3,1W	3,1W	3,7W	4,9VA	6,9VA	6,3VA	8,7VA

	PA 1-R						
Bemessungsspannungsbereich (Begrenzung siehe Zulassung)	12V - 48V DC			24V - 48V AC 50/60Hz		115V - 230V AC 50/60Hz	
Arbeitsspannungsbereich	10V - 60V DC			18V – 53V AC		95V - 253V AC	
Bemessungsstromaufnahme **Schallgeber** (max)	12V DC	24V DC	48V DC	24V AC	48V AC	115V AC	230V AC
	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Leistungsaufnahme **Schallgeber** (max)	1,2W	1,3W	1,9W	2,5VA	3,4VA	2,9VA	4,3VA

5. Zulassungen

(Zulassungen gelten für gekennzeichnete Geräte)

UL, cUL
In Vorbereitung

6. Inbetriebnahme

6.1 Sicherheitshinweise

GEFAHR - Lebensgefahr durch Stromschlag

Spannungsführende Geräte und freiliegende Anschlussleitungen können Stromschläge erzeugen und schwere Unfälle verursachen.

- Arbeiten an elektrischen Anschlüssen dürfen nur elektrotechnisch geschulte und autorisierte Fachkräfte durchführen.
- Vor der Montage alle Zuleitungen spannungsfrei schalten und gegen Wiedereinschalten sichern. Spannungsfreiheit immer sicherstellen.
- Entladungsphase von 5 Minuten für die elektrischen Komponenten abwarten. Erst danach Gerät öffnen.
- Das Anlegen der Betriebsspannung darf nur bei fest verschlossenem Gehäuse erfolgen.

WARNUNG - Gefahr durch unzulässigen Einsatz der Geräte

Der nicht bestimmungsgemäße Einsatz kann zu schweren Unfällen führen.

- Bei der Installation darauf achten, dass die Anschlussleitung gegen Zug und Verdrehen abgesichert ist.
- Die Geräte sind nur für die ortsfeste Montage bestimmt.

GEFAHR - Gefahr durch Beschädigung der Geräte

Nichtbeachtung der Typenschild-Angaben kann zu schweren Unfällen führen.

- Bei Installation und Wartung der Geräte immer die Angaben auf dem Typenschild beachten.

VORSICHT - Verletzungsgefahr durch scharfe Kanten oder erhitzte Bauteile

- Bei Installations-, Montage-, oder Service-/ Wartungsarbeiten geeignete Persönliche Schutzausrüstung (PSA) tragen.
- Verdrahtung entfernt von scharfen Kanten, Ecken und internen Komponenten vornehmen, Kollisionen mit Bauteilen vermeiden.

VORSICHT - Beeinträchtigung des Sehvermögens

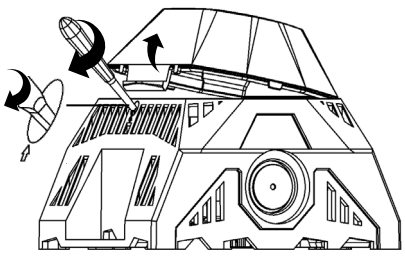
- Um eine Beeinträchtigung des Sehvermögens zu verhindern, den dauernden, direkten Blick in die aktivierte Leuchte vermeiden.
- Unvermittelte Blitzauslösung kann zu Schreckreaktionen führen.

VORSICHT - Beeinträchtigung des Hörvermögens

- Um eine Beeinträchtigung des Hörvermögens zu verhindern, bei Arbeiten/ Tests eine Schallschutzausrüstung tragen.
- Unvermittelte Schallauslösung kann zu Schreckreaktionen führen.

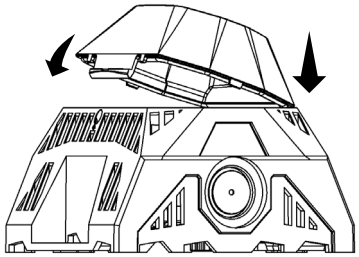
6.1 Haubenverschluss

Öffnen der Haube



Mit einem Schraubendreher (Klingenbreite 3mm) in die markierte Öffnung führen und durch eine Drehung um 90°den Deckel heraushebeln.

Verschließen der Haube



Haube auf das Gehäuse setzen (auf Verdrehschutz achten) und mit leichtem Druck schließen.

Das Gerät wird in nicht verschlossenem Zustand ausgeliefert.

Kabeldurchführungen

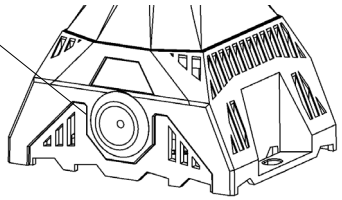
Der mitgelieferte Membrannippel kann durch eine Kabelverschraubung oder durch einen M12-Steckverbinder mit einem Flanschmaß von M20 ersetzt werden.

- Nur Kabelverschraubungen mit einer Schutzart von mindestens IP66 an den entsprechenden Durchbrüchen montieren.

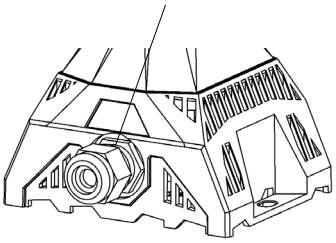
Bei Kabeldurchmessern von <7 mm eine Kabelverschraubung mit ausreichender Schutzart verwenden.

IP 66 nur bei nach außen gerichtetem Trichter der Membrane.
Nach Montage des Kabels Reste der Membrane entfernen.

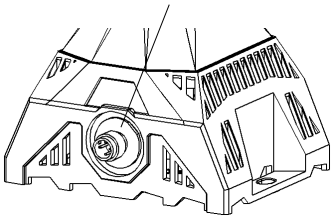
Membrannippel
IP 66 (mitgeliefert)

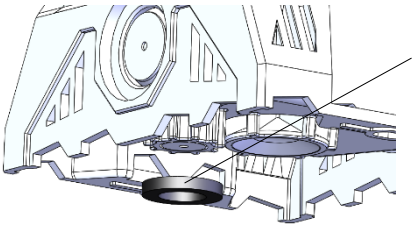


Optional Kabelverschraubung IP66



Optional M12-Steckverbinder IP66, für Kleinspannungs-Geräte

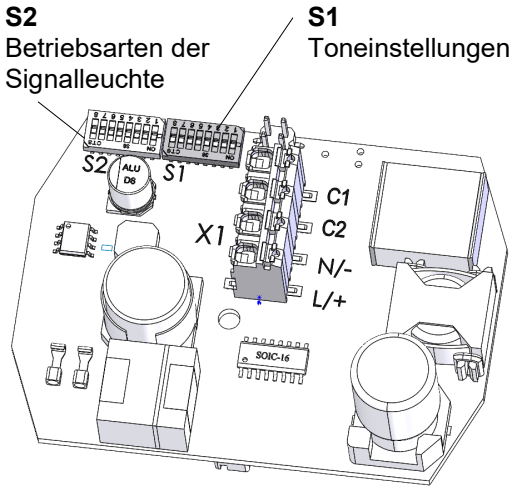


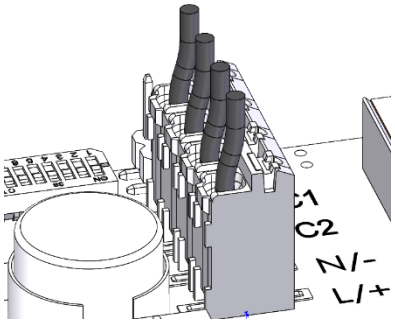


Bei Nutzung der unteren Kabeldurchführung die mitgelieferte Dichtung verwenden. (max. Leitungsdurchmesser 10 mm)

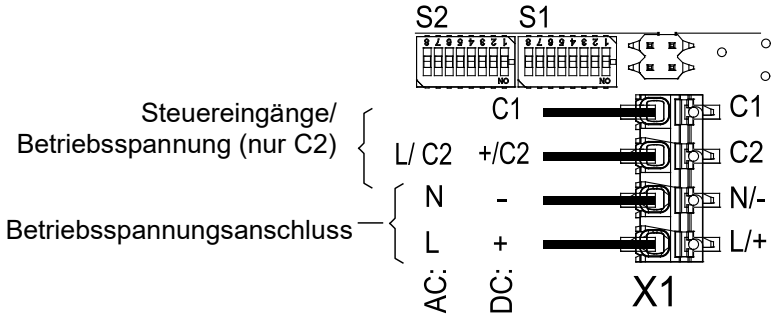
6.2 Elektrischer Anschluss/ Bedienelemente PA 1-R / PA L 1-R

Der elektrische Anschluss erfolgt auf der Anschlussplatine im Oberteil/ in der Haube.





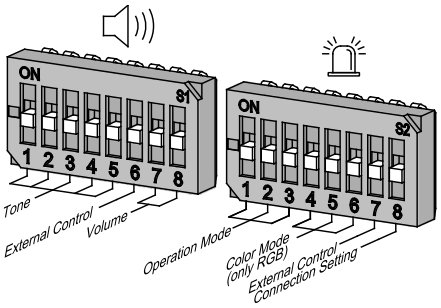
Die Anschlussdrähte werden in die dafür vorgesehenen Öffnungen nach dem push-in-Prinzip gesteckt.



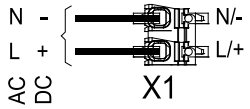
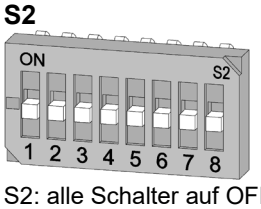
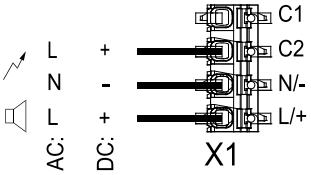
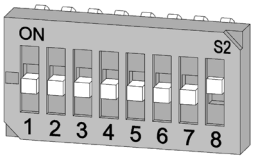
6.3 Anschluss der Betriebsspannung

Bei Kombigerät PA L 1-R können Signalleuchte und Schallgeber zusammen oder separat versorgt werden.

DIP-Schalterstellung S2 auf der Anschlussplatine wie folgt vornehmen:



Weitere Informationen im QuickGuide

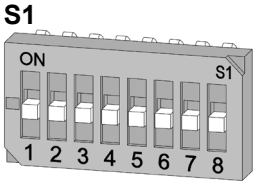
PA 1-R: Anschluss der Betriebsspannung **PA L 1-R:** Gemeinsame Versorgung von Signalleuchte und Schallgeber		**S2**  S2: alle Schalter auf OFF **Werkseinstellung***
PA L 1-R: Getrennte Versorgung von Signalleuchte und Schallgeber		**S2**  S2: Schalter 8 auf ON

6.4 Einstellung der Betriebsarten ohne externe Steuerung

6.4.1 Einstellung der Töne

Mit dem Schalter **S1** auf der Platine in der Haube wird die Tonart eingestellt, siehe Tabelle unten.

S1



Werkseinstellung*

S1 (DIP1)		Lautstärke
7	8	dB
		max.*
ON		-7
	ON	-13
ON	ON	-20

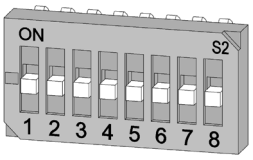
Werkseinstellung*

Ohne Externe Ansteuerung					
					S1:6 OFF
1	2	3	4	5	Ton
					162*
ON					2
	ON				9
ON	ON				15
		ON			18
ON		ON			22
	ON	ON			24
ON	ON	ON			26
			ON		27
ON			ON		29
	ON		ON		36
ON	ON		ON		54
		ON	ON		56
ON		ON	ON		60
	ON	ON	ON		63
ON	ON	ON	ON		71
				ON	82
ON				ON	83
	ON			ON	100
ON	ON			ON	102
		ON		ON	103
ON		ON		ON	104
	ON	ON		ON	112
ON	ON	ON		ON	123
			ON	ON	130
ON			ON	ON	131
	ON		ON	ON	146
ON	ON		ON	ON	160
		ON	ON	ON	161
ON		ON	ON	ON	163
	ON	ON	ON	ON	164
ON	ON	ON	ON	ON	1

6.4.2 Einstellung der Farbe (nur PA L 1-R)

Mit dem Schalter **S2** auf der Platine in der Haube wird die Farbe eingestellt, siehe Tabelle unten.

S2



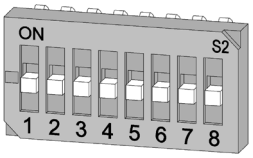
Werkseinstellung*

S2 (DIP2)					Farbmodus (nur RGB)
4	5	6	7	8	
			OFF		Rot*
ON					Gelb
	ON				Orange
ON	ON				Weiß
		ON			Grün
ON		ON			Blau
	ON	ON			Violett
ON	ON	ON			Magenta

6.4.3 Einstellung des Betriebsmodus (nur PA L 1-R)

Mit dem Schalter **S2** auf der Platine in der Haube wird der Betriebsmodus eingestellt, siehe Tabelle unten.

S2



Werkseinstellung*

S2 (DIP2)			Betriebsmodus
1	2	3	
			Blitzlicht 1Hz*
ON			Blitzlicht 2Hz
	ON		Blitzlicht 1Hz DF**
ON	ON		Blinklicht 0,5Hz
		ON	Blinklicht 1Hz
ON		ON	Blinklicht 2Hz
	ON	ON	Dauerlicht
ON	ON	ON	Drehlicht 180 U/min

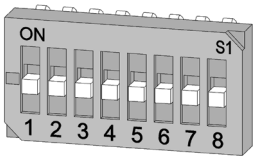
DF** = DoubleFlash

6.5 Einstellung der Betriebsarten mit externer Steuerung

6.5.1 Einstellung der Töne

Mit dem Schalter **S1** auf der Platine in der Haube wird die Tonart eingestellt, siehe Tabelle unten.

S1



Werkseinstellung*

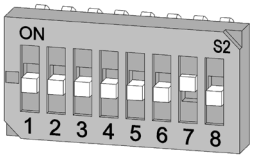
S1 (DIP1)		Lautstärke
7	8	dB
		max.*
ON		-7
	ON	-13
ON	ON	-20

Werkseinstellung*

Mit Externe Ansteuerung								
S1 (DIP1)					$\overline{C1+C2}$ (nicht angesteuert)	C1	C2	C1+C2
1	2	3	4	5	S1:6 ON			
					Ton	Ton	Ton	Ton
					162	124	54	83
ON					2	128	112	57
	ON				9	57	11	82
ON	ON				15	131	52	112
		ON			18	111	57	68
ON		ON			22	16	109	68
	ON	ON			1	1	1	131
ON	ON	ON			1	1	100	83
			ON		27	123	52	82
ON			ON		29	35	52	61
	ON		ON		36	146	67	57
ON	ON		ON		54	46	54	122
		ON	ON		56	82	35	33
ON		ON	ON		60	131	52	125
	ON	ON	ON		63	43	69	30
ON	ON	ON	ON		71	131	52	93
				ON	82	131	52	83
ON				ON	83	56	13	82
	ON			ON	100	131	52	125
ON	ON			ON	102	59	66	34
		ON		ON	103	131	65	147
ON		ON		ON	104	103	65	101
	ON	ON		ON	112	2	57	128
ON	ON	ON		ON	123	27	52	77
			ON	ON	130	2	107	67
ON			ON	ON	131	23	112	57
	ON		ON	ON	146	31	66	57
ON	ON		ON	ON	160	82	35	33
		ON	ON	ON	161	143	90	25
ON		ON	ON	ON	163	55	91	44
	ON	ON	ON	ON	164	53	152	45
ON	ON	ON	ON	ON	1	2	88	57

6.5.2 Einstellung der Farbe (nur PA L 1-R)

Mit dem Schalter **S2** auf der Platine in der Haube wird die Farbe eingestellt, siehe Tabelle unten.

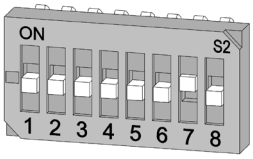


Licht - Farben (nur PA L 1-R)											
S2 (DIP2)								$\overline{C1}+\overline{C2}$ (nicht angesteuert)	C1	C2	C1 + C2
1	2	3	4	5	6	7	8				
						ON		Rot	Grün	Blau	Gelb
			ON					Gelb	Rot	Grün	Weiß
				ON				Orange	Rot	Grün	Blau
			ON	ON				Weiß	Gelb	Grün	Rot
					ON			Grün	Rot	Gelb	Blau
			ON		ON			Blau	Orange	Rot	Grün
				ON	ON			Grün	Gelb	Rot	Rot
			ON	ON	ON			Magenta	Rot	Grün	Gelb

6.5.3 Einstellung des Betriebsmodus (nur PA L 1-R)

Mit dem Schalter **S2** auf der Platine in der Haube wird der Lichtmodus eingestellt, siehe Tabelle unten.

S2



Licht - Betriebsmodus (nur PA L 1-R)											
S2 (DIP2)								$\overline{C1}+\overline{C2}$ (nicht angesteuert)	C1	C2	C1 + C2
1	2	3	4	5	6	7	8				
								Standby	Blitzlicht 1Hz	Dauerlicht	Blinklicht 1Hz
ON								Blitzlicht 1Hz	Blinklicht 1Hz		Dauerlicht
	ON							Blitzlicht 2Hz	Dauerlicht		Blinklicht 1Hz
ON	ON							Dauerlicht	Dauerlicht		Blitzlicht 1Hz DF**
		ON						Blinklicht 1Hz	Blitzlicht 1Hz		Drehlicht 60 U/min
ON		ON						Blinklicht 2Hz	Blitzlicht 1Hz *DF		Blitzlicht 1Hz
	ON	ON						Dauerlicht	Dauerlicht		Dauerlicht
ON	ON	ON						Drehlicht 180 U/min	Dauerlicht		Blinklicht 1Hz

DF**=Double Flash

7. Einstellungsarten Beispiele

Green Red Yellow - Color of lamp

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2	Continuous Tone 88		**Classic Traffic light, optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous			Flash 1Hz DF Tone 57	**Good / Bad "Inform" light optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2		Flash 1Hz DF Tone 57	**Traffic light with higher attention, optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby	Flash 1Hz	Continuous		**OK / Warning light with higher attention**
S2				ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby		Continuous	Blink 1Hz	**OK / Warning light with higher attention**
S2				ON	ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous		Continuous Tone 88		**OK / Warning light optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON			ON	Volume		Continuous	Continuous		Flash 1Hz DF Tone 83	**Traffic light with higher attention optional w/ tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous	Continuous	Blink Tone 131	**Traffic light with higher attention optional w/ tone**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous		Blink Tone 131	**2-Level warning w/ tone for higher attention**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Blink	Continuous		**2-Level warning**
S2	ON					ON	ON						

8. Zubehör

Artikel-Nr.	Bezeichnung
28912000001	Ersatzdichtung PA (L) 1-R

9. Wartung, Service, Instandhaltung

- Bei allen Arbeiten am Gerät Sicherheitshinweise beachten.

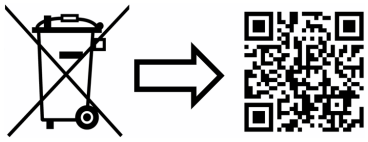
Das Gerät erfordert keine besondere Wartung.

- Für die äußere Reinigung keine abrasiven, lösungsmittelhaltigen oder chemisch aggressiven Reiniger verwenden.
  Keine scharfkantigen Werkzeuge verwenden, insbesondere die Leuchthaube nicht zerkratzen.
  Nicht mit Hochdruck reinigen.
- Austausch von Komponenten nur mit Originalersatzteilen.
- Reparaturen grundsätzlich nur im Herstellerwerk ausführen lassen.

Umbauten, Änderungen, fehlerhafter und unzulässiger Einsatz sowie die Nichtbeachtung der Hinweise dieser Betriebsanleitung schließen eine Gewährleistung aus.

10. Außerbetriebnahme, Demontage und Entsorgung

- Bei allen Arbeiten am Gerät Sicherheitshinweise beachten.



www.pfannenberg.com/disposal

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Table of contents

1. Intended use

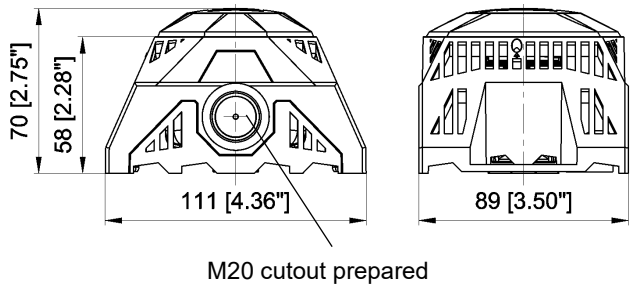
Sounders of the PA series are designed for the signaling of e.g. hazardous conditions in industry, trade and construction areas. There is also the possibility of visual signaling when the sounder-signal lamp combination (PA L 1-R) is used.
The sounders produce acoustic signals in 70 different tones, which can be selected using an internal switch. The external control can be used to switch over to a maximum of 3 further tones.
The devices must only be operated when undamaged and within the specified parameters. The function of the device can only be guaranteed if the upper and lower parts are correctly joined together.
The devices are suitable for indoor and outdoor use.

2. Scope of delivery

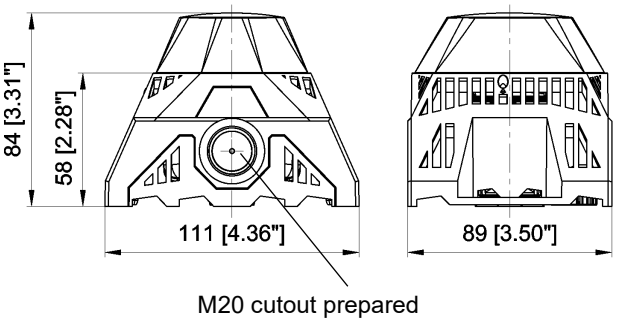
The scope of delivery consists of:
1x Signaling device
1x Diaphragm nipple M20 *(Optional: Cable gland - M12 plug)*
1x Seal for lower cable feed-through
1x Quick guide

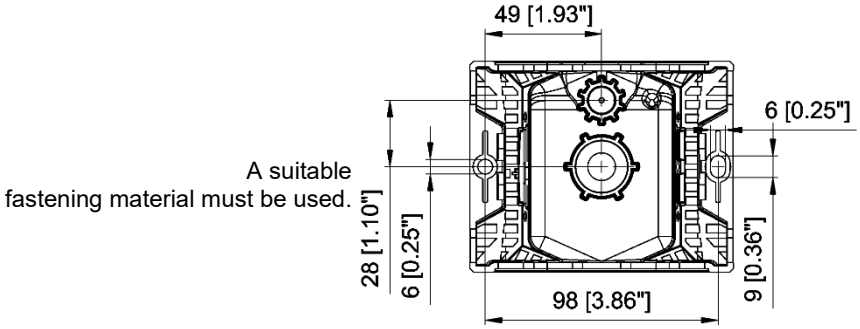
3. Dimensions

PA 1-R



PA L 1-R





Bore pattern; view from below

4. Technical data

4.1 General

	PA 1-R	PA L 1-R
Light intensity	-	16 cd (transparent)
Light source	-	20x RGBW
Colors RGBW-LED	-	blue, red, green, yellow, orange, violet, magenta additionally via external control: white
Max. sound level	105 dB (A) @1m, DIN-tone (tone no. 2)	
Volume control	max. - 20 dB	
Tones	70	
Duty cycle	100 %	
Connecting terminals	0.14 - 1.5mm² fine stranded / solid / AWG24 - AWG 14	
Protection category	IP 66 (EN 60529), Type 4 & 4x	
Impact strength	IK08	IK07
Protection class	II	
Operating temperature	-25 °C…+50 °C (UL approval, see page 3, English chapter)	
Storage temperature	-25 °C…+70 °C	
Max. rel. air humidity	90 %	
Cable inlet	1x M20 preshaped, 1x 10mm preshaped	
Sealing range of the feed-through grommet	7 – 13 mm	A cable gland with sufficient protection category must be provided when cable diameters of < 7 mm are used.
Housing material	PC / ABS	
Lens material	PC/ABS	PC Macrolon
Installation attitude	any	
Lens colors	--	transparent, white, yellow, amber, red, green, blue RGBW version: white

4.2 Electrical data AC version/DC version

	PA L 1-R						
Rated voltage range (see license for limit)	12V - 48V DC			24V - 48V AC 50/60 Hz		115V - 230V AC 50/60 Hz	
Operation voltage range	10V - 60V DC			18V – 53V AC		95V - 253V AC	
	12V DC	24V DC	48V DC	24V AC	48V AC	115V AC	230V AC
Rated current consumption of **light** (max)	173mA	90mA	58mA	165mA	110mA	46mA	32mA
Rated current consumption of **sounder** (max)	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Rated current consumption **combined** (max)	258mA	129mA	77mA	208mA	144mA	55mA	38mA
Power consumption **combined** (max)	3,1W	3,1W	3,7W	4,9VA	6,9VA	6,3VA	8,7VA

	PA 1-R						
Rated voltage range (see license for limit)	12V - 48V DC			24V - 48V AC 50/60 Hz		115V - 230V AC 50/60 Hz	
Operation voltage range	10V - 60V DC			18V – 53V AC		95V - 253V AC	
Rated current consumption of **sounder** (max)	12V DC	24V DC	48V DC	24V AC	48V AC	115V AC	230V AC
	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Power consumption **sounder** (max)	1,2W	1,3W	1,9W	2,5VA	3,4VA	2,9VA	4,3VA

5. Approvals

(Approvals are valid for marked devices)

UL, cUL
In preparation

6. Commissioning

6.1 Safety information

DANGER - Danger to life due to electric shock

Voltage-carrying units and exposed connection cables may cause electric shocks and serious accidents.

- Only trained and authorized electricians may work on electrical connections.
- Disconnect all supply lines from mains before installation and secure them against reconnection. Always ensure absence of voltage.
- Wait for the discharge phase of 5 minutes for the electrical components. The unit should only be opened afterwards.
- The operating voltage must only be applied when the housing is firmly closed.

WARNING - Danger due to unauthorized use of the devices

Improper use may lead to serious accidents.

- Ensure that the connection cable is protected against pulling and twisting during installation.
- The devices are only intended for fixed assembly.

DANGER - Danger due to damage to the devices

Non-compliance with the information on the type plate can lead to serious accidents.

- Always observe the information on the type plate when installing and maintaining the units.

CAUTION - Risk of injury due to sharp edges or heated components

- Wear suitable personal protective equipment (PPE) for installation, assembly or service/maintenance work.
- Keep wiring away from sharp edges, corners and internal components; avoid collisions with component parts.

CAUTION - Risk of sight impairment

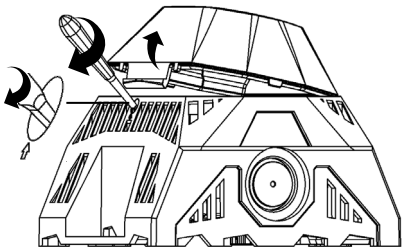
- Avoid constant, direct glances into the activated lights to prevent impairment of vision.
- Unexpected triggering of the flash can lead to startled reactions.

CAUTION - Risk of hearing impairment

- Wear sound insulation equipment during work/testing to prevent hearing impairment.
- Unexpected triggering of the sound can lead to startled reactions.

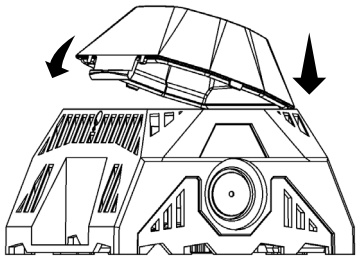
6.1 Lens cap

Opening the lens



Insert a screwdriver (3 mm blade width) in the marked opening and lever out the lid by turning 90°.

Closing the lens



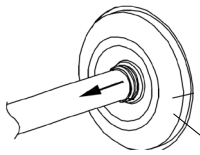
Place the lens on the housing (pay attention to anti-twist protection) and close with slight pressure.

The device is delivered in an unsealed condition.

Cable feed-throughs

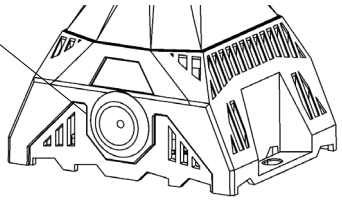
The supplied diaphragm nipple can be replaced by a cable gland or by an M12 plug-in connector with a flange dimension of M20.

➢ Only cable glands with protection category of at least IP66 should be fitted to the corresponding openings. Cable diameters of <7 mm require a cable gland with appropriate protection category.

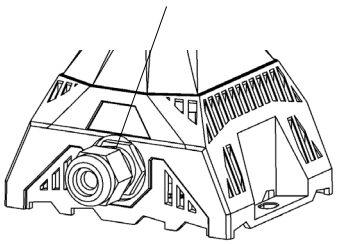


IP 66 only with the diaphragm funnel pointing outwards. Remove remains of the diaphragm after assembly of the cable.

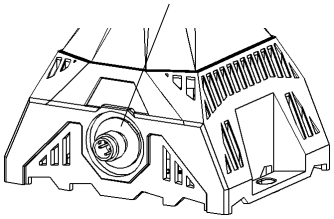
Diaphragm nipple IP 66 (included)

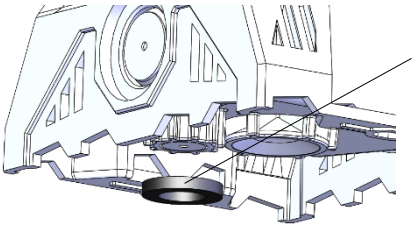


Optional Cable gland IP66



Optional M12 connector IP66, for low-voltage devices

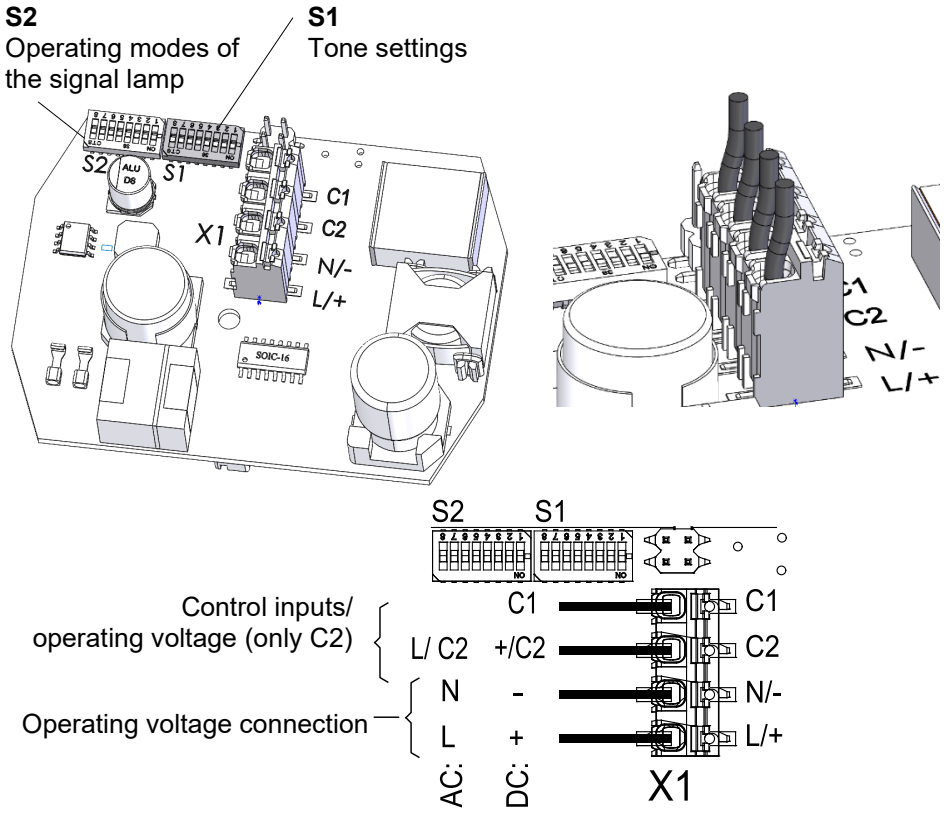




Use the seal provided when using the lower cable feed-through. (max. cable diameter 10 mm)

6.2 Electrical connection/control elements PA 1-R / PA L 1-R

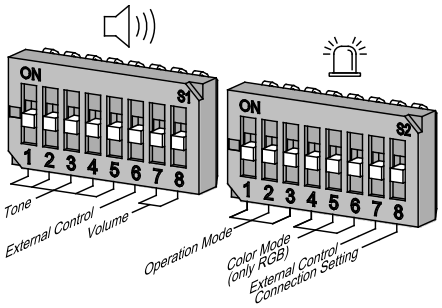
The electrical connection is made on the board in the top section/in the lens.



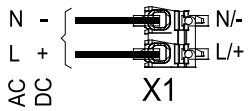
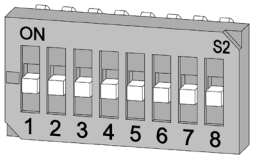
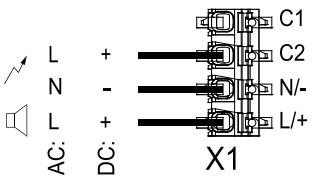
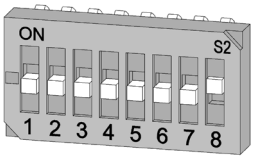
6.3 Connecting the operating voltage

Signal lamp and sounder can be supplied together or separately in the PA L 1-R combi-device.

Set the DIP switch S2 on the board as follows:



Further information in the QuickGuide

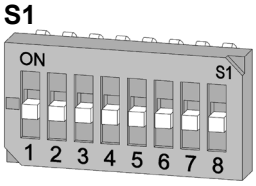
PA 1-R: Connection of the operating voltage **PA L 1-R:** Common supply of signal lamp and sounder		**S2**  S2: all switches to OFF **Factory setting***
PA L 1-R: Separate supply of signal lamp and sounder		**S2**  S2: Switch 8 to ON

6.4 Setting the operating modes without external control

6.4.1 Setting the tones

The tone is set using the **S1** switch on the board in the lens, see table below.

S1



Factory setting*

S1 (DIP1)		Volume
7	8	dB
		max.*
ON		-7
	ON	-13
ON	ON	-20

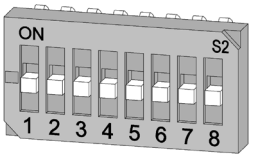
Factory setting*

Without external control					
					S1:6 OFF
1	2	3	4	5	Tone
					162*
ON					2
	ON				9
ON	ON				15
		ON			18
ON		ON			22
	ON	ON			24
ON	ON	ON			26
			ON		27
ON			ON		29
	ON		ON		36
ON	ON		ON		54
		ON	ON		56
ON		ON	ON		60
	ON	ON	ON		63
ON	ON	ON	ON		71
				ON	82
ON				ON	83
	ON			ON	100
ON	ON			ON	102
		ON		ON	103
ON		ON		ON	104
	ON	ON		ON	112
ON	ON	ON		ON	123
			ON	ON	130
ON			ON	ON	131
	ON		ON	ON	146
ON	ON		ON	ON	160
		ON	ON	ON	161
ON		ON	ON	ON	163
	ON	ON	ON	ON	164
ON	ON	ON	ON	ON	1

6.4.2 Setting the color (only PA L 1-R)

The color is set using the **S2** switch on the board in the lens, see table below.

S2



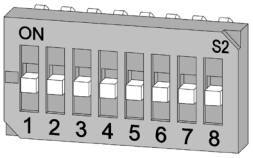
Factory setting*

S2 (DIP2)					Color mode (only RGB)
4	5	6	7	8	
			OFF		Red*
ON					Yellow
	ON				Orange
ON	ON				White
		ON			Green
ON		ON			Blue
	ON	ON			Violet
ON	ON	ON			Magenta

6.4.3 Setting the operating mode (only PA L 1-R)

The operating mode is set using the **S2** switch on the board in the lens, see table below.

S2



Factory setting*

S2 (DIP2)			Operating mode
1	2	3	
			Flashing light 1Hz*
ON			Flashing light 2 Hz
	ON		Flashing light 1Hz DF**
ON	ON		Blinking light 0.5 Hz
		ON	Blinking light 1Hz
ON		ON	Blinking light 2Hz
	ON	ON	Continuous light
ON	ON	ON	Rotating light 180 rpm

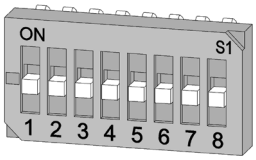
DF** = DoubleFlash

6.5 Setting the operating modes with external control

6.5.1 Setting the tones

The tone is set using the **S1** switch on the board in the lens, see table below.

S1



Factory setting*

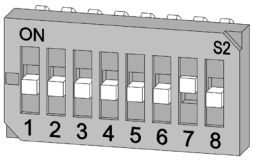
S1 (DIP1)		Volume
7	8	dB
		max.*
ON		-7
	ON	-13
ON	ON	-20

Factory setting*

With external control								
S1 (DIP1)					$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1+C2
1	2	3	4	5	S1:6 ON			
					Tone	Tone	Tone	Tone
					162	124	54	83
ON					2	128	112	57
	ON				9	57	11	82
ON	ON				15	131	52	112
		ON			18	111	57	68
ON		ON			22	16	109	68
	ON	ON			1	1	1	131
ON	ON	ON			1	1	100	83
			ON		27	123	52	82
ON			ON		29	35	52	61
	ON		ON		36	146	67	57
ON	ON		ON		54	46	54	122
		ON	ON		56	82	35	33
ON		ON	ON		60	131	52	125
	ON	ON	ON		63	43	69	30
ON	ON	ON	ON		71	131	52	93
				ON	82	131	52	83
ON				ON	83	56	13	82
	ON			ON	100	131	52	125
ON	ON			ON	102	59	66	34
		ON		ON	103	131	65	147
ON		ON		ON	104	103	65	101
	ON	ON		ON	112	2	57	128
ON	ON	ON		ON	123	27	52	77
			ON	ON	130	2	107	67
ON			ON	ON	131	23	112	57
	ON		ON	ON	146	31	66	57
ON	ON		ON	ON	160	82	35	33
		ON	ON	ON	161	143	90	25
ON		ON	ON	ON	163	55	91	44
	ON	ON	ON	ON	164	53	152	45
ON	ON	ON	ON	ON	1	2	88	57

6.5.2 Setting the color (only PA L 1-R)

The color is set using the **S2** switch on the board in the lens, see table below.

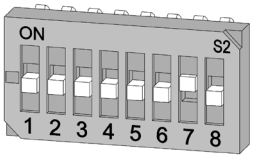


Light - colors (only PA L 1-R)											
S2 (DIP2)								$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1 + C2
1	2	3	4	5	6	7	8				
						ON		Red	Green	Blue	Yellow
			ON					Yellow	Red	Green	White
				ON				Orange	Red	Green	Blue
			ON	ON				White	Yellow	Green	Red
					ON			Green	Red	Yellow	Blue
			ON		ON			Blue	Orange	Red	Green
				ON	ON			Green	Yellow	Red	Red
			ON	ON	ON			Magenta	Red	Green	Yellow

6.5.3 Setting the operating mode (only PA L 1-R)

The light mode is set using the **S2** switch on the board in the lens, see table below.

S2



Light - operating mode (only PA L 1-R)											
S2 (DIP2)								$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1 + C2
1	2	3	4	5	6	7	8				
								Standby	Flashing light 1Hz	Continuous light	Blinking light 1Hz
ON								Flashing light 1Hz	Blinking light 1Hz		Continuous light
	ON							Flashing light 2 Hz	Continuous light		Blinking light 1Hz
ON	ON							Continuous light	Continuous light		Flashing light 1Hz DF**
		ON						Blinking light 1Hz	Flashing light 1Hz		Rotating light 60 rpm
ON		ON						Blinking light 2Hz	Flashing light 1Hz DF**		Flashing light 1Hz
	ON	ON						Continuous light	Continuous light		Continuous light
ON	ON	ON						Rotating light 180 rpm	Continuous light		Blinking light 1Hz

DF**=Double Flash

7. Setting types examples

Green Red Yellow - Color of lamp

	1	2	3	4	5	6	7	8	$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2	Continuous Tone 88		**Classic Traffic light, optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous			Flash 1Hz DF Tone 57	**Good / Bad "Inform" light optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2		Flash 1Hz DF Tone 57	**Traffic light with higher attention, optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby	Flash 1Hz	Continuous		**OK / Warning light with higher attention**
S2				ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby		Continuous	Blink 1Hz	**OK / Warning light with higher attention**
S2				ON	ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous		Continuous Tone 88		**OK / Warning light optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON			ON	Volume		Continuous	Continuous		Flash 1Hz DF Tone 83	**Traffic light with higher attention optional w/ tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous	Continuous	Blink Tone 131	**Traffic light with higher attention optional w/ tone**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous		Blink Tone 131	**2-Level warning w/ tone for higher attention**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}$+$\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Blink	Continuous		**2-Level warning**
S2	ON					ON	ON						

8. Accessories

Item No.	Designation
28912000001	Spare seal PA (L) 1-R

9. Maintenance, service, repairs

➢ Observe the Safety information during all work on the device.

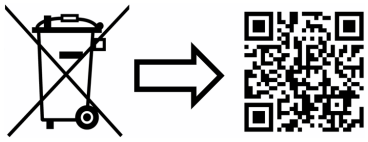
The device requires no special maintenance.

➢ Do not use abrasive, solvent-containing or chemically aggressive cleaners for cleaning the outside.
Do not use sharp tools; especially avoid scratching the lens.
Do not clean with high pressure.
➢ Only replace components using original spare parts.
➢ Only have repairs carried out at the manufacturer's premises.

Conversions, modifications, improper and impermissible use as well as failure to observe the notes in this operating instructions shall void any warranty.

10. Decommissioning, dismantling and disposal

➢ Observe the Safety information during all work on the device.



www.pfannenberg.com/disposal

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http://www.pfannenberg.com

Sommaire

Observer la mention de réserve selon DIN ISO 16016 !

1. Utilisation conforme

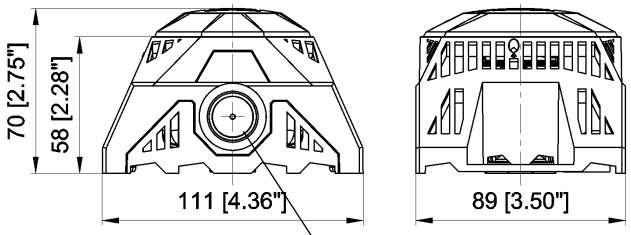
Les sirènes de la série PA sont conçues pour la signalisation des situations dangereuses dans l'industrie, le commerce et le secteur du bâtiment. Il est également possible d'ajouter un système de signalisation visuelle dans le cas d'utilisation combiné de sirènes et de voyants lumineux (PA L 1-R).
Les sirènes génèrent des signaux sonores qui se déclinent en 70 sons différents. Ces sons peuvent être sélectionnés au moyen d'un commutateur interne. Il est possible de commuter jusqu'à 3 sons supplémentaires avec une commande externe.
Utiliser uniquement les appareils à condition que ceux-ci soient intacts et conformes aux caractéristiques spécifiées. Le fonctionnement de l'appareil n'est garanti que si les parties supérieure et inférieure ont été correctement assemblées.
Les appareils peuvent être utilisés à l'intérieur comme à l'extérieur.

2. Étendue de livraison

L'étendue de livraison est la suivante :
1x appareil de signalisation
1x raccord fileté à membrane M20 *(en option : Presse-étoupe - fiche M12)*
1x joint pour le passage de câble inférieur
1x notice abrégée

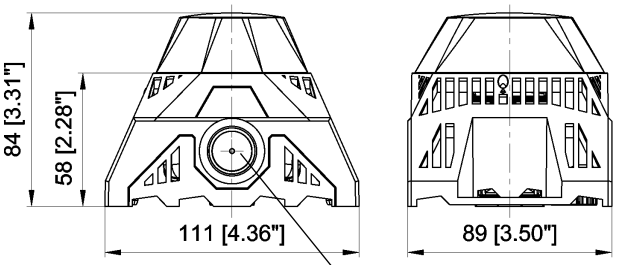
3. Dimensions

PA 1-R



Encoche préparée pour le M20

PA L 1-R



Encoche préparée pour le M20

Employer du matériel de fixation approprié.

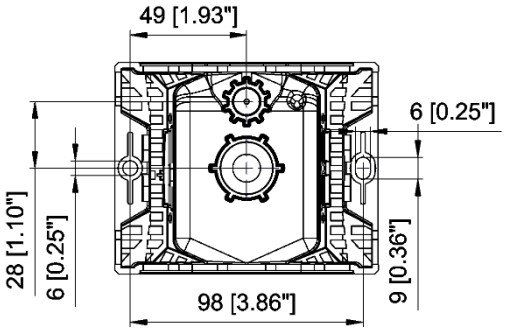


Schéma de perçage ; vue de dessous

4. Données techniques

4.1 Généralités

	PA 1-R	PA L 1-R
Intensité lumineuse	-	16 cd (clair)
Source lumineuse	-	20x RGBW
Couleurs DEL RGBW	-	bleu, rouge, vert, jaune, orange, violet, magenta Également disponible via une commande externe : blanc
Niveau sonore maximal	105 dB (A) @1m, son DIN (son n° 2)	
Réglage du volume sonore	max. - 20 dB	
Tonalités	70	
Facteur de marche	100 %	
Bornes	0,14 - 1,5mm² à fil fin / unifilaire / AWG24 - AWG 14	
Type de protection	IP 66 (EN 60529), type 4 & 4x	
Résistance aux chocs	IK08	IK07
Classe de protection	II	
Température de service	-25 °C…+50 °C (voir la certification UL page 3, chapitre rédigé en anglais)	
Température de stockage	-25 °C… +70 °C	
Humidité relative max.	90 %	
Entrée de câble	1x M20 avec empreinte préalable, 1x 10 mm avec empreinte préalable	
Zone d'étanchéité du passe-fil	7 – 13 mm	En cas d'utilisation de câbles de diamètre < 7 mm, prévoir un presse-étoupe d'un indice de protection suffisant
Matériau du boîtier	PC / ABS	
Matériau du capot	PC/ABS	PC Makrolon
Position de montage	Au choix	
Couleurs du capot	--	transparent, blanc, jaune, orange, rouge, vert, bleu Version RGBW : blanc

4.2 Caractéristiques électriques version c.a. / version c.c.

	PA L 1-R						
Plage de tensions assignées (pour les limites, voir Homologations)	12V - 48V c.c.			24V - 48V c.a. 50/60 Hz		115V - 230V c.a. 50/60 Hz	
Plage de tensions de service	10V - 60V c.c.			18V – 53V c.a.		95V - 253V c.a.	
	12V c.c.	24V c.c.	48V c.c.	24V c.a.	48V c.a.	115V c.a.	230V c.a.
Consommation de courant assignée **feux** (max.)	173mA	90mA	58mA	165mA	110mA	46mA	32mA
Consommation de courant assignée **sirène** (max.)	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Consommation de courant assignée **combinée**	258mA	129mA	77mA	208mA	144mA	55mA	38mA
Puissance absorbée **combinée** (max.)	3,1W	3,1W	3,7W	4,9VA	6,9VA	6,3VA	8,7VA

	PA 1-R						
Plage de tensions assignées (pour les limites, voir Homologations)	12V - 48V c.c.			24V - 48V c.a. 50/60 Hz		115V - 230V c.a. 50/60 Hz	
Plage de tensions de service	10V - 60V c.c.			18V – 53V c.a.		95V - 253V c.a.	
Consommation de courant assignée **sirène** (max.)	12V c.c.	24V c.c.	48V c.c.	24V c.a.	48V c.a.	115V c.a.	230V c.a.
	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Puissance absorbée **sirène** (max.)	1,2W	1,3W	1,9W	2,5VA	3,4VA	2,9VA	4,3VA

5. Admissions

(Les admissions sont valables pour les appareils signalés)

UL, cUL
En préparation

6. Mise en service

6.1 Consignes de sécurité

DANGER - Danger de mort par décharge électrique

Les appareils sous tension et les câbles de raccordement dénudés peuvent provoquer des décharges électriques et des accidents graves.

- Les travaux sur les branchements électriques ne peuvent être effectués que par des professionnels agréés, formés en électrotechnique.
- Avant le montage, veuillez débrancher tous les câbles d'alimentation électrique et veillez à ce que le courant ne soit pas rétabli. Contrôler systématiquement l'absence de tension.
- Attendre la fin de la phase de décharge de 5 minutes pour les composants électriques. Ne pas ouvrir l'appareil auparavant.
- La tension de service ne doit être appliquée que lorsque le boîtier est solidement fermé.

AVERTISSEMENT – Danger en cas d'utilisation non conforme des appareils

Une utilisation non conforme peut entraîner des accidents graves.

- Lors de l'installation, s'assurer que le câble de raccordement est protégé contre la traction et la torsion.
- Les appareils sont uniquement destinés à une installation stationnaire.

DANGER - Risques liés à la détérioration des appareils

Le non-respect des indications de la plaque signalétique peut entraîner des accidents graves.

- Pendant l'installation et la maintenance des appareils, toujours observer les indications qui figurent sur la plaque de fabrication.

ATTENTION - Risque de blessures par des arêtes vives ou des composants chauds

- Pendant les travaux d'installation, de montage ou d'entretien / maintenance, porter l'équipement de protection individuelle (EPI) approprié.
- Poser les câbles à l'écart des arêtes vives, des coins et des composants internes, éviter toute collision avec les composants.

PRUDENCE - Risques d'altération de la vision

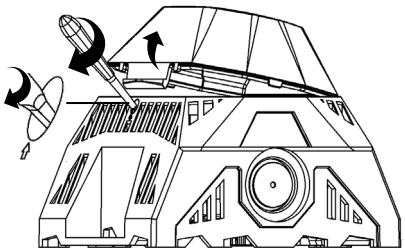
- Pour prévenir toute altération de la vision, éviter de regarder en permanence et directement le feu activé.
- Le déclenchement soudain du flash peut effrayer le personnel.

ATTENTION - Risques d'altération de l'ouïe

- Porter un équipement anti-bruit pour prévenir toute altération de l'ouïe pendant les travaux ou les tests.
- Le déclenchement soudain de la sirène peut effrayer le personnel.

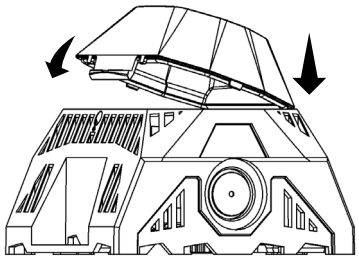
6.1 Fermeture du capot

Ouverture du capot



Introduire un tournevis (largeur de lame 3 mm) dans l'ouverture marquée et faire levier sur le couvercle en le tournant de 90°.

Fermeture du capot



Placer le capot sur le boîtier (veiller à ce qu'il ne tourne pas) et le fermer en exerçant une légère pression.

À la livraison, l'appareil n'est pas verrouillé.

Passage des câbles

Le raccord fileté à membrane fourni peut être remplacé par un presse-étoupe ou par un connecteur M12 avec une bride de dimension M20.

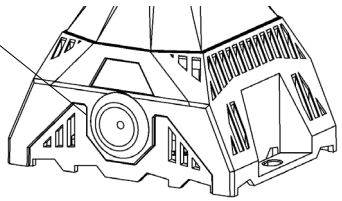
- Monter uniquement des presse-étoupes présentant un indice de protection supérieur ou égal à IP66 au niveau des perçages prévus à cet effet.

En cas d'utilisation de câbles de diamètre < 7 mm, prévoir un presse-étoupe d'un indice de protection suffisant.

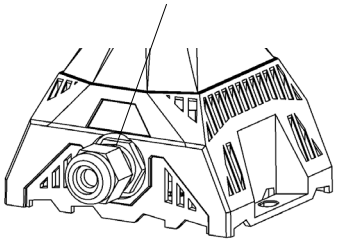
Protection IP 66 seulement lorsque le pavillon de la membrane est orienté vers l'extérieur.

Après le montage du câble, veuillez enlever le reste de la membrane.

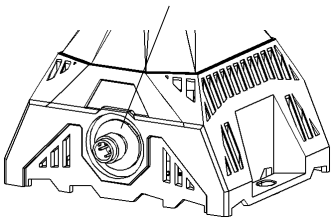
Raccord fileté à membrane IP 66 (fourni)

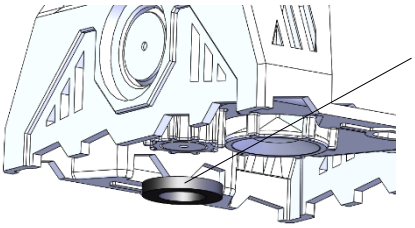


En option presse-étoupe IP66



En option Connecteur M12 IP66, pour appareils à très basse tension





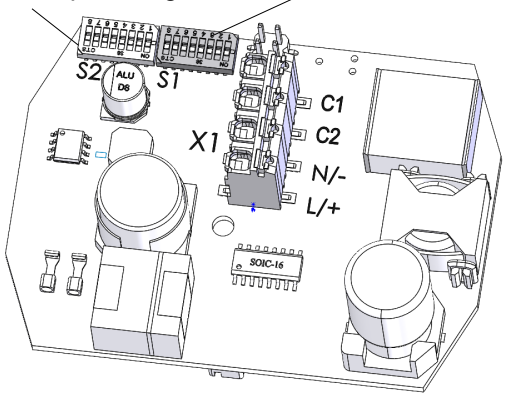
En cas d'utilisation du passage de câble inférieur, utiliser le joint fourni. (Diamètre de câble max. 10 mm)

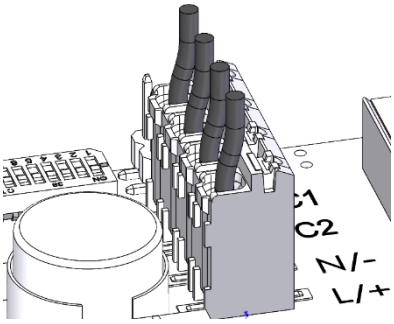
6.2 Branchement électrique / Éléments de commande PA 1-R / PA L 1-R

Le branchement électrique se fait sur la platine de raccordement, dans la partie supérieure / dans le capot.

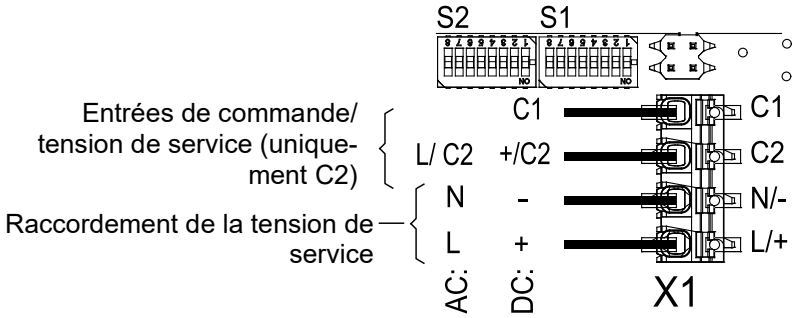
S2
Modes de fonctionnement de la lampe de signalisation

S1
Réglages du son





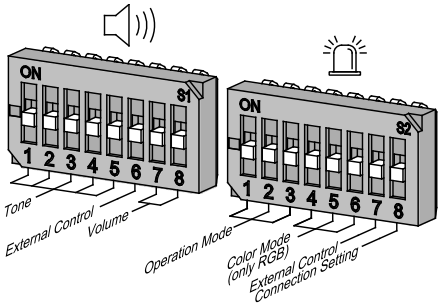
Les fils de raccordement sont enfichés dans les ouvertures prévues à cet effet selon la technique de raccordement push-in.



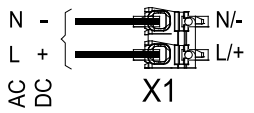
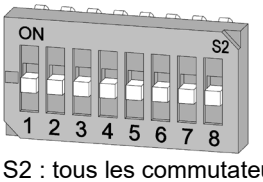
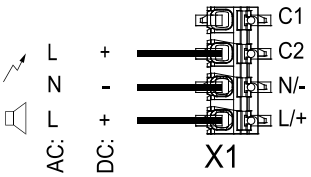
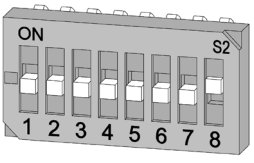
6.3 Raccordement de la tension de service

Sur les appareils combinés PA L 1-R, les lampes de signalisation et les sirènes peuvent fonctionner séparément ou bien ensemble.

Positionner le commutateur DIP S2 sur la platine de raccordement comme suit :



Plus d'informations dans le QuickGuide

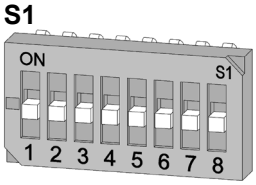
PA 1-R : Raccordement de la tension de service **PA L 1-R :** Alimentation commune de la lampe de signalisation et de la sirène		**S2**  S2 : tous les commutateurs sur OFF **Réglage d'usine***
PA L 1-R : Alimentation séparée de la lampe de signalisation et de la sirène		**S2**  S2 : Commutateur 8 sur ON

6.4 Réglage des modes de fonctionnement sans commande externe

6.4.1 Réglage des sons

Le son se règle à l'aide du commutateur **S1** sur la platine dans le capot, voir tableau ci-dessous.

S1



Réglage d'usine*

S1 (DIP1)		Volume sonore
7	8	dB
		max.*
ON		-7
	ON	-13
ON	ON	-20

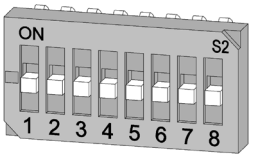
Réglage d'usine*

Sans commande externe					
					S1 : 6 OFF
1	2	3	4	5	Son
					162*
ON					2
	ON				9
ON	ON				15
		ON			18
ON		ON			22
	ON	ON			24
ON	ON	ON			26
			ON		27
ON			ON		29
	ON		ON		36
ON	ON		ON		54
		ON	ON		56
ON		ON	ON		60
	ON	ON	ON		63
ON	ON	ON	ON		71
				ON	82
ON				ON	83
	ON			ON	100
ON	ON			ON	102
		ON		ON	103
ON		ON		ON	104
	ON	ON		ON	112
ON	ON	ON		ON	123
			ON	ON	130
ON			ON	ON	131
	ON		ON	ON	146
ON	ON		ON	ON	160
		ON	ON	ON	161
ON		ON	ON	ON	163
	ON	ON	ON	ON	164
ON	ON	ON	ON	ON	1

6.4.2 Réglage de la couleur (uniquement PA L 1-R)

La couleur se règle à l'aide du commutateur **S2** sur la platine dans le capot, voir tableau ci-dessous.

S2



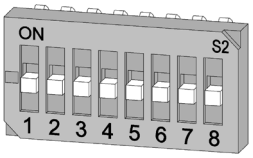
Réglage d'usine*

S2 (DIP2)					Mode couleur (RGB uniquement)
4	5	6	7	8	
			OFF		Rouge*
ON					Jaune
	ON				Orange
ON	ON				Blanc
		ON			Vert
ON		ON			Bleu
	ON	ON			Violet
ON	ON	ON			Magenta

6.4.3 Réglage du mode de fonctionnement (uniquement PA L 1-R)

Le mode de fonctionnement se règle à l'aide du commutateur **S2** sur la platine dans le capot, voir tableau ci-dessous.

S2



Réglage d'usine*

S2 (DIP2)			Mode de fonctionnement
1	2	3	
			Flash 1 Hz*
ON			Flash 2 Hz
	ON		Flash 1 Hz DF**
ON	ON		Clignotant 0,5 Hz
		ON	Clignotant 1 Hz
ON		ON	Clignotant 2 Hz
	ON	ON	Feu fixe
ON	ON	ON	Gyrophare 180 tr./min

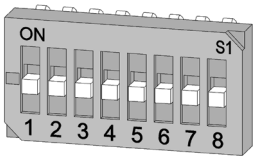
DF** = DoubleFlash

6.5 Réglage des modes de fonctionnement avec commande externe

6.5.1 Réglage des sons

Le son se règle à l'aide du commutateur **S1** sur la platine dans le capot, voir tableau ci-dessous.

S1



Réglage d'usine*

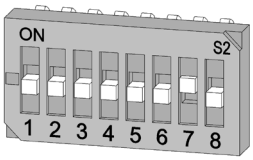
S1 (DIP1)		Volume sonore
7	8	dB
		max. *
ON		-7
	ON	-13
ON	ON	-20

Réglage d'usine*

Avec commande externe								
S1 (DIP1)					$\overline{C1}$+$\overline{C2}$ (pas actif)	C1	C2	C1+C2
1	2	3	4	5	S1:6 ON			
					Son	Son	Son	Son
					162	124	54	83
ON					2	128	112	57
	ON				9	57	11	82
ON	ON				15	131	52	112
		ON			18	111	57	68
ON		ON			22	16	109	68
	ON	ON			1	1	1	131
ON	ON	ON			1	1	100	83
			ON		27	123	52	82
ON			ON		29	35	52	61
	ON		ON		36	146	67	57
ON	ON		ON		54	46	54	122
		ON	ON		56	82	35	33
ON		ON	ON		60	131	52	125
	ON	ON	ON		63	43	69	30
ON	ON	ON	ON		71	131	52	93
				ON	82	131	52	83
ON				ON	83	56	13	82
	ON			ON	100	131	52	125
ON	ON			ON	102	59	66	34
		ON		ON	103	131	65	147
ON		ON		ON	104	103	65	101
	ON	ON		ON	112	2	57	128
ON	ON	ON		ON	123	27	52	77
			ON	ON	130	2	107	67
ON			ON	ON	131	23	112	57
	ON		ON	ON	146	31	66	57
ON	ON		ON	ON	160	82	35	33
		ON	ON	ON	161	143	90	25
ON		ON	ON	ON	163	55	91	44
	ON	ON	ON	ON	164	53	152	45
ON	ON	ON	ON	ON	1	2	88	57

6.5.2 Réglage de la couleur (uniquement PA L 1-R)

La couleur se règle à l'aide du commutateur **S2** sur la platine dans le capot, voir tableau ci-dessous.

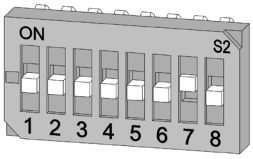


Lumière - Couleurs (uniquement PA L 1-R)											
S2 (DIP2)								$\overline{C1}$+$\overline{C2}$ (pas actif)	C1	C2	C1+C2
1	2	3	4	5	6	7	8				
						ON		Rouge	Vert	Bleu	Jaune
			ON					Jaune	Rouge	Vert	Blanc
				ON				Orange	Rouge	Vert	Bleu
			ON	ON				Blanc	Jaune	Vert	Rouge
					ON			Vert	Rouge	Jaune	Bleu
			ON		ON			Bleu	Orange	Rouge	Vert
				ON	ON			Vert	Jaune	Rouge	Rouge
			ON	ON	ON			Magenta	Rouge	Vert	Jaune

6.5.3 Réglage du mode de fonctionnement (uniquement PA L 1-R)

Le mode lumineux se règle à l'aide du commutateur **S2** sur la platine dans le capot, voir tableau ci-dessous.

S2



Lumière - Mode de fonctionnement (uniquement PA L 1-R)											
S2 (DIP2)								$\overline{C1}$+$\overline{C2}$ (pas actif)	C1	C2	C1+C2
1	2	3	4	5	6	7	8				
								Veille	Flash 1 Hz	Feu fixe	Clignotant 1 Hz
ON								Flash 1 Hz	Clignotant 1 Hz		Feu fixe
	ON							Flash 2 Hz	Feu fixe		Clignotant 1 Hz
ON	ON							Feu fixe	Feu fixe		Flash 1 Hz DF**
		ON						Clignotant 1 Hz	Flash 1 Hz		Gyrophare 60 tr./min
ON		ON						Clignotant 2 Hz	Flash 1 Hz * DF		Flash 1 Hz
	ON	ON						Feu fixe	Feu fixe		Feu fixe
ON	ON	ON						Gyrophare 180 tr./min	Feu fixe		Clignotant 1 Hz

DF**=Double Flash

7. Exemples de types de paramètres

Green Red Yellow - Color of lamp

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2	Continuous Tone 88		**Classic Traffic light, optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous			Flash 1Hz DF Tone 57	**Good / Bad "Inform" light optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2		Flash 1Hz DF Tone 57	**Traffic light with higher attention, optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby	Flash 1Hz	Continuous		**OK / Warning light with higher attention**
S2				ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby		Continuous	Blink 1Hz	**OK / Warning light with higher attention**
S2				ON	ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous		Continuous Tone 88		**OK / Warning light optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON			ON	Volume		Continuous	Continuous		Flash 1Hz DF Tone 83	**Traffic light with higher attention optional w/ tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous	Continuous	Blink Tone 131	**Traffic light with higher attention optional w/ tone**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous		Blink Tone 131	**2-Level warning w/ tone for higher attention**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Blink	Continuous		**2-Level warning**
S2	ON					ON	ON						

8. Accessoires

Référence	Description
28912000001	Joint de service PA (L) 1-R

9. Maintenance, entretien, réparation

- Tenez compte des Consignes de sécurité pour toutes les interventions sur l'appareil.

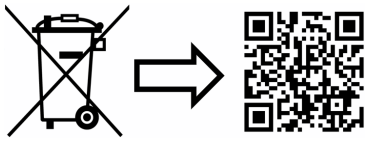
L'appareil ne nécessite aucune maintenance particulière.

- Pour le nettoyage extérieur, ne pas utiliser de produits abrasifs, contenant des solvants ou chimiquement agressifs.
  Ne pas employer d'outils à arêtes vives, veiller notamment à ne pas rayer le capot lumineux.
  Ne pas employer de nettoyeur haute pression.
- Tous les composants doivent être remplacés uniquement par des pièces d'origine.
- Les réparations doivent en principe être effectuées dans les ateliers du fabricant.

Toute transformation, modification, utilisation incorrecte ou interdite ainsi que le non-respect des instructions de service entraînent une exclusion de garantie.

10. Mise hors service, démontage et élimination

- Pour tous les travaux sur l'appareil, respecter Consignes de sécurité.



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http://www.pfannenberg.com

Contenuto

Rispettare l' avviso di protezione a norma DIN ISO 16016!

1. Utilizzo conforme alle disposizioni

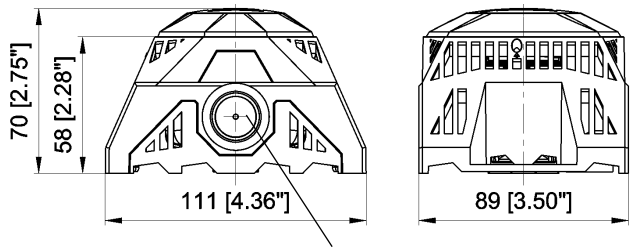
I segnalatori acustici della seria PA sono indicati per la segnalazione degli stati di pericolo in ambienti industriali, commerciali e negli edifici. Se si utilizza la combinazione segnalazione acustica-luce di segnalazione (PA L 1-R) è possibile anche la segnalazione ottica.
I segnalatori acustici generano 70 diversi toni che è possibile selezionare attraverso l'interruttore interno. È possibile impostare un massimo di altri 3 toni attraverso il controllo esterno.
Utilizzare l'attrezzatura solo se non danneggiata e nel rispetto delle specifiche del cliente. Il funzionamento dell'attrezzatura è garantito solo se la parte superiore e quella inferiore sono montate in modo corretto.
I dispositivi sono adatti per l'uso in interni e in area esterna.

2. Fornitura

La fornitura comprende:
1 segnalatore
1 nipplo a membrana M20 *(opzionale: Pressacavo - connettore M12)*
1 guarnizione per passacavo inferiore
1 guida rapida

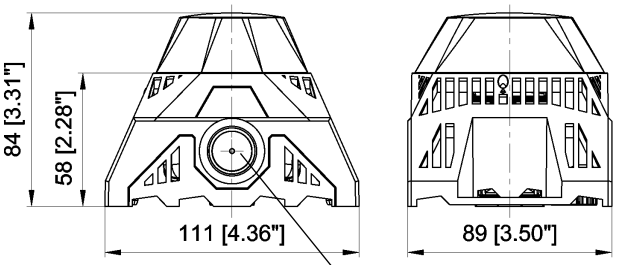
3. Dimensioni

PA 1-R



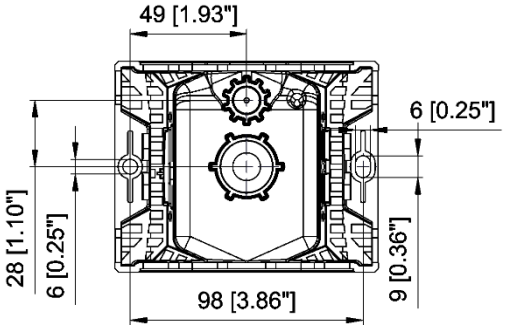
Predisposizione foro M20

PA L 1-R



Predisposizione foro M20

Utilizzare materiale di fissaggio adatto.



Schema fori; vista dal basso

4. Dati tecnici

4.1 Caratteristiche generali

	PA 1-R	PA L 1-R
Intensità della luce	-	16 cd (chiara)
Fonte	-	20x RGBW
LED colorati RGBW	-	blu, rosso, verde, giallo, arancione, viola, magenta inoltre tramite comando esterno: bianco
Pressione acustica max.	105 dB (A) @1m, tono DIN (tono n. 2)	
Regolazione del volume	max. - 20 dB	
Toni	70	
Fattore di servizio	100 %	
Terminali di collegamento	0,14 - 1,5 mm² filo sottile/filo singolo / AWG24 - AWG 14	
Grado di protezione	IP 66 (EN 60529), tipo 4 & 4x	
Resistenza agli urti	IK08	IK07
Classe di protezione	II	
Temperatura d’esercizio	-25 °C…+50 °C (omologazione UL v. pagina 3, capitolo in lingua inglese)	
Temperatura di stoccaggio	-25 °C…+70 °C	
Umidità rel. max.	90 %	
Ingresso cavi	1x M20 pre-goffrato, 1x 10 mm pre-goffrato	
Area di tenuta degli occhielli	7 – 13 mm	Se il diametro dei cavi è inferiore a 7 mm è necessario applicare un pressacavo con protezione adeguata
Materiale alloggiamento	PC / ABS	
Materiale calotta	PC/ABS	PC Makrolon
Posizione di montaggio	A piacere	
Colori calotta	--	trasparente, bianco, giallo, arancione, rosso, verde, blu Versione RGBW: bianco

4.2 Caratteristiche elettriche versione AC / versione DC

	PA L 1-R						
Campo di tensione nominale (limitazione vedi omologazione)	12V - 48V DC			24V - 48V AC 50/60Hz		115V - 230V AC 50/60Hz	
Campo tensione operativa	10V - 60V DC			18V – 53V AC		95V - 253V AC	
	12V DC	24V DC	48V DC	24V AC	48V AC	115V AC	230V AC
Corrente nominale assorbita **lampada** (max)	173mA	90mA	58mA	165mA	110mA	46mA	32mA
Corrente nominale assorbita segnalatore **acustico** (max)	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Corrente nominale assorbita **combinata** (max)	258mA	129mA	77mA	208mA	144mA	55mA	38mA
Potenza assorbita **combinata** (max)	3,1W	3,1W	3,7W	4,9VA	6,9VA	6,3VA	8,7VA

	PA 1-R						
Campo di tensione nominale (limitazione vedi omologazione)	12V - 48V DC			24V - 48V AC 50/60Hz		115V - 230V AC 50/60Hz	
Campo tensione operativa	10V - 60V DC			18V – 53V AC		95V - 253V AC	
Corrente nominale assorbita segnalatore **acustico** (max)	12V DC	24V DC	48V DC	24V AC	48V AC	115V AC	230V AC
	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Potenza assorbita segnalatore **acustico** (max)	1,2W	1,3W	1,9W	2,5VA	3,4VA	2,9VA	4,3VA

5. Omologazioni

(Le omologazioni sono valide per le attrezzature contrassegnate)

UL, cUL
In corso

6. Messa in funzione

6.1 Istruzioni di sicurezza

PERICOLO - Scosse elettriche letali

Le parti sotto tensione e i cavi di collegamento liberi possono generare scosse elettriche causando gravi incidenti.

- Solo personale autorizzato e con formazione in elettrotecnica è autorizzato a eseguire interventi sui collegamenti elettrici.
- Prima del montaggio togliere tensione a tutte le linee in ingresso e metterle in sicurezza in modo che non possano riattivarsi. Accertarsi sempre che non ci sia tensione.
- Attendere 5 minuti affinché i componenti elettrici siano privi di tensione. Solo allora aprire il dispositivo.
- È possibile riattivare la tensione operativa solo con l’alloggiamento perfettamente chiuso.

AVVERTENZA - Pericolo per uso non conforme

L’uso non conforme dell’apparecchio può causare gravi incidenti.

- Durante l’installazione accertarsi che i cavi di collegamento non siano soggetti a trazione o torsione.
- L’apparecchio è progettato per installazioni fisse.

PERICOLO - Pericolo per danneggiamento dell’apparecchio

L’inosservanza dei dati sulla targa del tipo può causare gravi incidenti.

- Durante le operazioni di installazione e manutenzione dell’apparecchio osservare sempre i dati riportati sulla targhetta identificativa.

ATTENZIONE - Pericolo di lesioni per bordi taglienti o parti calde

- Durante le operazioni di installazione, montaggio o assistenza/manutenzione indossare dispositivi di protezione individuale (DPI) adatti.
- Realizzare i collegamenti lontano da bordi taglienti, spigoli o componenti interni, ed evitare di urtare contro componenti.

ATTENZIONE - Compromissione delle capacità visive

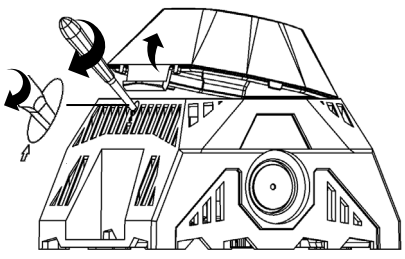
- Per non compromettere la vista, evitare di rivolgere lo sguardo direttamente alla luce continua attiva.
- L'improvvisa attivazione del lampeggio può causare reazioni di spavento.

ATTENZIONE - Compromissione delle capacità uditive

- Al fine di evitare una compromissione delle capacità uditive, indossare sempre un’adeguata protezione acustica nel corso delle operazioni/dei test.
- L’improvvisa attivazione del segnale acustico può causare reazioni di spavento.

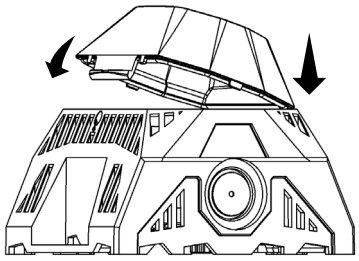
6.1 Chiusura della calotta

Apertura della calotta



Inserire un cacciavite (larghezza lama 3 mm) nell'apertura contrassegnata e sollevare il coperchio ruotandolo di 90°.

Chiusura della calotta



Poggiare la calotta sull'alloggiamento (prestare attenzione alla protezione antitorsione) e chiuderla esercitando una leggera pressione.

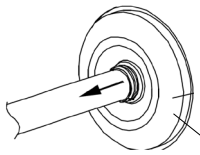
L'attrezzatura non viene fornita chiusa.

Ingressi dei cavi

La membrana compresa nella fornitura può essere sostituita da un pressacavo o da un co8nnettore M12 con flangia M20.

- Montare solo pressacavi con protezione minima IP66 e nelle apposite aperture.

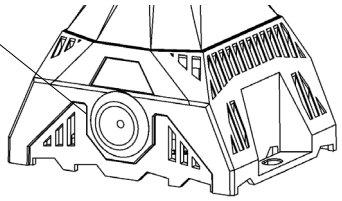
Se il diametro del cavo è inferiore a 7 mm, usare un pressacavo con protezione adeguata.



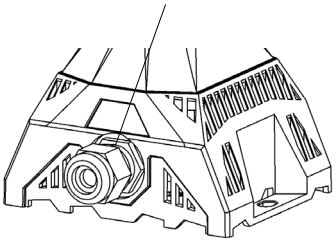
IP66 solo se la parte a imbuto della membrana è rivolta verso l'esterno.

Dopo aver montato il cavo, rimuovere i residui della membrana.

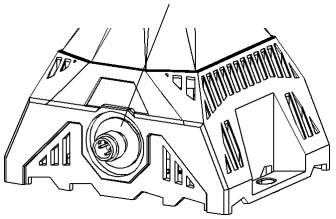
Membrana
IP 66 (incluso)

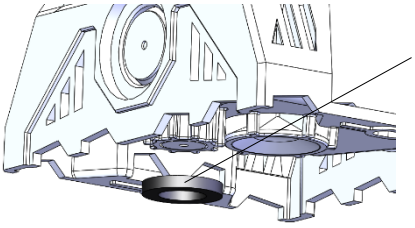


Pressacavo *opzionale* IP66



Connettore M12 *opzionale* IP66, per dispositivi a bassa tensione





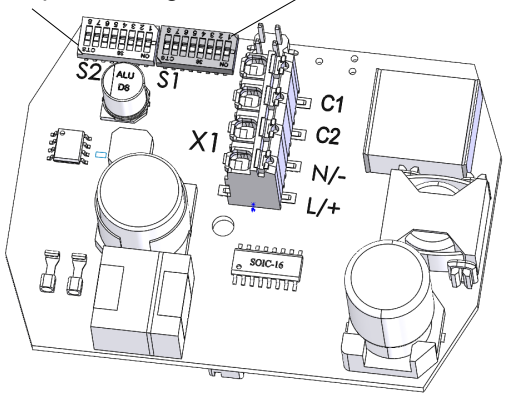
Quando si utilizza il pressacavo inferiore, utilizzare la guarnizione in dotazione. (diametro massimo del cavo 10 mm)

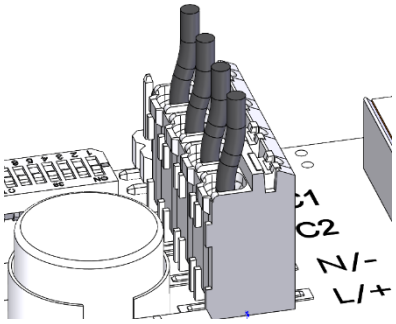
6.2 Collegamento elettrico/elementi di controllo PA 1-R / PA L 1-R

Il collegamento elettrico si effettua sulla scheda di connessione nella parte superiore/nella calotta.

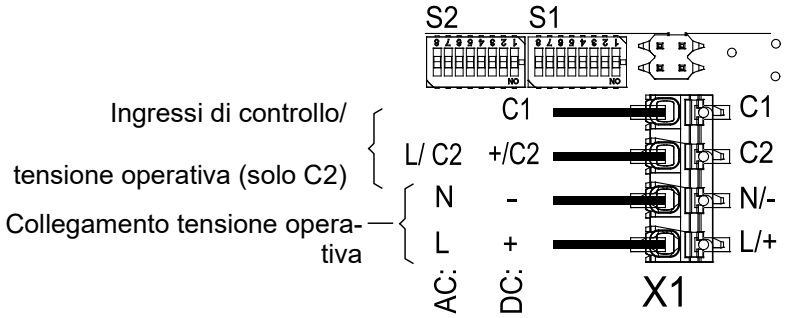
S2
Modalità operative della lampada di segnalazione

S1
Impostazioni audio





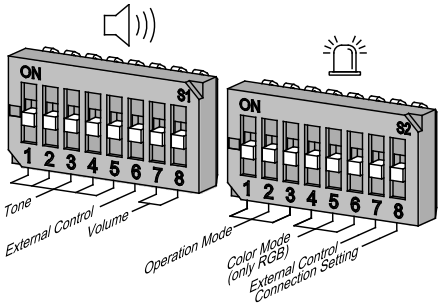
Inserire i cavi di collegamento nelle apposite aperture secondo il principio push-in.



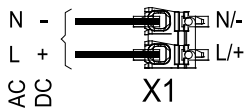
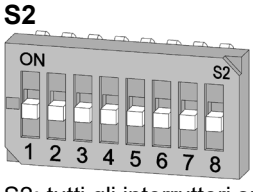
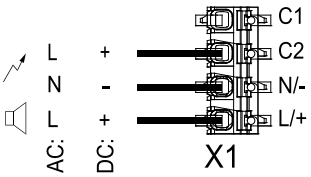
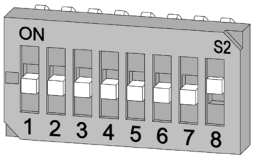
6.3 Collegamento della tensione operativa

Con il dispositivo combinato PA L 1-R La lampada di segnalazione e il segnalatore acustico possono essere alimentati insieme o separatamente.

Impostare l'interruttore DIP S2 sulla scheda di connessione come segue:



Ulteriori informazioni nella Guida rapida

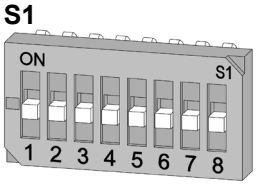
PA 1-R: Collegamento della tensione operativa **PA L 1-R:** Alimentazione comune di lampada di segnalazione e segnalatore acustico		**S2**  S2: tutti gli interruttori su OFF **Impostazione di fabbrica***
PA L 1-R: Alimentazione separata di lampada di segnalazione e segnalatore acustico		**S2**  S2: Interruttore 8 su ON

6.4 Impostazione delle modalità di funzionamento senza controllo esterno

6.4.1 Impostazione dei toni

Con l'interruttore **S1** sulla scheda elettronica nella calotta si imposta la tonalità, vedi la tabella seguente.

S1



Impostazione di fabbrica*

S1 (DIP1)		Volume
7	8	dB
		max.*
ON		-7
	ON	-13
ON	ON	-20

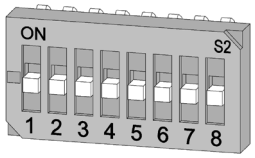
Impostazione di fabbrica*

Senza controllo esterno					
					S1:6 OFF
1	2	3	4	5	Tono
					162*
ON					2
	ON				9
ON	ON				15
		ON			18
ON		ON			22
	ON	ON			24
ON	ON	ON			26
			ON		27
ON			ON		29
	ON		ON		36
ON	ON		ON		54
		ON	ON		56
ON		ON	ON		60
	ON	ON	ON		63
ON	ON	ON	ON		71
				ON	82
ON				ON	83
	ON			ON	100
ON	ON			ON	102
		ON		ON	103
ON		ON		ON	104
	ON	ON		ON	112
ON	ON	ON		ON	123
			ON	ON	130
ON			ON	ON	131
	ON		ON	ON	146
ON	ON		ON	ON	160
		ON	ON	ON	161
ON		ON	ON	ON	163
	ON	ON	ON	ON	164
ON	ON	ON	ON	ON	1

6.4.2 Impostazione del colore (solo PA L 1-R)

Il colore viene regolato utilizzando l'interruttore **S2** sulla scheda elettronica nella calotta, vedi la tabella seguente.

S2



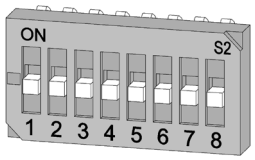
Impostazione di fabbrica*

S2 (DIP2)					Modalità colore (solo RGB)
4	5	6	7	8	
			OFF		Rosso *
ON					Giallo
	ON				Arancione
ON	ON				Bianco
		ON			Verde
ON		ON			Blu
	ON	ON			Viola
ON	ON	ON			Magenta

6.4.3 Impostazione della modalità di funzionamento (solo PA L 1-R)

La modalità di funzionamento viene impostata utilizzando l'interruttore **S2** sulla scheda elettronica nella calotta, vedi la tabella seguente.

S2



Impostazione di fabbrica*

S2 (DIP2)			Modalità di funzionamento
1	2	3	
			Luce flash 1 Hz*
ON			Luce flash 2Hz
	ON		Luce flash 1Hz DF**
ON	ON		Luce intermittente 0,5Hz
		ON	Luce intermittente 1Hz
ON		ON	Luce intermittente 2Hz
	ON	ON	Luce continua
ON	ON	ON	Luce rotante 180 giri/min

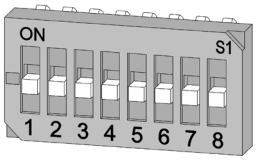
DF** = Doppio flash

6.5 Impostazione delle modalità di funzionamento con controllo esterno

6.5.1 Impostazione dei toni

Con l'interruttore **S1** sulla scheda elettronica nella calotta si imposta la tonalità, vedi la tabella seguente.

S1



Impostazione di fabbrica*

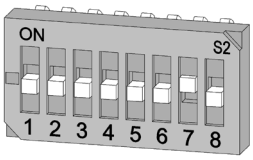
S1 (DIP1)		Volume
7	8	dB
		max. *
ON		-7
	ON	-13
ON	ON	-20

Impostazione di fabbrica*

Con controllo esterno								
S1 (DIP1)					$\overline{C1}$+$\overline{C2}$ (non attivo)	C1	C2	C1+C2
1	2	3	4	5	S1:6 ON			
					Tono	Tono	Tono	Tono
					162	124	54	83
ON					2	128	112	57
	ON				9	57	11	82
ON	ON				15	131	52	112
		ON			18	111	57	68
ON		ON			22	16	109	68
	ON	ON			1	1	1	131
ON	ON	ON			1	1	100	83
			ON		27	123	52	82
ON			ON		29	35	52	61
	ON		ON		36	146	67	57
ON	ON		ON		54	46	54	122
		ON	ON		56	82	35	33
ON		ON	ON		60	131	52	125
	ON	ON	ON		63	43	69	30
ON	ON	ON	ON		71	131	52	93
				ON	82	131	52	83
ON				ON	83	56	13	82
	ON			ON	100	131	52	125
ON	ON			ON	102	59	66	34
		ON		ON	103	131	65	147
ON		ON		ON	104	103	65	101
	ON	ON		ON	112	2	57	128
ON	ON	ON		ON	123	27	52	77
			ON	ON	130	2	107	67
ON			ON	ON	131	23	112	57
	ON		ON	ON	146	31	66	57
ON	ON		ON	ON	160	82	35	33
		ON	ON	ON	161	143	90	25
ON		ON	ON	ON	163	55	91	44
	ON	ON	ON	ON	164	53	152	45
ON	ON	ON	ON	ON	1	2	88	57

6.5.2 Impostazione del colore (solo PA L 1-R)

Il colore viene regolato utilizzando l'interruttore **S2** sulla scheda elettronica nella calotta, vedi la tabella seguente.

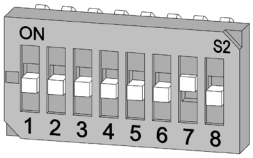


Luce - Colori (solo PA L 1-R)											
S2 (DIP2)								$\overline{C1}$+$\overline{C2}$ (non attivo)	C1	C2	C1 + C2
1	2	3	4	5	6	7	8				
						ON		Rosso	Verde	Blu	Giallo
			ON					Giallo	Rosso	Verde	Bianco
				ON				Arancione	Rosso	Verde	Blu
			ON	ON				Bianco	Giallo	Verde	Rosso
					ON			Verde	Rosso	Giallo	Blu
			ON		ON			Blu	Arancione	Rosso	Verde
				ON	ON			Verde	Giallo	Rosso	Rosso
			ON	ON	ON			Magenta	Rosso	Verde	Giallo

6.5.3 Impostazione della modalità di funzionamento (solo PA L 1-R)

La modalità luminosa viene impostata utilizzando l'interruttore **S2** sulla scheda elettronica nella calotta, vedi la tabella seguente.

S2



Luce - Modalità di funzionamento (solo PA L 1-R)											
S2 (DIP2)								$\overline{C1}$+$\overline{C2}$ (non attivo)	C1	C2	C1 + C2
1	2	3	4	5	6	7	8				
								Standby	Luce flash 1Hz	Luce continua	Luce intermittente 1Hz
ON								Luce flash 1Hz	Luce intermittente 1Hz		Luce continua
	ON							Luce flash 2Hz	Luce continua		Luce intermittente 1Hz
ON	ON							Luce continua	Luce continua		Luce flash 1Hz DF**
		ON						Luce intermittente 1Hz	Luce flash 1Hz		Luce rotante 60 giri/min
ON		ON						Luce intermittente 2Hz	Luce flash 1Hz *DF		Luce flash 1Hz
	ON	ON						Luce continua	Luce continua		Luce continua
ON	ON	ON						Luce rotante 180 giri/min	Luce continua		Luce intermittente 1Hz

DF**=doppio flash

7. Esempi di tipi di impostazione

Green Red Yellow - Color of lamp

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2	Continuous Tone 88		**Classic Traffic light, optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous			Flash 1Hz DF Tone 57	**Good / Bad "Inform" light optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2		Flash 1Hz DF Tone 57	**Traffic light with higher attention, optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby	Flash 1Hz	Continuous		**OK / Warning light with higher attention**
S2				ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby		Continuous	Blink 1Hz	**OK / Warning light with higher attention**
S2				ON	ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous		Continuous Tone 88		**OK / Warning light optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON			ON	Volume		Continuous	Continuous		Flash 1Hz DF Tone 83	**Traffic light with higher attention optional w/ tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous	Continuous	Blink Tone 131	**Traffic light with higher attention optional w/ tone**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous		Blink Tone 131	**2-Level warning w/ tone for higher attention**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Blink	Continuous		**2-Level warning**
S2	ON					ON	ON						

8. Accessori

N. art.	Denominazione
28912000001	Guarnizione di riserva PA (L) 1-R

9. Manutenzione, assistenza, riparazione

- Quando si eseguono interventi sull’apparecchio rispettare le Istruzioni di sicurezza.

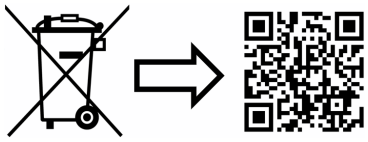
L’apparecchio non richiede una particolare manutenzione.

- Non utilizzare detergenti abrasivi, a base di solventi o chimicamente aggressivi per la pulizia esterna. Per la pulizia non utilizzare attrezzi a spigoli vivi, in particolare non graffiare la calotta luminosa. Non pulire con alta pressione.
- Sostituire i componenti con ricambi originali.
- Fare eseguire le riparazioni solo presso il fabbricante.

Interventi, modifiche, interventi errati e non consentiti insieme all'inosservanza delle istruzioni contenute nel presente manuale d’uso rendono nulla la garanzia.

10. Messa fuori servizio, smontaggio e smaltimento

- Per tutti i lavori sull’apparecchio rispettare Istruzioni di sicurezza.



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service@pfannenberg.com
http://www.pfannenberg.com

Índice

Ter em atenção a nota de proteção de acordo com a norma DIN ISO 16016!

1. Utilização prevista

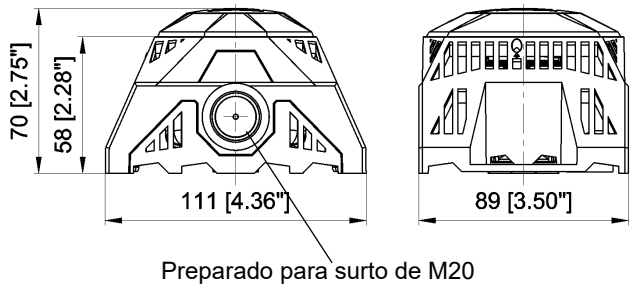
As sirenes da série PA destinam-se a sinalizar, por exemplo, condições perigosas em áreas industriais, comerciais e de construção. Quando se utiliza a combinação sirene/lâmpada de sinalização (PA L 1-R), existe também a opção de sinalização ótica.
As sirenes geram sinais acústicos em 70 tons diferentes, que podem ser selecionados através de um interrutor interno. É possível mudar para um máximo de 3 tons adicionais através de controlo externo.
Utilizar os aparelhos apenas em condições não danificadas e dentro das características especificadas. O funcionamento do aparelho apenas é garantido se as partes superior e inferior estiverem corretamente unidas.
Os aparelhos são adequados para utilização no interior e no exterior.

2. Âmbito de fornecimento

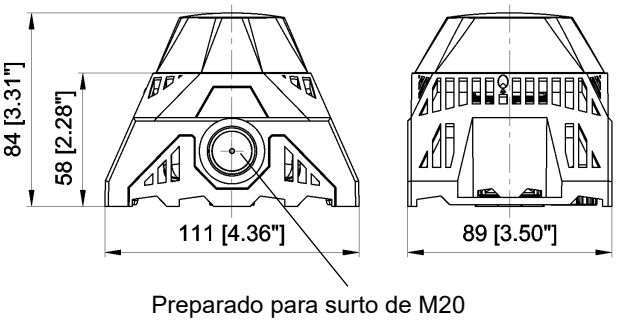
O âmbito da fornecimento é constituído por:
1x Dispositivo de sinalização
1x Bocal de membrana M20 *(Opcional: bucim - conector M12)*
1x Vedação do bucim inferior
1x Guia rápido

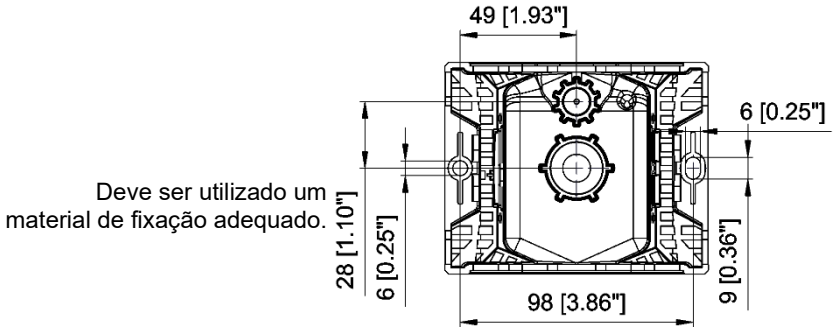
3. Dimensões

PA 1-R



PA L 1-R





Padrão de perfuração; vista de baixo

4. Dados técnicos

4.1 Generalidades

	PA 1-R	PA L 1-R
Intensidade luminosa	-	16 cd (transparente)
Fonte de luz	-	20x RGBW
Cores LED RGBW	-	azul, vermelho, verde, amarelo, laranja, violeta, magenta Adicionalmente através de controlo externo: branco
Nível sonoro máx.	105 dB (A) @1m, Tom DIN (Tom n.º 2)	
Controlo do volume	máx. - 20 dB	
Tons	70	
Ciclo de funcionamento	100%	
Terminais de ligação	0,14 - 1,5 mm² finamente entrançado / fio simples / AWG24 - AWG 14	
Grau de proteção	IP 66 (EN 60529), Tipo 4 & 4x	
Resistência ao impacto	IK08	IK07
Classe de proteção	II	
Temperatura de funcionamento	-25 °C…+50 °C (Aprovação UL ver página 3, capítulo em inglês)	
Temperatura de armazenamento	-25 °C…+70 °C	
Humidade rel. máxima	90%	
Entrada de cabos	1x M20 pré-carimbado, 1x 10mm pré-carimbado	
Zona de vedação do ilhó	7 – 13 mm Ao utilizar cabos com diâmetros <7 mm, prever um bucim com um grau de proteção suficiente	
Material da caixa	PC / ABS	
Material da tampa do compartimento	PC/ABS	PC Makrolon
Posição de instalação	qualquer	
Cores da tampa do compartimento	--	transparente, branco, amarelo, laranja, vermelho, verde, azul Versão RGBW: branco

4.2 Características elétricas Versão CA / Versão CC

	PA L 1-R						
Gama de tensões nominais (Limitação ver autorização)	12V - 48V CC			24V - 48V CA 50/60 Hz		115V - 230V CA 50/60 Hz	
Gama de tensão de funcionamento	10V - 60V CC			18V – 53V CA		95V - 253V CA	
	12V CC	24V CC	48V CC	24V CA	48V CA	115V CA	230V CA
Consumo de corrente nominal **Luminária** (máx.)	173mA	90mA	58mA	165mA	110mA	46mA	32mA
Consumo de corrente nominal **Gerador de som** (máx.)	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Consumo de corrente nominale **combinada** (máx.)	258mA	129mA	77mA	208mA	144mA	55mA	38mA
Consumo de energia **combinada** (máx.)	3,1W	3,1W	3,7W	4,9VA	6,9VA	6,3VA	8,7VA

	PA 1-R						
Gama de tensões nominais (Limitação ver autorização)	12V - 48V CC			24V - 48V CA 50/60 Hz		115V - 230V CA 50/60 Hz	
Gama de tensão de funcionamento	10V - 60V CC			18V – 53V CA		95V - 253V CA	
Consumo de corrente nominal **Gerador de som** (máx.)	12V CC	24V CC	48V CC	24V CA	48V CA	115V CA	230V CA
	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Consumo de energia **Gerador de som** (máx.)	1,2W	1,3W	1,9W	2,5VA	3,4VA	2,9VA	4,3VA

5. Autorizações

(As autorizações aplicam-se aos dispositivos rotulados)

UL, cUL
Em preparação

6. Colocação em funcionamento

6.1 Instruções de segurança

PERIGO - Perigo de vida devido a choque elétrico

Os aparelhos sob tensão e os cabos de ligação expostos podem provocar choques elétricos e acidentes graves.

- Os trabalhos nas ligações elétricas apenas devem ser executados por técnicos especializados e autorizados em eletricidade.
- Antes da instalação, desligar todas as linhas de alimentação e protegê-las contra uma ligação acidental. Certifique-se sempre de que não existe tensão.
- Aguardar 5 minutos para que os componentes elétricos se descarreguem. Apenas então abrir o aparelho.
- A tensão de funcionamento apenas deve ser aplicada quando a caixa está bem fechada.

AVISO - Perigo devido a utilização não autorizada dos aparelhos

A utilização incorreta pode conduzir a acidentes graves.

- Durante a instalação, o cabo de ligação deve estar protegido contra puxões e torções.
- Os aparelhos destinam-se exclusivamente a uma instalação fixa.

PERIGO - Risco de danos nos aparelhos

A inobservância das indicações da placa de características pode conduzir a acidentes graves.

- Para a instalação e manutenção dos aparelhos, respeitar sempre as indicações da placa de características.

CUIDADO - Risco de ferimentos devido a arestas vivas ou componentes aquecidos

- Utilizar equipamento de proteção individual (EPI) adequado durante a instalação, montagem ou trabalhos de assistência/manutenção.
- Efetuar a cablagem longe de arestas vivas, cantos e componentes internos, evitar colisões com componentes.

CUIDADO - Danos visuais

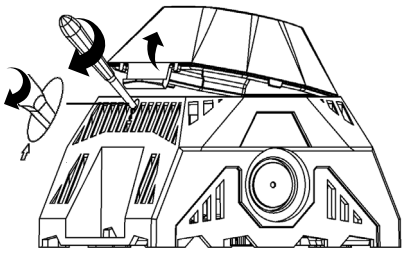
- Para evitar problemas de visão, evite sempre olhar diretamente para a luz ativada.
- O desencadeamento não mediado do flash pode levar a reações de sobressalto.

CUIDADO - Danos auditivos

- Para evitar problemas de audição, usar equipamento de insonorização durante o trabalho/ensaio.
- O desencadeamento de sons não mediados pode levar a reações de sobressalto.

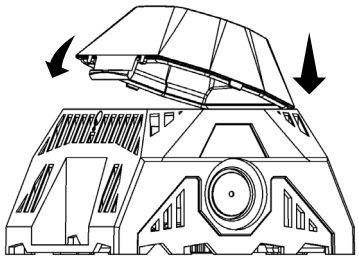
6.1 Fixação da tampa do compartimento

Abrir a tampa do compartimento



Introduzir uma chave de fendas (largura da lâmina 3 mm) na abertura marcada e retirar a tampa rodando-a 90°.

Fechar a tampa do compartimento



Colocar a tampa na caixa (certificar-se de que não está torcida) e fechar com uma ligeira pressão.

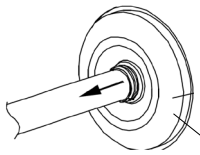
O aparelho é fornecido não vedado.

Buchas de cabos

O bocal da membrana fornecido pode ser substituído por um bucim ou por uma ficha de ligação M12 com uma dimensão de flange de M20.

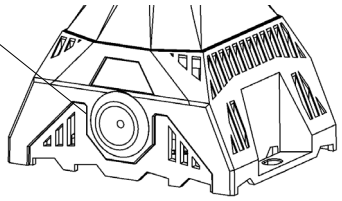
- Instalar apenas bucins com um grau de proteção de, pelo menos, IP66 nas aberturas correspondentes.

Para diâmetros de cabo <7 mm, utilizar um bucim com um grau de proteção suficiente.

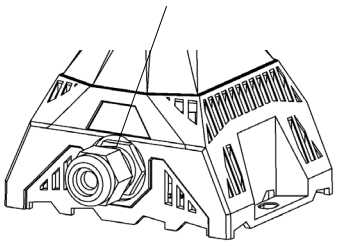


IP 66 apenas com o funil da membrana virado para o exterior. Após a instalação do cabo, remover os resíduos da membrana.

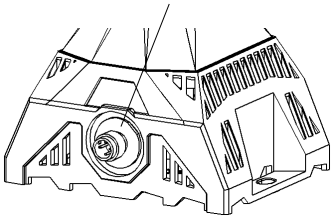
Bocal de membrana IP 66 (fornecido)

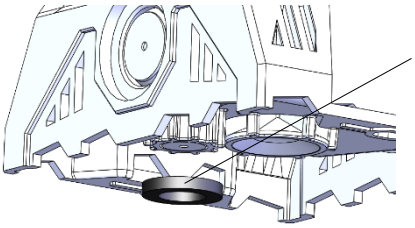


Opcional Prensa-cabos IP66



Opcional Conector de ficha M12 IP66, para aparelhos de baixa tensão

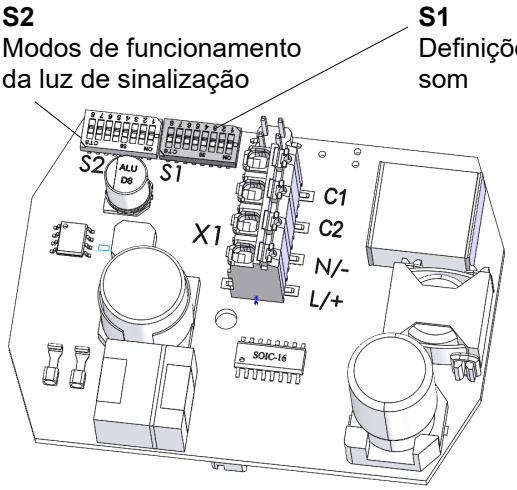


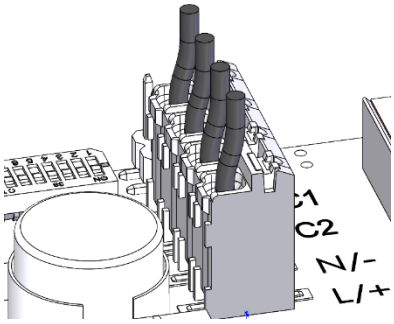


Quando se utiliza o bucim inferior, utilizar o vedante fornecido. (diâmetro máx. do cabo 10 mm)

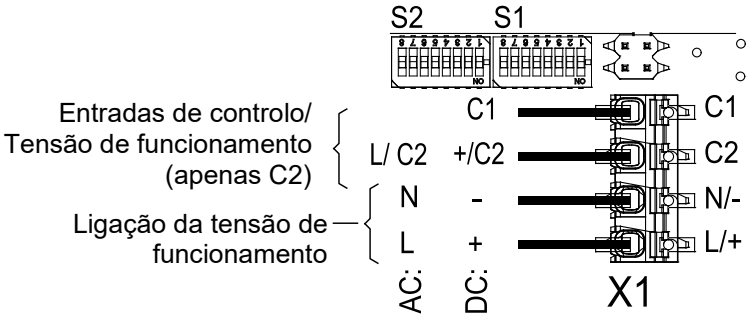
6.2 Ligação elétrica/elementos de funcionamento PA 1-R / PA L 1-R

A ligação elétrica é feita na placa de ligação na parte superior/na tampa.





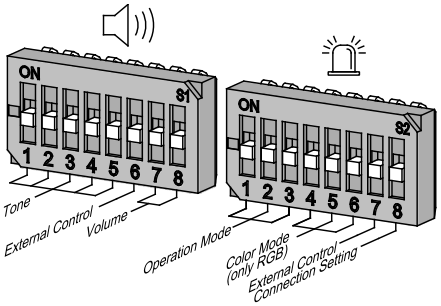
Os fios de ligação são inseridos nas aberturas previstas para o efeito, segundo o princípio de encaixe.



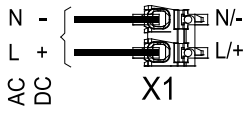
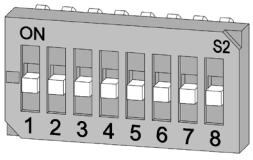
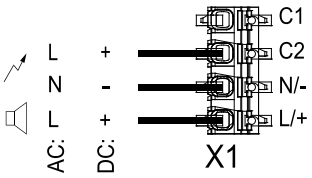
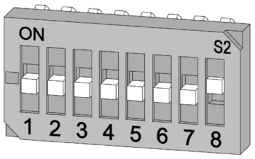
6.3 Ligação da tensão de funcionamento

Com o aparelho combinado PA L 1-R, a lâmpada de sinalização e a sirene podem ser fornecidas em conjunto ou separadamente.

Ajustar a posição do interrutor DIP S2 na placa de ligação da seguinte forma:



Mais informações no Guia Rápido

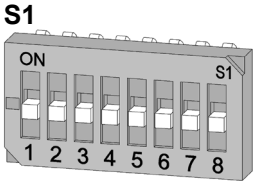
PA 1-R: Ligação da tensão de funcionamento **PA L 1-R:** Alimentação comum da lâmpada de sinalização e da sirene		**S2**  S2: todos os interruptores desligados **Configuração de fábrica***
PA L 1-R: Alimentação separada da lâmpada de sinalização e da sirene		**S2**  S2: Interruptor 8 em ON

6.4 Configuração dos modos de funcionamento sem controlo externo

6.4.1 Configuração dos tons

Com o botão **S1** na placa de circuitos na tampa é utilizado para definir a chave, ver tabela abaixo.

S1



Configuração de fábrica*

S1 (DIP1)		Volume
7	8	dB
		máx.*
ON		-7
	ON	-13
ON	ON	-20

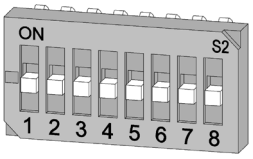
Configuração de fábrica*

Sem controlo externo					
					S1:6 OFF
1	2	3	4	5	Tom
					162*
ON					2
	ON				9
ON	ON				15
		ON			18
ON		ON			22
	ON	ON			24
ON	ON	ON			26
			ON		27
ON			ON		29
	ON		ON		36
ON	ON		ON		54
		ON	ON		56
ON		ON	ON		60
	ON	ON	ON		63
ON	ON	ON	ON		71
				ON	82
ON				ON	83
	ON			ON	100
ON	ON			ON	102
		ON		ON	103
ON		ON		ON	104
	ON	ON		ON	112
ON	ON	ON		ON	123
			ON	ON	130
ON			ON	ON	131
	ON		ON	ON	146
ON	ON		ON	ON	160
		ON	ON	ON	161
ON		ON	ON	ON	163
	ON	ON	ON	ON	164
ON	ON	ON	ON	ON	1

6.4.2 Configuração da cor (apenas PA L 1-R)

Com o botão **S2** na placa de circuitos na tampa é utilizado para definir a cor, ver tabela abaixo.

S2



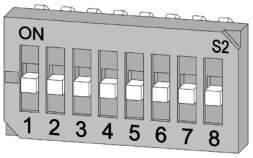
Configuração de fábrica*

S2 (DIP2)					Modo de cor (apenas RGB)
4	5	6	7	8	
			OFF		Vermelho*
ON					Amarelo
	ON				Laranja
ON	ON				Branco
		ON			Verde
ON		ON			Azul
	ON	ON			Violeta
ON	ON	ON			Magenta

6.4.3 Configuração do modo de funcionamento (apenas PA L 1-R)

Com o botão **S2** na placa de circuitos na tampa é utilizado para definir o modo de funcionamento, ver tabela abaixo.

S2



Configuração de fábrica*

S2 (DIP2)			Modo de funcionamento
1	2	3	
			Flash 1 Hz*
ON			Flash 2 Hz
	ON		Flash 1 Hz DF**
ON	ON		Luz intermitente 0,5 Hz
		ON	Luz intermitente 1 Hz
ON		ON	Luz intermitente 2 Hz
	ON	ON	Luz permanente
ON	ON	ON	Luz rotativa 180 U/min

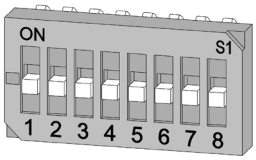
DF** = Duplo Flash

6.5 Configuração dos modos de funcionamento com controlo externo

6.5.1 Configuração dos tons

Com o botão **S1** na placa de circuitos na tampa é utilizado para definir a chave, ver tabela abaixo.

S1



Configuração de fábrica*

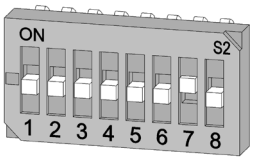
S1 (DIP1)		Volume
7	8	dB
		máx. *
ON		-7
	ON	-13
ON	ON	-20

Configuração de fábrica*

Com controlo externo								
S1 (DIP1)					$\overline{C1}$+$\overline{C2}$ (não ativo)	C1	C2	C1+C2
1	2	3	4	5	S1:6 ON			
					Tom	Tom	Tom	Tom
					162	124	54	83
ON					2	128	112	57
	ON				9	57	11	82
ON	ON				15	131	52	112
		ON			18	111	57	68
ON		ON			22	16	109	68
	ON	ON			1	1	1	131
ON	ON	ON			1	1	100	83
			ON		27	123	52	82
ON			ON		29	35	52	61
	ON		ON		36	146	67	57
ON	ON		ON		54	46	54	122
		ON	ON		56	82	35	33
ON		ON	ON		60	131	52	125
	ON	ON	ON		63	43	69	30
ON	ON	ON	ON		71	131	52	93
				ON	82	131	52	83
ON				ON	83	56	13	82
	ON			ON	100	131	52	125
ON	ON			ON	102	59	66	34
		ON		ON	103	131	65	147
ON		ON		ON	104	103	65	101
	ON	ON		ON	112	2	57	128
ON	ON	ON		ON	123	27	52	77
			ON	ON	130	2	107	67
ON			ON	ON	131	23	112	57
	ON		ON	ON	146	31	66	57
ON	ON		ON	ON	160	82	35	33
		ON	ON	ON	161	143	90	25
ON		ON	ON	ON	163	55	91	44
	ON	ON	ON	ON	164	53	152	45
ON	ON	ON	ON	ON	1	2	88	57

6.5.2 Configuração da cor (apenas PA L 1-R)

Com o botão **S2** na placa de circuitos na tampa é utilizado para definir a cor, ver tabela abaixo.

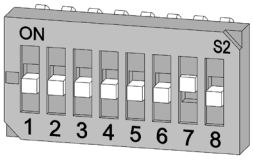


Luz - Cores (apenas PA L 1-R)											
S2 (DIP2)								$\overline{C1}$+$\overline{C2}$ (não ativo)	C1	C2	C1 + C2
1	2	3	4	5	6	7	8				
						ON		Vermelho	Verde	Azul	Amarelo
			ON					Amarelo	Vermelho	Verde	Branco
				ON				Laranja	Vermelho	Verde	Azul
			ON	ON				Branco	Amarelo	Verde	Vermelho
					ON			Verde	Vermelho	Amarelo	Azul
			ON		ON			Azul	Laranja	Vermelho	Verde
				ON	ON			Verde	Amarelo	Vermelho	Vermelho
			ON	ON	ON			Magenta	Vermelho	Verde	Amarelo

6.5.3 Configuração do modo de funcionamento (apenas PA L 1-R)

Com o botão **S2** na placa de circuitos na tampa é utilizado para definir o modo de iluminação, ver tabela abaixo.

S2



Luz - modo de funcionamento (apenas PA L 1-R)											
S2 (DIP2)								$\overline{C1}$+$\overline{C2}$ (não ativo)	C1	C2	C1 + C2
1	2	3	4	5	6	7	8				
								Modo de espera	Flash 1 Hz	Luz permanente	Luz intermitente 1 Hz
ON								Flash 1 Hz	Luz intermitente 1 Hz		Luz permanente
	ON							Flash 2 Hz	Luz permanente		Luz intermitente 1 Hz
ON	ON							Luz permanente	Luz permanente		Flash 1 Hz DF**
		ON						Luz intermitente 1 Hz	Flash 1 Hz		Luz rotativa 60 U/min
ON		ON						Luz intermitente 2 Hz	Flash 1 Hz *DF		Flash 1 Hz
	ON	ON						Luz permanente	Luz permanente		Luz permanente
ON	ON	ON						Luz rotativa 180 U/min	Luz permanente		Luz intermitente 1 Hz

DF**= Duplo Flash

7. Exemplos de configuração de tipos

Green Red Yellow - Color of lamp

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2	Continuous Tone 88		**Classic Traffic light, optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous			Flash 1Hz DF Tone 57	**Good / Bad "Inform" light optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2		Flash 1Hz DF Tone 57	**Traffic light with higher attention, optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby	Flash 1Hz	Continuous		**OK / Warning light with higher attention**
S2				ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby		Continuous	Blink 1Hz	**OK / Warning light with higher attention**
S2				ON	ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous		Continuous Tone 88		**OK / Warning light optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON			ON	Volume		Continuous	Continuous		Flash 1Hz DF Tone 83	**Traffic light with higher attention optional w/ tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous	Continuous	Blink Tone 131	**Traffic light with higher attention optional w/ tone**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous		Blink Tone 131	**2-Level warning w/ tone for higher attention**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Blink	Continuous		**2-Level warning**
S2	ON					ON	ON						

8. Acessório

Artigo n.º	Designação
28912000001	Junta de substituição PA (L) 1-R

9. Manutenção, serviço, assistência técnica

- Durante os trabalhos no aparelho, devem ser tomadas em consideração as Instruções de segurança.

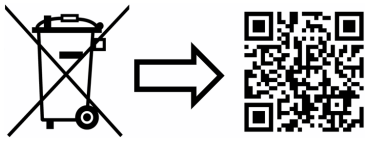
O aparelho não necessita de qualquer manutenção especial.

- Não utilizar produtos de limpeza abrasivos, à base de solventes ou quimicamente agressivos para a limpeza exterior.
  Não utilizar ferramentas com arestas vivas, especialmente para não riscar a cobertura da luz.
  Não limpar com alta pressão.
- Substituir os componentes apenas por peças sobresselentes originais.
- As reparações apenas podem ser efetuadas pelo fabricante.

As transformações, modificações, utilização incorreta ou não autorizada e o incumprimento das instruções deste manual de instruções invalidam a garantia.

10. Desativação, desmontagem e eliminação

- Durante os trabalhos no aparelho, devem ser tomadas em consideração as Instruções de segurança.



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http://www.pfannenberg.com

Содержание

1. Применение по назначению

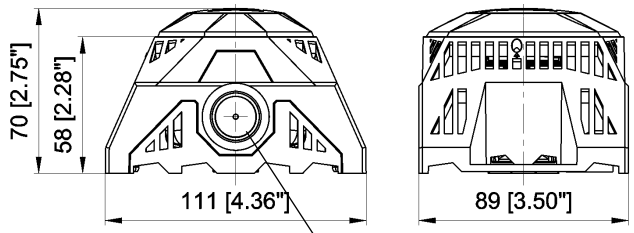
Излучатели звука серии PA предназначены для сигнализации, например, опасных состояний в промышленности, торговле и строительстве. При использовании комбинации излучателя звука и сигнальных ламп (PA L 1-R) существует дополнительно возможность визуальной сигнализации.
Излучатели звука воспроизводят акустические сигналы 70 различных звуковых тонов, которые можно выбирать с помощью внутреннего переключателя. Имеется возможность с помощью внешнего управления осуществлять переключение еще на макс. 3 звуковых тона.
Эксплуатировать устройства только в исправном состоянии в пределах указанных параметров. Функционирование устройства гарантируется только при правильной сборке верхней и нижней частей.
Устройства пригодны для внутреннего и наружного использования.

2. Объем поставки

Объем поставки состоит из:
1x сигнальное устройство
1x мембранный ниппель M20 (опционно: *Уплотнительный кабельный ввод – штекер M12)*
1x уплотнение для нижнего кабельного ввода
1x краткое руководство

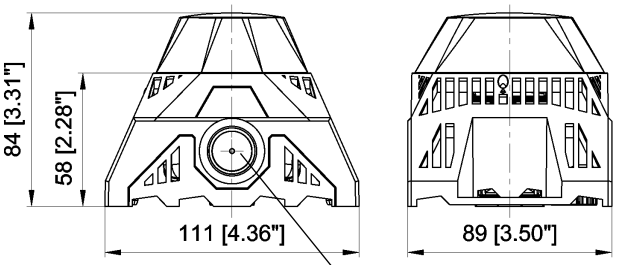
3. Габаритные размеры

PA 1-R



Отверстие M20 подготовлено

PA L 1-R



Отверстие M20 подготовлено

Необходимо использовать подходящие средства крепления.

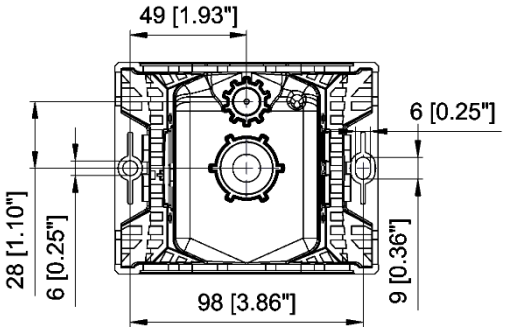


Схема расположения отверстий; вид снизу

4. Технические данные

4.1 Общие данные

	PA 1-R	PA L 1-R
Сила света	-	16 cd (светлый)
Источник света	-	20x RGBW
Цвета светодиода RGBW	-	синий, красный, зеленый, желтый, оранжевый, фиолетовый, магента дополнительно с помощью внешнего управления: белый
Макс. уровень звука	105 дБ (A) на расстоянии 1 м, тон по DIN (тон № 2)	
Регулировка громкости	макс. - 20 дБ	
Звуковые тоны	70	
Продолжительность включения	100 процентов	
Соединительные зажимы	0,14 - 1,5 мм² тонкопроволочный / одножильный / AWG24 - AWG 14	
Степень защиты	IP 66 (EN 60529), тип 4 и 4x	
Ударная прочность	IK08	IK07
Класс защиты	II	
Рабочая температура	-25 °C…+50 °C (UI-допуск см. стр. 3, раздел на английском языке)	
Температура хранения	-25 °C…+70 °C	
Макс. относительная влажность воздуха	90 процентов	
Кабельный ввод	1x M20 выполнен, 1x 10 мм выполнен	
Зона уплотнения проходной втулки	7 – 13 мм	При использовании кабелей диаметром < 7 мм предусмотреть кабельный ввод с достаточной степенью защиты
Материал корпуса	ПК / сополимер АБС	
Материал колпака	ПК / сополимер АБС	ПК Makrolon
Монтажное положение	любое	
Цвета колпака	--	прозрачный, белый, желтый, оранжевый, красный, зеленый, синий Версия RGBW: белый

4.2 Электрические параметры, версия переменного / постоянного тока

	PA L 1-R						
Номинальный диапазон напряжений (ограничения см. разрешение)	12В - 48В пост. тока			24В - 48В перем. тока 50/60 Гц		115В - 230В перем. тока 50/60 Гц	
Диапазон рабочего напряжения	10В - 60В пост. тока			18В – 53В перем. тока		95В - 253В перем. тока	
	12В пост. тока	24В пост. тока	48В пост. тока	24В перем. тока	48В перем. тока	115В перем. тока	230В перем. тока
Номинальный потребляемый ток лампы (макс.)	173mA	90mA	58mA	165mA	110mA	46mA	32mA
Номинальный потребляемый ток излучателя звука (макс.)	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Комбинированный номинальный ток потребления (макс.)	258mA	129mA	77mA	208mA	144mA	55mA	38mA
Комбинированное энергопотребление (макс.)	3,1 Вт	3,1 Вт	3,7 Вт	4,9VA	6,9VA	6,3VA	8,7VA

	PA 1-R						
Номинальный диапазон напряжений (ограничения см. разрешение)	12В - 48В пост. тока			24В - 48В перем. тока 50/60 Гц		115В - 230В перем. тока 50/60 Гц	
Диапазон рабочего напряжения	10В - 60В пост. тока			18В – 53В перем. тока		95В - 253В перем. тока	
Номинальный ток потребления звукового сигнала (макс.)	12В пост. тока	24В пост. тока	48В пост. тока	24В перем. тока	48В перем. тока	115В перем. тока	230В перем. тока
	101mA	56mA	41mA	103mA	71mA	26mA	19mA
Потребляемая мощность звукового сигнала (макс.)	1,2 Вт	1,3 Вт	1,9 Вт	2,5VA	3,4VA	2,9VA	4,3VA

5. Разрешения

(Разрешения действительны для отмеченных устройств)

UL, cUL
На стадии подготовки

6. Ввод в эксплуатацию

6.1 Указания по технике безопасности

ОПАСНОСТЬ - Опасность для жизни в результате поражения электрическим током

Находящиеся под напряжением устройства и открытые соединительные линии создают опасность поражения электрическим током и могут вызывать тяжелые несчастные случаи.

- Работы над подключениями к электросети разрешается выполнять только обученным и авторизованным специалистам-электрикам.
- Перед монтажом все подводящие линии необходимо обесточить и заблокировать от повторного включения. Необходимо всегда удостоверяться в отсутствии напряжения.
- Выждать фазу разряда электрических компонентов длительностью 5 минуты. Лишь затем открывать устройство.
- Включение рабочего напряжения должно производиться только при плотно закрытом корпусе.

ПРЕДОСТЕРЕЖЕНИЕ! Опасность в результате недопустимого применения устройств

Применение не по назначению может привести к тяжелым авариям.

- Во время монтажа следить за тем, чтобы соединительный провод был защищен от растяжения и перекручивания.
- Устройства предназначены исключительно для стационарного монтажа.

ОПАСНОСТЬ - Опасность в результате повреждения устройств

Несоблюдение данных заводской таблички может привести к тяжелым авариям.

- При установке и техническом обслуживании устройств следует всегда учитывать данные на типовой табличке.

ВНИМАНИЕ! Опасность травмирования острыми кромками или горячими деталями

- Используйте подходящие средства индивидуальной защиты (СИЗ) для установки, сборки или обслуживания/технического обслуживания.
- Разводку кабелей выполнять вдали от острых кромок, углов и внутренних компонентов, избегать столкновений с компонентами.

ВНИМАНИЕ! Опасность ухудшения зрения

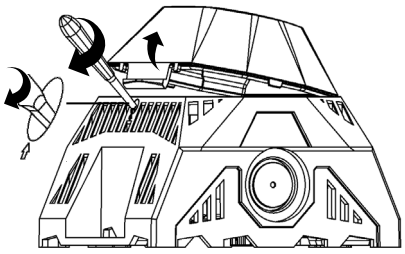
- Чтобы не допустить ухудшения зрения, избегать длительного прямого зрительного контакта с включенной лампой.
- Внезапное срабатывание вспышки может привести к реакциям испуга.

ВНИМАНИЕ! Опасность ухудшения слуха

- Чтобы предотвратить ухудшение слуха, используйте средства защиты от шума во время работы / тестирования.
- Внезапное срабатывание звукового сигнала может привести к реакциям испуга.

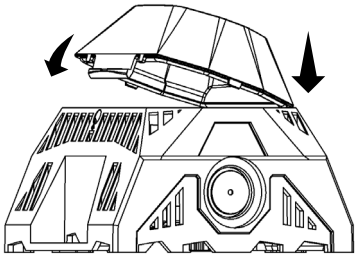
6.1 Открытие и закрытие колпака

Открытие колпака



Установите отвертку (ширина наконечника 3 мм) в обозначенное отверстие и поверните ее на 90 °для подъема колпака.

Закрытие колпака



Установите колпак на корпус (не перепутайте положение!) и закройте его путем легкого нажатия.

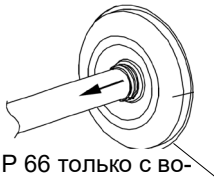
Устройство поставляется в незакрытом состоянии.

Уплотнительные кабельные вводы

Входящий в комплект поставки мембранный ниппель можно заменить уплотнительным кабельным вводом или штекерным соединителем M12 с размером фланца M20.

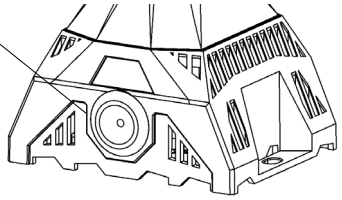
- Монтировать только кабельные вводы со степенью защиты минимум IP66 в соответствующих отверстиях.

В случае кабелей диаметром < 7 мм использовать уплотнительный кабельный ввод с достаточной степенью защиты.

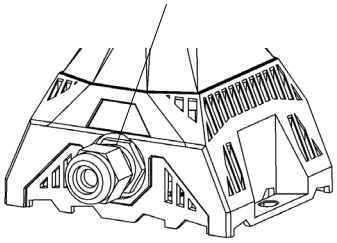


IP 66 только с воронкой мембраны, обращенной наружу.
После монтажа кабеля удалить остатки мембраны.

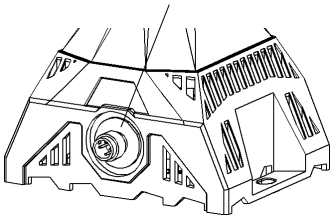
Мембранный ниппель IP 66 (входит в комплект поставки)

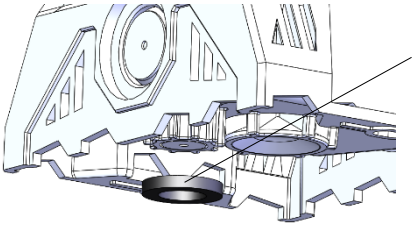


Опционный уплотнительный кабельный ввод IP66



Опционный штекерный соединитель M12 IP66 для устройств низкого напряжения

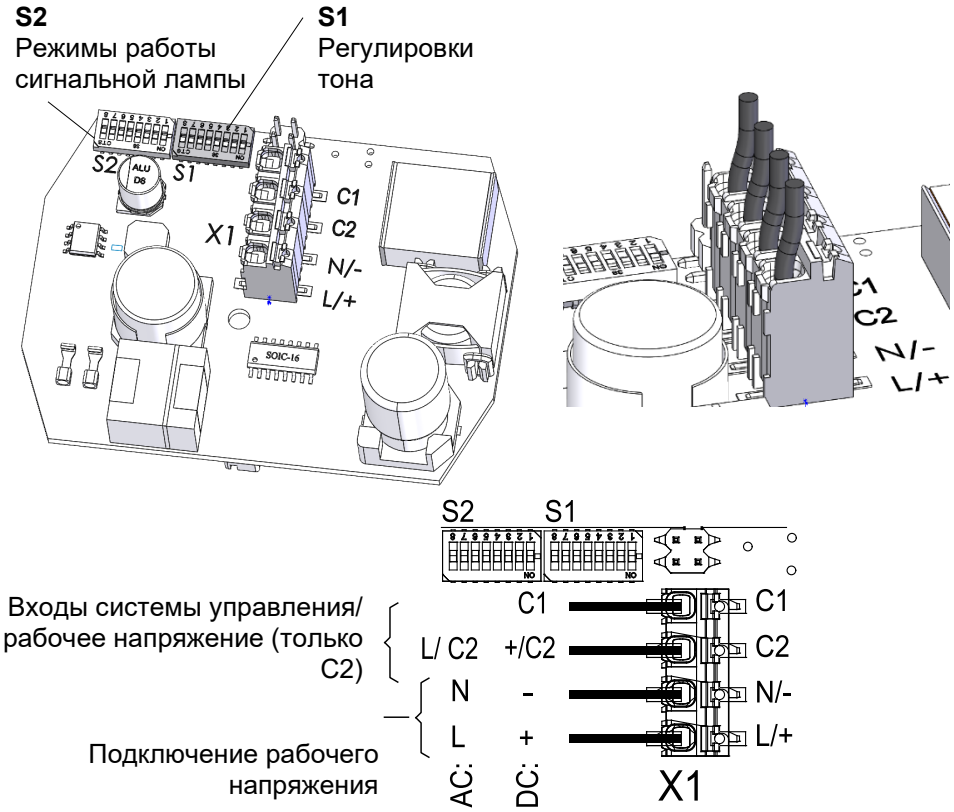




При использовании кабельного ввода снизу используйте уплотнение из комплекта поставки. (макс. диаметр провода 10 мм)

6.2 Электрическое подключение / элементы управления PA 1-R/ PA L 1-R

Подключение к электросети осуществляется на плате подключения в верхней части/ в кожухе.

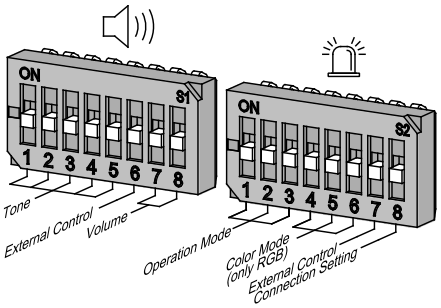


Присоединительные провода устанавливают с усилием в предусмотренные для них отверстия.

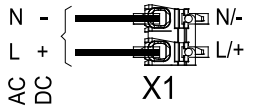
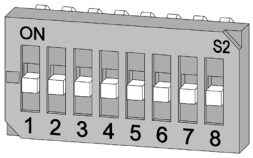
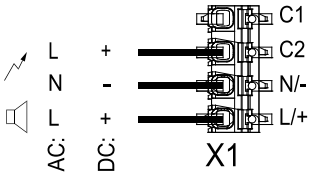
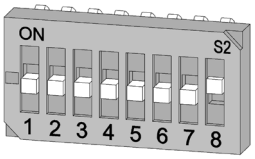
6.3 Подключение рабочего напряжения

В комбинированных устройствах PA L 1-R питание сигнальной лампы и излучателя звука может осуществляться вместе или раздельно.

Установить положения DIP-переключателей S2 на панели подключения следующим образом:



Дополнительную информацию см. в Краткой инструкции

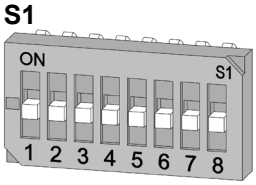
PA 1-R: Подключение рабочего напряжения **PA L 1-R:** Совместное питание сигнальной лампы и излучателя звука		**S2**  S2: все выключатели в положении «выключено» **Заводская установка***
PA L 1-R: Раздельное питание сигнальной лампы и излучателя звука		**S2**  S2: Выключатель 8 в положении «включено»

6.4 Установка режимов работы без внешней системы управления

6.4.1 Регулировка звуковых тонов

С помощью переключателя **S1** на панели в колпаке устанавливают тон звука, см. таблицу ниже.

S1



Заводская установка*

S1(DIP1)		Громкость
7	8	дБ
		макс.*
ВКЛ		-7
	ВКЛ	-13
ВКЛ	ВКЛ	-20

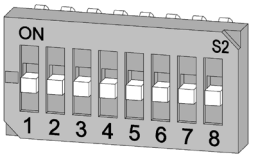
Заводская установка*

Без внешнего управления					
					S1:6 «Выключено»
1	2	3	4	5	Звуковой тон
					162*
ВКЛ					2
	ВКЛ				9
ВКЛ	ВКЛ				15
		ВКЛ			18
ВКЛ		ВКЛ			22
	ВКЛ	ВКЛ			24
ВКЛ	ВКЛ	ВКЛ			26
			ВКЛ		27
ВКЛ			ВКЛ		29
	ВКЛ		ВКЛ		36
ВКЛ	ВКЛ		ВКЛ		54
		ВКЛ	ВКЛ		56
ВКЛ		ВКЛ	ВКЛ		60
	ВКЛ	ВКЛ	ВКЛ		63
ВКЛ	ВКЛ	ВКЛ	ВКЛ		71
				ВКЛ	82
ВКЛ				ВКЛ	83
	ВКЛ			ВКЛ	100
ВКЛ	ВКЛ			ВКЛ	102
		ВКЛ		ВКЛ	103
ВКЛ		ВКЛ		ВКЛ	104
	ВКЛ	ВКЛ		ВКЛ	112
ВКЛ	ВКЛ	ВКЛ		ВКЛ	123
			ВКЛ	ВКЛ	130
ВКЛ			ВКЛ	ВКЛ	131
	ВКЛ		ВКЛ	ВКЛ	146
ВКЛ	ВКЛ		ВКЛ	ВКЛ	160
		ВКЛ	ВКЛ	ВКЛ	161
ВКЛ		ВКЛ	ВКЛ	ВКЛ	163
	ВКЛ	ВКЛ	ВКЛ	ВКЛ	164
ВКЛ	ВКЛ	ВКЛ	ВКЛ	ВКЛ	1

6.4.2 Регулировка цвета (только PA L 1-R)

С помощью переключателя **S2** на панели в колпаке устанавливают цвет, см. таблицу ниже.

S2



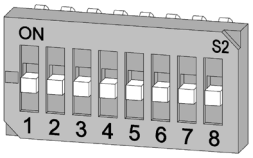
Заводская установка*

S2 (DIP2)					Режим цвета (только RGB)
4	5	6	7	8	
			ВЫКЛ		Красный *
ВКЛ					Желтый
	ВКЛ				Оранжевый
ВКЛ	ВКЛ				Белый
		ВКЛ			Зеленый
ВКЛ		ВКЛ			Синий
	ВКЛ	ВКЛ			Фиолетовый
ВКЛ	ВКЛ	ВКЛ			Магента

6.4.3 Установка режима работы (только PA L 1-R)

С помощью переключателя **S2** на панели в колпаке устанавливают режим работы, см. таблицу ниже.

S2



Заводская установка*

S2 (DIP2)			Режим работы
1	2	3	
			Вспышка 1 Гц*
ВКЛ			Вспышка 2 Гц
	ВКЛ		Вспышка 1 Гц DF**
ВКЛ	ВКЛ		Мигающий свет 0,5 Гц
		ВКЛ	Мигающий свет 1 Гц
ВКЛ		ВКЛ	Мигающий свет 2 Гц
	ВКЛ	ВКЛ	Постоянный свет
ВКЛ	ВКЛ	ВКЛ	Поворотная лампа 180 об/мин

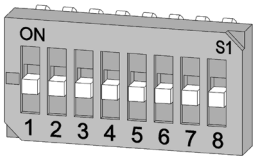
DF** = двойная вспышка

6.5 Установка режимов работы с внешней системой управления

6.5.1 Регулировка звуковых тонов

С помощью переключателя **S1** на панели в колпаке устанавливают тон звука, см. таблицу ниже.

S1



Заводская установка*

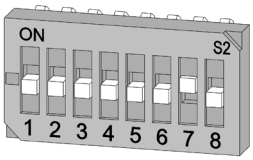
S1(DIP1)		Громкость
7	8	дБ
		макс.*
ВКЛ		-7
	ВКЛ	-13
ВКЛ	ВКЛ	-20

Заводская установка*

С внешним управлением								
S1 (DIP1)					$\overline{C1}+\overline{C2}$ (не активен)	C1	C2	C1+C2
1	2	3	4	5	S1:6 ON			
					Звуковой тон	Звуковой тон	Звуковой тон	Звуковой тон
					162	124	54	83
ВКЛ					2	128	112	57
	ВКЛ				9	57	11	82
ВКЛ	ВКЛ				15	131	52	112
		ВКЛ			18	111	57	68
ВКЛ		ВКЛ			22	16	109	68
	ВКЛ	ВКЛ			1	1	1	131
ВКЛ	ВКЛ	ВКЛ			1	1	100	83
			ВКЛ		27	123	52	82
ВКЛ			ВКЛ		29	35	52	61
	ВКЛ		ВКЛ		36	146	67	57
ВКЛ	ВКЛ		ВКЛ		54	46	54	122
		ВКЛ	ВКЛ		56	82	35	33
ВКЛ		ВКЛ	ВКЛ		60	131	52	125
	ВКЛ	ВКЛ	ВКЛ		63	43	69	30
ВКЛ	ВКЛ	ВКЛ	ВКЛ		71	131	52	93
				ВКЛ	82	131	52	83
ВКЛ				ВКЛ	83	56	13	82
	ВКЛ			ВКЛ	100	131	52	125
ВКЛ	ВКЛ			ВКЛ	102	59	66	34
		ВКЛ		ВКЛ	103	131	65	147
ВКЛ		ВКЛ		ВКЛ	104	103	65	101
	ВКЛ	ВКЛ		ВКЛ	112	2	57	128
ВКЛ	ВКЛ	ВКЛ		ВКЛ	123	27	52	77
			ВКЛ	ВКЛ	130	2	107	67
ВКЛ			ВКЛ	ВКЛ	131	23	112	57
	ВКЛ		ВКЛ	ВКЛ	146	31	66	57
ВКЛ	ВКЛ		ВКЛ	ВКЛ	160	82	35	33
		ВКЛ	ВКЛ	ВКЛ	161	143	90	25
ВКЛ		ВКЛ	ВКЛ	ВКЛ	163	55	91	44
	ВКЛ	ВКЛ	ВКЛ	ВКЛ	164	53	152	45
ВКЛ	ВКЛ	ВКЛ	ВКЛ	ВКЛ	1	2	88	57

6.5.2 Регулировка цвета (только PA L 1-R)

С помощью переключателя **S2** на панели в колпаке устанавливают цвет, см. таблицу ниже.

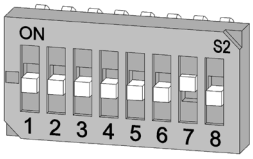


Цвета света (только PA L 1-R)											
S2 (DIP2)								$\overline{C1}$+$\overline{C2}$ (не активен)	C1	C2	C1 + C2
1	2	3	4	5	6	7	8				
						ВКЛ		Красный	Зеленый	Синий	Желтый
			ВКЛ					Желтый	Красный	Зеленый	Белый
				ВКЛ				Оранжевый	Красный	Зеленый	Синий
			ВКЛ	ВКЛ				Белый	Желтый	Зеленый	Красный
					ВКЛ			Зеленый	Красный	Желтый	Синий
			ВКЛ		ВКЛ			Синий	Оранжевый	Красный	Зеленый
				ВКЛ	ВКЛ			Зеленый	Желтый	Красный	Красный
			ВКЛ	ВКЛ	ВКЛ			Магента	Красный	Зеленый	Желтый

6.5.3 Установка режима работы (только PA L 1-R)

С помощью переключателя **S2** на панели в колпаке устанавливают режим света, см. таблицу ниже.

S2



Режим работы света (только PA L 1-R)											
S2 (DIP2)								$\overline{C1}$+$\overline{C2}$ (не активен)	C1	C2	C1 + C2
1	2	3	4	5	6	7	8				
								Режим ожидания	Вспышка 1 Гц	Постоянный свет	Мигающий свет 1 Гц
ВКЛ								Вспышка 1 Гц	Мигающий свет 1 Гц		Постоянный свет
	ВКЛ							Вспышка 2 Гц	Постоянный свет		Мигающий свет 1 Гц
ВКЛ	ВКЛ							Постоянный свет	Постоянный свет		Вспышка 1 Гц DF**
		ВКЛ						Мигающий свет 1 Гц	Вспышка 1 Гц		Поворотная лампа 60 об/мин
ВКЛ		ВКЛ						Мигающий свет 2 Гц	Вспышка 1 Гц *DF		Вспышка 1 Гц
	ВКЛ	ВКЛ						Постоянный свет	Постоянный свет		Постоянный свет
ВКЛ	ВКЛ	ВКЛ						Поворотная лампа 180 об/мин	Постоянный свет		Мигающий свет 1 Гц

DF**= двойная вспышка

7. Примеры типов настройки

Green Red Yellow - Color of lamp

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2	Continuous Tone 88		**Classic Traffic light, optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous			Flash 1Hz DF Tone 57	**Good / Bad "Inform" light optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous	Continuous Tone 2		Flash 1Hz DF Tone 57	**Traffic light with higher attention, optional with tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby	Flash 1Hz	Continuous		**OK / Warning light with higher attention**
S2				ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume		Standby		Continuous	Blink 1Hz	**OK / Warning light with higher attention**
S2				ON	ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON	ON	ON	ON	Volume		Continuous		Continuous Tone 88		**OK / Warning light optional with tone**
S2	ON	ON				ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1	ON	ON	ON			ON	Volume		Continuous	Continuous		Flash 1Hz DF Tone 83	**Traffic light with higher attention optional w/ tone**
S2	ON	ON			ON	ON	ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous	Continuous	Blink Tone 131	**Traffic light with higher attention optional w/ tone**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Continuous		Blink Tone 131	**2-Level warning w/ tone for higher attention**
S2		ON		ON	ON		ON						

	1	2	3	4	5	6	7	8	$\overline{C1}+\overline{C2}$ (not active)	C1	C2	C1+C2	Description
S1		ON	ON			ON	Volume			Blink	Continuous		**2-Level warning**
S2	ON					ON	ON						

8. Дополнительные принадлежности

Номер артикула	Обозначение
28912000001	Запасное уплотнение PA (L) 1-R

9. Техническое обслуживание, сервис, поддержание в исправном состоянии

- При выполнении любых работ на устройстве соблюдать Указания по технике безопасности.

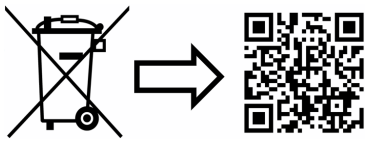
Устройство не требует специального обслуживания.

- Не используйте для наружной очистки абразивные, содержащие растворители или химически агрессивные средства очистки.
  Не используйте инструменты с острыми краями, соблюдайте особую осторожность при очистке бленды и не поцарапайте ее.
  Не используйте для очистки высокое давление.
- Замена компонентов только на оригинальные запасные части.
- Выполнение ремонта принципиально поручать проводить только на заводе-изготовителе.

Модификации, изменения, неправильное и недопустимое использование, а также несоблюдение указаний, приведенных в данном руководстве по эксплуатации, исключают гарантийные обязательства.

10. Вывод из эксплуатации, демонтаж и утилизация

- При выполнении любых работ на устройстве соблюдайте Указания по технике безопасности.



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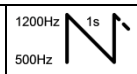
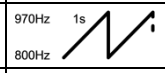
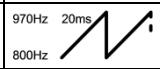
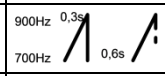
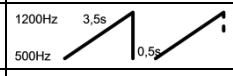
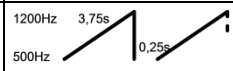
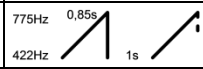
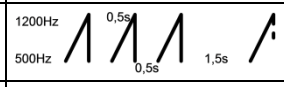
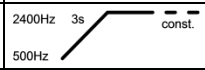
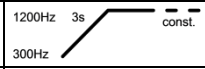
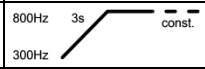
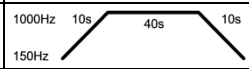
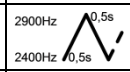
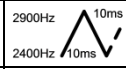
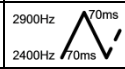
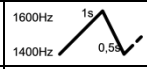
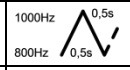
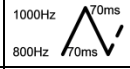
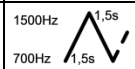
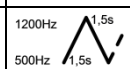
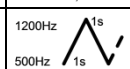
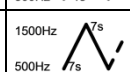
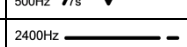
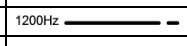
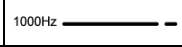
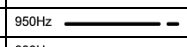
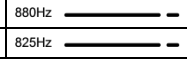
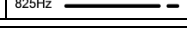
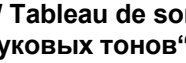
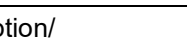
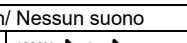
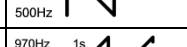
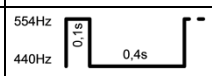
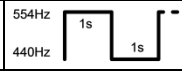
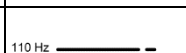
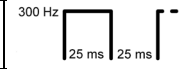
service@pfannenberg.com
http://www.pfannenberg.com

Tonartentabelle/ Tone table/ Tableau de sons/ Tabella suoni/ „Таблица звуковых тонов“

Grund-Ton-Nr. (♪)	Beschreibung/ Description/ Descrizione/ Описание	
1	Kein Ton/ Silence/ Pas de son/ Nessun suono	
2	Saw tooth, Germany DIN 33404-3 (emergency signal), PFEER PTAP	
9	Slow whoop, fire alarm, UK BS5839-1	
11	Whoop (fast)	
13	Whoop	
15	Slow whoop, evacuation, Netherlands NEN 2575	
16	Slow whoop, evacuation Australia AS2220	
18	Slow whoop, NFPA	
22	Whoop, Australia AS1670, ISO8201	
23	Siren	
24	Siren	
25	Siren	
26	Industrial alarm (Germany)	
27	Sweeping	
29	Sweeping (fast)	
30	Sweeping	
31	Sweeping, France NF C 48-265	
33	Sweeping, UK BS5839-1 (medium sweep)	
34	Sweeping (fast)	
35	Sweeping, UK BS5839-1 (fast sweep)	
36	Sweeping	
43	Sweeping	
44	Sweeping, IMO 3d, Germany KTA3901 evacuation	
46	Sweeping, Finland General Alarm	
52	Continuous	
54	Continuous, Finland All Clear	
55	Continuous	
56	Continuous, PFEER (Gasalarm)	
57	Continuous, UK BS5839-1	
59	Continuous	
60	Continuous	
61	Continuous	
63	Continuous	
65	Continuous, Sweden SS031711 (All Clear)	
66	Continuous	
67	Continuous, Germany KTA3901 (All Clear)	
68	Continuous	
69	Continuous	
71	Continuous	
77	Intermittent	
82	Intermittent, PFEER (General Alarm), UK BS5839-1 (Back-up Alarm)	
83	Intermittent, PFEER (General Alarm)	
88	Intermittent	
90	Intermittent	
91	Intermittent	
92	Intermittent	
93	Intermittent (fast), electromechanical horn	
100	Intermittent, Industrial Alarm (Germany)	
101	Intermittent, Sweden SS031711 (Important Message (Pre Mess.)	
102	Intermittent, Sweden SS031711 (Local Warning)	
103	Intermittent, Sweden SS031711 (Air Raid)	
104	Intermittent, Sweden SS031711 (Imminent Danger)	
107	Intermittent, Germany KTA3901 (evacuation)	
109	Intermittent, Australia AS2220,AS1610, AS1670	
111	Intermittent, ISO8201 (emergency evacuation signal), USA (evacuation)	
112	Intermittent, ISO8201 (emergency evacuation signal)	
122	Alternating	
123	Alternating	
124	Alternating, Singapore	
125	Alternating	
128	Alternating	
130	Alternating, UK BS5839-1 (Fire Alarm)	
131	Alternating, UK BS5839-1 (Fire Alarm, Level crossing)	

143	Alternating, Germany Industrial Alarm	
146	Alternating, France NFS 32-001 (fire alarm)	
147	Alternating, Sweden SS031711 (turn out)	
160	Continuous (do not use in combination with continuous light)	
161	Continuous	
162 *	Intermittent	
163	Intermittent	
164	Slow whoop	

Ansteuerung der Töne/ Selection of the tones/ Activation des sons/ Controllo dei toni / Управление звуко-выми тонами

Selector switch **S1** (DIP1) (Adjusting the base tone)						External Tone Control			
						$\overline{C1}+\overline{C2}$	**C1**	**C2**	**C1+C2**
					S1:6 OFF	**S1:6 ON**			
1	2	3	4	5	Tone	Tone	Tone	Tone	Tone
					162*	162	124	54	83
ON					2	2	128	112	57
	ON				9	9	57	11	82
ON	ON				15	15	131	52	112
		ON			18	18	111	57	68
ON		ON			22	22	16	109	68
	ON	ON			24	1	1	1	131
ON	ON	ON			26	1	1	100	83
			ON		27	27	123	52	82
ON			ON		29	29	35	52	61
	ON		ON		36	36	146	67	57
ON	ON		ON		54	54	46	54	122
		ON	ON		56	56	82	35	33
ON		ON	ON		60	60	131	52	125
	ON	ON	ON		63	63	43	69	30
ON	ON	ON	ON		71	71	131	52	93
				ON	82	82	131	52	83
ON				ON	83	83	56	13	82
	ON			ON	100	100	131	52	125
ON	ON			ON	102	102	59	66	34
		ON		ON	103	103	131	65	147
ON		ON		ON	104	104	103	65	101
	ON	ON		ON	112	112	2	57	128
ON	ON	ON		ON	123	123	27	52	77
			ON	ON	130	130	2	107	67
ON			ON	ON	131	131	23	112	57
	ON		ON	ON	146	146	31	66	57
ON	ON		ON	ON	160	160	82	35	33
		ON	ON	ON	161	161	143	90	25
ON		ON	ON	ON	163	163	55	91	44
	ON	ON	ON	ON	164	164	53	152	45
ON	ON	ON	ON	ON	1	1	2	88	57

*Werkseinstellung/ Factory setting/ Réglage d'usine/ Impostazione di fabbrica/ Заводская настройка

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