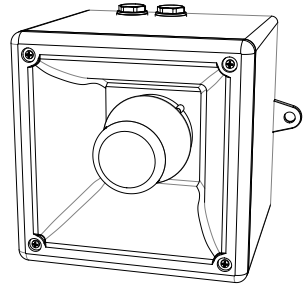


Installation/Anschluss  
 Installation/Raccordement  
 Installation/Connection

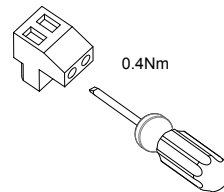
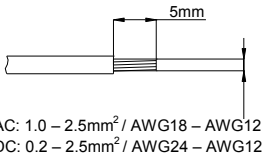
# A112

- -40°C to +66°C (104°F to 151°F)
- Type 4 / 4X / 3R / 13, IP66
- 1.8Kg (3.96lb)
- CE, A112.024.2 & A112.048.2 CPR compliant, All units UL Listed



Unit Type Code	Nominal Voltage	Voltage Range	Nominal Current* P1	Nominal Current* P2	Nominal SPL P1 / P2	Max SPL P1 / P2	Average SPL P1 / P2
A112.024.2	12 Vdc	11.5-54Vdc	280mA	376mA	113.7dB(A) / 116.6dB(A) Tone 44 @ 1m	115dB(A) / 118.4dB(A) Tone 4 @ 1m	110.8dB(A) / 114.8dB(A) All Tones @ 1m
	24 Vdc		225mA	430mA			
	48 Vdc		122mA	223mA			
A112.230.7	115 Vac	100-240Vac 50/60Hz	100mA	173mA			
	230 Vac		65mA	105mA			

\*Nominal current at nominal voltage



Attention: Installation must be carried out by an electrician in compliance with the latest codes and regulations.

Attention: L'installation doit être effectuée par un électricien conformément aux derniers codes et réglementations.

Achtung: Die Installation muss von einem Elektriker gemäß den neuesten Vorschriften und Bestimmungen durchgeführt werden.



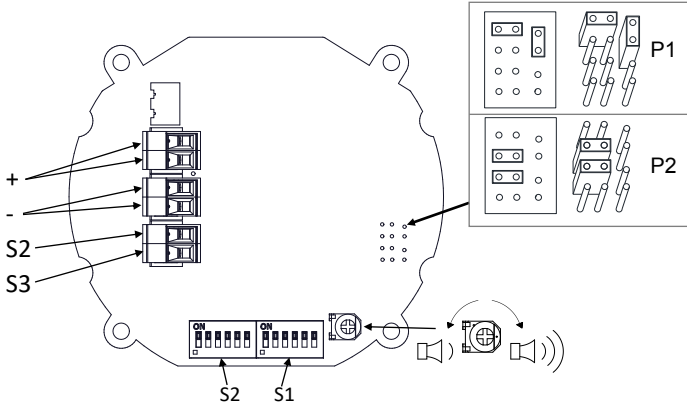
Attention: Disconnect from power source before installation or service to prevent electric shock

Attention: Débranchez-le de la source d'alimentation avant l'installation ou l'entretien pour éviter tout choc électrique.

Achtung: Vor Installation oder Wartung von der Stromquelle trennen, um einen Stromschlag zu vermeiden.

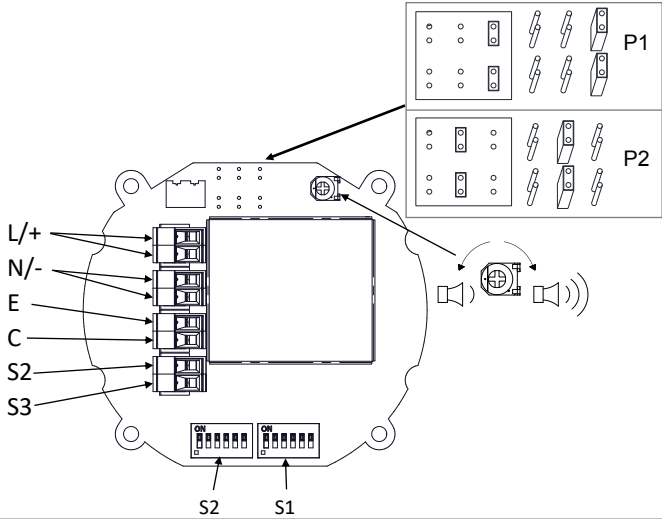
DC

See D221-06-001

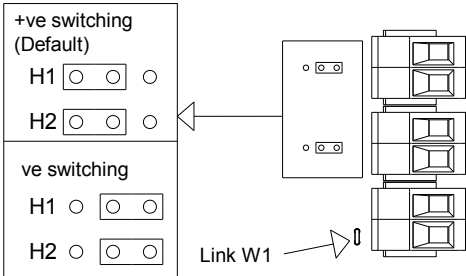


AC

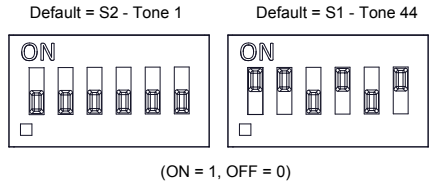
See D221-06-005



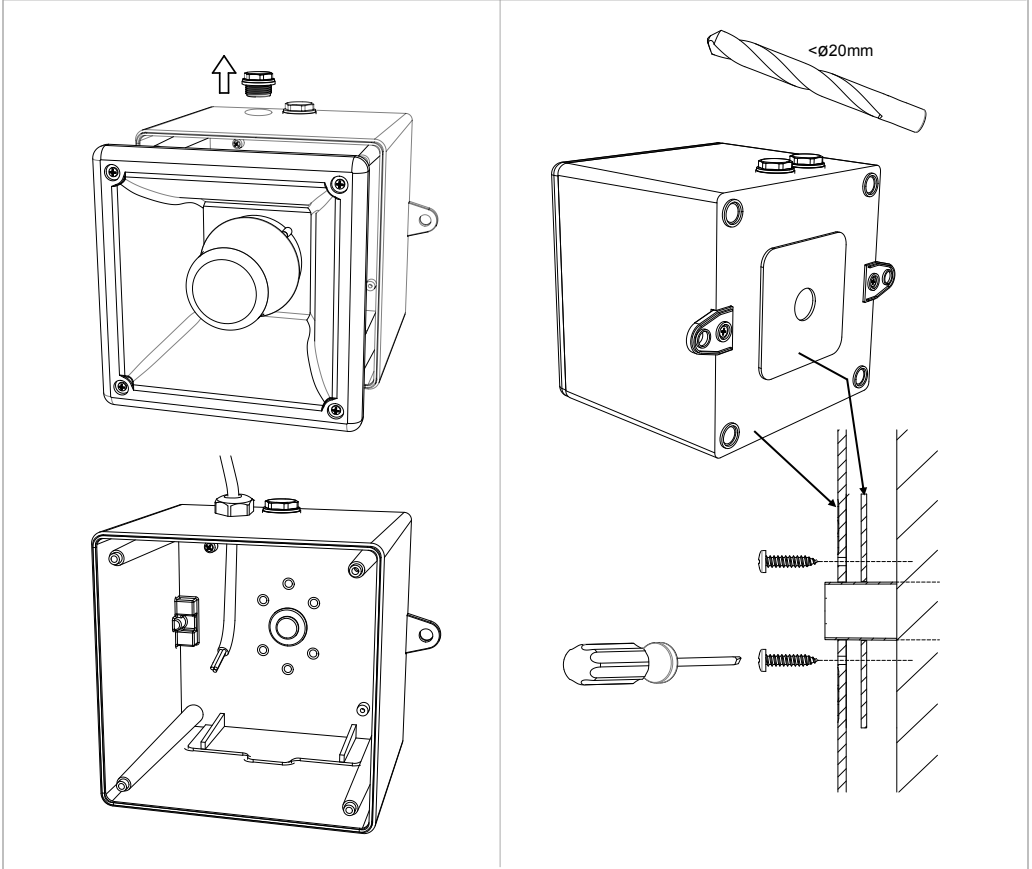
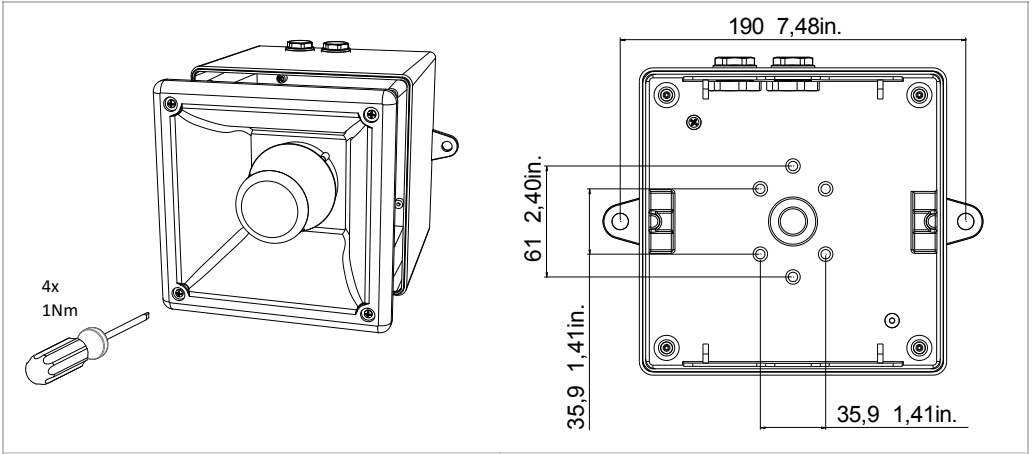
(DC Only, see D221-06-001)



(AC & DC, See D221-95-001)



INSTRUCTION & SERVICE MANUAL  
A112



## Construction Product Regulation

- A112.024.2 is compliant to EN54-3:2001+A1+A2
- Alarm devices – Sounder for use in fire detection and fire alarm systems installed in and around buildings
- Type 4 / 4X / 3R / 13, IP66, Independently tested to EN60529:1991, (IP33C Compliant to EN54-3)
- Type B Product, For Indoor & Outdoor use
- Observe Precautions for handling electrostatic devices
- -25°C to +55°C compliant to EN54-3
- Cable Glands must be suitably sealed and meet minimum IP33 for EN54-3 applications
- Storage Temperature: -40°C to +70°C
- Maintenance – None
- Mounting - Units can be mounted using the 2-off ø9mm holes in the mounting lugs or through the back of the housing using the supplied gasket seal.

Order Code: A112.024.2  
 Voltage Range: 11.5-54Vdc  
 Nominal Voltage: 24Vdc  
 Max Current: P1: 280mA @12Vdc;  
 P2: 430mA @24Vdc  
 DP-2821-CPR-0108



## Approved Tones for EN54-3 Applications:

- (Alternating Tone) 800/1000Hz @ 2Hz Alternating Tone 44
- (Rising Tone) 500/1200Hz @ 0.26Hz (3.3s on, 0.5s off) Tone 8
- (Fainting Tone) 1200/500Hz @ 1Hz Tone 2
- (Continuous Tone) 800Hz Tone 21
- (Pulsed Tone) 660Hz (150mS on, 150mS off) Tone 31
- (Alternating Tone) 544Hz(100mS)/440Hz (400mS) Tone 5

A112.024.2 (P2) @ 1m

Angle	Horizontal Sound Output Max Voltage (54 Vdc) LAFmax,T dB(A)						Horizontal Sound Output Min Voltage (11.5 Vdc) LAFmax,T dB(A)					
	Tone 44	Tone 8	Tone 2	Tone 21	Tone 31	Tone 5	Tone 44	Tone 8	Tone 2	Tone 21	Tone 31	Tone 5
15°	106.1	105.8	105.1	105.4	105.2	93.9	101.2	101.6	101.1	101	101.2	91
45°	105.2	107.2	106.3	104.1	98.7	101.6	101.3	102.9	102.1	100.2	94.7	99
75°	112.1	112.6	111.9	111.7	110.1	104.8	108.1	108.5	107.7	108.1	106.5	103
105°	111.9	112.5	111.7	111.7	110.2	104.8	107.9	108.4	107.6	108.1	106.4	103
135°	104.8	107.4	106.4	103.8	99.2	101.6	101.1	103.2	102.1	99.8	95.5	99
165°	105.2	105.8	105.2	105.3	105.1	93.8	100.8	101.5	100.8	100.9	102	90.8
Angle	Vertical Sound Output Max Voltage (54 Vdc) LAFmax,T dB(A)						Vertical Sound Output Min Voltage (11.5 Vdc) LAFmax,T dB(A)					
	Tone 44	Tone 8	Tone 2	Tone 21	Tone 31	Tone 5	Tone 44	Tone 8	Tone 2	Tone 21	Tone 31	Tone 5
15°	107.2	107.1	105.9	107.4	105.5	95.5	103.1	102.8	101.5	103.1	101.5	91.8
45°	106	109.3	107.9	104.6	100.5	103.7	102.2	105.4	103.8	100.4	96.6	99.9
75°	113.2	113.3	112.9	113	110.8	106.1	109.2	109.3	108.7	109.1	107.1	103
105°	112.9	113.1	112.7	112.8	111.4	106.1	109	108.9	108.5	108.9	107.7	103.1
135°	105.5	109.3	107.7	104.7	100.3	104.3	101.4	105.3	103.5	100.7	96.5	100.7
165°	107	106.5	105.9	106.4	105.3	95	102.6	102.1	101.5	102.2	101.1	91.2

A112.024.2 (P1) @ 1m

Angle	Horizontal Sound Output Max Voltage (54 Vdc) LAFmax,T dB(A)					Horizontal Sound Output Min Voltage (11.5 Vdc) LAFmax,T dB(A)						
	Tone 44	Tone 8	Tone 2	Tone 21	Tone 5	Tone 44	Tone 8	Tone 2	Tone 21	Tone 5		
15°	103.3	103.7	103.1	103.3	103.2	91.5	101	101.5	100.9	101	100.3	89.4
45°	103.4	104.8	104.2	101.6	96.3	99.4	101.5	102.7	101.8	99.6	94.3	97.4
75°	109.1	110.4	109.7	109.6	108.3	103.2	107.1	108.2	107.4	107.7	105.9	101.4
105°	109.9	110.2	109.6	109.7	108.6	103	107.7	108.1	107.4	107.6	105.9	101.6
135°	103.4	104.8	104	101.8	96.5	99.4	101.1	102.8	101.7	99.6	94.5	97.4
165°	103.4	103.5	103	103.3	103	91.6	101	101.4	100.8	101.1	100.2	89.4
Angle	Vertical Sound Output Max Voltage (54 Vdc) LAFmax,T dB(A)					Vertical Sound Output Min Voltage (11.5 Vdc) LAFmax,T dB(A)						
	Tone 44	Tone 8	Tone 2	Tone 21	Tone 5	Tone 44	Tone 8	Tone 2	Tone 21	Tone 31	Tone 5	
15°	104.1	104.1	103.2	104.1	102.3	92.3	101.8	101.8	100.8	101.8	100	90.4
45°	103.4	106.4	105.2	101.9	96.3	100.2	101.3	104.3	103.1	99.7	94.1	98.2
75°	109.8	110.1	109.8	110.4	108.3	103.2	107.7	107.8	107.7	108.4	106.2	101.4
105°	109.1	109.9	109.5	110	108.3	102.9	106.9	107.7	107.1	107.6	105.7	101.3
135°	101.1	106.4	104.7	101.8	96.6	101	100.6	104.1	102.3	99.6	94.5	99.1
165°	103.6	103.1	102.8	103.6	102.8	91.8	101.2	100.9	100.7	101.4	99.8	89.8

# INSTRUCTION & SERVICE MANUAL

## A112

- All models are approved for use as Audible Signal Appliance for use as General Signaling: UL464A & CSA C22.2 No 205-17
- Type 4 / 4X / 3R / 13, IP66
- -40°C to +66°C / -40°C to +151°F  
General Signaling Canada:  
A112.024.2: -40°C to +55°C / -40°F to +131°F  
A112.230.7: -40°C to +40°C / -40°F to +104°F



- To maintain Ingress Protection, cable entries must be fitted with suitably rated cable glands or stopping plugs
- EOL Monitoring (DC Only): End of Line Devices may be fitted between the +ve & -ve terminals of the PCBA. Please ensure that the device legs meet the wire size range stated for the connection terminals and are fitted correctly in order to avoid a short. Refer to the compatible control panel specification for EOL device values and ratings.

Model	Nominal Voltage	Voltage Range	P1 Nominal Operating Current <sup>#</sup>	P2 Nominal Operating Current <sup>#</sup>	P1 Max Operating RMS <sup>*</sup>	P2 Max Operating RMS <sup>*</sup>
A112.024.2	12V dc	11.5 - 54V ac	280mA	376mA	280mA	430mA
	24V dc		225mA	430mA		
	48V dc		122mA	223mA		
A112.230.7	115V ac	100- 240V ac 50/60Hz	100mA	173mA	101mA	181mA
	230V ac		65mA	105mA		

\*Max Operating current for worst-case input voltage; Nominal current at nominal voltage and Tone 44

The units have been tested and approved to DNVGL-CG-0339 & EN54-3:2014 incl. A1:2019 for the installation on ships in the following locations:

Temperature: A, B, C & D (Machinery spaces, control rooms, accommodation, bridge, inside cubicles, desks, etc..., pump rooms, holds, rooms with no heating, Open deck, masts)

Humidity: A & B (All locations)

Vibration: A (Bulkheads, Beams, Deck, Bridge)

EMC: A & B (All locations Including Bridge & open deck)

Enclosure: A, B & C (Control rooms, accommodation, bridge, engine room, open deck masts, below floor plates in engine room)

The units comply with Solas 74 Chapter II-2, Regulation 7 & Chapter X, Regulation 3 for installation on ships in the following locations:

Temperature: D (Location -25° to +70°C)

Vibration: A (General Applications)

EMC: B (Bridge & Open Deck Zone)

Enclosure: IP56, Salt mist

Stage 1 Set DIP SW 1 Tone No.	Tone Description	Tone Visual	Stage 1 & 2 DIP SW 1/2 Settings 1 2 3 4 5 6	Stage 3 Set DIP SW 1 (S3)	Stage 4 Set DIP SW 1 (S2 + S3)
1	1000Hz PFEER Toxic Gas		0 0 0 0 0 0	2	44
2	1200/500Hz @ 1Hz DIN /PFEER P.T.A.P.		1 0 0 0 0 0	3	44
3	1000Hz @ 0.5Hz(1s on, 1s off) PFEER Gen. Alarm		0 1 0 0 0 0	2	44
4	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s NF C 48-265		1 1 0 0 0 0	24	1
5	544Hz(100mS)/440Hz (400mS) NF S 32-001		0 0 1 0 0 0	19	1
6	1500/500Hz - (0.5s on, 0.5s off) x3 + 1s gap AS4428		1 0 1 0 0 0	44	1
7	500-1500Hz Sweeping 2 sec on 1 sec off AS4428		0 1 1 0 0 0	44	1
8	500/1200Hz @ 0.26Hz (3.3son, 0.5s off) Netherlands - NEN 2575		1 1 1 0 0 0	24	35
9	1000Hz (1s on, 1s off)x7 + (7s on, 1s off) IMO Code 1a		0 0 0 1 0 0	34	1
10	1000Hz (1s on, 1s off)x7 + (7s on, 1s off) IMO Code 1a		1 0 0 1 0 0	34	1
11	420Hz(0.5s on, 0.5s off)x3 + 1s gap ISO 8201 Temporal Pattern		0 1 0 1 0 0	1	8
12	1000Hz(0.5s on, 0.5s off)x3 + 1s gap ISO 8201 Temporal Pattern		1 1 0 1 0 0	1	8
13	422/775Hz - (0.85 on, 0.5 off) x3 + 1s gap NFPA - Temporal Coded		0 0 1 1 0 0	1	8
14	1000/2000Hz @ 1Hz Singapore		1 0 1 1 0 0	3	35
15	300Hz Continuous (f=300)		0 1 1 1 0 0	24	1
16	440Hz Continuous (f=440)		1 1 1 1 0 0	24	1
17	470Hz Continuous (f=470)		0 0 0 0 1 0	24	8
18	500Hz Continuous IMO code 2 (Low) (f=500)		1 0 0 0 1 0	24	8
19	554Hz Continuous (f=554)		0 1 0 0 1 0	24	8
20	660Hz Continuous (f=660)		1 1 0 0 1 0	24	35
21	800Hz IMO code 2 (High) (f=800)		0 1 0 1 0 0	24	35
22	1200Hz Continuous (f=1200)		1 0 1 0 1 0	24	35
23	2000Hz Continuous (f=2000)		0 1 1 0 1 0	3	35
24	2400Hz Continuous (f=2400)		1 1 1 0 1 0	20	35
25	440Hz @0.83Hz (50 cycles/minute) Intermittent (f=440, a=0.6, b=0.6)		0 0 0 1 1 0	44	8
26	470Hz @0.9Hz - 1.1s Intermittent (f=470, a=0.55, b=0.55)		1 0 0 1 1 0	44	8
27	470Hz @5Hz - (5 cycles/second) Intermittent (f=470, a=0.1, b=0.1)		0 1 0 1 1 0	44	8
28	544Hz @ 1.14Hz - 0.875s Intermittent (f=470, a=0.43, b=0.44)		1 1 0 1 1 0	24	8
29	655Hz @ 0.875Hz Intermittent (f=655, a=0.57, b=0.57)		0 0 1 1 1 0	24	8
30	660Hz @0.28Hz - 1.8sec on, 1.8sec off Intermittent (f=660, a=1.8, b=1.8)		1 0 1 1 1 0	24	8
31	660Hz @3.34Hz - 150mS on, 150mS off Intermittent (f=660, a=0.15, b=0.15)		0 1 1 1 1 0	24	8
32	745Hz @ 1Hz Intermittent (f=745, a=0.5, b=0.5)		1 1 1 1 1 0	24	8
33	800Hz - 0.25sec on, 1 sec off Intermittent (f=800, a=0.25, b=1)		0 0 0 0 0 1	24	8
34	800Hz @ 2Hz IMO code 3.a (High) Intermittent (f=800, a=0.25, b=0.25)		1 0 0 0 0 1	24	19
35	1000Hz @ 1Hz Intermittent (f=1000, a=0.5, b=0.5)		0 1 0 0 0 1	24	19
36	2400Hz @ 1Hz Intermittent (f=2400, a=0.5, b=0.5)		1 1 0 0 0 1	24	19
37	2900Hz @ 5Hz Intermittent (f=2900, a=0.1, b=0.1)		0 0 1 0 0 1	24	19
38	363/518Hz @ 1Hz Alternating (f=363, f1=518, a=0.1)		1 0 1 0 0 1	8	19
39	450/500Hz @ 2Hz Alternating (f=450, f1=500, a=0.25)		0 1 1 0 0 1	8	19
40	554/440Hz @ 1Hz Alternating (f=440, f1=554, a=0.5)		1 1 1 0 0 1	24	19
41	554/440Hz @ 0.625Hz Alternating (f=440, f1=554, a=0.8)		0 0 0 1 0 1	8	19
42	561/760Hz @0.83Hz (50 cycles/minute) Alternating (f=561, f1=760, a=0.6)		1 0 0 1 0 1	8	19
43	780/600Hz @ 0.96Hz Alternating (f=600, f1=780, a=0.52)		0 1 0 1 0 1	8	19
44	800/1000Hz @ 2Hz Alternating (f=800, f1=1000, a=0.25)		1 1 0 1 0 1	24	19
45	970/800Hz @ 2Hz Alternating (f=800, f1=970, a=0.25)		0 0 1 1 0 1	8	19
46	800/1000Hz @ 0.875Hz Alternating (f=800, f1=1000, a=0.57)		1 0 1 1 0 1	24	19
47	2400/2900Hz @ 2Hz Alternating (f=2400, f1=2900, a=0.25)		0 1 1 1 0 1	24	19
48	500/1200Hz @ 0.3Hz Sweeping (f=500, f1=1200, a=3.34)		1 1 1 1 0 1	24	12
49	560/1055Hz @ 0.18Hz Sweeping (f=560, f1=1055, a=5.47)		0 0 0 0 1 1	24	12
50	560/1055Hz @ 3.3Hz Sweeping (f=560, f1=1055, a=0.3)		1 0 0 0 1 1	24	12
51	600/1250Hz @ 0.125Hz Sweeping (f=600, f1=1250, a=8)		0 1 0 0 1 1	24	12
52	660/1200Hz @ 1Hz Sweeping (f=660, f1=1200, a=1)		1 1 0 0 1 1	24	12
53	800/1000Hz @ 1Hz Sweeping (f=800, f1=1000, a=1)		0 1 0 0 1 1	24	12
54	800/1000Hz @ 7Hz Sweeping (f=800, f1=1000, a=0.14)		1 0 1 0 1 1	24	12
55	800/1000Hz @ 50Hz Sweeping (f=800, f1=1000, a=0.02)		0 1 0 0 1 1	24	12
56	2400/2900Hz @ 7Hz Sweeping (f=2400, f1=2900, a=0.14)		1 1 1 0 1 1	24	12
57	2400/2900Hz @ 1Hz Sweeping (f=2400, f1=2900, a=1)		0 0 0 1 1 1	24	12
58	2400/2900Hz @ 50Hz Sweeping (f=2400, f1=2900, a=0.02)		1 0 0 1 1 1	24	12
59	2500/3000Hz @ 2Hz Sweeping (f=2500, f1=3000, a=0.5)		0 1 0 1 1 1	24	12
60	2500/3000Hz @ 7.7Hz Sweeping (f=2500, f1=3000, a=0.13)		1 1 0 1 1 1	24	12
61	800Hz Motor Siren (f=800, a=1.6)		0 0 1 1 1 1	24	12
62	1200Hz Motor Siren (f=1200, a=2)		1 0 1 1 1 1	24	12
63	2400Hz Motor Siren (f=2400, a=1.7)		0 1 1 1 1 1	24	12
64	Simulated Bell		1 1 1 1 1 1	21	12

# FIRE INSTRUCTION & SERVICE MANUAL

## A112 UL464 / CAN/ULC-S525 Model: A112.024.2



Attention: Installation must be carried out by an electrician in compliance with the National Electrical Code, NFPA 70, and the National Fire Alarm Signaling Code, NFPA 72 or CSA 22.1 Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, Section 32. / L'installation doit exclusivement être réalisée par du personnel qualifié, conformément au code national d'électricité américain, NFPA 70, et le code national d'alarme incendie et de signalisation NFPA 72 ou CSA 22.1 Code canadien de l'électricité, première partie, norme de sécurité relative aux installations électriques, Section 32



Attention: Disconnect from power source before installation or service to prevent electric shock / Débranchez-le de la source d'alimentation avant l'installation ou l'entretien pour éviter tout choc électrique.



Attention: Do not paint / Ne pas Peinturer

- 40°C to +66°C / -40°F to +151°F
- Units can be mounted using the 2-off ø9mm holes in the mounting lugs or through the back of the housing using the supplied gasket seal.
- A112.024.2 is approved for use as an audible signal appliance for fire alarm use – Public Mode (UL464 & CAN/ULC-S525) and produces a minimum sound pressure level of P1: US: 93.37dB(A); CA: 101.6dB(A) / P2: US: 94.64dB(A); CA: 103.9dB(A) at 10 feet, (figures @ worst case 11.5Vdc).
- A112.024.2 produces a minimum sound pressure level of P1: US: 95.6dB(A); CA: 104.3dB(A) / P2: US: 98.55dB(A); CA: 107.6dB(A) at 10 feet (@24Vdc)
- For Fire Alarm applications, the Sounder Volume must be at the highest setting, (see volume control section). For fire alarm use, Tone 12 as shown below must be selected:

Stage 1 Set DIP SW 1 Tone No.	Tone Description	Tone Visual	Stage 1 & 2 DIP SW 1/2 Settings 1 2 3 4 5 6	Stage 3 Set DIP SW 1 (S3)	Stage 4 Set DIP SW 1 (S2 + S3)
12	1000Hz(0.5s on, 0.5s off)x3 + 1s gap ISO 8201 Temporal Pattern		1 1 0 1 0 0	1	8

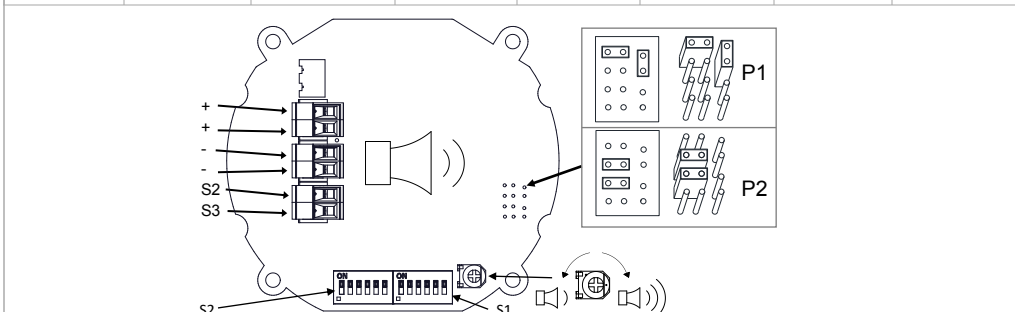
- Connection Terminals: Pluggable  
AC: 1.0 - 2.5mm<sup>2</sup> / AWG18 - AWG12  
DC: 0.2 - 2.5mm<sup>2</sup> / AWG24 - AWG12
- Terminal Tightening torque 0.4Nm
- To maintain Ingress Protection, cable entries must be fitted with suitably rated cable glands or stopping plugs
- Units can be located indoor or outdoor wet use, wall or ceiling mounted and there are no limitations on orientation
- Factory finishes are not intended to be modified

### Surge Current Ratings for use in fire alarm systems

Model	Nominal Voltage	Voltage Range	Initial Peak	Initial RMS
A112.024.2	24V dc	11.5 - 54V dc	P1: 1455mA / P2: 1164mA	P1: 140mA / P2: 286mA

### A112.024.2 Sounder Directional Characteristics for Canadian Fire CAN/ULC-S525 at 10 feet

Horizontal Axis				Vertical Axis			
Angle	OSPL	Angle	OSPL	Angle	OSPL	Angle	OSPL
Ref. 90°	103.7 dB(A)	Ref. 90°	103.7 dB(A)	Ref. 90°	103.8 dB(A)	Ref. 90°	103.78dB(A)
129°	-3 dB(A)	49°	-3 dB(A)	126°	-3 dB(A)	49°	-3 dB(A)
131°	-6 dB(A)	39°	-6 dB(A)	140°	-6 dB(A)	40°	-6 dB(A)
180°	92.6 dB(A)	0°	91.2 dB(A)	180°	92.5 dB(A)	0°	90.8 dB(A)



OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED.  
 RECOMMENDED MINIMUM VALUES:  
 12V MAX SYSTEM = 100 MIN OR 140 MIN OR 50V MIN  
 28V MAX SYSTEM = 470Ω MIN, 2W MIN OR 2.4KΩ MIN, 0.5W MIN

Single Stage Configuration	Config.: 1a	Two Stage Configuration	Config.: 1b	Three/Four Stage Configuration	Config.: 1c
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Line Monitoring  
 Set to positive switching (default)

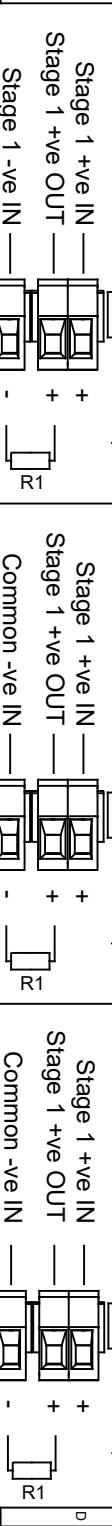
Stage 1: Apply Power to Stage 1 +ve & Stage 1 -ve

Common Negative  
 Set to positive switching (default)

Stage 1: Apply Power to Stage 1 +ve & Common -ve  
 Stage 2: Apply Power to Stage 2 +ve & Common -ve

Common Negative  
 Set to positive switching (default)

Stage 1: Apply Power to Stage 1 +ve & Common -ve  
 Stage 2: Apply Power to Stage 2 +ve & Common -ve  
 Stage 3: Apply Power to Stage 3 +ve & Common -ve  
 Stage 4: Apply Power to Stage 2 +ve, Stage 3 +ve & Common -ve



DRAWING TO BE ISSUED TO ENRANCE TO ISO 10111:1983 GEOMETRIC TOLERANCES TO ISO 1101:1983 SURFACE FINISH TO ISO 13715:2002 ANGLE DIMENSIONAL TOLS	DRAWN R.S. RAIT	DATE 16/03/2021	SURFACE FINISH	WEIGHT (KG)	THIS DRAWING AND ANY INFORMATION OR DESCRIPTION MATTER HEREIN IS UNMULTIPLIED IN COPY REPRODUCED SYSTEMS TO MERIT THE HOLD OR ANY EXTRACT MAY MANUFACTURING OR TENDERING PURPOSES WITHOUT THEIR WRITTEN CONSENT. BIRCHWOOD ELECTRICAL LTD. ASPHERLAVEY DATE OF ISSUE SHOWN ABOVE	ALL DIMENSIONS IN MM IF IN QUOTE ASK DON'T SCALE	TITLE A112 & A121 DC SOUNDER WIRING DIAGRAMS	DRAWING NUMBER D221-06-001
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STANDARDS ALERT/ARM RANGE	CHECKED B.ISARD	DATE 16/03/2021	MATERIAL	APPROVED R.N.POTTS	DATE 16/03/2021	ALTERNATIVE MATERIAL	SCALE NTS	SHEET 1 OF 3	DRAWING NUMBER D221-06-001
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OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED.  
 12V MAX SYSTEM = 1200 MIN, 20V MIN OR 400 MIN, 0.5W MIN  
 28V MAX SYSTEM = 4700 MIN, 20V MIN OR 2.4KΩ MIN, 0.5W MIN

SWITCHES FOR STAGE OPERATION  
 CUSTOMER SUPPLIED

**Three/Four Stages, Voltage Free 2nd, 3rd & 4th Stage Activation Configuration** Config.: 2

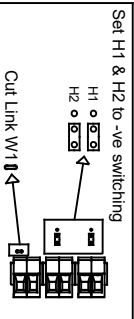
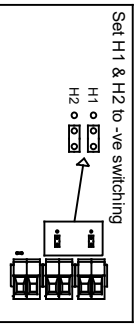
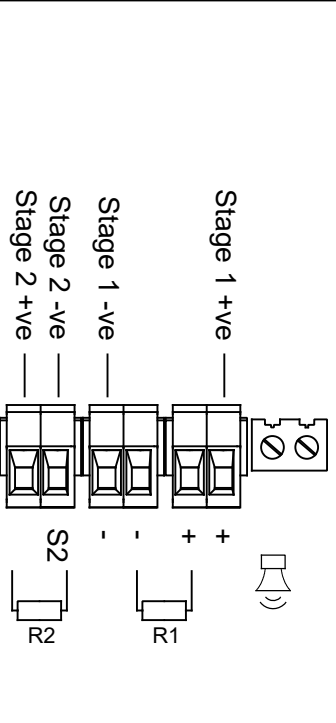
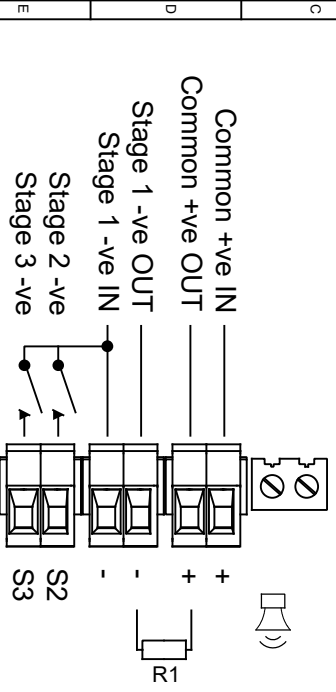
Common Positive  
 Customer: Set H1 & H2 to Negative Switching (See Below)

- Stage 1: Apply Power to Common +ve & Stage 1 -ve
- Stage 2: Apply Power to Common +ve & Stage 1 -ve & connect Stage 2 -ve to Stage 1 -ve
- Stage 3: Apply Power to Common +ve & Stage 1 -ve & connect Stage 3 -ve to Stage 1 -ve
- Stage 4: Apply Power to Common +ve & Stage 1 -ve & connect Stage 2 -ve & Stage 3 -ve to Stage 1 -ve

**Two Stage Configuration** Config.: 3

Independent Stage Input  
 Reverse Polarity Stage Monitoring

- Stage 1: Apply Power to Stage 1 +ve & Stage 1 -ve
- Stage 2: Apply Power to Stage 1 +ve & Stage 1 -ve & connect Stage 2 -ve to Stage 1 -ve



DRAWING TO BE ENHANCED TO ISO 1011:1983 AND STANDARD DIMENSIONAL TOLS		DRAWN		DATE		SURFACE FINISH		WEIGHT (KG)		THIS DRAWING AND ANY INFORMATION OR DESCRIPTION MATTER THEREIN IS COMMUNICATED IN CONFIDENTIAL SYSTEMS TO WHICHEVER THE WHOLE OR ANY PART MAY BE MANUFACTURED OR REPRODUCED FOR PURPOSES WITHOUT THEIR WRITTEN CONSENT.		ALL DIMENSIONS IN MM IF IN QUOTE 'ASK' DO NOT SCALE		TITLE A112 & A121 DC SOUNDER WIRING DIAGRAMS		DRAWING NUMBER	
STANDARDS		R. S. RAIT		16/03/2021						AS PER LATEST DATE OF ISSUE SHOWN ABOVE		SCALE		SHEET		D221-06-001	
ALERT/ALARM RANGE		APPROVED		DATE		ALTERNATIVE MATERIAL				AS PER LATEST DATE OF ISSUE SHOWN ABOVE		SCALE		SHEET		D221-06-001	
		R. N. POTTS		16/03/2021													

OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED.  
 12V MAX SYSTEM = 1200 MIN, 20V MIN OR 1KΩ MIN, 0.5W MIN  
 28V MAX SYSTEM = 4700 MIN, 20V MIN OR 2.4KΩ MIN, 0.5W MIN

SWITCHES FOR STAGE OPERATION  
 CUSTOMER SUPPLIED

**Two Stage Configuration**

Line Stage Monitoring (Use suitable monitoring relays/modules)

Config.: 4 Two/Three Stage Voltage Free Activation Configuration

Config.: 5

Not to be used for reverse polarity monitoring

Stage 1: Apply Power to Stage 1 +ve & Stage 1 -ve  
 Stage 2: Apply Power to Stage 2 +ve & Stage 2 -ve

Power: +ve & -ve  
 Stage 1: Connect Stage 1 -ve to Common -ve  
 Stage 2: Connect Stage 2 -ve to Common -ve  
 Stage 3: Connect both Stage 1 -ve & Stage 2 -ve to Common -ve



Stage 1 +ve

+

Stage 1 -ve

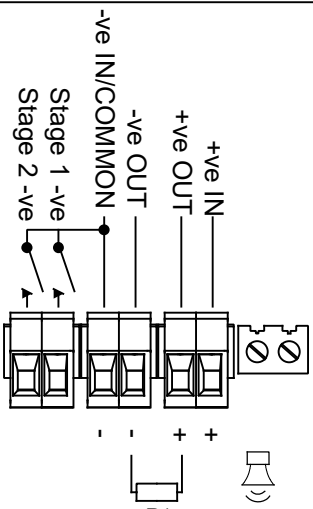
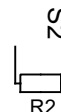
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Stage 2 +ve

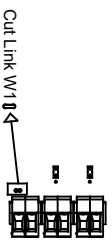
+

Stage 2 -ve

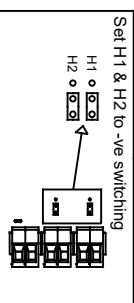
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CUSTOM CONFIGURATION CONTACTS WHEN ORDERING



CUSTOM CONFIGURATION CONTACTS WHEN ORDERING



DRAWING TO OS9888-2000  
 GENERAL PURPOSE RANGE TO ISO 1101:1983  
 ANCHOR DIMENSIONAL TOLS

DRAWN  
 R.S.RAIT

DATE  
 16/03/2021

SURFACE FINISH WEIGHT (KG)

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 EUROPEAN DATE OF SPECIFICATION ABOVE

ALL DIMENSIONS IN MM  
 IF IN DOUBT ASK -  
 DO NOT SCALE

A3

STANDARDS

CHECKED  
 B.ISARD

DATE  
 16/03/2021

ALTERNATIVE MATERIAL

APPROVED  
 R.N.POTTS

TITLE  
 A112 & A121 DC SOUNDER  
 WIRING DIAGRAMS

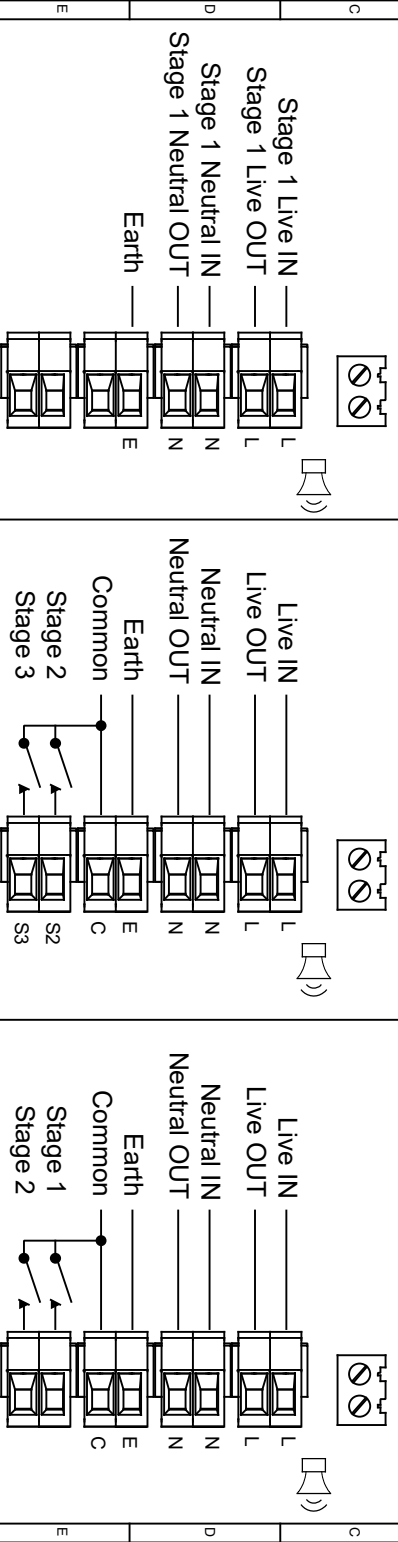
SCALE SHEET  
 NTS 3 OF 3

DRAWING NUMBER  
 D221-06-001

ISSUE	MOD No	REASON - INITIAL - DATE
A	INTRODUCTION RSP - 16/03/2021	



Single Stage Configuration Stage 1: Apply Power to Stage 1 Live & Stage 1 Neutral	Config.: 1a	Config.: 2
B	Three/Four Stage Configuration Stage 1: Apply Power to Live & Neutral Stage 2: Apply Power to Live & Neutral & connect Stage 2 to Common Stage 3: Apply Power to Live & Neutral & connect Stage 3 to Common Stage 4: Apply Power to Live & Neutral & connect both Stage 2 & Stage 3 to Common	Two Stage Voltage Free Activation Configuration Power: Live & Neutral Stage 1: Connect Stage 1 to Common Stage 2: Connect Stage 2 to Common Stage 3: Connect both Stage 1 & Stage 2 to Common



**CUSTOM CONFIGURATION CONTACT EZS WHEN ORDERING**

DRAWING TO BE ENHANCED TO ISO 11011:1983 GEOMETRIC TOLERANCES TO ISO 11011:1983 ANGULAR DIMENSIONAL TOLS	DRAWN R.S. RAIT	DATE 16/03/2021	SURFACE FINISH	WEIGHT (Kg)	THIS DRAWING AND ANY INFORMATION OR DESCRIBING MATTER THEREIN IS COMMUNICATED IN COMPLIANCE WITH THE REQUIREMENTS OF THE EUROPEAN EXTRACT MAY SYSTEMS. NEITHER THE HOLDER OF ANY PATENT NOR ANY MANUFACTURER OR TRADER IS RESPONSIBLE FOR THE REPRODUCTION OR FURTHER CONSENT WITHIN THE SCOPE OF THE RIGHTS RESERVED BY THE HOLDER OF THE PATENT. RSP ELECTRICAL LTD AS PER LATEST DATE OF ISSUE SHOWN ABOVE	ALL DIMENSIONS IN MM IF IN QUOTE 'ASK' DO NOT SCALE
STANDARDS ALERT/ALARM RANGE	CHECKED B.ISARD	DATE 16/03/2021	MATERIAL	ALTERNATIVE MATERIAL	TITLE A112 & A121 AC WIRING DIAGRAMS	DRAWING NUMBER D221-06-005
G	APPROVED R.N.POTTS	DATE 16/03/2021	C	SHEET 1 OF 1	SCALE NTS	A3

