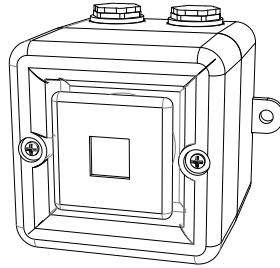


Installation/Anschluss
 Installation/Raccordement
 Installation/Connection

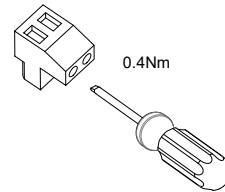
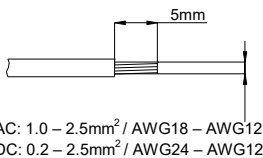
A100

- -40°C - +66C
- Type 3R / 13, (IP66, Independently tested to EN60529:1991)
- 0.26Kg (0.57lb)
- CE, A100DC024 CPR compliant, All units UL Listed.



Art.-Nr.	Nennspannung Tension nominale Nominal Voltage		Nennstrom* Courant nominal* Nominal Current*	Nominal SPL	Max SPL	Average SPL
A100.024.2	12 V dc	10-60Vdc	17mA	101.6dB(A) Tone 44 @ 1m	110dB(A) Tone 4 @ 1m	102.3dB(A) All tones @1m
	24V dc		33.5mA			
	48V dc		113mA			
A100.230.7	48V ac	24 - 260Vac / 60-260Vdc	42mA	101.6dB(A) Tone 44 @ 1m	110dB(A) Tone 4 @ 1m	102.3dB(A) All tones @1m
	115V ac		25mA			
	230V ac		17mA			

*Nennstrom bei Nennspannung, Ton 1 / Courant nominal à tension nominale, ton 1 / Nominal current at nominal voltage, tone 1

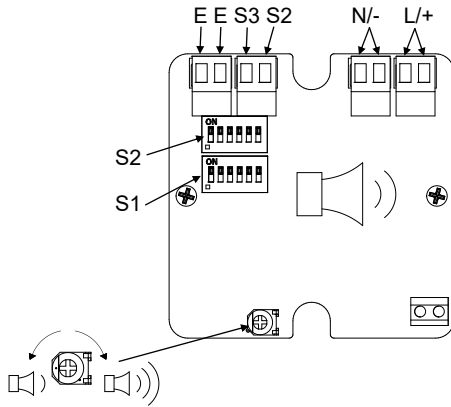


Achtung: Die Installation muss von einem Elektriker gemäß den neuesten Vorschriften und Bestimmungen durchgeführt werden.
 Attention: L'installation doit être effectuée par un électricien conformément aux derniers codes et réglementations.
 Attention: Installation must be carried out by an electrician in compliance with the latest codes and regulations.

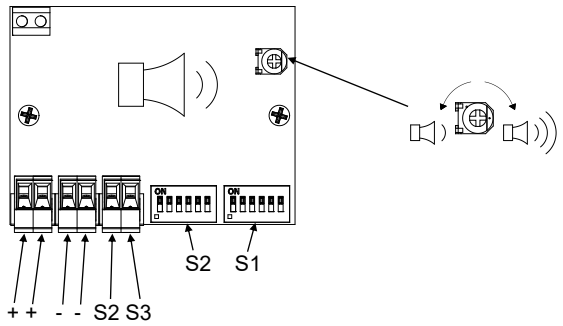


Achtung: Vor Installation oder Wartung von der Stromquelle trennen, um einen Stromschlag zu vermeiden.
 Attention: Débranchez-le de la source d'alimentation avant l'installation ou l'entretien pour éviter tout choc électrique.
 Attention: Disconnect from power source before installation or service to prevent electric shock

AC



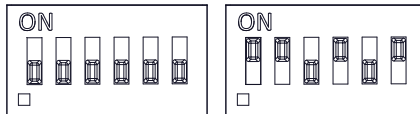
DC



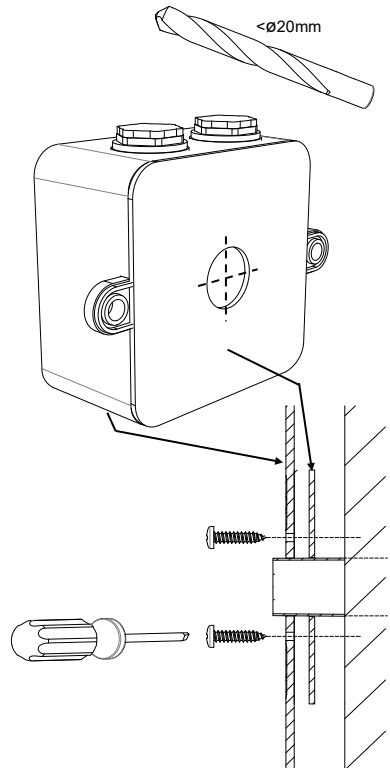
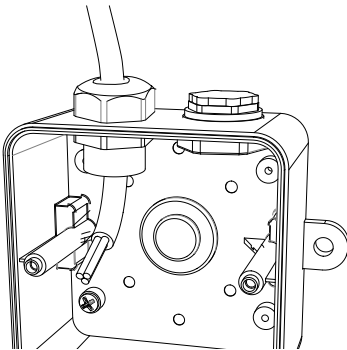
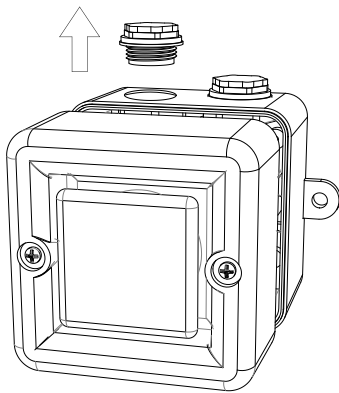
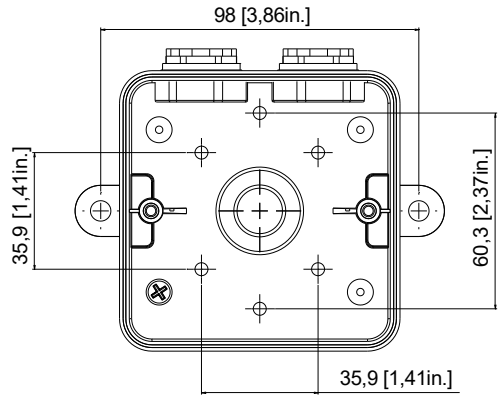
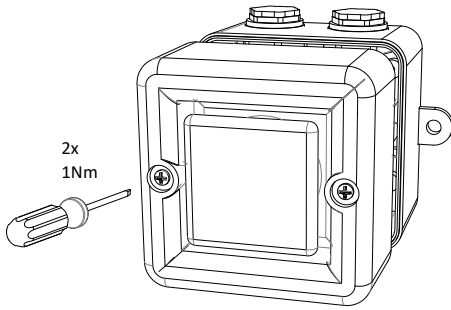
(AC & DC,

Default = S2 - Tone 1

Default = S1 - Tone 44



(ON = 1, OFF = 0)



Construction Product Regulation

- A100.024.2 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 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 ø6mm holes in the mounting lugs or through the back of the housing using the supplied gasket seal.

Order Code: A100.024.2
 Voltage Range: 18-60Vdc
 Nominal Voltage: 24Vdc / 48Vdc
 Max Current: 125mA @ 60Vdc
 DP-2821-CPR-0107



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

A100.024.2 @ 1m

Angle	Horizontal Sound Output Max Voltage (60 Vdc) LAFmax,T dB(A)						Horizontal Sound Output Min Voltage (18 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°	98	99.9	99	95.7	94.8	95.4	94.7	96.8	95.9	93	91.9	92.7
45°	97.8	100.1	99	97.6	94.7	96.6	95	97	96	94.8	92.1	94
75°	101.5	102.9	102.4	101.4	98.3	100.4	98.7	100.2	99.5	98.8	94.9	97.9
105°	101.4	102.8	102.5	101.4	98.1	100.4	98.6	100.2	99.5	98.8	94.9	97.9
135°	97.4	100	98.9	97.2	94.9	96.4	94.6	96.9	95.9	94.5	92.2	93.8
165°	97.5	99.6	98.9	95.8	94.7	95.4	94.3	96.4	95.8	93	91.8	92.8

Angle	Vertical Sound Output Max Voltage (60 Vdc) LAFmax,T dB(A)						Vertical Sound Output Min Voltage (18 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°	96.3	99.8	99	95.5	94.1	95.3	93.1	96.7	96	92.8	91.2	92.6
45°	97.6	99.9	98.8	97.4	94.5	96.3	94.8	96.8	95.7	94.6	91.9	93.8
75°	101.3	103	102.5	101.4	98.1	100.5	98.5	100.1	99.5	98.7	95	97.8
105°	101.3	102.8	102.4	101.3	98.2	100.5	98.5	100.1	99.5	98.7	95	97.7
135°	97.4	99.9	98.8	97.6	94.5	96.3	94.6	96.8	95.8	94.8	91.9	93.7
165°	96.7	100	99	95.5	93.9	95.4	93.6	96.9	96	92.7	91.1	92.7

- All models are approved for use as Audible Signal Appliance for use as General Signaling: UL464A & CSA C22.2 No 205-17
- Type 3R / 13, (IP66 independently tested to EN60529:1991)
- -40°C to +66°C

General Signaling Canada:
 A100.024.2: -40°C to +55°C
 A100.230.7: -40°C to +40°C



- 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.

Modell	Nominal Voltage	Voltage Range	Nominal Operating Current [#]	Max Operating RMS*
A100.024.2	12V dc	10 - 60V ac	17mA	125mA
	24V dc		33.5mA	
	48V dc		113mA	
A100.230.7	48V ac	24 - 260V ac 50/60Hz / 60-260V dc	42mA	42.5mA
	115V ac		25mA	
	230V ac		17mA	

*Max. Stromverbrauch bei ungünstigster Versorgungsspannung

*Courant de fonctionnement maximal pour la tension d'entrée la plus défavorable

*Max Operating current for worst-case input voltage

#Nennstrom bei Nominalspannung und Ton 12

#Courant nominal à la tension nominale et à Tone 12

#Nominal current at nominal voltage and Tone 12

Stage 1 Set DIP SW 1 Tone No.	Ton Beschreibung Description du ton Tone Description		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 0 1 0 1 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		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

A100

UL464 / CAN/ULC-S525 Model: A100.024.2



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 1, 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 peindre

- -40°C to +66°C / -40°F to +151°F
- Units can be mounted using the 2-off ø6mm holes in the mounting lugs or through the back of the housing using the supplied gasket seal.
- A100.024.2 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 US: 79.55dB(A); CA: 85.2dB(A) at 10 feet, (figures @ worst case 10Vdc).
- At 24Vdc the A100.024.2 produces a minimum sound pressure level of US: 88.52dB(A); CA: 93.7dB(A) at 10 feet
- 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

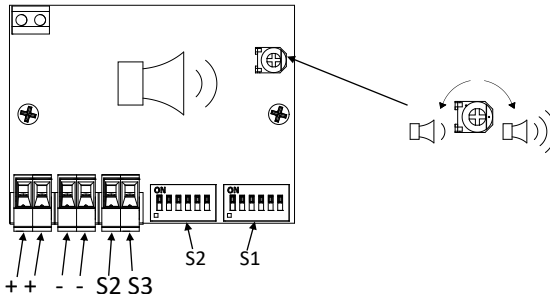
- Connection Terminals: Pluggable
 AC: 1.0 - 2.5mm² / AWG18 - AWG12
 DC: 0.2 - 2.5mm² / AWG24 - AWG12
- Terminal Tightening torque 0.4Nm
- To maintain Ingress Protection, cable entries must be fitted with suitably rated cable glands or stopping plugs
- Units can be located indoor or outdoor wet use, 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
A100.024.2	24V dc	10 - 60V dc	298mA	56.4mA

A100 24VDC 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°	92.6 dB(A)	Ref. 90°	92.6 dB(A)	Ref. 90°	93 dB(A)	Ref. 90°	93 dB(A)
149°	-3 dB(A)	32°	-3 dB(A)	148°	-3 dB(A)	33°	-3 dB(A)
153°	-6 dB(A)	28°	-6 dB(A)	151.5°	-6 dB(A)	29°	-6 dB(A)
180°	87.2 dB(A)	0°	87 dB(A)	180°	87.2 dB(A)	0°	86.4 dB(A)



OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED.
 RECOMMENDED MINIMUM VALUES:
 12V MAX SYSTEM = 470Ω MIN, 24V MIN OR 2.4KΩ MIN, 0.5W MIN
 28V MAX SYSTEM = 470Ω MIN, 24V MIN OR 2.4KΩ MIN, 0.5W MIN

ISSUE	MOD No	REASON	INITIAL	DATE
A		INTRODUCTION		
RSK - 11/03/2021				

Single Stage Configuration	Config.: 1a	Two Stage Configuration	Config.: 1b	Three/Four Stage Configuration	Config.: 1c
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Line Monitoring

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

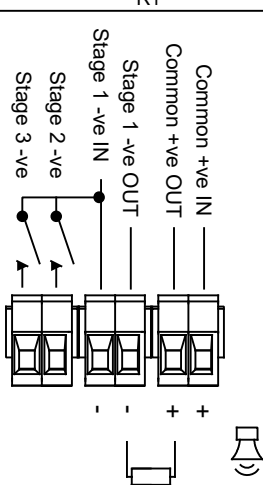
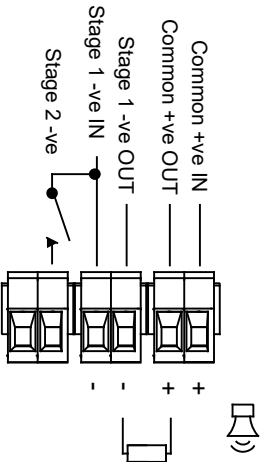
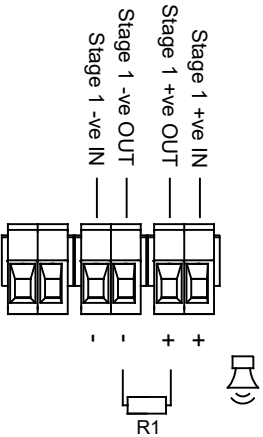
Common Positive

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



D	Stage 1 +ve IN	+	Common +ve IN	+	Common +ve IN	+
D	Stage 1 +ve OUT	+	Common +ve OUT	+	Common +ve OUT	+
D	Stage 1 -ve OUT	-	Stage 1 -ve OUT	-	Stage 1 -ve OUT	-
E	Stage 1 -ve IN	-	Stage 1 -ve IN	-	Stage 1 -ve IN	-
E			Stage 2 -ve		Stage 2 -ve	
E					Stage 3 -ve	
F						

DRAWING TO BE RELEASED TO ISO 10111:1983 GEOMETRIC TOLERANCES TO ISO 1101:1983 SURFACE FINISH TO ISO 13715:2002 ANGULAR DIMENSIONAL TOLS		DRAWN	DATE	SURFACE FINISH	WEIGHT (KG)	THIS DRAWING AND ANY INFORMATION OR DESCRIBING MATTER THEREIN IS COMMUNICATED IN CONFERENCE AND SYSTEMS TO ALL MEMBERS OF THE HOLDING COMPANY. EXTENSIVE MANUFACTURING OR TENDERING PURPOSES WITHOUT THEIR WRITTEN CONSENT. BIRCHWOOD ELECTRICAL SERVICES LTD. AS PER LATEST DATE OF ISSUE SHOWN ABOVE		ALL DIMENSIONS IN MM IF IN QUOTE ASK DON'T SCALE		A3
STANDARDS		CHECKED	DATE	MATERIAL		TITLE A100, A105N & D105 DC SOUNDER WIRING DIAGRAMS		SCALE	SHEET	DRAWING NUMBER
ALERT/ALARM RANGE		APPROVED	DATE	ALTERNATIVE MATERIAL		NTS		1 OF 1		D218-06-001
		R.N.POTTS	16/03/2021							

1

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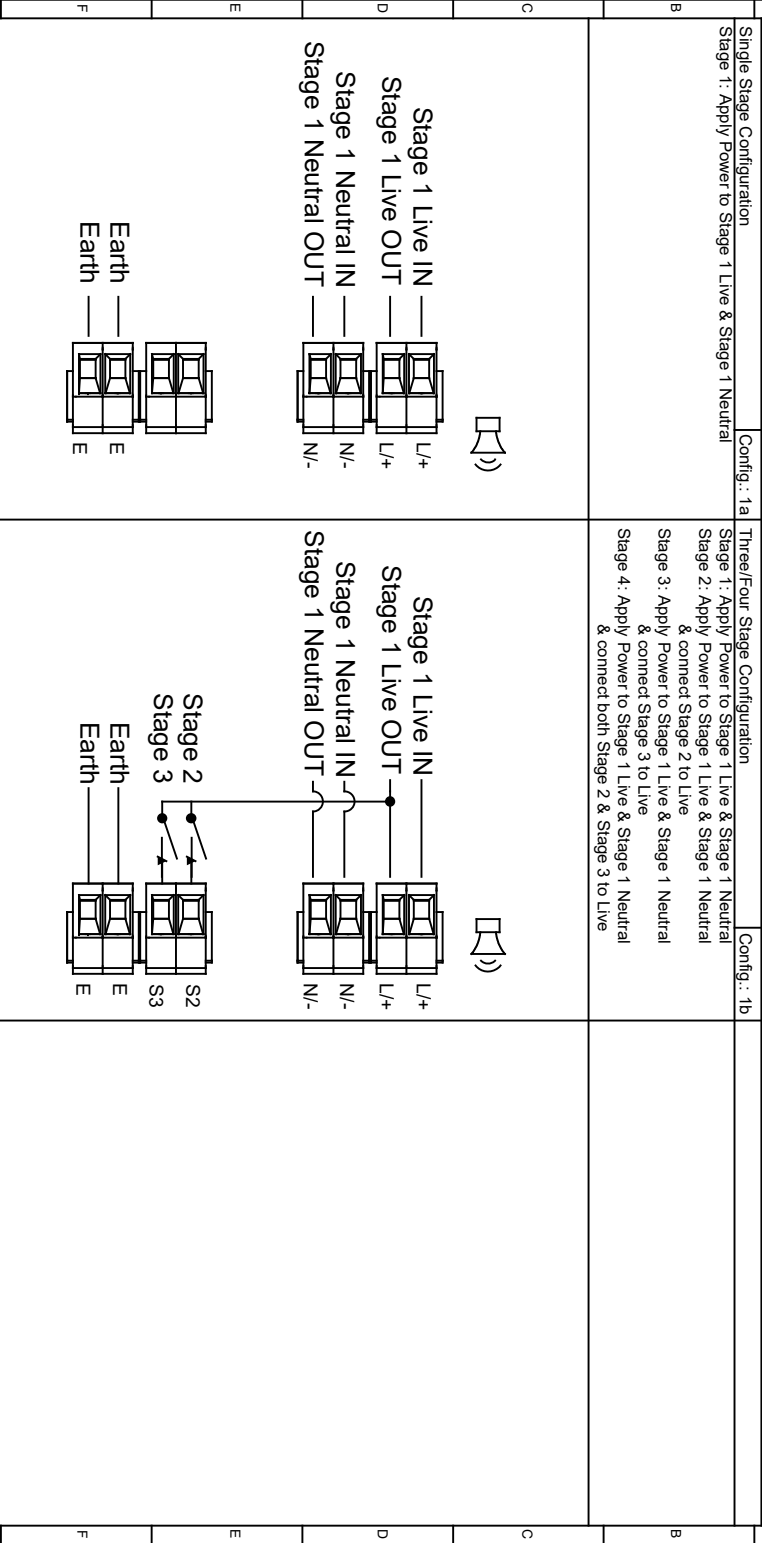
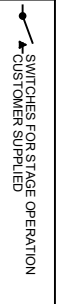
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9

10

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

Three/Four Stage Configuration
Stage 1: Apply Power to Stage 1 Live & Stage 1 Neutral
Stage 2: Apply Power to Stage 1 Live & Stage 1 Neutral & connect Stage 2 to Live
Stage 3: Apply Power to Stage 1 Live & Stage 1 Neutral & connect Stage 3 to Live
Stage 4: Apply Power to Stage 1 Live & Stage 1 Neutral & connect both Stage 2 & Stage 3 to Live

DRAWING TO BS8888:2000 GEOMETRIC TOLERANCES TO ISO1101:1983 ANGULAR DIMENSIONAL T.O.S	DRAWN	DATE	SURFACE FINISH	WEIGHT (Kg)	THIS DRAWING AND ANY INFORMATION OR DESCRIBING MATTER THEREIN IS COMMUNICATED IN CONFIDENCE AND SYSTEMS TO BE KEPT SECRET. THE WHOLE OR ANY PART MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN CONSENT OF EUROPEAN STATE OF SINGAPORE AS REFERRED TO IN THE ABOVE DRAWING.	ALL DIMENSIONS IN MM F IN POUSET ASK- DONOT SCALE		A3	
	R.S.RAIT	16/03/2021	MATERIAL						
STANDARDS ALERT/ALARM RANGE	CHECKED	DATE				TITLE A100, A105N & D105 AC WIRING DIAGRAMS	SCALE NTS	SHEET 1 OF 1	DRAWING NUMBER D218-06-005
	B.ISARD	16/03/2021							
	APPROVED	DATE							
	R.N.POTTS	16/03/2021							

