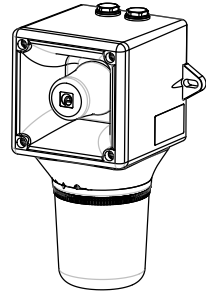


# INSTRUCTION & SERVICE MANUAL

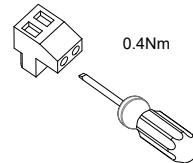
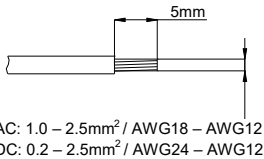
## AB105RTH SpectrAlarm Combined Alarm Horn Sounder & Rotating Halogen Beacon

- Sounder unit: Alarm horn sounder: 64 tones, 4 stages
- Rotating Beacon: 20W/25W Halogen
- IP Rating: IP65
- Temp: -40° to + 66°
- Unit weight: 1.15kg DC 1.30kg AC
- CE & UKCA
- 2-off M20 x 1.5 thread entries.



Unit Type Code	Nominal Voltage	Voltage Range	Nominal Sounder Current	Nominal Beacon Current	Nominal SPL	Max SPL	Average SPL
AB105STRDC012	12VDC	10-15Vdc 20W	17mA	1720mA	105.3dB(A) Tone 44 @ 1m	110.9dB(A) Tone 4 @ 1m	105.2dB(A) All tones @1m
AB105STRDC024	24VDC	18-30Vdc 20W	33.5mA	910mA			
AB105STRAC115	115VAC	103.5-126.5Vac 50/60Hz 25W	25mA	216mA			
AB105STRAC230	230VAC	207-253Vac 50/60Hz 25W	17mA	117mA			

Supply voltage variation of +/-10% outside the voltage range is permissible  
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.

**Attenzione:** L'installazione deve essere eseguita da un elettricista in conformità con i codici e le normative più recenti.

**Atención:** La instalación debe ser realizada por un electricista de acuerdo con los últimos códigos y regulaciones.

**Atenção:** A instalação deve ser realizada por um electricista de acordo com os códigos e regulamentos mais recentes.

**ВНИМАНИЕ:** установка должна выполняться электриком в соответствии с последними нормами и правилами.

**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.

**Attenzione:** scollegare dall'alimentazione prima dell'installazione o dell'assistenza per evitare scosse elettriche.

**Atención:** desconéctelo de la fuente de alimentación antes de la instalación o el servicio para evitar descargas eléctricas.

**Atenção:** Desconecte da fonte de alimentação antes da instalação ou serviço para evitar choque elétrico

**ВНИМАНИЕ:** отключите от источника питания перед установкой или обслуживанием, чтобы предотвратить поражение электрическим током.

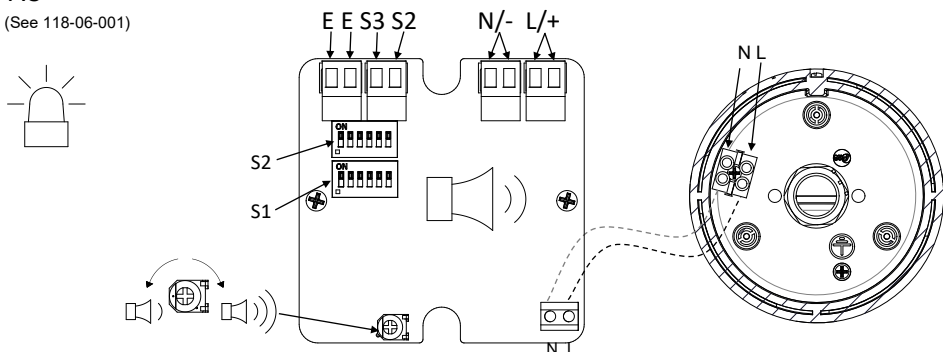


# INSTRUCTION & SERVICE MANUAL

## AB105RTH SpectrAlarm Combined Alarm Horn Sounder & Rotating Halogen Beacon

### AC

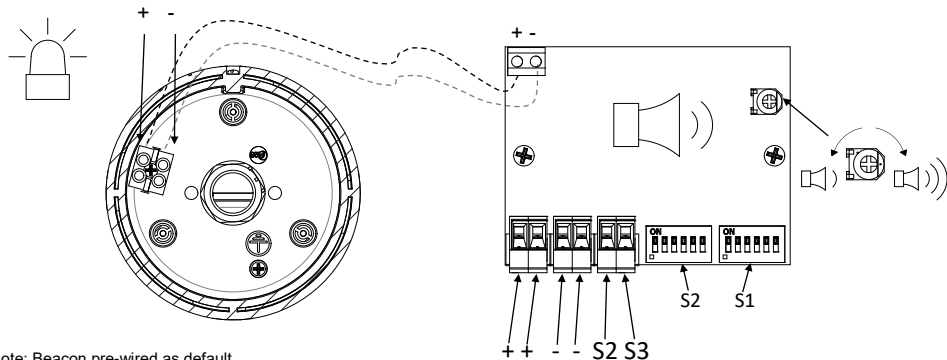
(See 118-06-001)



Note: Beacon pre-wired as default

### DC

(See D118-06-001)



Note: Beacon pre-wired as default

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

Default = S2 - Tone 1      Default = S1 - Tone 44

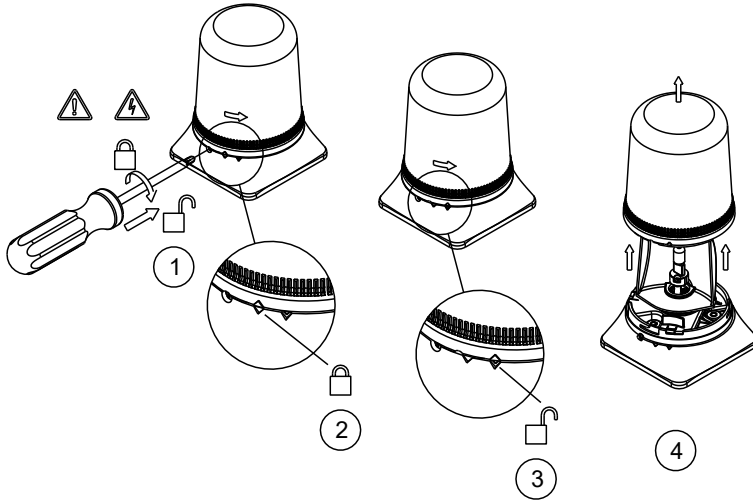


(ON = 1, OFF = 0)

INSTRUCTION & SERVICE MANUAL  
AB105RTH SpectrAlarm Combined Alarm Horn Sounder &  
Rotating Halogen Beacon

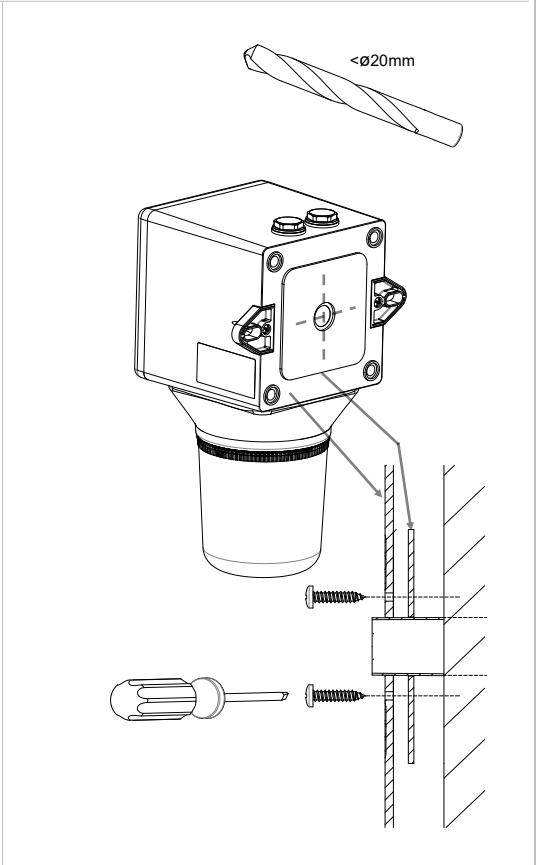
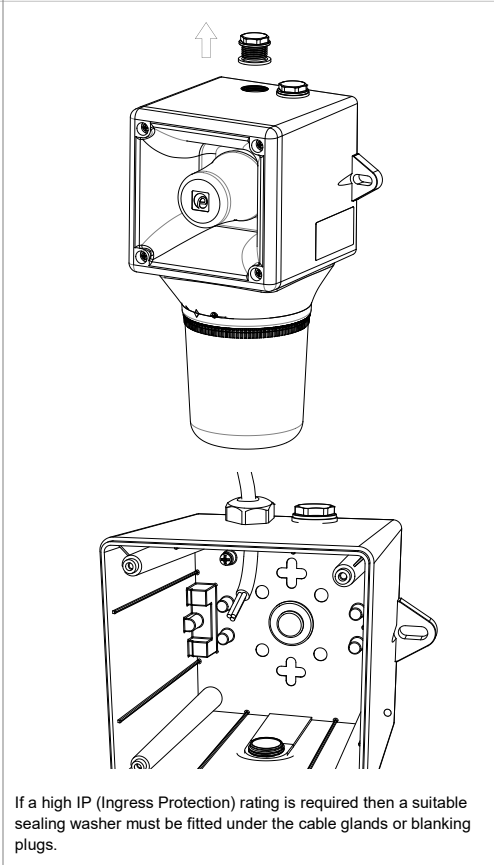
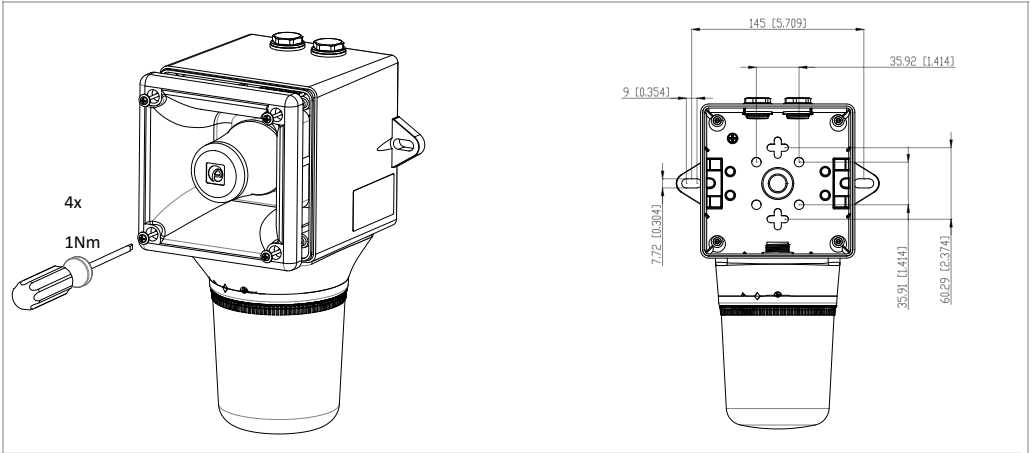
The Beacon lens cover is field replaceable.

To change the lens cover, rotate 1-off M4 pozi head screw clockwise, remove the existing lens by rotating the lens to align with the unlock markings as shown below. Replace the lens cover and rotate to the locked marking position. Rotate the 1-off M4 pozi head fastener anti-clockwise to secure the lens.



Attention: Lens on unit will be hot allow to cool prior to removal.

INSTRUCTION & SERVICE MANUAL  
 AB105RTH SpectrAlarm Combined Alarm Horn Sounder &  
 Rotating Halogen Beacon



If a high IP (Ingress Protection) rating is required then a suitable sealing washer must be fitted under the cable glands or blanking plugs.

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	2	44
2	1200/500Hz @ 1Hz DIN /PFEER P.T.A.P.		1 0 0 0 0	3	44
3	1000Hz @ 0.5Hz(1s on, 1soff) PFEER Gen. Alarm		0 1 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	24	1
5	544Hz(100mS)/440Hz (400mS) NF S 32-001		0 0 1 0 0	19	1
6	1500/500Hz - (0.5s on , 0.5s off) x3 + 1s gap AS4428		1 0 1 0 0	44	1
7	500-1500Hz Sweeping 2 sec on 1 sec off AS4428		0 1 1 0 0	44	1
8	500/1200Hz @ 0.26Hz (3.3son, 0.5s off) Netherlands - NEN 2575		1 1 1 0 0	24	35
9	1000Hz (1s on, 1s off)x7 + (7s on, 1s off) IMO Code 1a		0 0 0 1 0	34	1
10	1000Hz (1s on, 1s off)x7 + (7s on, 1s off) IMO Code 1a		1 0 0 1 0	34	1
11	420Hz(0.5s on, 0.5s off)x3 + 1s gap ISO 8201 Temporal Pattern		0 1 0 1 0	1	8
12	1000Hz(0.5s on, 0.5s off)x3 + 1s gap ISO 8201 Temporal Pattern		1 1 0 1 0	1	8
13	422/775Hz - (0.85 on, 0.5 off) x3 + 1s gap NFPA - Temporal Coded		0 0 1 1 0	1	8
14	1000/2000Hz @ 1Hz Singapore		1 0 1 1 0	3	35
15	300Hz Continuous (f=300)		0 1 1 1 0	24	1
16	440Hz Continuous (f=440)		1 1 1 1 0	24	1
17	470Hz Continuous (f=470)		0 0 0 0 1	24	8
18	500Hz Continuous IMO code 2 (Low) (f=500)		1 0 0 0 1	24	8
19	554Hz Continuous (f=554)		0 1 0 0 1	24	8
20	660Hz Continuous (f=660)		1 1 0 0 1	24	35
21	800Hz IMO code 2 (High) (f=800)		0 0 1 0 1	24	35
22	1200Hz Continuous (f=1200)		1 0 1 0 1	24	35
23	2000Hz Continuous (f=2000)		0 1 1 0 1	3	35
24	2400Hz Continuous (f=2400)		1 1 1 0 1	20	35
25	440Hz @0.83Hz (50 cycles/minute) Intermittent (f=440, a=0.6, b=0.6)		0 0 0 1 1	44	8
26	470Hz @0.9Hz - 1.1s Intermittent (f=470, a=0.55, b=0.55)		1 0 0 1 1	44	8
27	470Hz @5Hz - (5 cycles/second) Intermittent (f=470, a=0.1, b=0.1)		0 1 0 1 1	44	8
28	544Hz @ 1.14Hz - 0.875s Intermittent (f=470, a=0.43, b=0.44)		1 1 0 1 1	24	8
29	655Hz @ 0.875Hz Intermittent (f=655, a=0.57, b=0.57)		0 0 1 1 1	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	24	8
31	660Hz @3.34Hz - 150mS on, 150mS off Intermittent (f=660, a=0.15, b=0.15)		0 1 1 1 1	24	8
32	745Hz @ 1Hz Intermittent (f=745, a=0.5, b=0.5)		1 1 1 1 1	24	8
33	800Hz - 0.25sec on, 1 sec off Intermittent (f=800, a=0.25, b=1)		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 1	24	19
35	1000Hz @ 1Hz Intermittent (f=1000, a=0.5, b=0.5)		0 1 0 0 1	24	19
36	2400Hz @ 1Hz Intermittent (f=2400, a=0.5, b=0.5)		1 1 0 0 1	24	19
37	2900Hz @ 5Hz Intermittent (f=2900, a=0.1, b=0.1)		0 0 1 0 1	24	19
38	363/518Hz @ 1Hz Alternating (f=363, f1=518, a=0.1)		1 0 1 0 1	8	19
39	450/500Hz @ 2Hz Alternating (f=450, f1=500, a=0.25)		0 1 1 0 1	8	19
40	554/440Hz @ 1Hz Alternating (f=440, f1=554, a=0.5)		1 1 1 0 1	24	19
41	554/440Hz @ 0.625Hz Alternating (f=440, f1=554, a=0.8)		0 0 0 1 1	8	19
42	561/760Hz @0.83Hz (50 cycles/minute) Alternating (f=561, f1=760, a=0.6)		1 0 0 1 1	8	19
43	780/600Hz @ 0.96Hz Alternating (f=600, f1=780, a=0.52)		0 1 0 1 1	8	19
44	800/1000Hz @ 2Hz Alternating (f=800, f1=1000, a=0.25)		1 1 0 1 1	24	19
45	970/800Hz @ 2Hz Alternating (f=800, f1=970, a=0.25)		0 0 1 1 1	8	19
46	800/1000Hz @ 0.875Hz Alternating (f=800, f1=1000, a=0.57)		1 0 1 1 1	24	19
47	2400/2900Hz @ 2Hz Alternating (f=2400, f1=2900, a=0.25)		0 1 1 1 1	24	19
48	500/1200Hz @ 0.3Hz Sweeping (f=500, f1=1200, a=3.34)		1 1 1 1 1	24	12
49	560/1055Hz @ 0.18Hz Sweeping (f=560, f1=1055, a=5.47)		0 0 0 1 1	24	12
50	560/1055Hz @ 3.3Hz Sweeping (f=560, f1=1055, a=0.3)		1 0 0 1 1	24	12
51	600/1250Hz @ 0.125Hz Sweeping (f=600, f1=1250, a=8)		0 1 0 0 1	24	12
52	660/1200Hz @ 1Hz Sweeping (f=660, f1=1200, a=1)		1 1 0 0 1	24	12
53	800/1000Hz @ 1Hz Sweeping (f=800, f1=1000, a=1)		0 0 1 0 1	24	12
54	800/1000Hz @ 7Hz Sweeping (f=800, f1=1000, a=0.14)		1 0 1 0 1	24	12
55	800/1000Hz @ 50Hz Sweeping (f=800, f1=1000, a=0.02)		0 1 1 0 1	24	12
56	2400/2900Hz @ 7Hz Sweeping (f=2400, f1=2900, a=0.14)		1 1 1 0 1	24	12
57	2400/2900Hz @ 1Hz Sweeping (f=2400, f1=2900, a=1)		0 0 0 1 1	24	12
58	2400/2900Hz @ 50Hz Sweeping (f=2400, f1=2900, a=0.02)		1 0 0 1 1	24	12
59	2500/3000Hz @ 2Hz Sweeping (f=2500, f1=3000, a=0.5)		0 1 0 1 1	24	12
60	2500/3000Hz @ 7.7Hz Sweeping (f=2500, f1=3000, a=0.13)		1 1 0 1 1	24	12
61	800Hz Motor Siren (f=800, a=1.6)		0 0 1 1 1	24	12
62	1200Hz Motor Siren (f=1200, a=2)		1 0 1 1 1	24	12
63	2400Hz Motor Siren (f=2400, a=1.7)		0 1 1 1 1	24	12
64	Simulated Bell		1 1 1 1 1	21	12

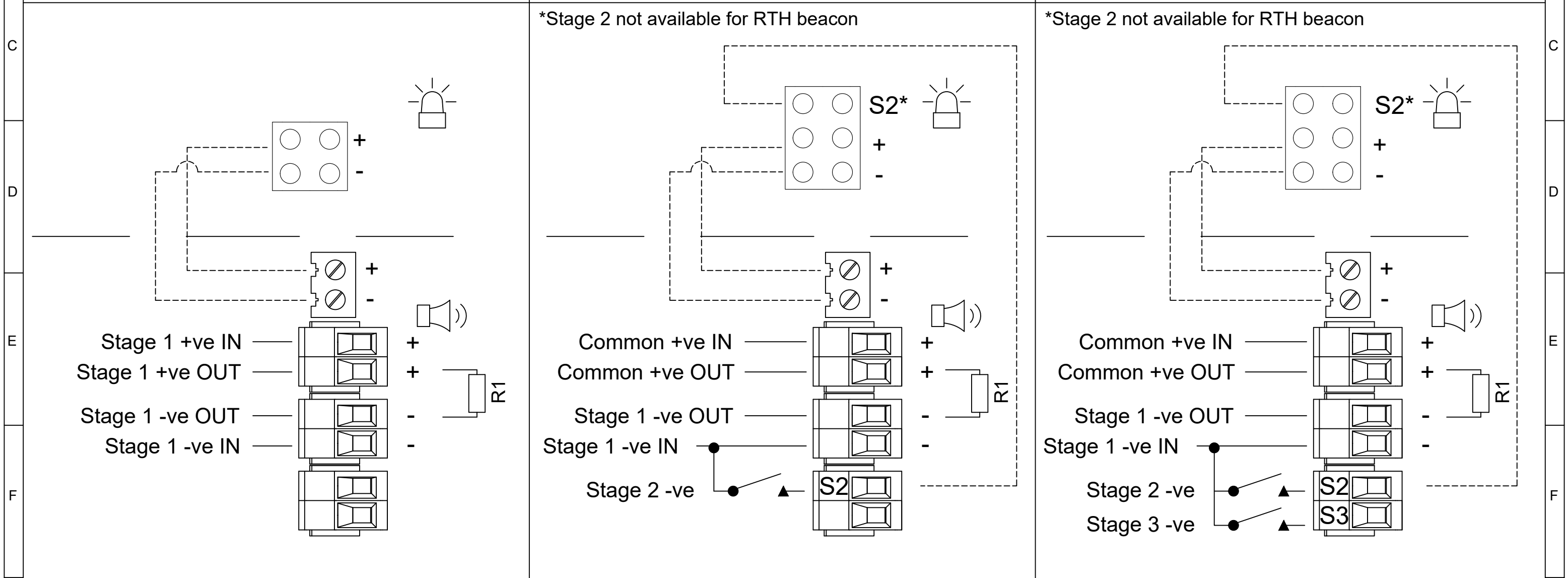
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							A		INTRODUCTION JS - 11/06/21

----- WIRING LINKING BEACON & SOUNDER  
FACTORY FITTED

OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED,  
RECOMMENDED MINIMUM VALUES:  
14V MAX SYSTEM = 120Ω MIN, 2W MIN OR 1KΩ MIN, 0.5W MIN  
28V MAX SYSTEM = 470Ω MIN, 2W MIN OR 2.4KΩ MIN, 0.5W MIN

DC configuration -Linked Sounder & Beacon Activation (Default)

Single Stage Configuration	Config.: 1a	Two Stage Configuration	Config.: 1b	Three/Four Stage Configuration	Config.: 1c
Line Monitoring		Common Positive		Common Positive	
Stage 1: Apply Power to Stage 1 +ve & Stage 1 -ve		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 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	



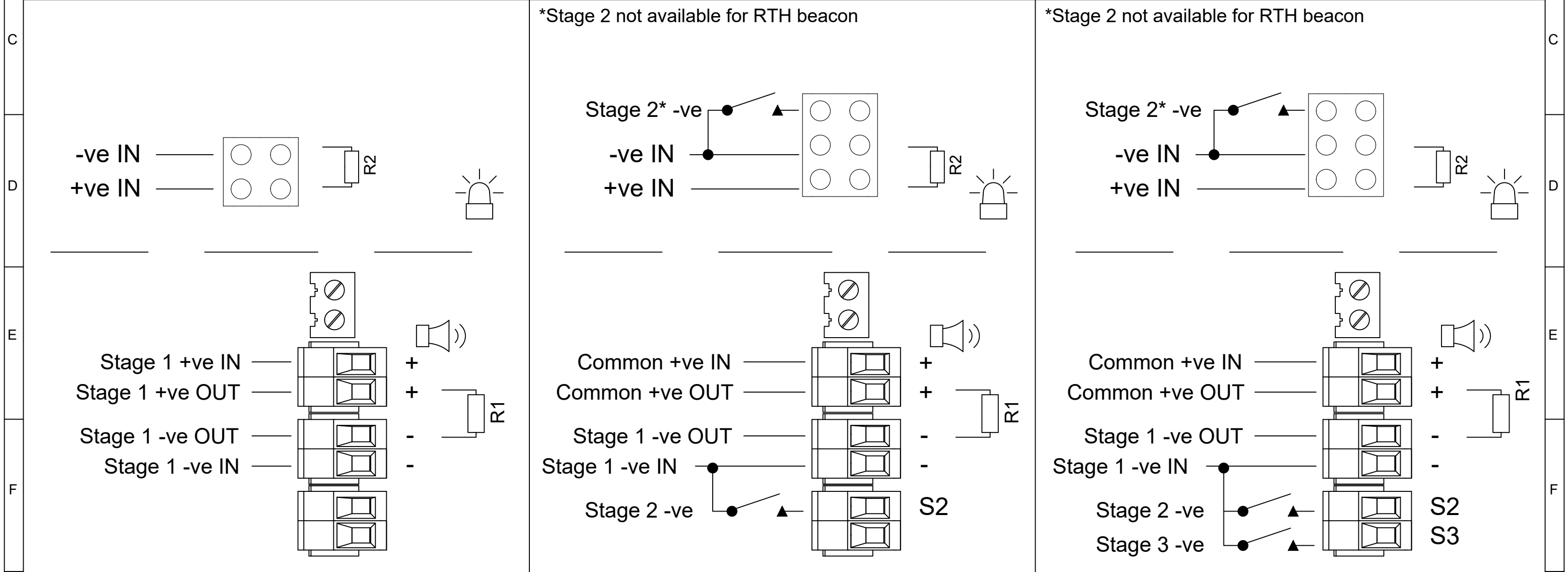
DRAWING TO BS8888:2000 GEOMETRIC TOLERANCES TO ISO1101:1983 LINEAR DIMENSIONAL TOLS ANGULAR DIMENSIONAL TOLS	DRAWN J.SPILLER	DATE 11/06/2021	SURFACE FINISH	WEIGHT (Kg)	THIS DRAWING AND ANY INFORMATION OR DESCRIPTIVE MATTER THEREIN IS COMMUNICATED IN CONFIDENCE AND IS THE COPYRIGHT PROPERTY OF EUROPEAN SAFETY SYSTEMS LTD. NEITHER THE WHOLE OR ANY EXTRACT MAY BE DISCLOSED, LOANED, COPIED OR USED FOR MANUFACTURING OR TENDERING PURPOSES WITHOUT THEIR WRITTEN CONSENT.	 EUROPEAN SAFETY SYSTEMS LTD IMPRESS HOUSE MANSELL ROAD ACTON LONDON W3 7QH WWW.E2S.COM	ALL DIMENSIONS IN MM IF IN DOUBT, ASK - DO NOT SCALE		A3
	CHECKED R.N.POTTS	DATE 11/06/2021	MATERIAL	TITLE AB105 SPECTRAALARM COMBINED SOUNDER & BEACON WIRING SHCEMATIC					
	STANDARDS AB105 RANGE	APPROVED R.N.POTTS	DATE 11/06/2021	ALTERNATIVE MATERIAL			SCALE NTS	SHEET 1 OF 4	DRAWING NUMBER D118-06-001

1	2	3	4	5	6	7	8	9	10
							ISSUE	MOD No.	REASON - INITIAL - DATE
							A		INTRODUCTION JS - 11/06/21

OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED,  
RECOMMENDED MINIMUM VALUES:  
14V MAX SYSTEM = 120Ω MIN, 2W MIN OR 1KΩ MIN, 0.5W MIN  
28V MAX SYSTEM = 470Ω MIN, 2W MIN OR 2.4KΩ MIN, 0.5W MIN

DC configuration -Independent Sounder & Beacon Activation (Remove Link Wires)

Single Stage Configuration	Config.: 2a	Two Stage Configuration	Config.: 2b	Three/Four Stage Configuration	Config.: 2c
Line Monitoring		Common Positive		Common Positive	
Stage 1: Apply Power to Stage 1 -ve & Stage 1 +ve		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 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	



G	DRAWING TO BS8888:2000 GEOMETRIC TOLERANCES TO ISO1101:1983 LINEAR DIMENSIONAL TOLS ANGULAR DIMENSIONAL TOLS	DRAWN J.SPILLER	DATE 11/06/2021	SURFACE FINISH	WEIGHT (Kg)	THIS DRAWING AND ANY INFORMATION OR DESCRIPTIVE MATTER THEREIN IS COMMUNICATED IN CONFIDENCE AND IS THE COPYRIGHT PROPERTY OF EUROPEAN SAFETY SYSTEMS LTD. NEITHER THE WHOLE OR ANY EXTRACT MAY BE DISCLOSED, LOANED, COPIED OR USED FOR MANUFACTURING OR TENDERING PURPOSES WITHOUT THEIR WRITTEN CONSENT.  © EUROPEAN SAFETY SYSTEMS LTD. AS PER LATEST DATE OF ISSUE SHOWN ABOVE	 EUROPEAN SAFETY SYSTEMS LTD IMPRESS HOUSE MANSELL ROAD ACTON LONDON W3 7QH WWW.E2S.COM	ALL DIMENSIONS IN MM IF IN DOUBT, ASK - DO NOT SCALE		A3
	STANDARDS	CHECKED	DATE 11/06/2021	MATERIAL				TITLE AB105 SPECTRAALARM COMBINED SOUNDER & BEACON WIRING SHCEMATIC		
		APPROVED R.N.POTTS	DATE 11/06/2021	ALTERNATIVE MATERIAL				SCALE NTS	SHEET 2 OF 4	DRAWING NUMBER D118-06-001

1	2	3	4	5	6	7	8	9	10
							ISSUE	MOD No.	REASON - INITIAL - DATE
							A		INTRODUCTION JS - 11/06/21

----- WIRING LINKING BEACON & SOUNDER  
FACTORY FITTED

SWITCHES FOR STAGE OPERATION  
CUSTOMER SUPPLIED

AC configuration - Linked Sounder & Beacon Activation (Default)

Single Stage Configuration Config.: 3a

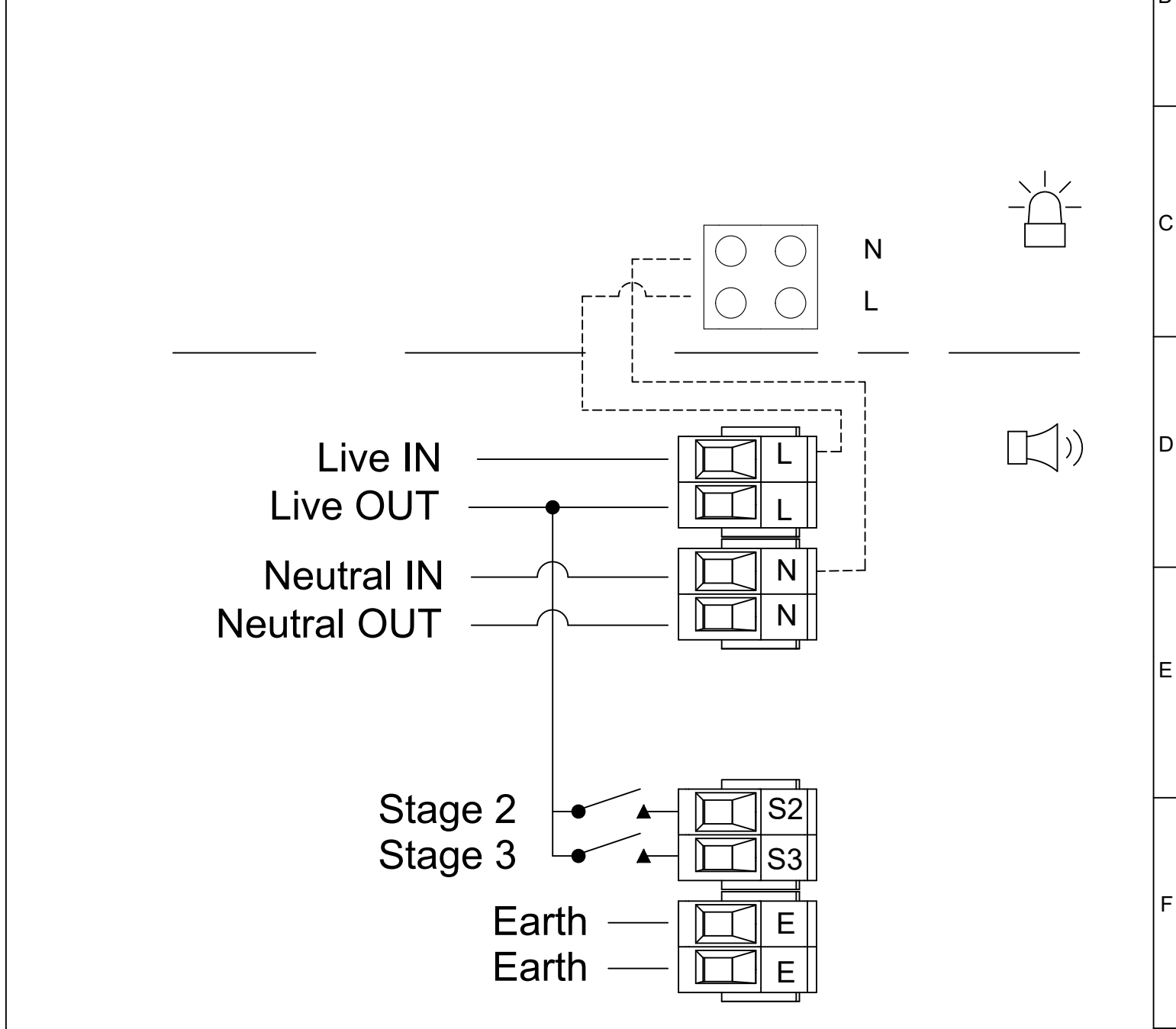
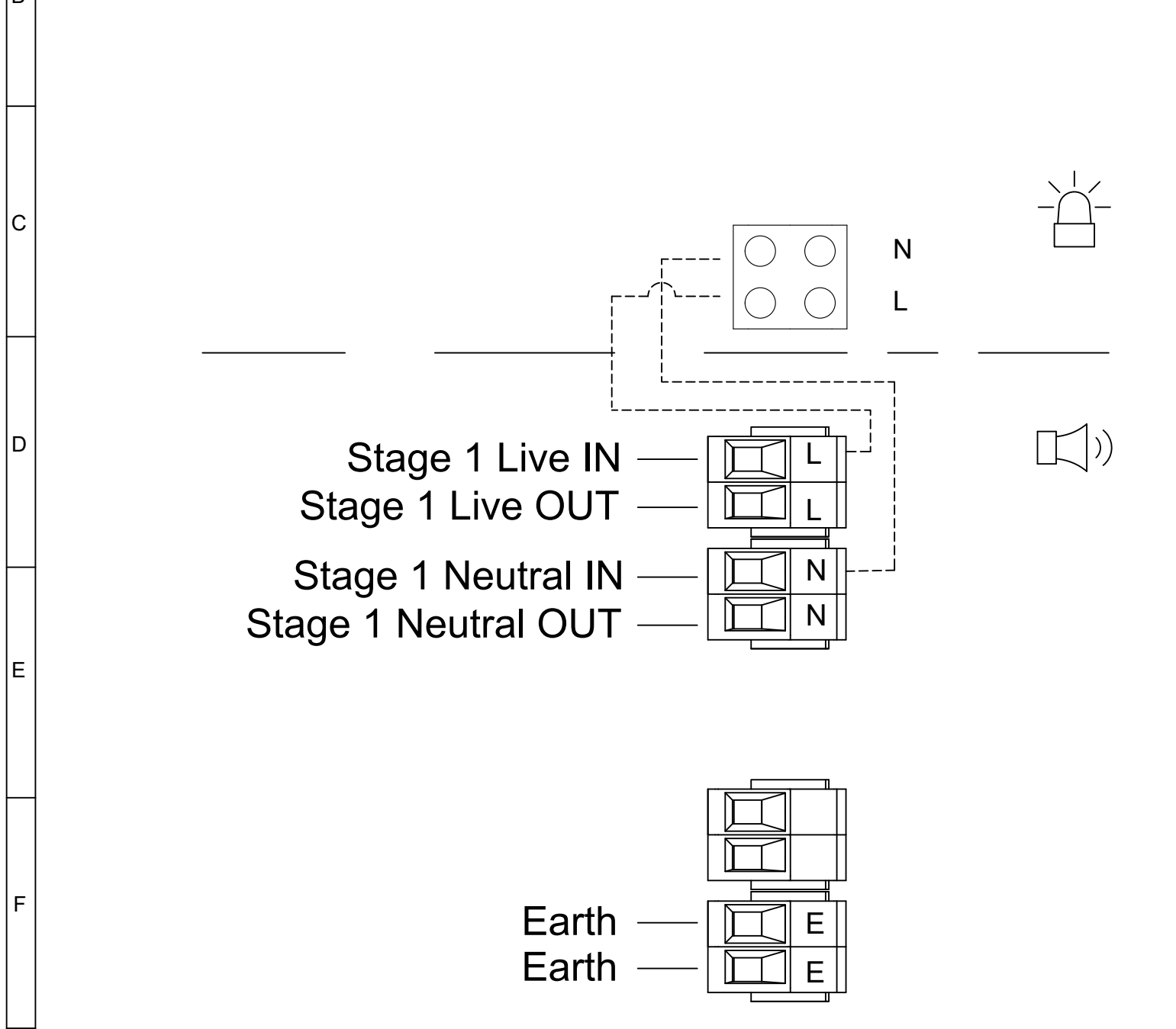
Three/Four Stage Configuration Config.: 3b

Stage 1: Apply Power to Stage 1 Live & Stage 1 Neutral

Stage 1: Apply Power to Live & Neutral

Stage 2: Apply Power to Live & Neutral & connect Stage 2 to Live

Stage 3: Apply Power to Live & Neutral & connect Stage 3 to Live



DRAWING TO BS8888:2000  
GEOMETRIC TOLERANCES TO ISO1101:1983  
LINEAR DIMENSIONAL TOLS  
ANGULAR DIMENSIONAL TOLS

STANDARDS  
AB105 RANGE

DRAWN	DATE
J.SPILLER	11/06/2021
CHECKED	DATE
R.N.POTTS	11/06/2021
APPROVED	DATE
R.N.POTTS	11/06/2021

SURFACE FINISH	WEIGHT (Kg)
MATERIAL	
ALTERNATIVE MATERIAL	

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warning signals

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LONDON W3 7QH  
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ALL DIMENSIONS IN MM  
IF IN DOUBT, ASK -  
DO NOT SCALE

TITLE AB105 SPECTRAALARM COMBINED  
SOUNDER & BEACON WIRING SHCEMATIC

SCALE NTS SHEET 3 OF 4 DRAWING NUMBER D118-06-001

A3

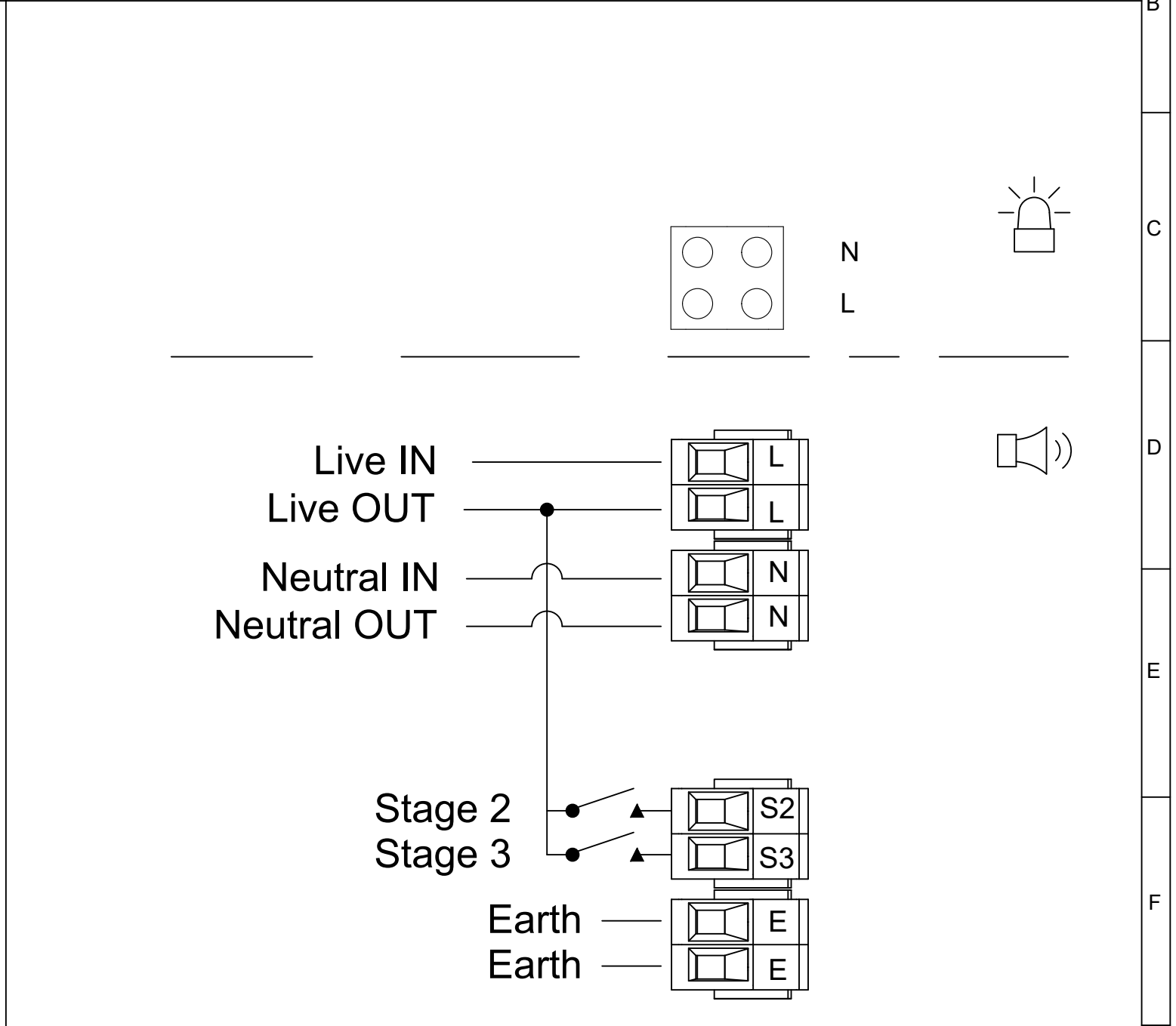
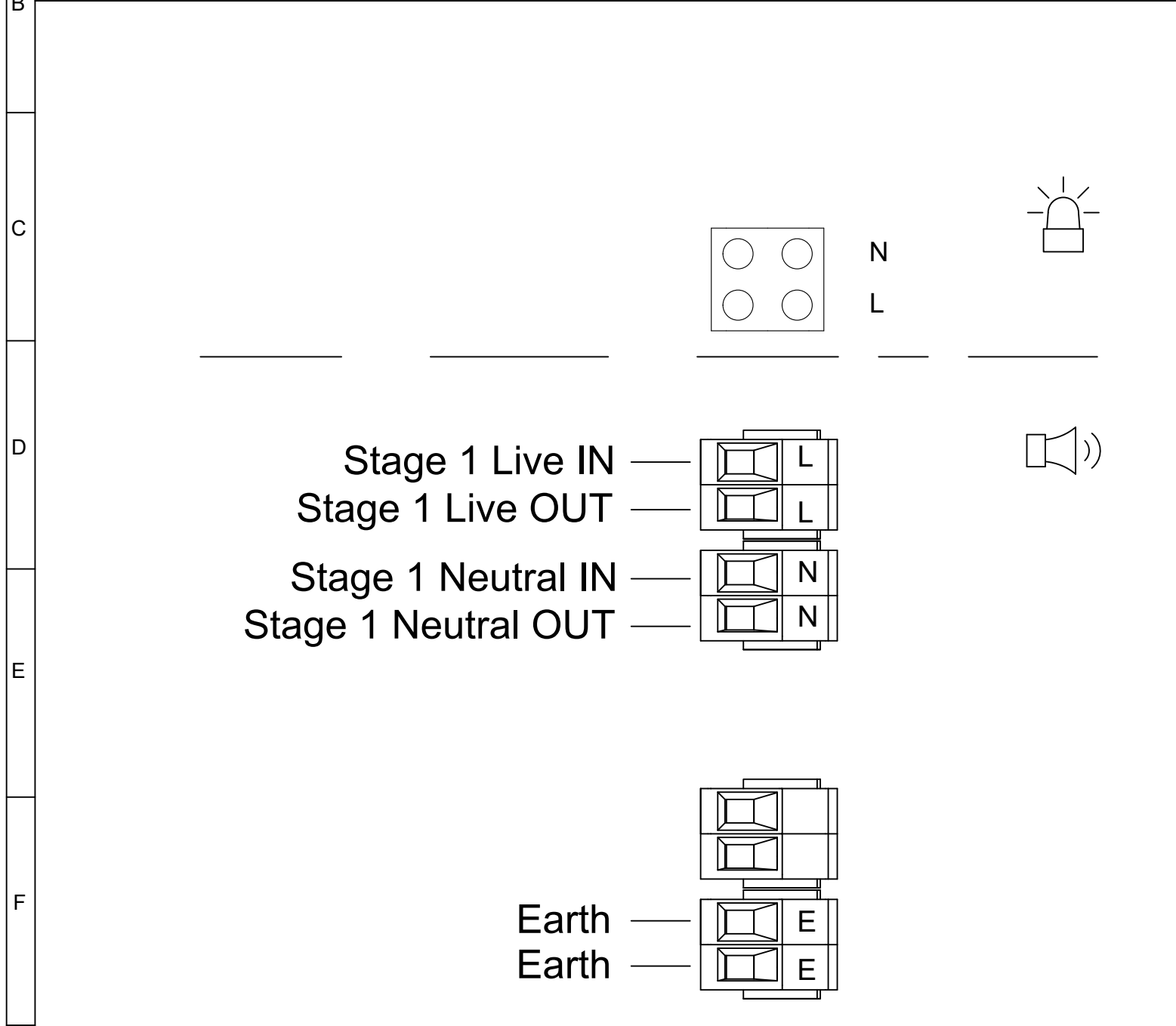


SWITCHES FOR STAGE OPERATION  
CUSTOMER SUPPLIED

AC configuration - Independent Sounder & Beacon Activation (Remove Link Wires)

**Single Stage Configuration** Config.: 4a  
 Stage 1: Apply Power to Stage 1 Live & Stage 1 Neutral

**Three/Four Stage Configuration** Config.: 4b  
 Stage 1: Apply Power to Live & Neutral  
 Stage 2: Apply Power to Live & Neutral & connect Stage 2 to Live  
 Stage 3: Apply Power to Live & Neutral & connect Stage 3 to Live



DRAWING TO BS8888:2000 GEOMETRIC TOLERANCES TO ISO1101:1983 LINEAR DIMENSIONAL TOLS ANGULAR DIMENSIONAL TOLS	DRAWN	DATE	SURFACE FINISH	WEIGHT (Kg)	THIS DRAWING AND ANY INFORMATION OR DESCRIPTIVE MATTER THEREIN IS COMMUNICATED IN CONFIDENCE AND IS THE COPYRIGHT PROPERTY OF EUROPEAN SAFETY SYSTEMS LTD. NEITHER THE WHOLE OR ANY EXTRACT MAY BE DISCLOSED, LOANED, COPIED OR USED FOR MANUFACTURING OR TENDERING PURPOSES WITHOUT THEIR WRITTEN CONSENT.  © EUROPEAN SAFETY SYSTEMS LTD. AS PER LATEST DATE OF ISSUE SHOWN ABOVE	 warning signals  EUROPEAN SAFETY SYSTEMS LTD IMPRESS HOUSE MANSELL ROAD ACTON LONDON W3 7QH WWW.E2S.COM	ALL DIMENSIONS IN MM IF IN DOUBT, ASK - DO NOT SCALE				<b>A3</b>	
	J.SPILLER	11/06/2021						TITLE AB105 SPECTRAALARM COMBINED SOUNDER & BEACON WIRING SHCEMATIC				
	CHECKED	DATE						SCALE	SHEET	DRAWING NUMBER		
	R.N.POTTS	11/06/2021						NTS	4 OF 4	D118-06-001		
STANDARDS	APPROVED	DATE	ALTERNATIVE MATERIAL									
AB105 RANGE	R.N.POTTS	11/06/2021										