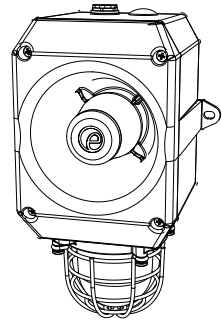
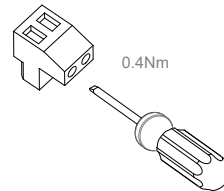
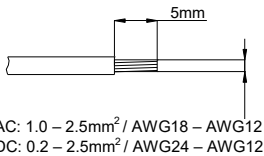


- -40°C to +66C (-40°F to 151°F)
- Type 4 / 4X / 3R / 13, IP66
- 2.1Kg (4.62lb)
- CE, All units UL Listed.



Unit Type Code	Nominal Voltage	Voltage Range	Nominal Sounder Current*	Nominal Beacon Current*	Nominal SPL	Max SPL	Average SPL
DL105HDC024	12 V dc	10-14Vdc	17mA	79.5mA	105.3dB(A) Tone 44 @ 1m	110.9dB(A) Tone 4 @ 1m	105.2dB(A) All tones @1m
	24V dc	16-33Vdc (Regulated)	33.5mA	87mA			
DL105HDC048	48V dc	48-60Vdc	113mA	60mA			
DL105HAC230	115V ac	48 - 260Vac 50/60Hz	25mA	34mA			
	230V ac		17mA	19mA			

\*Nominal current at nominal voltage, Tone 12 / 1Hz Flash Pattern



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.

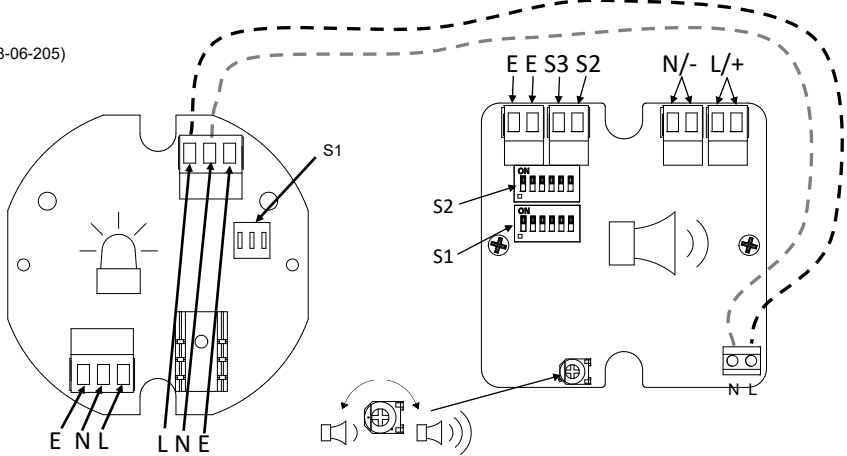
Atenção: Desconecte da fonte de alimentação antes da instalação ou serviço para evitar choque elétrico

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



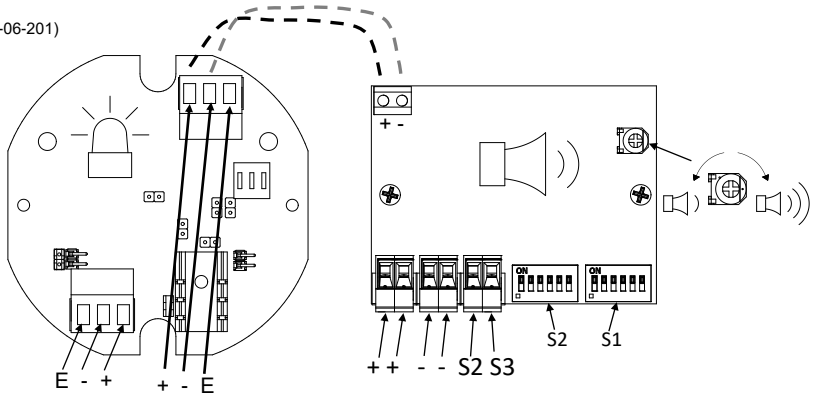
## AC

(See D218-06-205)



## DC

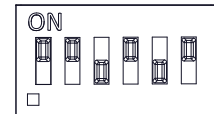
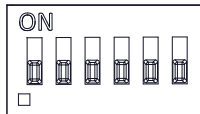
(See D218-06-201)



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

Default = S2 - Tone 1

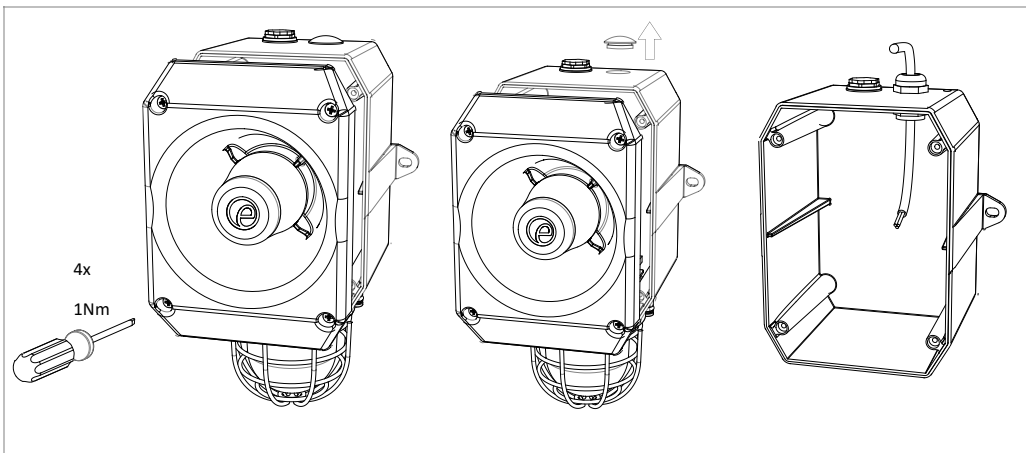
Default = S1 - Tone 44



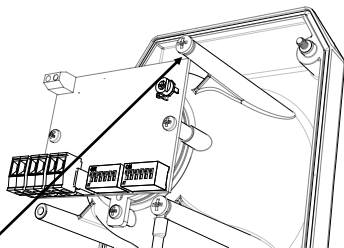
(ON = 1, OFF = 0)

# INSTRUCTION & SERVICE MANUAL

## DL105H AlertAlight Combined Sounder LED Beacons

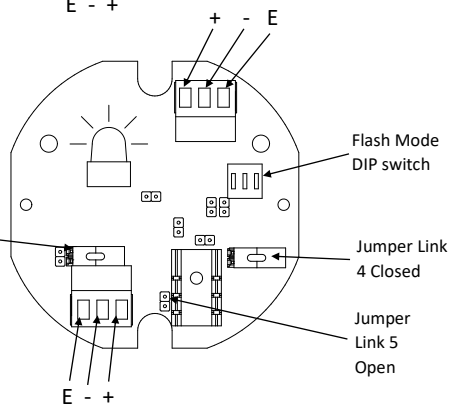
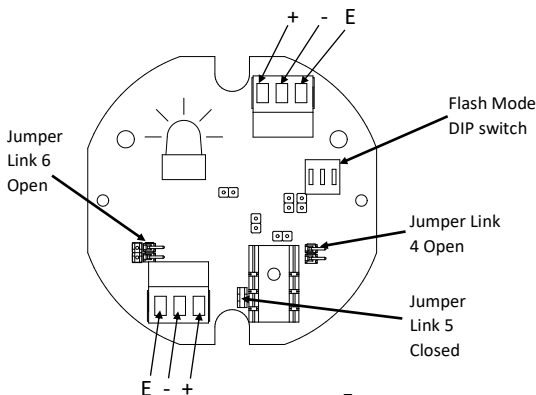


For DL105HAC units wire an Earth to the E terminal on the PCBA in order to Earth the metal housing.



For DL105HDC units, using a ring terminal, fit an Earth to the shown location underneath the M4 screw and M4 spring washer. This point shall not be used for any other purpose (e.g. ground bonding).

D105HDC024 Beacon PCBA (24VDC Mode – Default Setting)

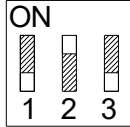


D105HDC024 Beacon PCBA (12VDC Mode – Customer to Set)

Jumper Setting	Jumper Link 4	Jumper Link 5	Jumper Link 6
24VDC Mode (Default)	Open	Closed	Open
12VDC Mode (Customer Set)	Closed	Open	Closed

### S1 - LED Flash Mode Settings (AC & DC)

The Flash Mode Dip Switch can be changed to set the desired flash pattern



Flash Mode DIP Switch – Shown with 1-OFF, 2-ON, 3-OFF (0 1 0), This denotes Flash mode 1Hz. For further flash modes refer to table:

Switch	Flash Mode
0 0 0	Steady on
1 0 0	Blinking
0 1 0	Flashing 1Hz*
1 1 0	Flashing 1.5Hz*
0 0 1	Flashing - Double Strike
1 0 1	Flashing - Triple Strike
0 1 1	Flashing 2Hz*
1 1 1	Flashing - Temporal

- All models are approved for use as Audible Signal and Visual 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:

DL105HDC: -40°C to +55°C / -40°F to +131°F

DL105HAC: -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
- Mounting - Units can be mounted using the 2-off 10 x 7mm obround holes in the mounting lugs.
- 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	Nominal Operating Current*		Max Operating RMS <sup>#</sup>	
			Beacon	Sounder	Beacon	Sounder
DL105HDC024	12V dc	10-14Vdc	79.5mA	17mA	168mA	125mA
	24V dc	16-33Vdc	87mA	33.5mA	183mA	
DL105HDC048	48V dc	48-60Vdc	60mA	113mA	115mA	
DL105HAC230	115V ac	48 - 260Vac 50/60Hz	34mA	25mA	166mA	42.5mA
	230V ac		19mA	17mA		

\*Nominal Voltage, 1Hz Flash Pattern & Tone 12; <sup>#</sup>Worst-case input voltage and worst case flash pattern



Attention: Installation must be carried out by an electrician in compliance with the National Electrical Code, NFPA 70 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 américaine, NFPA 70 ou CSA 22.1 Code canadien de l'électricité, première partie, norme de sécurité relative aux installations électriques, Section 32

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A	ISSUE	MOD No	REASON	INITIAL	DATE
	A		INTRODUCTION	RSK	11/09/2021

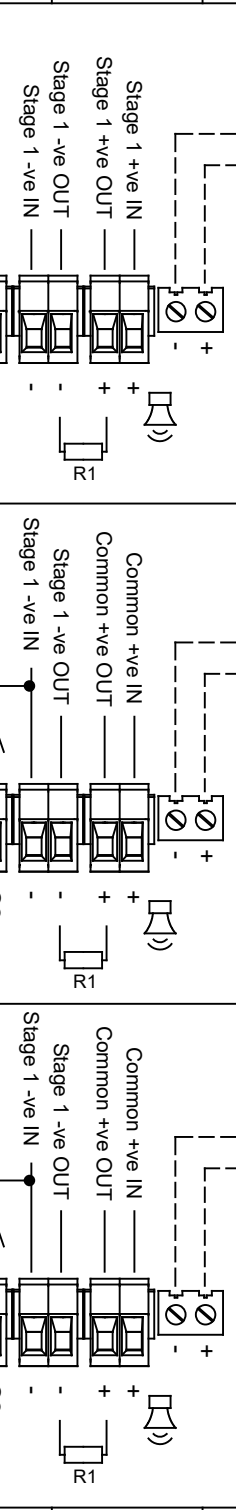
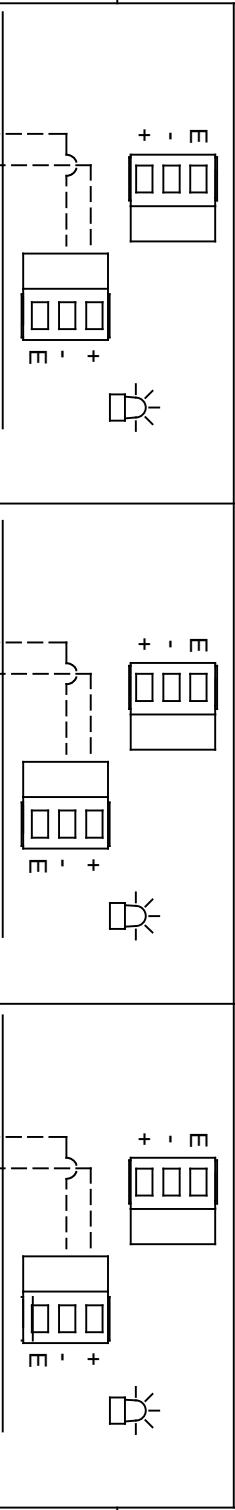
Linked Sounder & Beacon Activation (Default)



OPTIONAL LINE MONITORING RESISTOR. CUSTOMER SUPPLIED.  
RECOMMENDED MINIMUM VALUES:  
1.5V DC OR 1.5V MIN. 0.5W MIN.  
25V MAX SYSTEM = 470Ω MIN. 2W MIN OR 24KΩ MIN. 0.5W MIN

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

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  
Stage 2: Apply Power to Common +ve & Stage 1 -ve & connect Stage 2 -ve to Stage 1 -ve  
Common Positive  
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 BS 6888:2000 GEOMETRIC TOLERANCES TO ISO 1101:1983 DIMENSIONS TO BS 4130:1990 ANGULAR DIMENSIONAL TOLS	DRAWN R.S. RAIT	DATE 16/03/2021	SURFACE FINISH	WEIGHT (KG)	THIS DRAWING AND ANY INFORMATION OR DESCRIPTIVE MATTER THEREIN IS UNCLASSIFIED IN ACCORDANCE WITH THE TERMS OF THE UK EXPORT CONTROL SYSTEMS (EU) REGULATIONS. THE HOLDER OF ANY EXPORT MAY MANUFACTURE OR RE-EXPORT THE GOODS WITHOUT THEIR MANUFACTURER'S OR ENDORSEMENT PROPRIETORS' CONSENT. © ASPHER/RAIT DATE OF ISSUE SHOWN ABOVE	 AS9100	 E2S	EUROPEAN SAFETY SYSTEMS LTD MANWELL ROAD LONDON W10 7QH WWW.E2S.COM	ALL DIMENSIONS IN MM IF IN QUOTE 'RSK' DO NOT SCALE	 A3
	STANDARDS	ALERT/ARM RANGE	CHECKED B.ISARD	DATE 16/03/2021	MATERIAL					APPROVED R.N.POTTS	

A



A

Independent Sounder & Beacon Activation (Remove Link Wires)

Single Stage Configuration	Config.: 5a	Two Stage Configuration	Config.: 5b	Three/Four Stage Configuration	Config.: 5c
----------------------------	-------------	-------------------------	-------------	--------------------------------	-------------

Line Monitoring

Common Positive

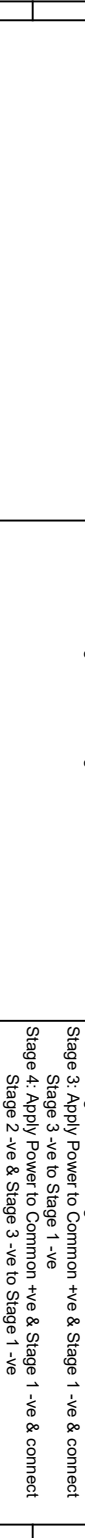
Common Positive

Common Positive

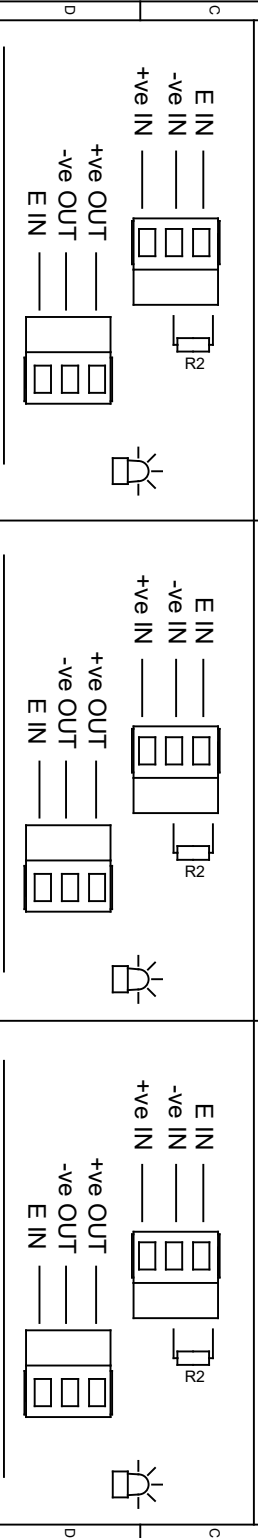
B Stage 1: Apply Power to Stage 1 -ve & Stage 1 +ve  
 Stage 2: Apply Power to Common +ve & Stage 1 +ve & connect Stage 2 -ve to Stage 1 -ve

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

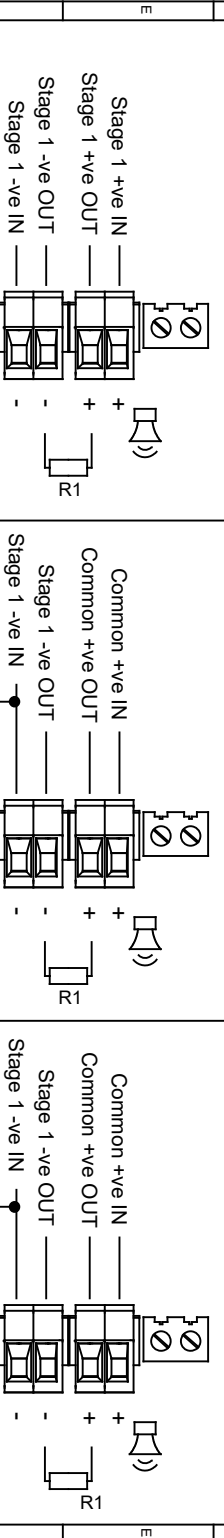
Stage 1: Apply Power to Common +ve & Stage 1 -ve  
 Stage 2: Apply Power to Common +ve & Stage 1 -ve & connect Stage 2 -ve to Stage 1 -ve  
 Stage 3: Apply Power to Common +ve & Stage 1 -ve & connect Stage 3 -ve to Stage 1 -ve  
 Stage 4: Apply Power to Common +ve & Stage 1 -ve & connect Stage 2 -ve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



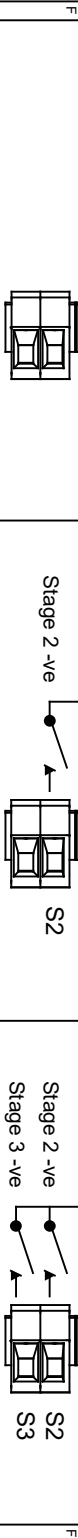
C



D



E



F

DRAWING TO BE REFERRED TO FOR ENHANCED TO ISO 11011:1983 GEOMETRIC TOLERANCES TO ISO 11011:1983 AND SQUARE DIMENSIONAL TOLS

DRAWN	DATE	SURFACE FINISH	WEIGHT (KG)
R.S. RAIT	16/03/2021		
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B. ISARD	16/03/2021		
APPROVED	DATE		
R.N.POTTS	16/03/2021		

ALL DIMENSIONS IN MM  
 IF IN DOUBT, ASK - DON'T SCALE  
 TITLE: AL100H, AL105NH & DL105H DC COMBINED  
 SOUNDER & LED WIRING DIAGRAMS  
 SCALE: SHEET 2 OF 2  
 DRAWING NUMBER: D218-06-251  
 A3

STANDARDS	ALERT/LARM RANGE
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ISSUE	MOD No	REASON - INITIAL - DATE
A		
INTRODUCTION		
RSK - 16/04/2021		



Linked Sounder & Beacon Activation (Default)

Single Stage Configuration

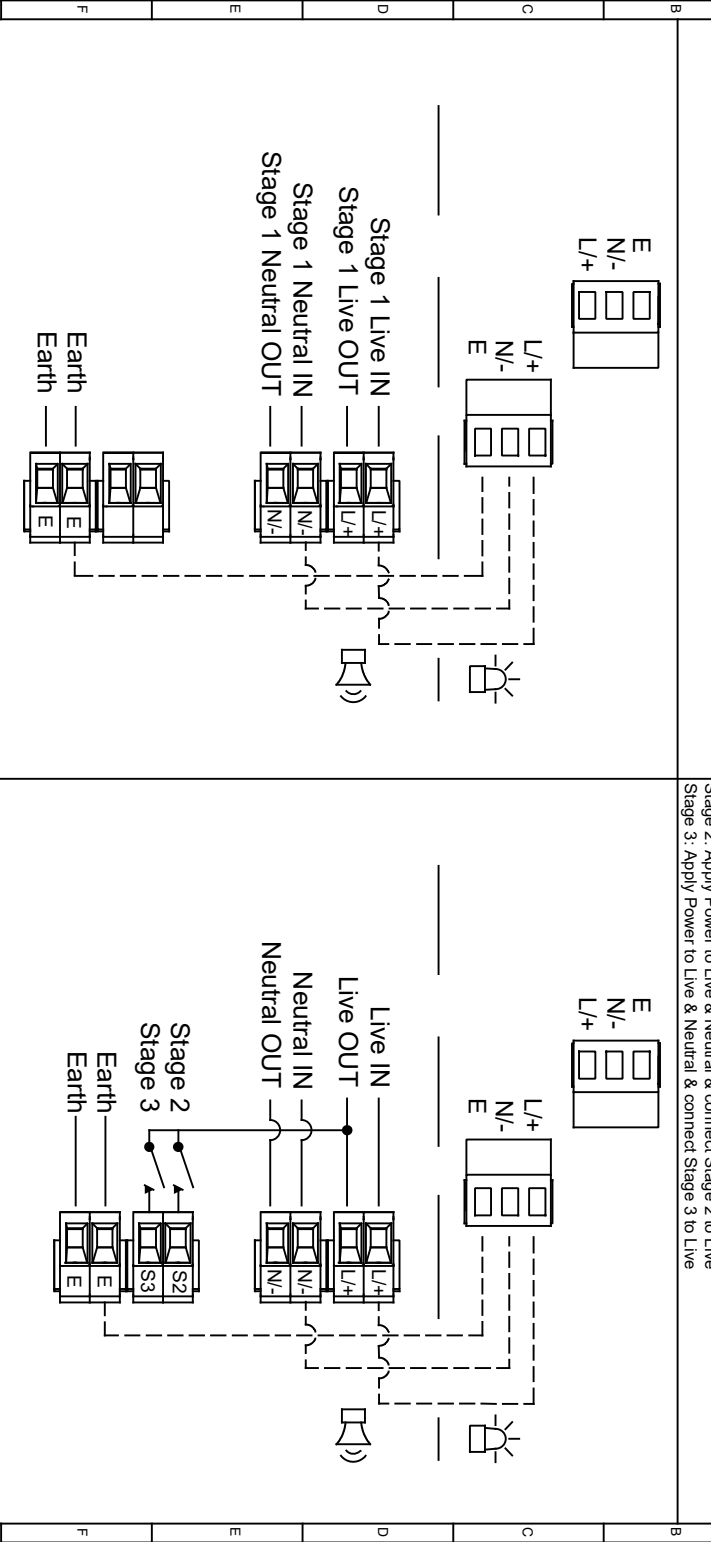
Stage 1: Apply Power to Stage 1 Live & Stage 1 Neutral

Config.: 1a

Two/Three Stage Sounder Configuration

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

Config.: 1b



DRAWING TO BS8886:2000 GEOMETRIC TOLERANCES TO ISO1101:1983 ANGULAR DIMENSIONAL TOLS		DRAWN R.S. RAIT		DATE 16/03/2021	SURFACE FINISH		WEIGHT (KG)
STANDARDS ALERT/ALARM RANGE		CHECKED B.ISARD		DATE 16/03/2021	MATERIAL		
APPROVED R.N.POTTS		DATE 16/03/2021		ALTERNATIVE MATERIAL			
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<p>EUROPEAN SAFETY SYSTEMS LTD          MANWELL ROAD          LONDON W10 7QH          WWW.E2S.COM</p>		<p>ALL DIMENSIONS IN MM          IF IN QUOTE 'RSK'          DO NOT SCALE</p>		<p>TITLE AL100H, AL105NH &amp; DL105H AC COMBINED          SOUNDER &amp; LED WIRING DIAGRAMS</p>		<p>A3</p>	
SCALE NTS		SHEET 1 OF 2		DRAWING NUMBER D218-06-255			



ISSUE MOD No REASON - INITIAL - DATE	
A	INTRODUCTION RSK - 16/04/2021

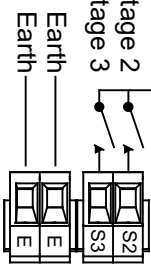
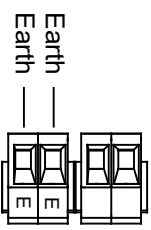
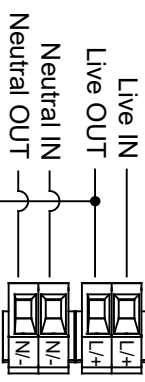
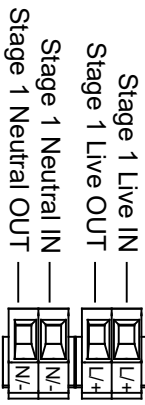
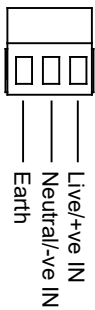
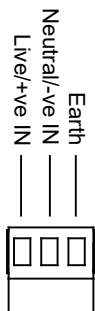
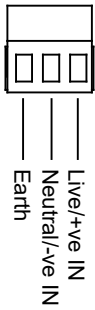
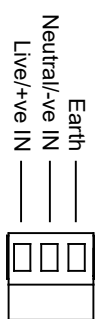


Independent Sounder & Beacon Activation (Remove Link Wires)

Single Stage Configuration Config.: 2a

Stage 1: Apply Power to Stage 1 Live & Stage 1 Neutral Config.: 2b

Two/Three Stage Sounder Configuration  
 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 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)
STANDARDS ALERT/LARM RANGE		CHECKED B.ISARD		DATE 16/03/2021	MATERIAL		
APPROVED R.N.POTTS		DATE 16/03/2021		ALTERNATIVE MATERIAL			
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<p>European Safety Systems Ltd MANSELL ROAD LONDON W10 7QH WWW.E2S.COM</p>		<p>ALL DIMENSIONS IN MM IF IN QUOTE 'RSK' DO NOT SCALE</p>		<p>TITLE: AL100H, AL105NH &amp; DL105H AC COMBINED SOUNDER &amp; LED WIRING DIAGRAMS</p>		<p>SCALE: 2 OF 2</p>	
SHEET		DRAWING NUMBER		A3			
D218-06-255							

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 1 0 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

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