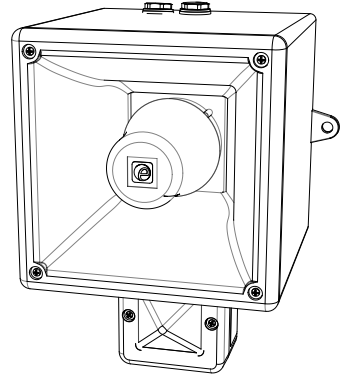


INSTRUCTION & SERVICE MANUAL

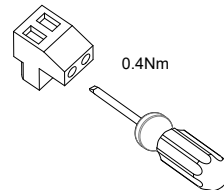
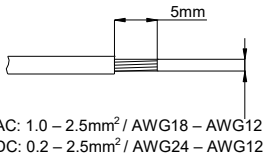
AL121H AlertAlight Combined Sounder LED

- -40°C to +66°C (104°F to 151°F)
- Type 4 / 4X / 3R / 13, IP66
- 2.7Kg (5.94lb)
- CE, All units UL Listed



Unit Type Code	Nominal Voltage	Voltage Range	Nominal Beacon Current*	Nominal Sounder Current* P2 / P3	Nominal SPL P2 / P3	Max SPL P2 / P3	Average SPL P2 / P3
AL121HDC024	#12 Vdc	11.5-14Vdc	79.5mA	376mA / 440mA	116.9dB(A) / 120.2dB(A) Tone 44 @ 1m	120.7dB(A) / 123.4dB(A) Tone 4 @ 1m	115.3dB(A) / 118.1dB(A) All Tones @ 1m
	24 Vdc	16-33 Vdc	87mA	430mA / 930mA			
AL121HDC048	48 Vdc	48-54 Vdc	60mA	223mA / 453mA			
AL121HAC230	115 Vac	100-240 Vac 50/60Hz	34mA	173mA / 340mA			
	230 Vac	100-240 Vac 50/60Hz	19mA	105mA / 212mA			

*Nominal current at nominal voltage; #Factory Default setting 24Vdc, beacon customer settable to 12Vdc



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.

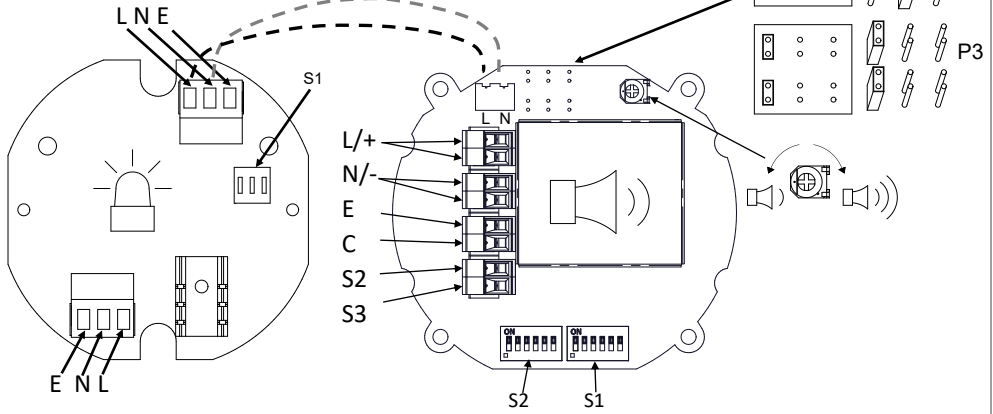
Atenção: Desconecte da fonte de alimentação antes da instalação ou serviço para evitar choque elétrico

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



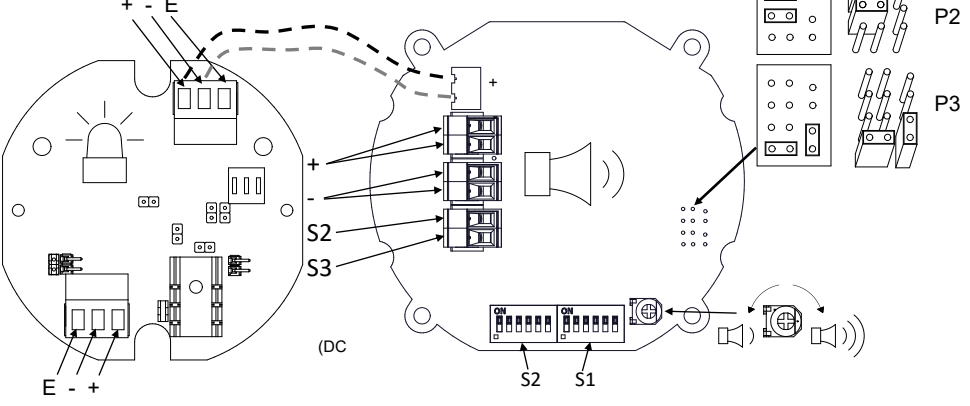
AC

See D221-06-305



DC

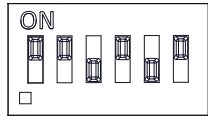
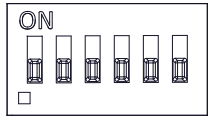
See D221-06-301



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

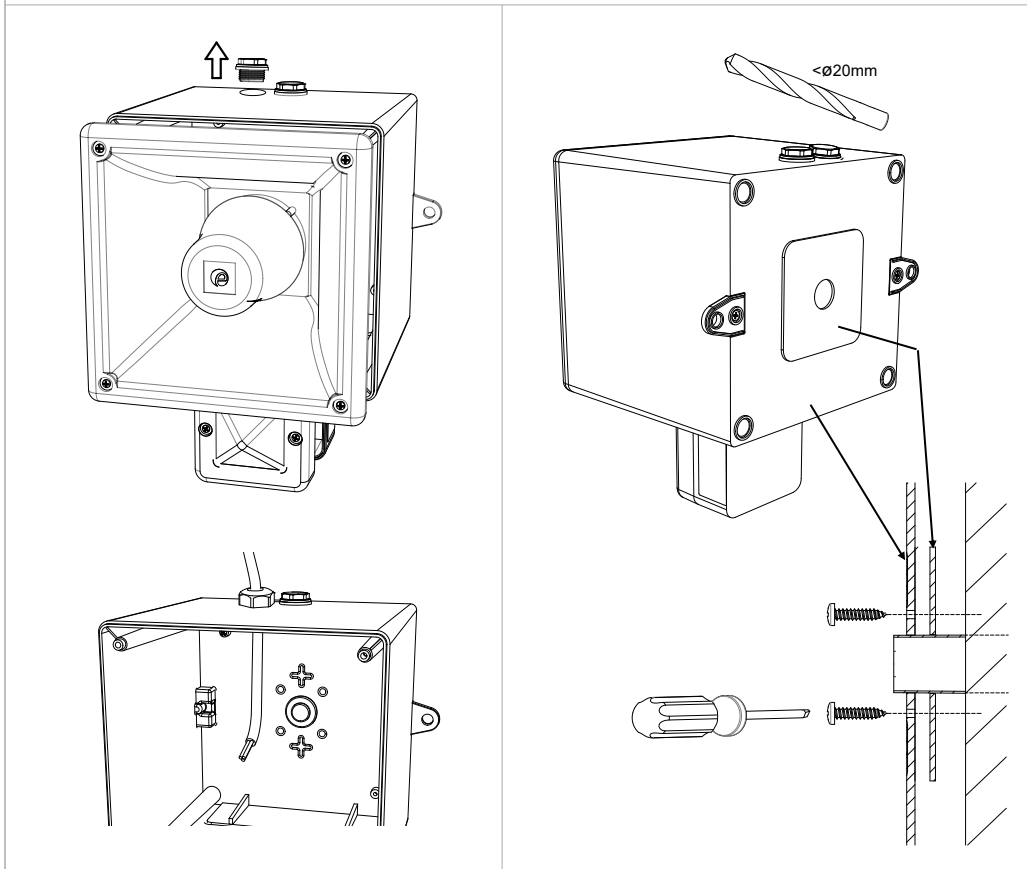
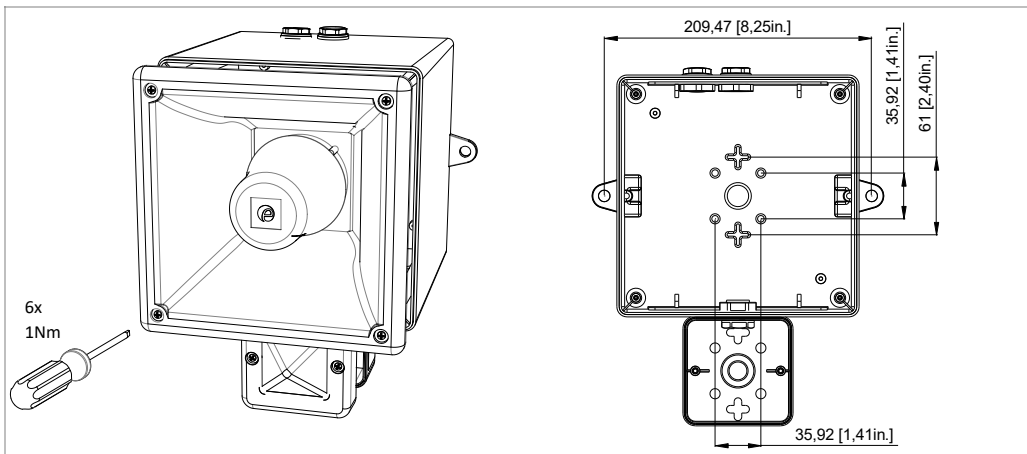
Default = S2 - Tone 1

Default = S1 - Tone 44



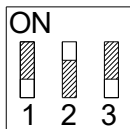
(ON = 1, OFF = 0)

INSTRUCTION & SERVICE MANUAL
AL121H AlertAlight Combined Sounder LED



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 Setting	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:

AL121NHDC: -40°C to +55°C / -40°F to +131°F

AL121NHAC: -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	Nominal Operating Current*		Max Operating RMS [#]	
			Beacon	Sounder P2 / P3	Beacon	Sounder P2 / P3
AL121HDC024	12V dc	11.5-14Vdc	79.5mA	376mA / 440mA	168mA	430mA / 930mA
	24V dc	16-33 Vdc (Regulated)	87mA	430mA / 930mA	183mA	
AL121HDC048	48V dc	48-54 Vdc	60mA	223mA / 453mA	115mA	
AL121HAC230	115 Vac	100-240 Vac 50/60Hz	34mA	173mA / 340mA	166mA	181mA / 383mA
	230 Vac		19mA	105mA / 212mA		

*Nominal Voltage, 1Hz Flash Pattern / Tone 12; [#]Worst-case input voltage and worst case flash pattern

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FIRE INSTRUCTION & SERVICE MANUAL

AL121H Range Alert/Alight Combined Sounder LED Beacons

UL464 / CAN/ULC-S525 & UL1638 / CAN/ULC-S526

Model: AL121HDC



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

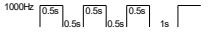


Attention: Disconnect from power source before installation or service to prevent electric shock / Débranchez-le de la source d'alimentation avant l'installation ou l'entretien pour éviter tout choc électrique.



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.
- AL121HDC024 is approved for use as an Audible & Visual signal appliance for fire alarm use – Private Mode. (UL464 & CAN/ULC-S525 & UL1638 & CAN/ULC-S526).
- AL121HDC024 produces a minimum sound pressure level of P2: US: 93.67dB(A); CA: 101.2dB(A) / P3: US: 94.33dB(A); CA: 102.4dB(A) at 10 feet (figures @ worst case 11.5Vdc).
- AL121HDC024 produces a minimum sound pressure level of P2: US: 97.59dB(A); CA: 105.4dB(A) / P3: US: 100.63dB(A); CA: 107.5dB(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	1000Hz 	1 1 0 1 0 0	1	8

- For private mode fire alarm use, the beacons must only be fitted with clear plastic lens covers and must be set to one of the certified flash patterns of 1Hz, 1.5Hz or 2Hz. Flash Pulse 196ms.
- For light output ratings see below:

On-axis light output rating per UL1638

Model	Intensity (cd) at 1Hz flash rate	Intensity (cd) at 1.5Hz flash rate	Intensity (cd) at 2Hz flash rate
AL121HDC024 (12Vdc Mode)	5.9	5.97	6.35
AL121HDC024 (24Vdc Mode)	11.65	12.32	12.38

- 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

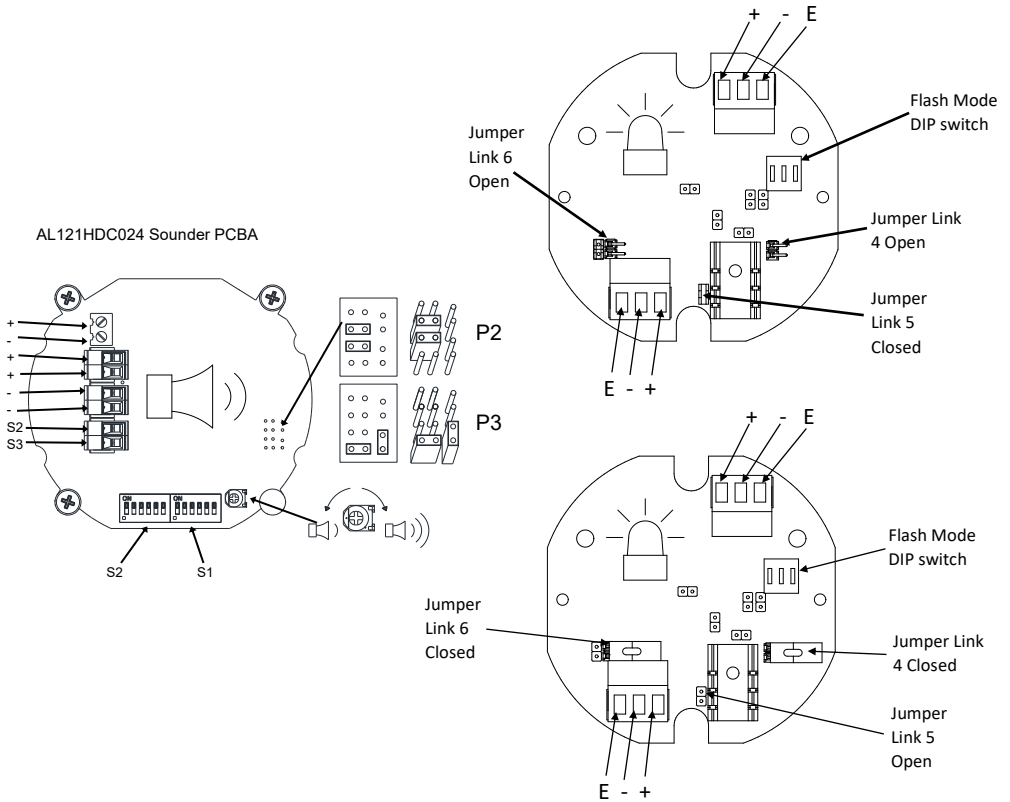
Surge current ratings for use in fire alarm systems

Model	Nominal Voltage	Voltage Range	Flash Rate	Initial Peak (mA)		Initial RMS (mA)	
				Beacon	Sounder	Beacon	Sounder
AL121HDC024	12Vdc	10 to 14Vdc	1 Hz	202	P2: 1164mA 1164mA / P3: 1829mA	172	P2: 286mA / P3: 554mA
			1.5Hz	216		172	
			2Hz	224		172	
	24Vdc	16 to 33Vdc (Regulated)	1 Hz	950		204.3	
			1.5Hz	968.5		206.7	
			2Hz	969		205.2	

AL121HDC024 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°	107.8 dB(A)	Ref. 90°	107.8 dB(A)	Ref. 90°	107.6 dB(A)	Ref. 90°	107.6 dB(A)
143°	-3 dB(A)	35°	-3 dB(A)	144.5°	-3 dB(A)	36.5°	-3 dB(A)
152°	-6 dB(A)	25°	-6 dB(A)	151°	-6 dB(A)	27°	-6 dB(A)
180°	97.8 dB(A)	0°	95.8 dB(A)	180°	96.8 dB(A)	0°	95.9 dB(A)

AL121HDC024 Beacon PCBA (24VDC Mode – Default Setting)



AL121HDC024 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

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

OPTIONAL LINE MONITORING RESISTOR. CUSTOMER SUPPLIED.
 RECOMMENDED MINIMUM VALUES:
 12V: 100 OHM, 0.5W MIN.
 24V: 200 OHM, 0.5W MIN.
 48V: 400 OHM, 0.5W MIN.
 240V: 20K OHM, 2W MIN OR 24K OHM, 0.5W MIN

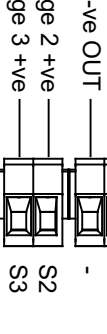
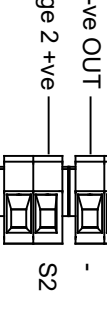
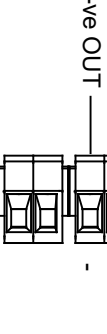
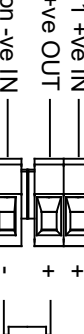
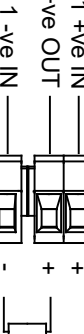
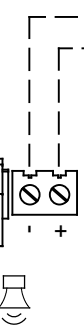
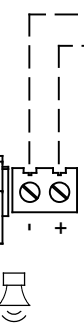
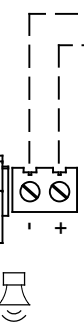
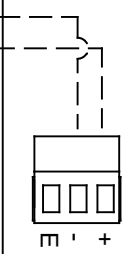
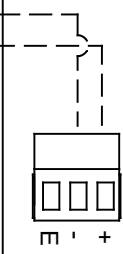
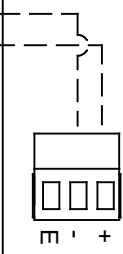
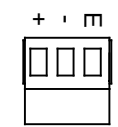
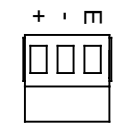
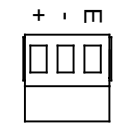
Linked Sounder & Beacon Activation (Default)

ISSUE MOD NO. REASON INITIAL DATE
 A INTRODUCTION
 RSK - 16/03/2021

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)	Common Negative	Set to positive switching (default)	Common Negative	Set to positive switching (default)
-----------------	-------------------------------------	-----------------	-------------------------------------	-----------------	-------------------------------------

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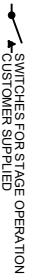


F	Stage 1 +ve IN	Stage 1 +ve IN	Stage 1 +ve IN
E	Stage 1 +ve OUT	Stage 1 +ve OUT	Stage 1 +ve OUT
D	Stage 1 -ve IN	Common -ve IN	Common -ve IN
C	Stage 1 -ve OUT	Common -ve OUT	Common -ve OUT
B		Stage 2 +ve	Stage 2 +ve
A			S2

DRAWING TO BE ENHANCED TO ISO 10111:1983 GEOMETRIC TOLERANCES TO ISO 1101:1983 SURFACE FINISH TO ISO 13715:1983 DIMENSIONS TO ISO 10111:1983 UNLESS OTHERWISE SPECIFIED	DRAWN R. S. RAIT	DATE 16/03/2021	SURFACE FINISH	WEIGHT (KG)	THIS DRAWING AND ANY INFORMATION OR DESCRIPTION THEREIN ARE UNCLASSIFIED INFORMATION AND ARE NOT TO BE RELEASED TO THE PUBLIC OR TO ANY EXTERNAL SYSTEMS UNLESS THE HOLDING CONTRACTOR MAY MANUFACTURE OR FITTING OF PURPOSES WITHOUT THEIR WRITTEN CONSENT. EUROPEAN SAFETY SYSTEMS LTD 250, WILSON ROAD LONDON W10 7QH WWW.ESS.COM	ALL DIMENSIONS IN MM IF IN QUOTE, RSK - DO NOT SCALE	TITLE AL112NH & AL121H DC COMBINED SOUNDER & LED WIRING DIAGRAMS	SCALE NTS	SHEET 1 OF 6	DRAWING NUMBER D221-06-251
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STANDARDS	CHECKED B. ISARD	DATE 16/03/2021	APPROVED R. N. POTTS	DATE 16/03/2021
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1	2	3	4	5	6	7	8	9	10
<p>--- WIRING LINKING BEACON & SOUNDER FACTORY FITTED</p>						<p>ISSUE MOD NO. REASON-INITIAL- DATE</p>			
<p>OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED, RECOMMENDED MINIMUM VALUES: 10K OHM, 0.5W MAX 28V MAX SYSTEM - 4700 MIN, 2W MIN OR 2.4KQ MIN, 0.5W MIN</p>						<p>INTRODUCTION RSK - 16/03/2021</p>			
<p>Linked Sounder & Beacon Activation (Default)</p>						<p>SWITCHES FOR STAGE OPERATION CUSTOMER SUPPLIED</p>			



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

Config.: 2

Customer Positive

Set H1 & H2 to Negative Switching (See Below)

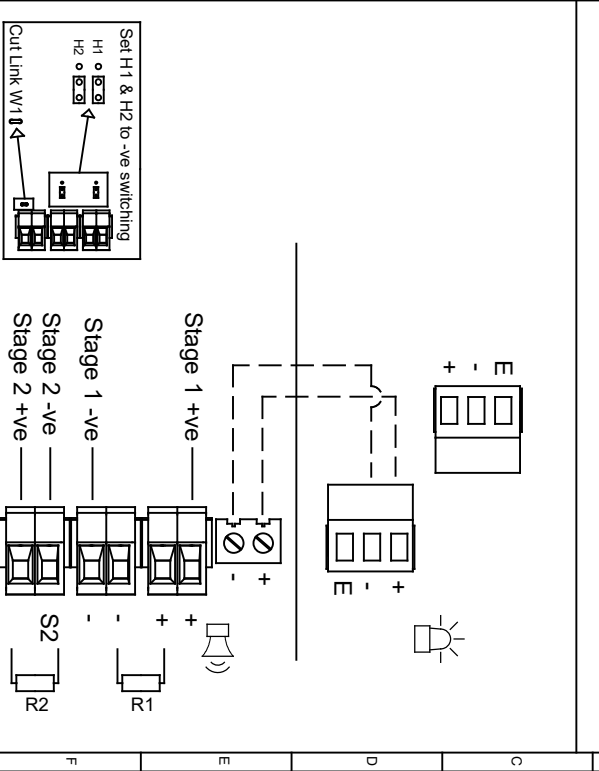
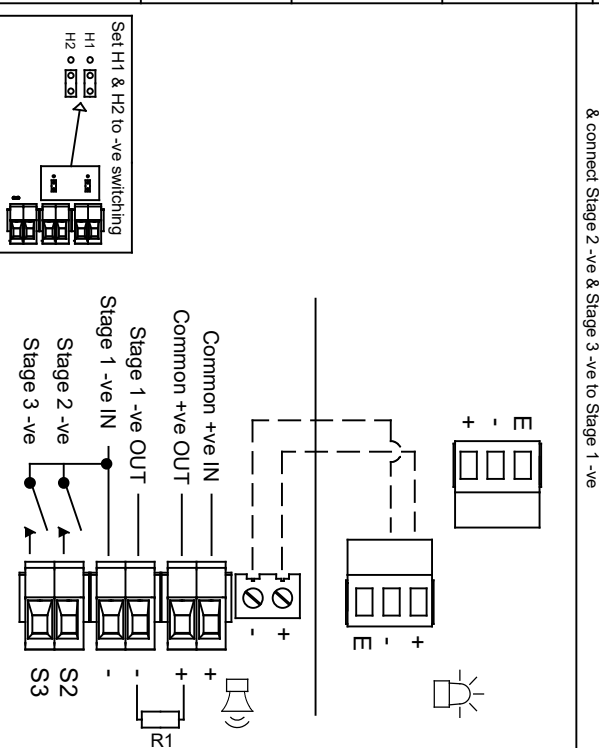
- Stage 1: Apply Power to Common +ve & Stage 1 -ve
- Stage 2: Apply Power to Common +ve & Stage 1 -ve & connect Stage 2 -ve to Stage 1 -ve
- Stage 3: Apply Power to Common +ve & Stage 1 -ve & connect Stage 3 -ve to Stage 1 -ve
- Stage 4: Apply Power to Common +ve & Stage 1 -ve & connect Stage 2 -ve & 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 ISSUED TO ENRICHES TO ISO 1011:1983
GEOMETRIC DIMENSIONS TO ISO 1011:1983
ANGULAR DIMENSIONAL TOLS

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

THIS DRAWING AND ANY INFORMATION OR DESCRIPTIVE
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SYSTEMS LTD. ACCEPTS THE WHOLE OR ANY PART MAY
MANUFACTURE OR REPRODUCE FOR PURPOSES WITHOUT THEIR
WRITTEN CONSENT.



ALL DIMENSIONS IN MM IF IN QUOTE 'ASK' DO NOT SCALE	A3
TITLE AL121NH & AL121H DC COMBINED SOUNDER & LED WIRING DIAGRAMS	
SCALE SHEET	DRAWING NUMBER
NTS	2 OF 6

STANDARDS	ALERT/ALARM RANGE
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--- WIRING LINKING BEACON & SOUNDER
FACTORY FITTED



OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED,
RECOMMENDED MINIMUM VALUES: ΩR 40Ω MIN, 0.5W MAX
28V MAX SYSTEM = 470Ω MIN, 2W MIN OR 24KΩ MIN, 0.5W MIN



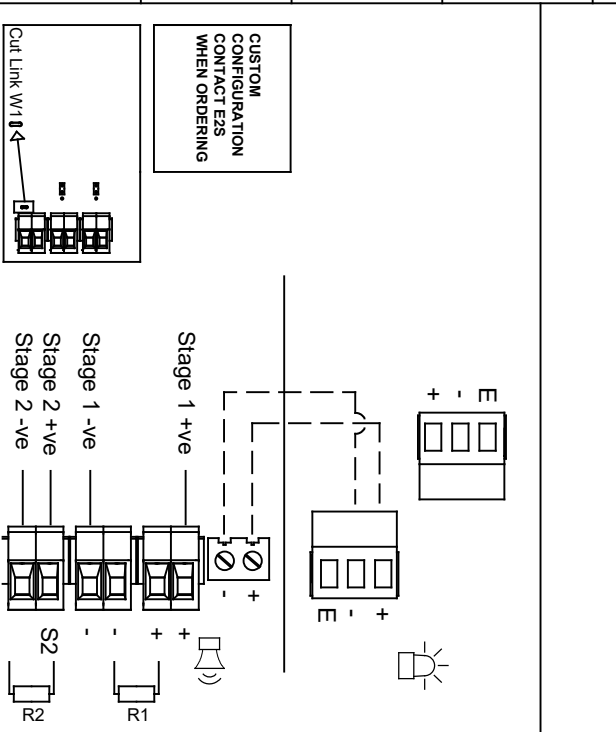
SWITCHES FOR STAGE OPERATION
CUSTOMER SUPPLIED

ISSUE	MOD NO.	REASON - INITIAL DATE
A		INTRODUCTION RSK - 16/03/2021

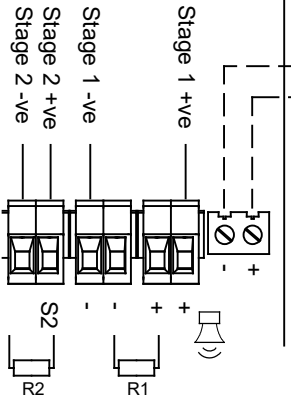
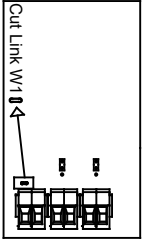
Linked Sounder & Beacon Activation (Default)

Config.: 4

Two Stage Configuration
Independent Stage Input
Line Stage Monitoring (Use suitable monitoring relays/modules)
Not to be used for reverse polarity monitoring
B Stage 1: Apply Power to Stage 1 +ve & Stage 1 -ve
Stage 1: Apply Power to Stage 2 +ve & Stage 2 -ve



CUSTOM CONFIGURATION CONTACT SETTINGS WHEN ORDERING

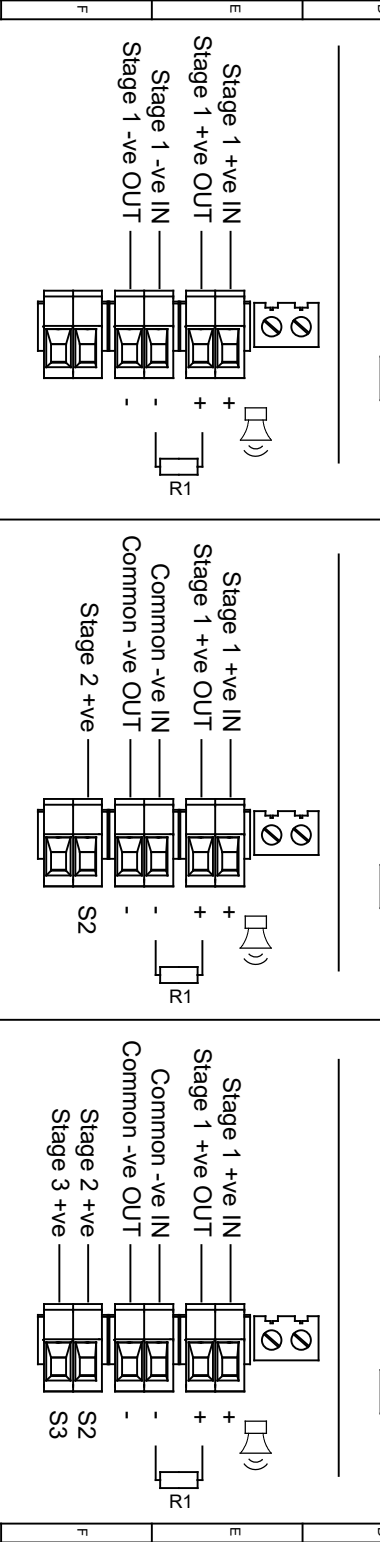
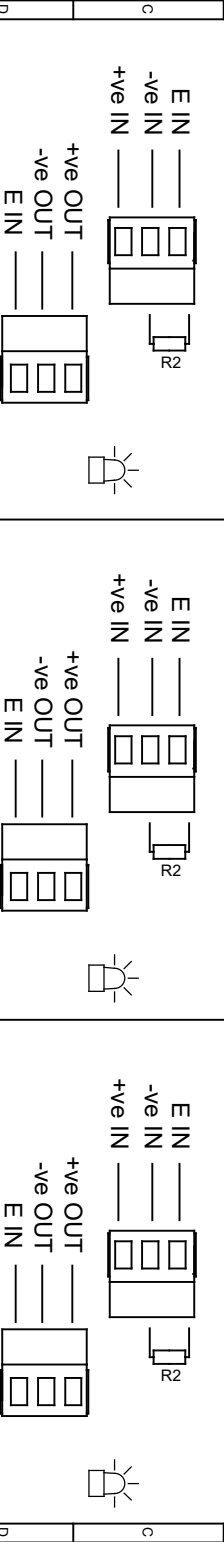


DRAWING TO BE ENRANGED TO ISO 10111:1983 GEOMETRIC TOLERANCES TO ISO 1101:1983 ANGULAR DIMENSIONAL TOLS		DRAWN		DATE	SURFACE FINISH	WEIGHT (KG)	THIS DRAWING AND ANY INFORMATION OR DESCRIPTIVE MATTER THEREIN IS COMMUNICATED IN CONFIDENCE AND SYSTEMS LTD. ACCEPTS THE WHOLE OR ANY PART OF ANY MANUFACTURING OR TENDERING PURPOSES WITHOUT THEIR WRITTEN CONSENT. © AS PER LATEST DATE OF ISSUE SHOWN ABOVE		 EUROPEAN SAFETY SYSTEMS LTD MAWSELY ROAD LONDON W10 7QH WWW.E2S.COM		ALL DIMENSIONS IN MM IF IN QUOTE ASK - DO NOT SCALE		TITLE: AL112NH & AL121H DC COMBINED SOUNDER & LED WIRING DIAGRAMS SCALE: NTS SHEET: 3 OF 6 DRAWING NUMBER: D221-06-251	
STANDARDS		CHECKED		DATE			MATERIAL ALTERNATIVE MATERIAL		APPROVED DATE		R.S. RAIT 16/03/2021		B.ISARD 16/03/2021	
ALERT/ALARM RANGE		APPROVED		DATE					R.N.POTTS 16/03/2021					

OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIER,
 RECOMMENDED MINIMUM VALUES: OR 1/40.12W, 0.5W 1/4W
 25V MAX SYSTEM = 4700Ω MIN, 2W MIN OR 2.4KΩ MIN, 0.5W 1/4W

Independent Sounder & Beacon Activation (Remove Link Wires)

Single Stage Configuration Line Monitoring Set to positive switching (default)	Config.: 5a Common Negative Set to positive switching (default)	Config.: 5c Common Negative Set to positive switching (default)
Stage 1: Apply Power to Stage 1 +ve & Stage 1 -ve	Stage 1: Apply Power to Stage 1 +ve & Common -ve Stage 2: Apply Power to Stage 2 +ve & Common -ve	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



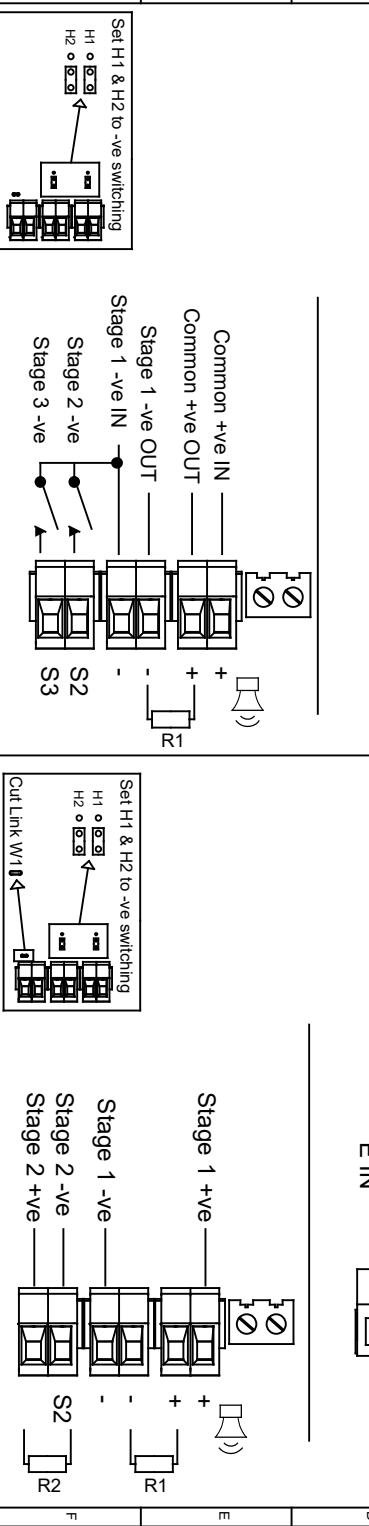
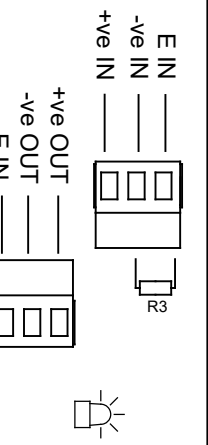
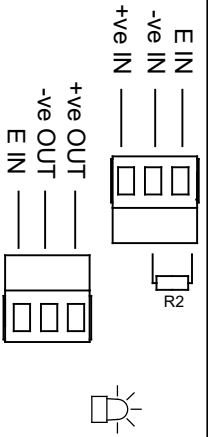
DRAWING TO BE ENRICHED TO ISO 10111:1988 GEOMETRIC TOLERANCES TO ISO 1101:1988 SURFACE FINISH TO ISO 1413:1988 ANGLE DIMENSIONAL TOLS	DRAWN R. S. RAIT DATE 16/03/2021	SURFACE FINISH WEIGHT (KG)	THIS DRAWING AND ANY INFORMATION OR DESCRIPTIVE MATTER THEREIN IS UNMAY BE REPRODUCED OR SYSTEMS TO IDENTIFY THE HOLDER OF ANY PATENT MANUFACTURING OR TRADING PURPOSES WITHOUT THEIR WRITTEN CONSENT. BIRCHWOOD ELECTRICAL SERVICES LTD ASPHARLAVEST DATE OF ISSUE SHOWN ABOVE	EUROPEAN SAFETY SYSTEMS LTD MANCHESTER ROAD LONDON W10 7QH WWW.ESS.CO.UK	ALL DIMENSIONS IN MM IF IN QUOTE ASK DO NOT SCALE	TITLE: AL112NH & AL121H DC COMBINED SOUNDER & LED WIRING DIAGRAMS SCALE: SHEET 4 OF 6 DRAWING NUMBER: D221-06-251
STANDARDS ALERT/ARM RANGE	CHECKED B. ISARD DATE 16/03/2021	APPROVED R. N. POTTS DATE 16/03/2021				A3

OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED, RECOMMENDED MINIMUM VALUES: 10K OHM, 0.5W MAX 28V MAX SYSTEM = 4700 MIN, 2W MIN OR 2.4KQ MIN, 0.5W MIN		ISSUE	MOD NO	REASON	INITIAL	DATE
SWITCHES FOR STAGE OPERATION CUSTOMER SUPPLIED		A		INTRODUCTION	RSK	16/03/2021

Independent Sounder & Beacon Activation (Remove Link Wire)

Three/Four Stages, Voltage Free 2nd, 3rd & 4th Stage Activation Configuration Customer Positive Common	Config.: 6	Two Stage Configuration Independent Stage Input Reverse Polarity Stage Monitoring	Config.: 7
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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 to Stage 1 -ve



DRAWING TO BE ENHANCED TO ISO 1011:1983 GEOMETRIC TOLERANCES TO ISO 1101:1983 ANGULAR DIMENSIONAL TOLS		DRAWN	DATE	SURFACE FINISH	WEIGHT (KG)	THIS DRAWING AND ANY INFORMATION OR DESCRIPTIVE MATTER THEREIN IS COMMUNICATED IN CONFIDENCE AND SYSTEMS LTD. NEITHER THE WHOLE OR ANY PART MAY MANUFACTURE OR REPRODUCE OR BE USED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF SYSTEMS LTD. SIGNATURE DATE OF ISSUE SHOWN ABOVE		 A2S wiring systems EUROPEAN SAFETY SYSTEMS LTD MANSELL ROAD LONDON W10 7QH WWW.ESS.COM		ALL DIMENSIONS IN MM IF IN QUOTE ASK DO NOT SCALE		 A3	
STANDARDS		CHECKED	DATE			TITLE: AL112NH & AL121H DC COMBINED SOUNDER & LED WIRING DIAGRAMS		SCALE		DRAWING NUMBER			
ALERT/ALARM RANGE		B. ISARD	16/03/2021			NTS		5 OF 6		D221-06-251			
		APPROVED	DATE										
		R. N. POTTS	16/03/2021										

ISSUE	MOD NO.	REASON - INITIAL DATE
A		

OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED,
 RECOMMENDED MINIMUM VALUES: 10K OHM, 0.5W MIN
 28V MAX SYSTEM = 470Ω MIN, 2W MIN OR 24KΩ MIN, 0.5W MIN

SWITCHES FOR STAGE OPERATION
 CUSTOMER SUPPLIED

Independent Sounder & Beacon Activation (Remove Link Wires)

Two Stage Configuration

Independent Stage Input

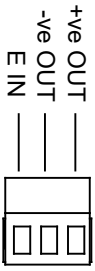
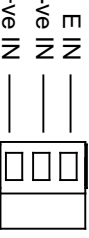
Line Stage Monitoring (Use suitable monitoring relays/modules)

Not to be used for reverse polarity monitoring

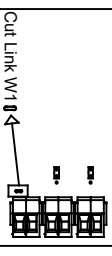
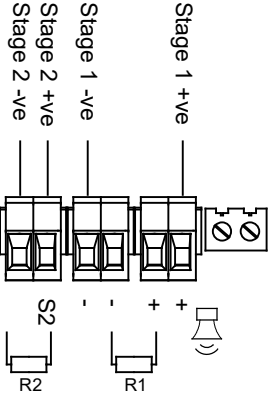
Stage 1: Apply Power to Stage 1 +ve & Stage 1 -ve

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

Config.: 8



CUSTOM CONFIGURATION CONTACTS WHEN ORDERING



DRAWING TO BE ISSUED TO ENRANGERS TO ISO 1011:1983 GEOMETRIC TOLERANCES TO ISO 1101:1983 ANGULAR DIMENSIONAL TOLS		DRAWN		DATE	SURFACE FINISH	WEIGHT (KG)	THIS DRAWING AND ANY INFORMATION OR DESCRIPTIVE MATTER THEREIN IS COMMUNICATED IN CONFIDENTIAL MATTER HEREIN IS COMMUNICATED IN CONFIDENTIAL SYSTEMS LTD. WHETHER THE WHOLE OR ANY PART OR ANY MANUFACTURING OR TENDERING PURPOSES WITHOUT THEIR WRITTEN CONSENT. EUROPEAN SAFETY SYSTEMS LTD MANWELL ROAD LONDON W10 7QH WWW.ESS.COM		ALL DIMENSIONS IN MM IF IN DOUBT ASK DON'T SCALE		TITLE AL12NH & AL121H DC COMBINED SOUNDER & LED WIRING DIAGRAMS		SCALE		SHEET		DRAWING NUMBER	
STANDARDS		ALERTALARM RANGE		16/03/2021			© ASPERLATEST DATE OF ISSUE SHOWN ABOVE		A3		NTS		6 OF 6		D221-06-251			
CHECKED		B.ISARD		16/03/2021														
APPROVED		R.N.POTTS		16/03/2021														

--- WIRING LINKING BEACON & SOUNDER
 FACTORY FITTED

SWITCHES FOR STAGE OPERATION
 CUSTOMER SUPPLIED

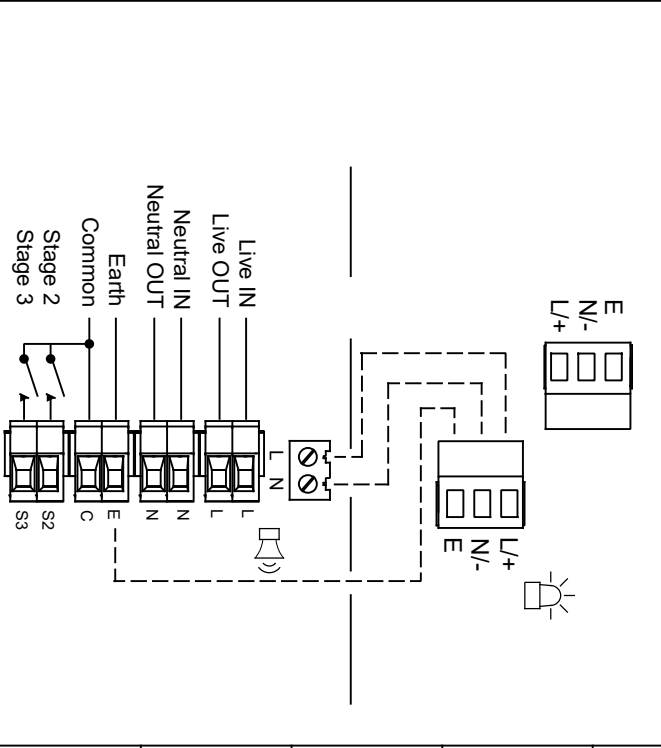
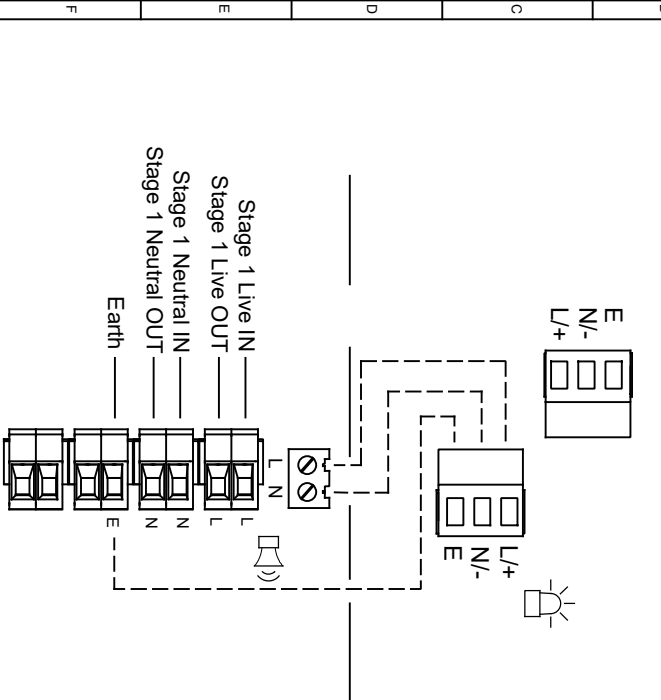
ISSUE	MOD No	REASON - INITIAL - DATE
A		
INTRODUCTION		
RSK - 12/03/2021		

Linked Sounder & Beacon Activation (Default)

Single Stage Configuration Config.: 1a

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

Two/Three Stage Sounder 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



DRAWING TO BS8886:2000
 GEOMETRIC TOLERANCES TO ISO1101:1983
 ANGULAR DIMENSIONAL TOLS

DRAWN	DATE	SURFACE FINISH	WEIGHT (KG)
R.S. RAIT	12/03/2021		

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ALL DIMENSIONS IN MM IF IN POINT ASK DON'T SCALE	A3
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STANDARDS APPROVED DATE

ALERT/ALARM RANGE	B.ISARD	12/03/2021	ALTERNATIVE MATERIAL
	R.N.POTTS	12/03/2021	

TITLE A 12NH & A1 12H AC COMBINED SOUNDER & LED WIRING DIAGRAMS	DRAWING NUMBER
SCALE 1 OF 2	D221-06-255

ISSUE	MOD No	REASON - INITIAL - DATE
A	INTRODUCTION RSK - 12/03/2021	

--- WIRING LINKING BEACON & SOUNDER
FACTORY FITTED

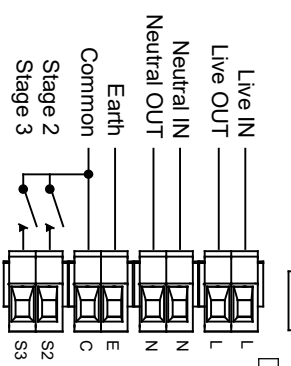
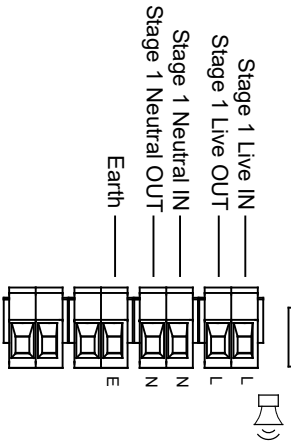
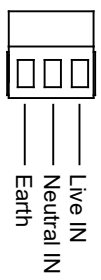
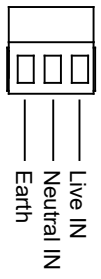
SWITCHES FOR STAGE OPERATION
CUSTOMER SUPPLIED

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

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



DRAWING TO BE ENHANCED TO ISO 1101:1983
GEOMETRIC TOLERANCES TO ISO 1101:1983
ANGULAR DIMENSIONAL TOLS

DRAWN	DATE	SURFACE FINISH	WEIGHT (KG)
R.S. RAIT	12/03/2021		
CHECKED	DATE	MATERIAL	
B.ISARD	12/03/2021		
APPROVED	DATE	ALTERNATIVE MATERIAL	
R.N.POTTS	12/03/2021		

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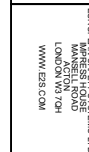


ALL DIMENSIONS IN MM IF IN QUOTE, ASK DO NOT SCALE	A3
TITLE A112NH & A112H AC COMBINED SOUNDER & LED WIRING DIAGRAMS	
SCALE	SHEET
NTS	2 OF 2
DRAWING NUMBER	D221-06-255

STANDARDS
ALERT/ALARM RANGE

APPROVED	DATE	ALTERNATIVE MATERIAL
R.N.POTTS	12/03/2021	

RSK SYSTEMS LTD
MANCHESTER ROAD
LONDON W3 7QH
WWW.RSK.COM



ALL DIMENSIONS IN MM IF IN QUOTE, ASK DO NOT SCALE	A3
TITLE A112NH & A112H AC COMBINED SOUNDER & LED WIRING DIAGRAMS	
SCALE	SHEET
NTS	2 OF 2
DRAWING NUMBER	D221-06-255

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, 1soff) 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