

# AL112NH Alarm Horn Sounder & LED Beacon

The AL112NH is a high output 120dB(A) alarm horn sounder combined with a high output LED beacon. Globally approved for fire, marine and general signalling applications. Featuring 64 alarm tone frequencies and 4 remotely activated stages/channels.

Low current consumption and high SPL in a outdoor rated enclosure ensure the AL112NH is suitable for all applications including fire, security and process control. Designed to withstand the harshest of environments. The AL112NH employs the latest in reliable D Class amplifier technology for superior sound output with low current consumption. The alarm horn sounder & LED beacon may be connected from a single or separate supplies for simultaneous or independent operation. SIL1 & SIL2 Route 2H compliant to IEC61508 (2010) as standard.

## Features

- Automatic synchronisation
- Continuously rated
- Dual M20 or 1/2"NPT clearance cable entries
- Duplicate pluggable cable terminations - Class A
- Ingress protection IP66 Type 4/4X/13/3R
- 64 alarm tone frequencies
- 4 remotely activated alarm stages/channels
- Available with custom tone configurations and frequencies
- Diode polarized for use in supervised circuits

## Approvals

- UL: UL464, UL464A, UL1638, UL1638A
- cUL: CSA C22.2 No 205-17
- ULC: CAN/ULC-S525 & CAN/ULC-S526
- EAC CU TR 043/2017: B.00291/21
- EAC: RU D-GB.GA05.B.12595-20
- RMRS Marine: No. 19.00193.278
- SIL1 & SIL2 compliant to IEC61508 (2010)
- CE, UKCA



## Specification

### Alarm Horn:

Maximum output: High power level: 120dB(A) @ 1 m ±3dB  
[111dB(A) @ 10ft/3m ±3dB]  
Default power level: 117dB(A) @ 1 m ±3dB  
[108dB(A) @ 10ft/3m ±3dB]

Nominal output: High power level: 118dB(A) @ 1m ±3dB  
[109dB(A) @ 10ft/3m ±3dB]  
Default power level: 114dB(A) @ 1m ±3dB  
[105dB(A) @ 10ft/3m ±3dB]

No. of tones: 64 (UK00A / PFEER compliant)

No. of stages: 4

Volume control: Full range to 0dB(A)

Effective range: High power level: 214m/702ft @ 1KHz  
Default power level: 153m/502ft @ 1KHz

In rush: 815mA within 4.0ms @ 24Vdc

Stage switching: Negative (common positive)

### L.E.D Beacon:

Light source: High intensity L.E.D. array.  
18 x Cree© SMT White LED

High Power Steady: 180 cd - measured ref. to I.E.S.

1Hz Flash cd: 113 cd - measured ref. to I.E.S.

LED life: 60,000 hours

Settings:

1. High Power Steady
2. Blinking - 425ms ON 75ms OFF
3. 1.0Hz (60 fpm) - 200ms ON 800ms OFF
4. 1.33Hz (80fpm) - 150ms ON 600ms OFF
5. Double Flash
6. Triple Flash
7. 2.0Hz (120fpm) - 125ms ON 375ms OFF
8. Temporal Pattern Flash

### General:

Safety Integrity Level: SIL1 and SIL2 Route 2H IEC61508 (2010)

Ingress protection: IP66 Type 4/4X/13/3R

Enclosure: High impact UL94 V0 & 5VA FR ABS/PC

Lens colour filter: Field replaceable UV stable PC

Terminals: 0.5 - 2.5mm<sup>2</sup> (20-14 AWG)

Line monitoring: Diode polarized for use in supervised circuits

Operating: -40 to +66°C [-40° to +151°F]

Storage: -40 to +70°C [-40° to +158°F]

Relative humidity: 95% at 20°C [68°F]

Vibration test: 35Hz for a duration 4Hr (UL464/UL1638)

Jarring test: 3ft/lb Energy (UL464/UL1638)

Impact test: 3x 5lb (UL464/UL1638)

MTBF DC: 66.52 years / 582,750 hours - MIL 217

MTBF AC: 36.35 years / 318,420 hours - MIL 217

Weight DC: 2.00kg / 4.40lbs

Weight AC: 2.30kg / 5.06lbs

## Part Codes

Variable: Identifier: Description:

Product type:	AL112NH	Combined alarm horn sounder & LED beacon
Voltage:	DC024	12Vdc (11.5-14Vdc)/24Vdc (20-28Vdc)
	DC048	48Vdc (48-54Vdc)
	AC230	100-240Vac 50/60Hz
Back box/cable entries: [e]	A	Back box with mounting lugs - 2 x M20, 1/2"NPT clearance
Stopping plug material: [m]	A	ABS
Equip. tag/Duty label: [s]	0	No equip. tag or Duty label
	1	316 (A4) St/St Equip. tag/Duty label
	2	Metalised Polyester Equip. tag/Duty label
Product version: [v]	A	UL/cUL, ULC, RMRS, EAC, CE, UKCA - SIL1 & SIL2
Product option: [o]	1	Standard product
	Z	Custom alarm tone software - contact E2S
	X	Custom configuration - contact E2S
	Y	Stage control Config. 4 or 8
Enclosure colour: [x]	G	Grey
	R	Red
	S	Special colour - contact E2S
Lens colour: [y]	A	Amber
	B	Blue
	C	Clear
	G	Green
	M	Magenta
	R	Red
	Y	Yellow

### Alarm stage control:

Please review the installation manual and wiring schematics for remote stage control and EOL resistor monitoring configuration options:

Config. 1 or 5 [DC]: Factory default. Common negative, positive switching. Up to 4 Alarm Stages. EOL monitoring Alarm Stage 1 only

Config. 2 or 6 [DC]: User setting. Common positive, negative switching. Up to 4 Alarm Stages. EOL monitoring Alarm Stage 1 only

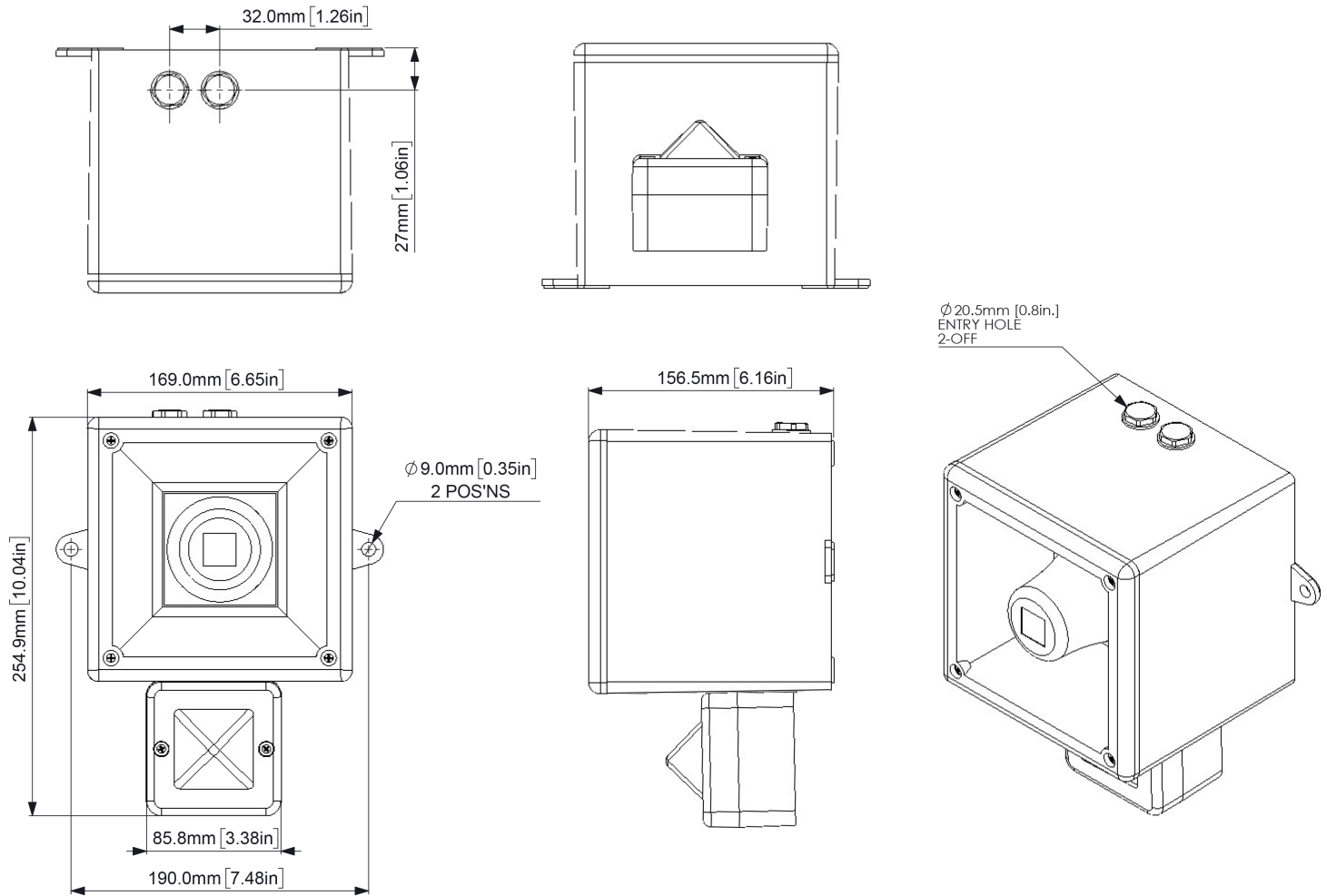
Config. 3 or 7 [DC]: User setting. Common negative, positive switching activation of Alarm Stages 1 & 2 with EOL on both stages. Reverse polarity monitoring

Config. 4 or 8 [DC]: Product option 'Y'. Independent activation of Alarm Stages 1 & 2 with EOL on both stages. Forward polarity monitoring

Config. 1 or 2 [AC]: Factory default. Up to 4 Alarm Stages. Stage 1 activated at power on. Stages 2, 3 and 4 via volt free contacts

## Current Consumption

Product Version:	Nominal Voltage:	Voltage Range:	Beacon Current:	Horn Default Power Level Current:	Horn High Power Level Current:
DC024	12Vdc	11.5-14Vdc	79.5mA	280mA	376mA
DC024	24Vdc	16-33Vdc (Regulated)	87mA	225mA	430mA
DC048	48Vdc	48-54Vdc	60mA	122mA	223mA
AC230	115Vac 230Vac	100-240 Vac 50/60Hz	34mA 19mA	100mA 65mA	173mA 105mA



## Tone table

S 1	Description	S 2	S 3	S 4	S 1	Description	S 2	S 3	S 4
T 1	1000 Continuous - PFEER Toxic Gas	Any	T 2	T 44	T 33	800 (0.25s on, 1.00s off) Intermittent	Any	T 24	T 8
T 2	1200/500 @ 1Hz Sweeping - DIN / PFEER P.T.A.P.	Any	T 3	T 44	T 34	800 @ 2Hz (0.25s on, 0.25s off) - IMO code 3...	Any	T 24	T 8
T 3	1000 @ 0.5Hz (1s on, 1s off) Intermittent - P...	Any	T 2	T 44	T 35	1000 @ 1Hz (0.50s on, 0.50s off) Intermittent	Any	T 24	T 8
T 4	1.4KH-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s - NF C 48...	Any	T 24	T 1	T 36	2400 @ 1Hz (0.50s on, 0.50s off) Intermittent	Any	T 24	T 8
T 5	544(100mS)/440 (400mS) - NF S 32-001	Any	T 19	T 1	T 37	2900 @ 5Hz (0.10s on, 0.10s off) Intermittent	Any	T 24	T 8
T 6	1500/500 - (0.5s on , 0.5s off) x3 + 1s gap -...	Any	T 44	T 1	T 38	363/518 @ 1Hz (0.50s / 0.50s) Alternating	Any	T 8	T 19
T 7	500-1500Hz Sweeping 2 sec on 1 sec off - AS4428	Any	T 44	T 1	T 39	450/500 @ 2Hz (0.25s / 0.25s) Alternating	Any	T 8	T 19
T 8	500/1200Hz @ 0.26Hz(3.3s on, 0.5s off) - NEN ...	Any	T 24	T 35	T 40	554/440 @ 1Hz (0.50s / 0.50s) Alternating	Any	T 24	T 19
T 9	1000 (1s on, 1s off)x7 + (7s on, 1s off) - IM...	Any	T 34	T 1	T 41	554/440 @ 0.65Hz (0.76s / 0.76s) Alternating	Any	T 8	T 19
T 10	1000 (1s on, 1s off)x7 + (7s on, 1s off) - IM...	Any	T 34	T 1	T 42	561/760 @ 0.83Hz (0.60s / 0.60s) Alternating	Any	T 8	T 19
T 11	420(0.5s on, 0.5s off)x3 + 1s gap - ISO 8201 ...	Any	T 1	T 8	T 43	780/600 @ 0.96Hz (0.52s / 0.52s) Alternating	Any	T 8	T 19
T 12	1000(0.5s on, 0.5s off)x3 + 1s gap - ISO 8201...	Any	T 1	T 8	T 44	800/1000 @ 2Hz (0.25s / 0.25s) Alternating	Any	T 24	T 19
T 13	422/775 - (0.85 on, 0.5 off) x3 + 1s gap - ...	Any	T 1	T 8	T 45	970/800 @ 2Hz (0.25s / 0.25s) Alternating	Any	T 8	T 19
T 14	1000/2000 @ 1Hz - Singapore	Any	T 3	T 35	T 46	800/1000 @ 0.875Hz (0.57s / 0.57s) Alternating	Any	T 24	T 19
T 15	300 Continuous	Any	T 24	T 35	T 47	2400/2900 @ 2Hz (0.25s / 0.25s) Alternating	Any	T 24	T 19
T 16	440 Continuous	Any	T 24	T 35	T 48	500/1200 @ 0.3Hz (1.67s / 1.67s) Sweeping	Any	T 24	T 12
T 17	470 Continuous	Any	T 24	T 35	T 49	560/1055 @ 0.18Hz (2.73s / 2.73s) Sweeping	Any	T 24	T 12
T 18	500 Continuous - IMO code 2 (Low)	Any	T 24	T 35	T 50	560/1055 @ 3.3Hz (0.15s / 0.15s) Sweeping	Any	T 24	T 12
T 19	554 Continuous	Any	T 24	T 35	T 51	600/1250 @ 0.125Hz (4s / 4s) Sweeping	Any	T 24	T 12
T 20	660 Continuous	Any	T 24	T 35	T 52	660/1200 @ 1Hz (0.50s / 0.50s) Sweeping	Any	T 24	T 12
T 21	800 Continuous - IMO code 2 (High)	Any	T 24	T 35	T 53	800/1000 @ 1Hz (0.50s / 0.50s) Sweeping	Any	T 24	T 12
T 22	1200 Continuous	Any	T 24	T 35	T 54	800/1000 @ 7Hz (0.07s / 0.07s) Sweeping	Any	T 24	T 12
T 23	2000 Continuous	Any	T 3	T 35	T 55	800/1000 @ 50Hz (0.01s / 0.01s) Sweeping	Any	T 24	T 12
T 24	2400 Continuous	Any	T 20	T 35	T 56	2400/2900 @ 7Hz (0.07s / 0.07s) Sweeping	Any	T 24	T 12
T 25	440 @ 0.83Hz (0.60s on, 0.60s off) Intermittent	Any	T 44	T 8	T 57	2400/2900 @ 1Hz (0.50s / 0.50s) Sweeping	Any	T 24	T 12
T 26	470 @ 0.9Hz (0.55s on, 0.55s off) Intermittent	Any	T 44	T 8	T 58	2400/2900 @ 50Hz (0.01s / 0.01s) Sweeping	Any	T 24	T 12
T 27	470 @ 5Hz (0.10s on, 0.10s off) Intermittent	Any	T 44	T 8	T 59	2500/3000 @ 2Hz (0.25s / 0.25s) Sweeping	Any	T 24	T 12
T 28	544 @ 1.14Hz (0.43s on, 0.44s off) Intermittent	Any	T 24	T 8	T 60	2500/3000 @ 7.7Hz (0.65s / 0.65s) Sweeping	Any	T 24	T 12
T 29	655 @ 0.875Hz (0.57s on, 0.57s off) Intermittent	Any	T 44	T 8	T 61	800Hz Motor Siren	Any	T 24	T 12
T 30	660 @ 0.28Hz (1.80s on, 1.80s off) Intermittent	Any	T 24	T 8	T 62	1200Hz Motor Siren	Any	T 24	T 12
T 31	660 @ 3.3Hz (0.15s on, 0.15s off) Intermittent	Any	T 24	T 8	T 63	2400Hz Motor Siren	Any	T 24	T 12
T 32	745 @ 1Hz (0.50s on, 0.50s off) Intermittent	Any	T 24	T 8	T 64	Simulated Bell	Any	T 21	T 12