

# AL105NX Alarm Horn Sounder & Xenon Strobe Beacon

The AL105NX is the industry standard for combined audible and visual signalling. The high output 113dB(A) alarm horn sounder is combined with a 5 Joule, 200cd Xenon strobe beacon. CPR complaint, EN54-3 & EN54-23 tested and UL/cUL approved for private mode fire use. Featuring 64 alarm tone frequencies and 4 remotely activated stages/channels.

Globally approved for fire, marine and general applications the low current consumption and high SPL in a robust fire-retardant enclosure ensure the AL105NX is suitable for all signalling applications including fire, security and process control. The alarm horn sounder & Xenon strobe 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 M20x1.5mm threaded cable entries – adaptors available
- Duplicate pluggable cable terminations – Class A
- Ingress protection IP66 Type 4/4X/13/3R
- 64 alarm tone frequencies and 4 remotely activated alarm stages
- 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
- UL EU: (EN54-3 & EN54-23) UL-EU-01154-CPR
- CPR 305/2011: 2821-CPR-0109
- MED 2020/1170: MEDB000074G
- DNV GL-CG-0339: TAA00002ZU
- USCG COA 161-002-69-0
- 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: 113dB(A) @ 1 m ±3dB [104dB(A) @ 10ft/3m ±3dB]

Nominal output: 106dB(A) @ 1m ±3dB [97dB(A) @ 10ft/3m ±3dB]

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

No. of stages: 4

Volume control: -12dB(A) tone dependent

Effective range: 58m/190ft @ 1KHz

In rush: 636mA within 4.0ms @ 24Vdc

Stage switching: Negative (common positive)

Xenon Strobe:

Energy: 5 Joules(5Ws)

Flash rate: 1Hz (60 fpm)  
DC units: 1.5Hz (90 fpm) & Double strike

Peak Candela: 500,000 cd – calculated from energy (J)

Effective cd: 250 cd – calculated from energy (J)

Peak Candela: 86,935 cd\* – measured ref. to I.E.S.

Effective cd: 200 cd\* – measured ref. to I.E.S.

Tube life: Emissions may reduce to 70% after 8 million flashes

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 – 2.5mm² (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: 114.79 years / 1,005,530 hours – MIL 217

MTBF AC: 86.29 years / 755,857 hours – MIL 217

Weight DC: 0.95kg / 2.10lbs

Weight AC: 1.20kg / 2.64lbs

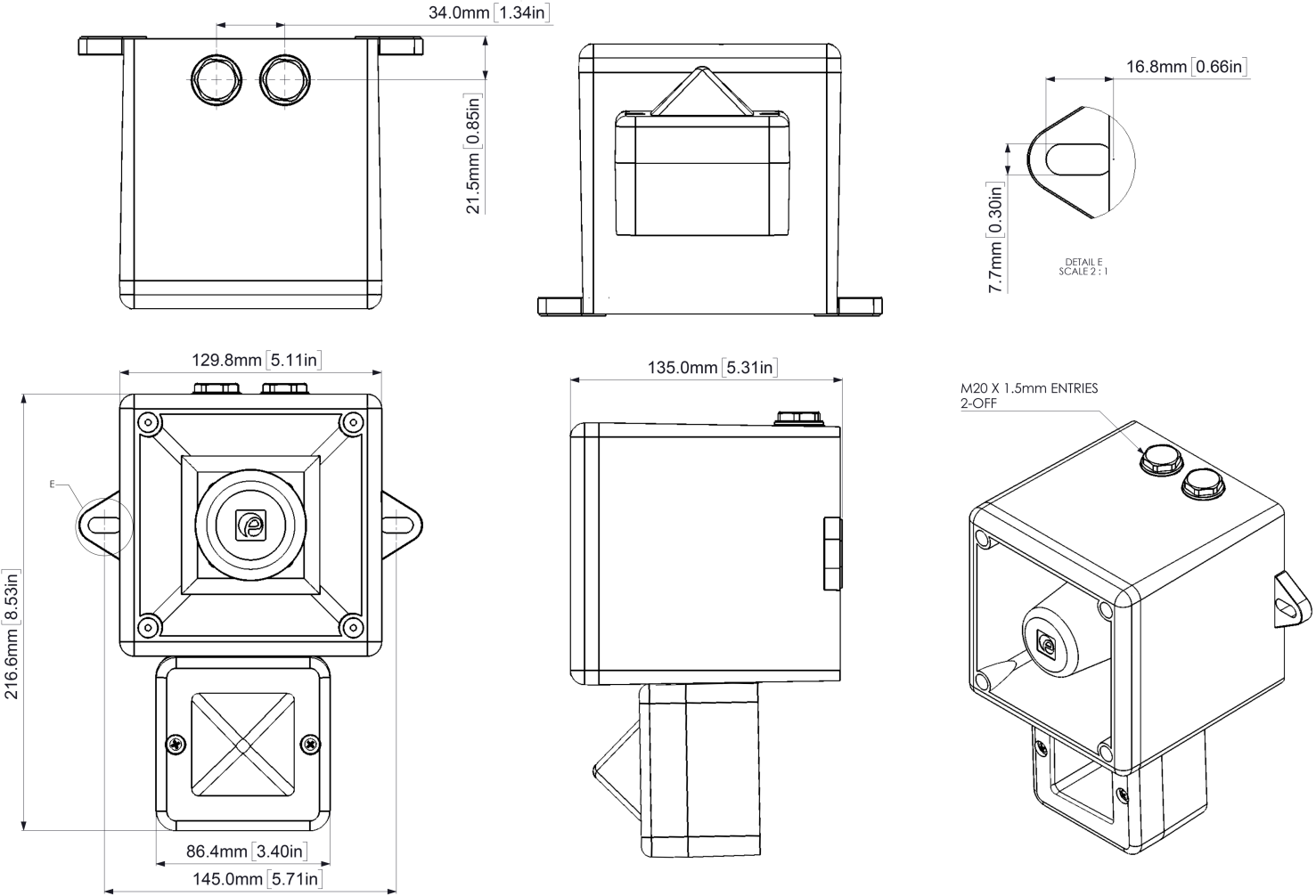
Part Codes

Variable: Identifier: Description:

|                             |         |                                                                |
|-----------------------------|---------|----------------------------------------------------------------|
| Product type:               | AL105NX | Combined alarm horn sounder & Xenon strobe                     |
| Voltage:                    | DC012   | 12Vdc (11.5-14Vdc)                                             |
|                             | DC024   | 24Vdc (20-28Vdc)                                               |
|                             | DC048   | 48Vdc (42-54Vdc)                                               |
|                             | AC024   | 24Vac 50/60Hz                                                  |
|                             | AC048   | 48Vac 50/60Hz                                                  |
|                             | AC115   | 115Vac 50/60Hz                                                 |
| Back box/cable entries: [e] | AC230   | 230Vac 50/60Hz                                                 |
|                             | A       | Back box with mounting lugs – 2 x M20x1.5mm entries            |
|                             | B       | Back box with mounting lugs – 2 × 1/2"NPT (adaptors)           |
| 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, CPR, MED, DNV, USCG, RMRS, EAC, CE, UKCA – SIL1 & SIL2 |
| Product option: [o]         | 1       | Standard product                                               |
|                             | X       | Custom configuration – contact E2S                             |
|                             | Z       | Custom alarm tone software – contact E2S                       |
| Enclosure colour: [x]       | R       | Red                                                            |
|                             | G       | Grey                                                           |
| Lens colour: [y]            | A       | Amber                                                          |
|                             | B       | Blue                                                           |
|                             | C       | Clear                                                          |
|                             | G       | Green                                                          |
|                             | M       | Magenta                                                        |
|                             | R       | Red                                                            |
|                             | Y       | Yellow                                                         |

Current Consumption

| Product Version: | Nominal Voltage: | Voltage Range:   | Beacon Current: | Horn Current: |
|------------------|------------------|------------------|-----------------|---------------|
| DC012            | 12Vdc            | 11.5-14Vdc       | 341mA           | 17mA          |
| DC024            | 24Vdc            | 20-28Vdc         | 250mA           | 33.5mA        |
| DC048            | 48Vdc            | 42-54Vdc         | 170mA           | 113mA         |
| AC024            | 24Vac            | 24-28Vac 50/60Hz | 300mA           | 42.5mA        |
| AC048            | 48Vac            | ±10% 50/60Hz     | 250mA           | 42.5mA        |
| AC115            | 115Vac           | ±10% 50/60Hz     | 70mA            | 25mA          |
| AC230            | 230Vac           | ±10% 50/60Hz     | 35mA            | 17mA          |



Tone table

| S 1  | Description                                      | S 2 | S 3  | S 4  |
|------|--------------------------------------------------|-----|------|------|
| T 1  | 1000 Continuous - PFEER Toxic Gas                | Any | T 2  | T 44 |
| T 2  | 1200/500 @ 1Hz Sweeping - DIN / PFEER P.T.A.P.   | Any | T 3  | T 44 |
| T 3  | 1000 @ 0.5Hz (1s on, 1s off) Intermittent - P... | Any | T 2  | T 44 |
| T 4  | 1.4KH-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s - NF C 48... | Any | T 24 | T 1  |
| T 5  | 544(100mS)/440 (400mS) - NF S 32-001             | Any | T 19 | T 1  |
| T 6  | 1500/500 - (0.5s on , 0.5s off) x3 + 1s gap -... | Any | T 44 | T 1  |
| T 7  | 500-1500Hz Sweeping 2 sec on 1 sec off - AS4428  | Any | T 44 | T 1  |
| T 8  | 500/1200Hz @ 0.26Hz(3.3s on, 0.5s off) - NEN ... | Any | T 24 | T 35 |
| T 9  | 1000 (1s on, 1s off)x7 + (7s on, 1s off) - IM... | Any | T 34 | T 1  |
| T 10 | 1000 (1s on, 1s off)x7 + (7s on, 1s off) - IM... | Any | T 34 | T 1  |
| T 11 | 420(0.5s on, 0.5s off)x3 + 1s gap - ISO 8201 ... | Any | T 1  | T 8  |
| T 12 | 1000(0.5s on, 0.5s off)x3 + 1s gap - ISO 8201... | Any | T 1  | T 8  |
| T 13 | 422/775 - (0.85 on, 0.5 off) x3 + 1s gap - ...   | Any | T 1  | T 8  |
| T 14 | 1000/2000 @ 1Hz - Singapore                      | Any | T 3  | T 35 |
| T 15 | 300 Continuous                                   | Any | T 24 | T 35 |
| T 16 | 440 Continuous                                   | Any | T 24 | T 35 |
| T 17 | 470 Continuous                                   | Any | T 24 | T 35 |
| T 18 | 500 Continuous - IMO code 2 (Low)                | Any | T 24 | T 35 |
| T 19 | 554 Continuous                                   | Any | T 24 | T 35 |
| T 20 | 660 Continuous                                   | Any | T 24 | T 35 |
| T 21 | 800 Continuous - IMO code 2 (High)               | Any | T 24 | T 35 |
| T 22 | 1200 Continuous                                  | Any | T 24 | T 35 |
| T 23 | 2000 Continuous                                  | Any | T 3  | T 35 |
| T 24 | 2400 Continuous                                  | Any | T 20 | T 35 |
| T 25 | 440 @ 0.83Hz (0.60s on, 0.60s off) Intermittent  | Any | T 44 | T 8  |
| T 26 | 470 @ 0.9Hz (0.55s on, 0.55s off) Intermittent   | Any | T 44 | T 8  |
| T 27 | 470 @ 5Hz (0.10s on, 0.10s off) Intermittent     | Any | T 44 | T 8  |
| T 28 | 544 @ 1.14Hz (0.43s on, 0.44s off) Intermittent  | Any | T 24 | T 8  |
| T 29 | 655 @ 0.875Hz (0.57s on, 0.57s off) Intermittent | Any | T 44 | T 8  |
| T 30 | 660 @ 0.28Hz (1.80s on, 1.80s off) Intermittent  | Any | T 24 | T 8  |
| T 31 | 660 @ 3.3Hz (0.15s on, 0.15s off) Intermittent   | Any | T 24 | T 8  |
| T 32 | 745 @ 1Hz (0.50s on, 0.50s off) Intermittent     | Any | T 24 | T 8  |

| S 1  | Description                                     | S 2 | S 3  | S 4  |
|------|-------------------------------------------------|-----|------|------|
| T 33 | 800 (0.25s on, 1.00s off) Intermittent          | Any | T 24 | T 8  |
| T 34 | 800 @ 2Hz (0.25s on, 0.25s off) - IMO code 3... | Any | T 24 | T 8  |
| T 35 | 1000 @ 1Hz (0.50s on, 0.50s off) Intermittent   | Any | T 24 | T 8  |
| T 36 | 2400 @ 1Hz (0.50s on, 0.50s off) Intermittent   | Any | T 24 | T 8  |
| T 37 | 2900 @ 5Hz (0.10s on, 0.10s off) Intermittent   | Any | T 24 | T 8  |
| T 38 | 363/518 @ 1Hz (0.50s / 0.50s) Alternating       | Any | T 8  | T 19 |
| T 39 | 450/500 @ 2Hz (0.25s / 0.25s) Alternating       | Any | T 8  | T 19 |
| T 40 | 554/440 @ 1Hz (0.50s / 0.50s) Alternating       | Any | T 24 | T 19 |
| T 41 | 554/440 @ 0.65Hz (0.76s / 0.76s) Alternating    | Any | T 8  | T 19 |
| T 42 | 561/760 @ 0.83Hz (0.60s / 0.60s) Alternating    | Any | T 8  | T 19 |
| T 43 | 780/600 @ 0.96Hz (0.52s / 0.52s) Alternating    | Any | T 8  | T 19 |
| T 44 | 800/1000 @ 2Hz (0.25s / 0.25s) Alternating      | Any | T 24 | T 19 |
| T 45 | 970/800 @ 2Hz (0.25s / 0.25s) Alternating       | Any | T 8  | T 19 |
| T 46 | 800/1000 @ 0.875Hz (0.57s / 0.57s) Alternating  | Any | T 24 | T 19 |
| T 47 | 2400/2900 @ 2Hz (0.25s / 0.25s) Alternating     | Any | T 24 | T 19 |
| T 48 | 500/1200 @ 0.3Hz (1.67s / 1.67s) Sweeping       | Any | T 24 | T 12 |
| T 49 | 560/1055 @ 0.18Hz (2.73s / 2.73s) Sweeping      | Any | T 24 | T 12 |
| T 50 | 560/1055 @ 3.3Hz (0.15s / 0.15s) Sweeping       | Any | T 24 | T 12 |
| T 51 | 600/1250 @ 0.125Hz (4s / 4s) Sweeping           | Any | T 24 | T 12 |
| T 52 | 660/1200 @ 1Hz (0.50s / 0.50s) Sweeping         | Any | T 24 | T 12 |
| T 53 | 800/1000 @ 1Hz (0.50s / 0.50s) Sweeping         | Any | T 24 | T 12 |
| T 54 | 800/1000 @ 7Hz (0.07s / 0.07s) Sweeping         | Any | T 24 | T 12 |
| T 55 | 800/1000 @ 50Hz (0.01s / 0.01s) Sweeping        | Any | T 24 | T 12 |
| T 56 | 2400/2900 @ 7Hz (0.07s / 0.07s) Sweeping        | Any | T 24 | T 12 |
| T 57 | 2400/2900 @ 1Hz (0.50s / 0.50s) Sweeping        | Any | T 24 | T 12 |
| T 58 | 2400/2900 @ 50Hz (0.01s / 0.01s) Sweeping       | Any | T 24 | T 12 |
| T 59 | 2500/3000 @ 2Hz (0.25s / 0.25s) Sweeping        | Any | T 24 | T 12 |
| T 60 | 2500/3000 @ 7.7Hz (0.65s / 0.65s) Sweeping      | Any | T 24 | T 12 |
| T 61 | 800Hz Motor Siren                               | Any | T 24 | T 12 |
| T 62 | 1200Hz Motor Siren                              | Any | T 24 | T 12 |
| T 63 | 2400Hz Motor Siren                              | Any | T 24 | T 12 |
| T 64 | Simulated Bell                                  | Any | T 21 | T 12 |