

# MC1LD2F Alarm Horn & LED Beacon

The MC1LD2F combines a high output, 117dB(A) alarm sounder with a multi-function L.E.D. beacon. Featuring a robust, fire retardant, IP66 & IP67 housing, the MC1LD2F is particularly suitable for harsh environments with high ambient noise levels.

The flare horn on the MC1LD2F produces sound level outputs up to 117dB(A) at 1 metre with a choice of 64 alarm tones and 4 remotely selectable stages. The LED beacon contains an array of 4 high output, multi-function L.E.D.s. with a total of 7 modes of operation – 5 flashing modes and 2 steady modes for use in indicator / status applications. DC voltage versions feature three remotely selectable stages enabling multiple warnings to be signalled from one device. The sounder & beacon can be operated individually or simultaneously.

## Features

- Ingress protection IP66/67 Type 4/4X/13
- Glass lenses & 316 (A4) Stainless steel guard
- UV stable PC, field replaceable, colour lens filter
- Large termination area
- Dual M20 or 1/2"NPT cable entries – adaptors available
- Stopping plug included
- 316 (A4) Stainless steel mounting bracket
- Ratchet adjustable 'U' bracket for 360° positioning
- Duplicate cable terminations
- Reverse polarity diode fitted
- Continuously rated
- Automatic synchronisation
- 64 alarm tone frequencies and 4 remotely activated alarm stages
- Positive or negative stage activation switching
- Alternative activation configurations available
- Available with custom tone configurations and frequencies
- Array of 4 x high power Cree® LED's
- Modes:
  - 1Hz flash (60 fpm)
  - 1.5Hz flash (90 fpm)
  - 2Hz flash (120 fpm)
  - Double strike flash
  - Triple strike flash
  - High Power Steady
  - Low Power Steady
- Alarm horn/sounder & beacon can be operated individually or simultaneously



## Approvals

- Russian Maritime Register of Shipping  
Cert: No. 19.00193.278

## Specification

### Alarm Horn Sounder:

Maximum output:	117dB(A) @ 1m +/- 3dB [108dB(A) @ 10ft/3m +/- 3dB]
Nominal output:	114dB(A) @ 1m +/- 3dB [103dB(A) @ 10ft/3m] +/- 3dB
No. of tones:	64 (UK00A / PFEER compliant)
No. of stages:	4
Volume control:	Full range control
Effective range:	108m/355ft @ 1KHz
Stage switching:	Negative, positive, voltage free

### LED Beacon:

Source:	Array of 4 x High Power Cree® LED's
Eff. Intensity cd:	87 cd - High Power Steady
Eff. Intensity cd:	160 cd - 1Hz flash
LED life:	60,000 hours

### General:

Ingress protection:	IP66 & IP67 Type 4/4X/13
Enclosure material:	High impact UL94 V0 & 5VA FR ABS
Enclosure colour:	Grey (RAL7038) or Red (RAL3000)
Dome material:	Borosilicate glass
Lens colour filter:	Field replaceable UV stable PC
Lens guard:	316 (A4) Stainless steel
Cable entries:	2 x M20; 1 x M20 & 1 x 1/2"NPT; 2 x 1/2"NPT supplied with blanking plug
Terminals:	0.5 - 2.5mm <sup>2</sup> (20-14 AWG)
Line monitoring:	Diode polarized for use in supervised circuits
Operating temp:	-40 to +66°C [-40° to +151°F]
Storage temp:	-40 to +70°C [-40° to +158°F]
Relative humidity:	95% at 20°C [68°F]
Weight :	DC: 3.00kg/6.6lbs AC:3.50kg/7.7lbs

## Part Codes

Variable:	Identifier:	Description:
Product type:	MC1LD2	Combined alarm horn sounder & LED beacon
Type:	F	Flare re-entrant horn
Voltage:	DC024 AC115 AC230	24V dc 115V ac 240V ac
Cable entries: [e]	A B C	M20x1.5 & ½" NPT M20x1.5 & M20x1.5 (Default) ½" NPT & ½" NPT
Stopping plug material:	N	Nylon
Bracket & Guard: [s]	1 3	316 (A4) Stainless Steel 316 (A4) Stainless Steel with Equipment tag
Product version: [v]	A	CE, RMRS
Product option: [o]	1 Z X Y	Standard product Custom alarm tone software - contact E2S Custom configuration - contact E2S Stage control Config. 4 or 8
Enclosure colour: [x]	G R S	Grey Red Special colour - contact E2S
Lens colour: [y]	A B C G M R Y	Amber Blue Clear Green Magenta Red Yellow

### Accessories:

SP65-0001-A4	Pole Mount Bracket Kit St/St A4 (316)
SP65-0003-A4	Sunshade - St/St A4 (316)

### 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

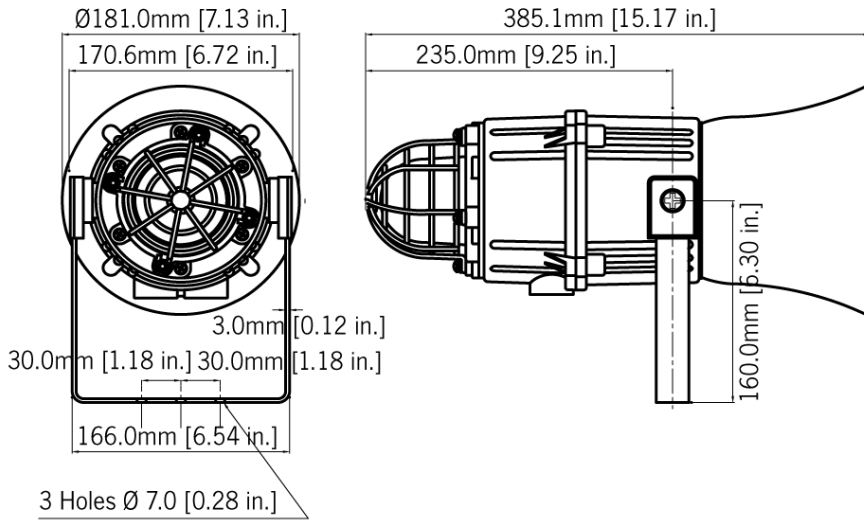
Config. 1 or 2 [AC]: Factory default. Up to 4 Alarm Stages. Stage 1 activated at power on. Stages 2, 3 and 4 via volt free contacts

### Multi-function patterns

Stage 1:	Stage 2 (DC only):	Stage 3 (DC only):
Steady High Power	Flashing 1Hz	Triple Strike
Steady Low Power	Flashing 1Hz	Triple Strike
Flashing 1Hz	2x Flash 2Hz	Triple Strike
Flashing 1.5Hz	Flashing 2Hz	Double Strike
Flashing 2Hz	Triple Strike	Triple Strike
Double Strike	Steady High Power	Triple Strike
Triple Strike	Flashing 2Hz	Double Strike

## Current Consumption

Product Version:	Nominal Voltage:	Voltage Range:	Horn Current:	Steady High Power:	Steady Low Power:	Flashing 1Hz:
DC024	24V dc	18-54V dc	224mA	240mA	134mA	110mA
AC115	115Vac	±10% 50/60Hz	100mA	95mA	78mA	90mA
AC230	230V ac	±10% 50/60Hz	64mA	48mA	37mA	45mA



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