2-21-205 / Heavy industrial marine grade signals

MA2H Alarm Horn Sounder IP66/67 Type 4/4X/13

The MA2H is a very high output, 129dB(A) alarm horn sounder. Featuring a robust, fire retardant, IP66 and IP67 Type 4/4X/13 enclosure. Utilising the new E2S '2H' super high output flare horn – engineered to maximise audible signaling performance.

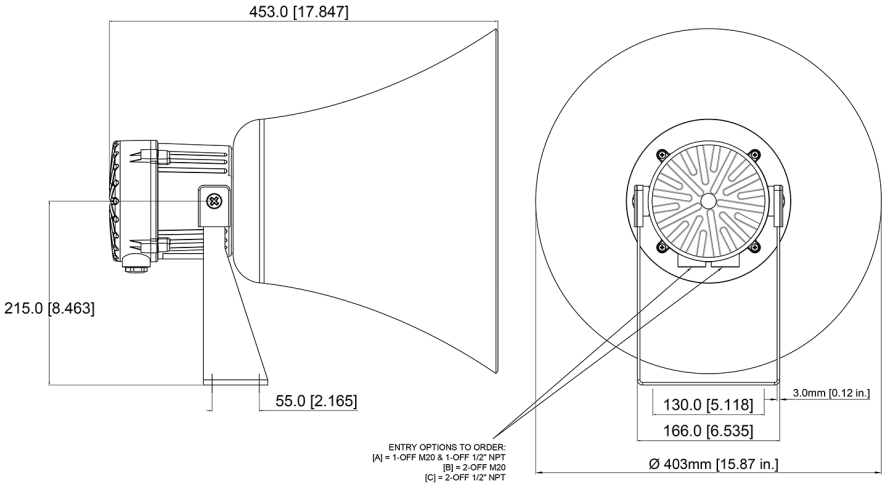
The 'M' series of products have been designed to withstand the harshest of environments. Constructed from lightweight, impact and fire resistant ABS, the range features stainless steel, ratchet adjustable mounting brackets. The MA2H features a enhanced flare horn design achieving a very high level of sound output. Employing the latest in reliable D Class amplifier technology the MA2H maintains low in-rush and, current consumption and wide input voltage range. Two user selectable power settings provide the optimum combination of sound level output and current consumption.

Features

- Ingress protection IP66/67 Type 4/4X/13
- Automatic synchronisation on multi-sounder systems
- Dual user-selectable sound output power modes
- Continuously rated
- Large termination area
- Dual M20 or 1/2"NPT cable entries – adaptors available
- 316 (A4) Stainless steel mounting bracket
- Ratchet adjustable 'U' bracket for 360° positioning
- Duplicate pluggable cable terminations
- Conformal coated (tropicalised) electronics
- 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

Approvals

- Russian Maritime Register of Shipping
  Cert: No. 19.00193.278



Specification

Maximum output:	Default power level: 129dB(A) @ 1 m +/- 3dB [120dB(A) @ 10ft/3m +/- 3dB] Lower power level: 126dB(A) @ 1 m +/- 3dB [117dB(A) @ 10ft/3m +/- 3dB]
Nominal output:	Default power level: 125dB(A) @ 1m +/- 3dB [116dB(A) @ 10ft/3m] +/- 3dB Lower power level: 123dB(A) @ 1m +/- 3dB [114dB(A) @ 10ft/3m] +/- 3dB
No. of tones:	64 (UKOOA / PFEER compliant)
No. of stages:	4
Volume control:	Full range control
Effective range:	High power level: 422m/1384ft @ 1KHz Default power level: 624m/2047ft @ 1KHz
Voltages DC:	10-60V dc High voltage DC option available
Voltages AC:	100-240V ac
In rush:	815mA within 4.0ms @ 24Vdc
Stage switching:	Negative, positive, voltage free
Line monitoring:	Diode polarized for use in supervised circuits
Ingress protection:	IP66 & IP67 Type 4/4X/13
Enclosure material:	High impact UL94 V0 & 5VA FR ABS
Enclosure colour:	Grey (RAL7038) or Red (RAL3000)
Cable entries:	2 x M20; 1 x M20 & 1 × 1/2"NPT; 2 × 1/2"NPT supplied with blanking plug
Terminals:	0.5 – 2.5mm² (20-14 AWG)
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]
MTBF	DC: 93.92 years / 822,706 hours – MIL 217 AC: 149.81 years / 1,312,335 hours – MIL 217
Weight:	DC: 3.00kg/6.6lbs AC:3.50kg/7.7lbs

Part Codes

Variable:	Identifier:	Description:
Product type:	MA2	Alarm horn sounder
Flare type:	H	High Output Flare re-entrant horn
Voltage:	DC024 AC230	10-60V dc 100-240V ac 50/60Hz
Cable entries: [e]	A B C	M20x1.5 & ½" NPT M20x1.5 & M20x1.5 (Default) ½" NPT & ½" NPT
Stopping plug material: [m]	N	Nylon
Bracket: [s]	1 3	316 (A4) Stainless Steel 316 (A4) Stainless Steel with Equipment tag
Approvals:	A1	CE, RMRS
Enclosure:	R G	Red (RAL 3000) Grey (RAL7038)

Current Consumption

Product Version:	Nominal Voltage:	Voltage Range:	Default Power Level Current:	Lower Power Level Current:
DC024	12V dc 24V dc 48Vdc	10-60V dc	440mA 888mA 453mA	376mA 391mA 223mA
AC230	115Vac 50/60Hz 230V ac 50/60Hz	100-240V ac	340mA 212mA	173mA 107mA

Tone table

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