

# MA100 Series

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E l e c t r o m e c h a n i c a l   M u l t i - S i r e n

## Operation & Parts Manual

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# 1. INTRODUCTION

## 1.1 Features

This device contains one horn and one control box. Its advanced design with lightweight, compact and selectable tone audible signal provides continuous duty and economical operation. All the unique tones are produced by the digital micro-controller unit. (MCU) The built-in automatic control circuitry is available with more than 10 kinds of tone selectable.

※ This feature is particularly useful in some specific situations where distinctive tone is required, such as areas with high-level noise or where a different sound is required to distinguish from other nearby signals. Please refer to the attached Tone Setting table for tones selectable.

## 1.2 Specifications

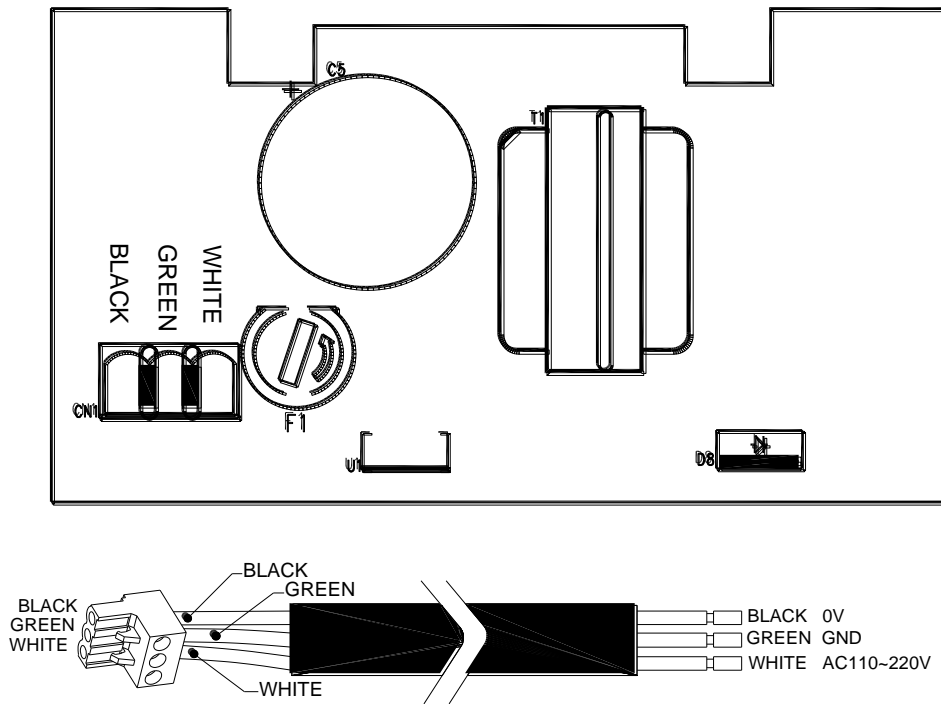
Power consumption	< 45W	
Operating voltage/current	100 ~ 240VAC(60/50HZ)/ max 0.6A -----	MA100
Volume	in 1 meter of distance Over 95dB	
Resistance	8 Ω	
Anti surge	over 4000V	
Water-proof	IP65	
Operating Temp.	-20°C ~ +60°C (humidity under 85%)	
Anti-vibration	Tested on the basis of 45m/Sec <sup>2</sup>	
Weight	3,300± 100g	
Dimension	145 x 127 x 101 (mm) (Control box housing) 220 x 220 x 271 (mm) (Siren housing)	

# 2. PARTS LIST

1. control box(Upper+ Bottom)	GC-00100+GC-00101
2. Speaker holder	EZ-00003
3. Main control board	EB-MA100
4. Switching power supply board	BMA100-MA100SP
5. Cable gland	CW-00062
6. Anti-vibration bumper	GC-00104

# 3. INSTALLATION

## 3.1 Wiring Diagram



## 3.2 Safety instruction

Be sure to follow the safety instruction attached with this device before installation. The selection of mounting location, its controls and wiring is to be accomplished under the direction of the Facilities Engineer and Safety Engineer.

### The following procedures should be followed strictly:

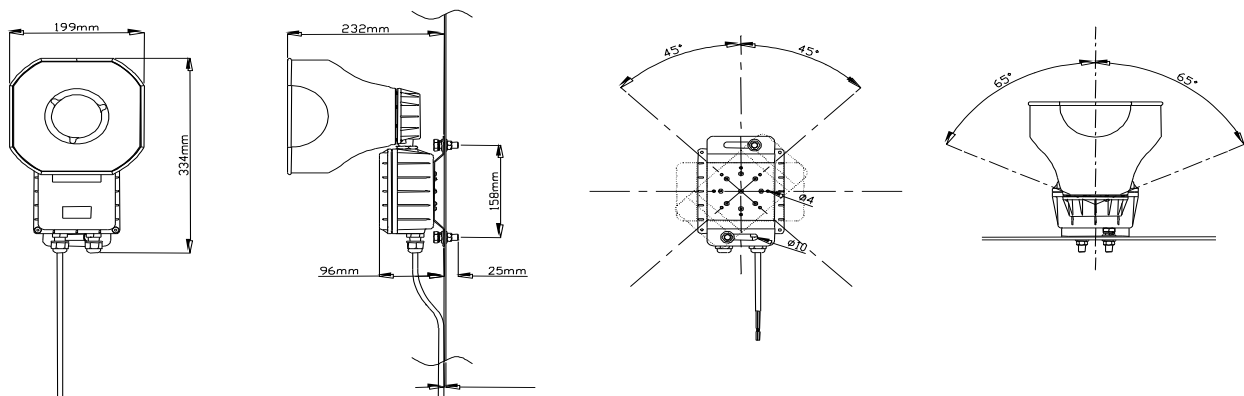
1. Read and understand all the instructions before this device is installed or operated.
  2. Always connect this device when main power source to the equipment is off.
  3. Ensure that there is no object in front of the speaker when this device is in use, or the optimum sound distribution will be reduced.
  4. In certain situations, all the loud sounds produced by effective warning speaker may cause permanent hearing loss. Please take appropriate precaution such as wearing hearing protection.
  5. Ensure this device is installed far away enough from potential listeners to prevent them from hearing loss. Yet the distance should still remain this device's effectiveness.
  6. After installation, be sure that all bolts and threaded joints are tightened.
- ※ The siren is easy to be operated. However, to work efficiently and to increase the productivity, safety is always the first priority.

### 3.3 Tools required for installation

1. Flat Head Screwdriver (-)
2. Phillips Head Screwdriver (+)
3. Multi-Meter
4. 14mm Wrench
5. Power Drill
6. Bit
7. Needle-nose pliers
8. Side-cutting pliers
9. Wiring material

### 3.4 Installation steps

1. Place the backside of this device housing against the mounting surface. Take the two mounting holes in the backside of the housing as a template or refer to figure 1 for the location of mounting hole. Mark the positions on the mounting surface.
2. The specification of the wire depends on the operating current and the distance from the power source.
3. Loosen the screws that secure the cover to the housing. Then gently pull the cover away from the housing.
4. Run wires from power source through conduit to the internal panel of this device. Then install the wire on terminal holder.



※ Figure 1: **The higher the position of the siren, the better.**

### **3.5 Speaker positioning**

This device is allowed to adjust the speaker 360° to almost any horizontal surface. To reposition the speaker, loosen the screws that secure the speaker, then rotate the speaker to the desired position and lock the screws.

### **3.6 Volume control/caution**

To adjust the volume in factory, ensure the volume is loud enough or warned effectively. -----  
The volume level of this device is adjustable. To adjust the volume, loosen the screws that secure the front cover and body to adjust the volume setting VR.

### **3.7 Safety instructions to operators**

**The following procedures should be followed strictly:**

1. Read and understand all the instructions before this device is operated.
2. Be sure this device is installed far away enough from potential listeners to prevent them from hearing loss. Yet the distance should still remain this device's effectiveness.
3. Even if the siren is operated properly, it might not achieve desired effectiveness completely due to the volume is not loud enough or does not warn effectively. Please re-adjust the siren and make sure the siren installed without such problem.
4. After this device is installed, turn on the switch provided by the user to activate.

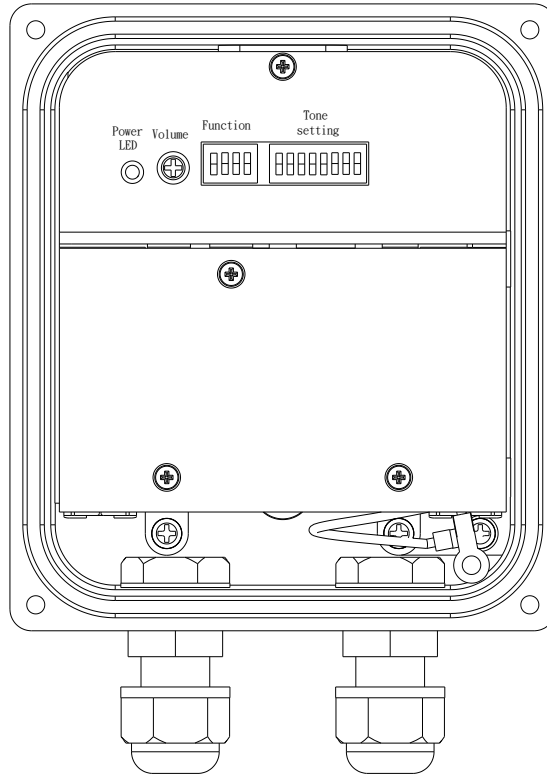
### **3.8 Maintenance**

#### **Safety instructions to Maintenance Personnel**

1. Read and understand all the instructions before maintenance is performed.
2. To reduce the risk such as electrical shock or other hazardous situations, do not perform maintenance on this device when circuits are energized.
3. Periodically check if there is any object in front of the speaker when this device is in use, or the optimum sound distribution will be reduced.
4. Any maintenance to the device must be performed by a trained technician.
5. Never change the design of this device, no matter under what kind of circumstances. If any alternation is made, safety in hazardous locations equipped with this device may be endangered.
6. Nameplate of this device which may contains cautionary or important messages of maintenance should never be obscured even if exterior of housings are painted for specific purpose.
7. Fail to follow the safety precautions and instructions may result in property damage and serious injury.
8. Periodical maintenance is not necessary except for cleaning. To ensure this device is operated properly, regular testing should be executed.
9. In case of any volume adjustment or maintenance, please refer to the Safety Instructions to Maintenance Personnel prior to proceeding.

### 3.9 Tables enclosed

#### 3.9.1 Position of control box panel



#### 3.9.2 Position setting

##### 3.9.2.1 Tone setting

S5-1	S5-2	S5-3	S5-4	(tone setting)
0	0	0	0	Siren - 11mS 560 ~ 1055Hz
1	0	0	0	Siren - 6.3mS 560~1055Hz
0	1	0	0	Siren - 3.3mS 560 ~ 1055Hz
1	1	0	0	Ambulance -1 363 ~518Hz
0	0	1	0	Ambulance -2 561 ~760Hz
1	0	1	0	Ambulance -3 760 ~ 1140Hz
0	1	1	0	Ambulance -4 610 ~ 850Hz
1	1	1	0	424 ~1163Hz
0	0	0	1	1295~ 545Hz
1	0	0	1	Air Horn 400*2~800Hz
0	1	0	1	Bell 800Hz
1	1	0	1	Cross section 760 ~ 1660Hz
0	0	1	1	Westminster Chime 8 notes
1	0	1	1	Bell - gradually increasing in volume 800Hz
0	1	1	1	Fire Engine

##### 3.9.2.2 Functioning time setting

S6-1	S6-2	S6-3	
0	0	0	No limit
1	0	0	5 sec.
0	1	0	10 sec.
1	1	0	30 sec.
0	0	1	1 min.
1	0	1	2 min.
0	1	1	4 min.
1	1	1	8 min.

3.9.2.3. Volume setting: (VR) Switch clockwise to turn the volume up and counterclockwise to turn it down.

