

# Wall and Ceiling Notification Appliances

## This manual applies to the following models

### Horn only

FH-400-WW and FH-400-RR - wall and ceiling mounted horn

### Strobe only

FS-400-WW and FS-400-RR - wall mounted strobe

FS-400C-WW and FS-400C-RR - ceiling mounted strobe

### Horn and strobe

FHS-400-WW and FHS-400-RR - wall mounted horn and strobe

FHS-400C-WW and FHS-400C-RR - ceiling mounted horn and strobe

Note: WW indicates a white unit and RR indicates a red unit.

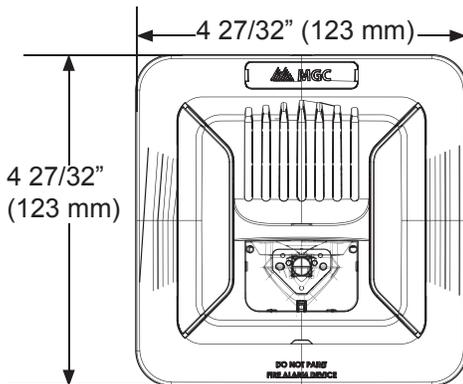
## General Specifications

Operating temperature:	0°C to 50°C (32°F to 122°F)
Humidity range:	0% to 93%
Strobe flash rate:	1 Hz
Nominal Voltage:	Regulated 24 VDC / 24 VFWR
Operating Voltage Range (RMS):	16 - 33 VDC / VFWR
Input terminal wire gauge:	22 AWG to 12 AWG
Installation environment:	For indoor use only

## Caution

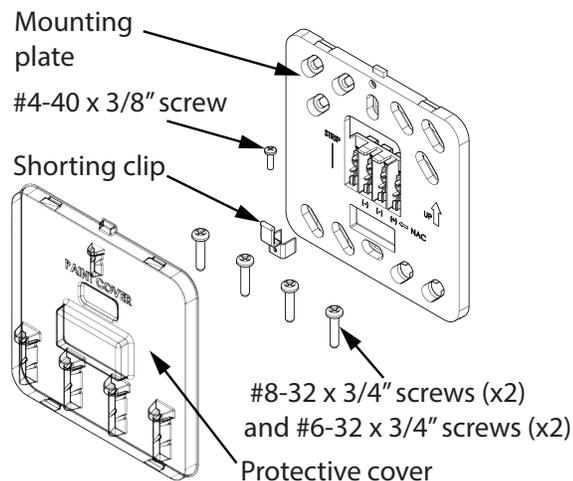
Do not change factory applied finishes.

## Dimensions for all Models



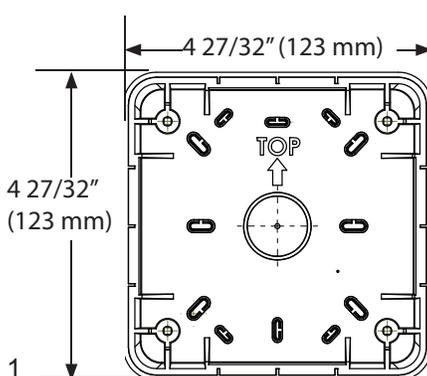
Height and width (all models)

## The kit includes

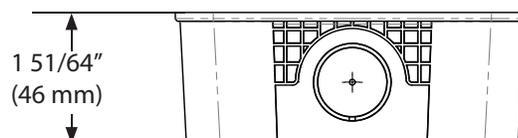


Mounting plate with screws, shorting clip, and protective cover

## Dimensions of the Optional Mounting Box (BB-400R/W)



Knockout dimensions: 1 1/16" (27 mm)





## Setting the Candela (FS-400, FS-400C, FHS-400, FHS-400C only)

The candela can be set to 15, 30, 75, 15/75, 110 and 185 (for FS-400 and FHS-400). The factory default setting is 15.

**Note:** The 185 candela setting is not available on ceiling units.

1. Remove the plastic selector tab from the back of the device.
2. Re-insert the selector tab into the notch that is labeled with the desired candela setting.

## Setting the DIP Switches

**Note:** DIP switches 2 and 3 are not used. By default they are OFF.

### Switch 1: Input

DIP Switch 1	
ON	OFF (default)
Regulated 24 VDC/FWR (Non-synchronized)	Synchronized

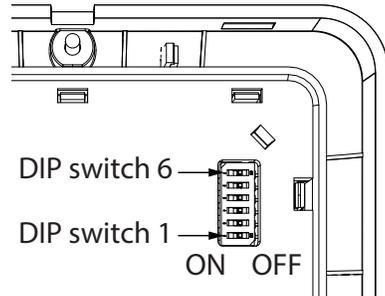
**Note:** Use **Non-synchronized** when the appliances do not need to be synchronized. Use **Synchronized** when synchronization is required, either through a sync module or built-in synchronization on the control unit.

### Switches 4 and 5: Signal Rate

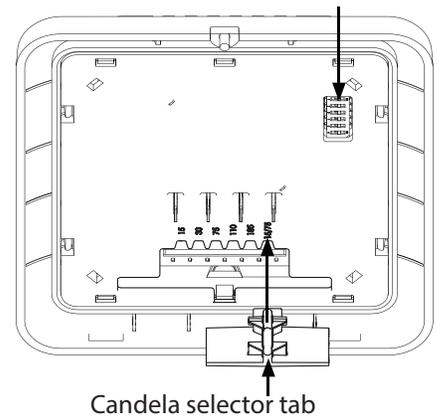
Signal Rate	DIP Switch 4	DIP Switch 5
Continuous	OFF	OFF
March	ON	OFF
Temporal	ON (default)	ON (default)
20 BPM	OFF	ON

### Switch 6: Horn volume

DIP Switch 6	
ON (default)	OFF
High	Low



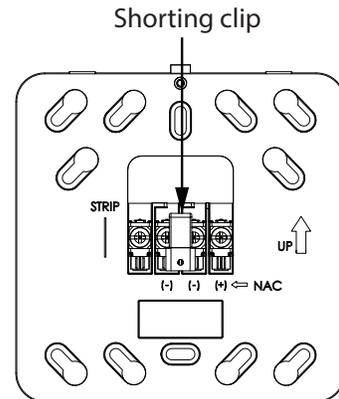
DIP switches for setting options



## Shorting Clip

In order to test the wiring, place the shorting clip on the middle two terminals after wiring.

Remove the shorting clip before mounting the device.



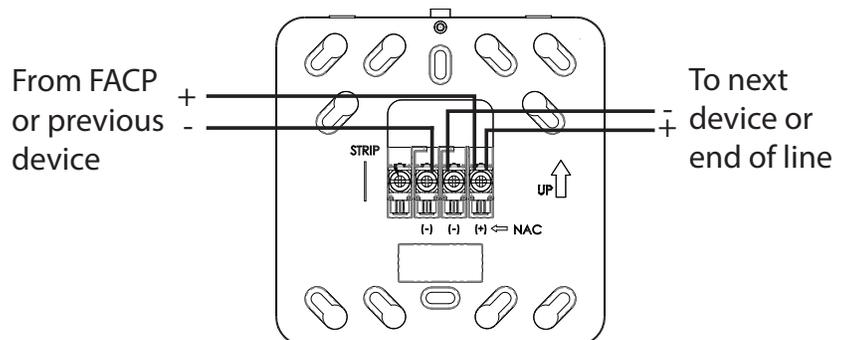
## Wiring

Use the information in this document to determine the total current draw of the devices. The total current draw of the devices must not exceed the power supply of the panel. In all cases, the installer should consider the voltage drop to ensure that the last device on the circuit operates within its rated voltage.

The absolute maximum number of devices on one circuit is 100. The absolute maximum impedance for wall mounted devices at 15 candela is 150 ohms.

Input terminal wire gauge: 22 AWG to 12 AWG

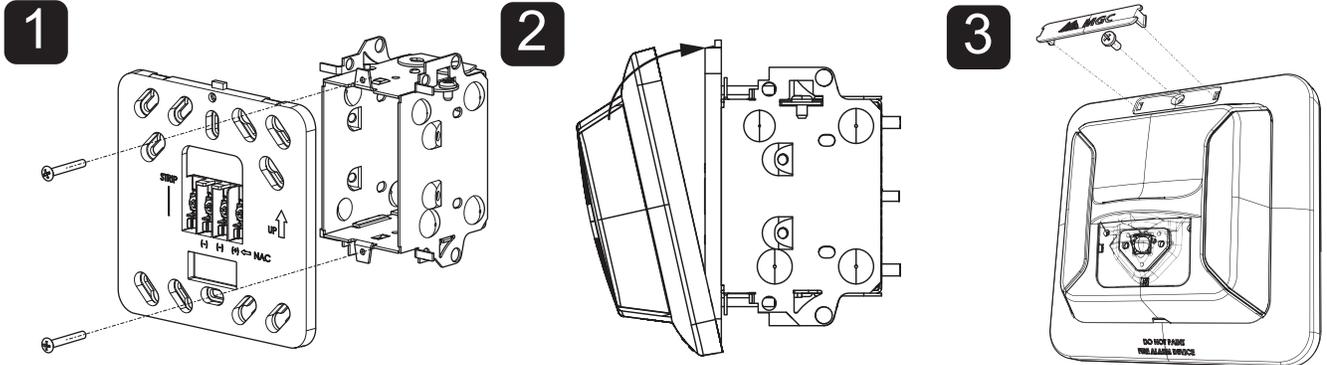
**Note:** Wiring must be in accordance with CSA C22.1, Canadian Electrical Code, Part I, Safety Standard for Electrical Installations, Section 32 and NFPA 70.





## Mounting to the Wall or Ceiling

MGC recommends spacing notification appliances in compliance with CAN/ULC S524 and NFPA 72. Mount the unit with the MGC logo at the top. The mounting plate is compatible with 3" by 2" single gang device boxes, 3-3/4" by 4" double gang boxes, 4" by 2" single gang utility boxes, standard 4" by 4" boxes, and standard 4" octagon boxes. See below for a description of the holes to use for each box.



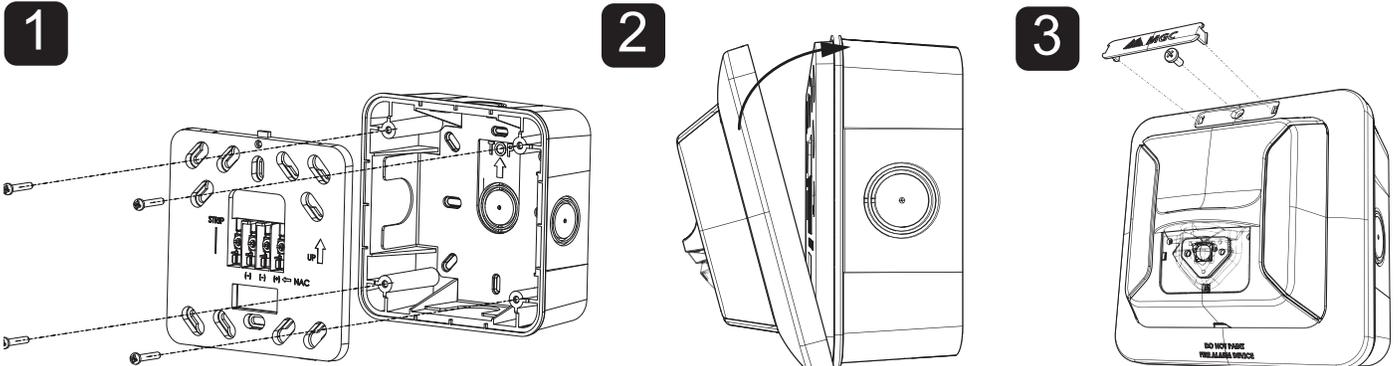
1 Attach the mounting plate to the box with 2 or 4 screws.

2 Snap the unit on to the mounting plate.

3 Secure the unit with the #4-40 x 3/8" screw and snap the nameplate over the screw.

## Mounting to the Optional Mounting Box (BB-400R/W)

MGC recommends spacing notification appliances in compliance with CAN/ULC S524 and NFPA 72. Mount the unit with the MGC logo at the top.

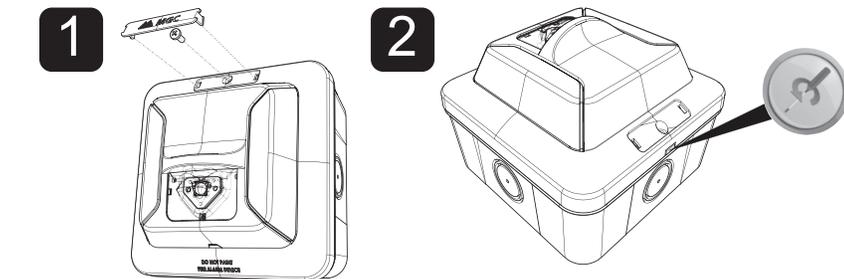


1 Attach the mounting plate to the mounting box with the 4 screws.

2 Snap the unit on to the mounting plate.

3 Secure the unit with the #4-40 x 3/8" screw and snap the nameplate over the screw.

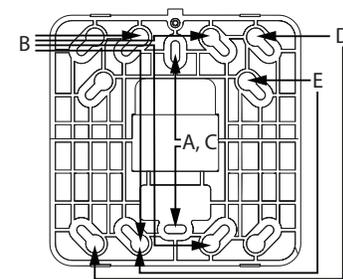
## Unmounting



1 Remove the nameplate and the screw.

2 Insert a flathead screwdriver into the slot at the top of the unit and turn it to separate the unit from the mounting plate.

## Mounting Options



- A: 3" by 2" single gang device box
- B: 3 3/4" by 4" double gang box
- C: 4" by 2" single gang utility box
- D: standard 4" by 4" box
- E: standard 4" octagon box

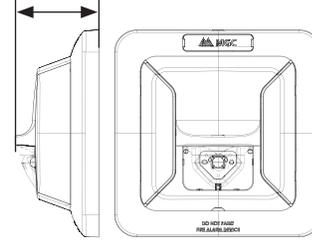


## Operating RMS Currents (mA)

### FS-400 Strobe Operating RMS Currents (mA)

Candela	Regulated 24 VDC	Regulated 24 VFWR
15	25	64
30	39	106
75	102	189
15/75	93	189
110	105	189
185	179	241

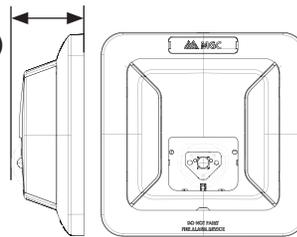
1 61/64"  
(50 mm)



### FS-400C Strobe Operating RMS Currents (mA)

Candela	Regulated 24 VDC	Regulated 24 VFWR
15	37	93
30	72	152
75	152	217
15/75	153	216
110	226	256

1 3/4"  
(44 mm)

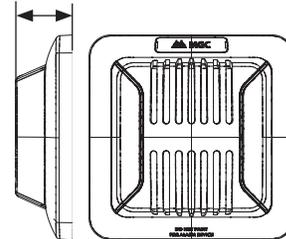


Note: The 185 candela setting is not available on ceiling units.

### FH-400 Horn Operating RMS Currents (mA)

Volume	Regulated 24 VDC, all tones	Regulated 24 VFWR, all tones
High	37	31
Low	22	25

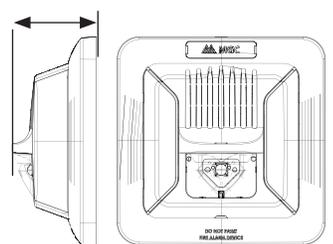
1 35/64"  
(40 mm)



### FHS-400 Horn/Strobe Operating RMS Currents (mA)

Candela	Regulated 24 VDC		Regulated 24 VFWR	
	Temporal Tone, High Volume *	Continuous Tone, High Volume	Temporal Tone, High Volume *	Continuous Tone, High Volume
15	30	47	69	73
30	44	53	99	102
75	103	106	189	194
15/75	107	97	190	196
110	107	111	190	199
185	180	183	236	243

1 61/64"  
(50 mm)

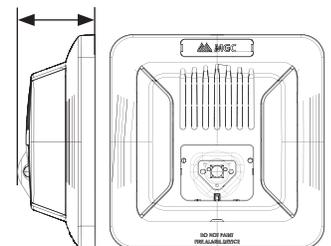


\* Temporal tone volume is representative of March and 20 BPM rates as well.

### FHS-400C Horn/Strobe Operating RMS Currents (mA)

Candela	Regulated 24 VDC		Regulated 24 VFWR	
	Temporal Tone, High Volume *	Continuous Tone, High Volume	Temporal Tone, High Volume *	Continuous Tone, High Volume
15	41	52	95	98
30	75	80	160	164
75	155	158	228	232
15/75	156	158	227	233
110	227	231	258	261

1 3/4"  
(44 mm)



Note: The 185 candela setting is not available on ceiling units.



## Audible Ratings

### dBa Reverberant Ratings per UL464 (dBa@10 ft) for FH-400, FHS-400, FHS-400C

Sound Pattern	Volume	16 VDC	Regulated 24 VDC	33 VDC	16 VFWR	Regulated 24 VFWR	33 VFWR
Temporal	High	82.2	84.9	84.6	76.8	79	80
	Low	75.5	80.5	80.2	71.8	75.1	76.6
Continuous	High	86.4	89.2	88.7	81.5	83.1	84
	Low	79.9	84	84.8	76.2	79.3	81.2
20 BPM	High	79	81.3	81.6	74	75.1	76.1
	Low	72.3	76	76.7	68.9	71.7	73.3
March	High	83.2	86.4	85.7	79.2	80.6	81.4
	Low	76.9	80.9	81.7	73.3	76.2	78

### dBa Anechoic Ratings per CAN/ULC-S525 (dBa@3 m) for FH-400, FHS-400, FHS-400C

Sound Pattern	Volume	16 VDC	Regulated 24 VDC	33 VDC	16 VFWR	Regulated 24 VFWR	33 VFWR
Temporal	High	90.2	93.2	93.2	84.4	87.1	88.5
	Low	83.7	87.4	88.3	78	82.2	84.5
Continuous	High	90.2	93.2	93.3	85.1	87.8	89
	Low	83.8	87.6	88.6	78.5	83	85
20 BPM	High	90.3	92.9	92.9	84.4	87.2	88.6
	Low	83.6	87.3	88.3	78	82.2	84.5
March	High	90.2	92.9	92.9	84.4	87.1	88.4
	Low	83.7	87.4	88.3	78	82.2	84.4

### ULC Directional Sound Characteristics for FH-400, FHS-400, FHS-400C

<b>Horizontal Axis</b>	
± 45°	-3 dbA
± 61°	-6 dbA
± 90°	-10 dbA
<b>Vertical Axis</b>	
± 49°	-3 dbA
± 61°	-6 dbA
± 90°	-7.7 dbA



## Light Output Dispersion

Note: The following values are shown as percentages of the rated light output at any candela setting.

Degrees	% of Candela Rating			
	Horizontal Dispersion for FHS-400 and FS-400	Vertical Dispersion, Wall to Floor for FHS-400 and FS-400	Vertical Dispersion X-Plane for FHS-400C and FS-400C	Vertical Dispersion, Y-Plane for FHS-400C and FS-400C
±0	149	148	150	155
±5	146	149	149	153
±10	143	153	149	152
±15	138	135	145	152
±20	134	104	139	146
±25	128	101	130	130
±30	123	94	121	122
±35	116	92	114	115
±40	106	84	111	111
±45	99	75	110	108
±50	92	68	110	108
±55	87	65	107	105
±60	82	61	100	101
±65	78	58	88	89
±70	75	54	72	72
±75	73	49	59	59
±80	72	43	60	61
±85	81	40	55	58
±90	53	30	42	45
Compound ±45°	42		79	83

### Limitations

These devices cannot operate on coded power supplies.

### Warranty

Purchase of all Mircom products is governed by:

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