

**INSTALLATION INSTRUCTIONS
 SERIES MB MOTOR BELLS**

Use this product according to this instruction manual. Please keep this instruction manual for future reference.

GENERAL

Series MB Motor Bells are UL-Listed under Standard 464 for Fire-Protective Signaling or General Signaling Use and ULC-Listed under Standard CAN/ULC-S525-07 for Audible Signaling Appliances, with the exception of the models MB-G6-6 and MBL-G10-12-S-ADM, which are UL-approved for General Signaling Use only. The Motor Bell Series incorporates a high-torque permanent magnet motor to provide high output with minimum current draw. Integral MOV suppression is provided to minimize RFI and turn-off transients. In-out wiring terminals and a built-in trim plate, for semi-flush mounting, are provided for easy installation. The Motor Bell Series is available in 6VDC with a 6-inch bell shell and 12VDC or 24VDC with either a 6-inch or 10-inch bell shell.

WARNING: Please read these instructions carefully. Failure to comply with any of the following instructions, cautions and warnings could result in improper application, installation and/or operation of these products in an emergency situation, which could result in property damage and serious injury or death to you and/or others.

WARNING: The MB Motor Bell is a fire alarm device – DO NOT PAINT.

SPECIFICATIONS

Table 1: UL/ULC Listed Models and Ratings

Model	Gong Size	UL/ULC Voltage Range (VDC/V _{RMS})	UL/ULC Maximum RMS Current		Anechoic dBA Per ULC	Reverberant dBA Per UL 464		
			DC	FWR		Min	Nom	Max
MB-G6-6*	6 inches	4.2-7.8	0.130	0.160	----	75	82	85
MB-G6-12	6 inches	8.0-17.5	0.090	0.110	92	79	85	88
MB-G10-12	10 inches	8.0-17.5	0.090	0.110	92	82	88	91
MBL-G10-12-S-ADM*	10 inches	8.0-17.5	0.090	0.110	----	82	88	91
MB-G6-24	6 inches	16.0-33.0	0.040	0.056	92	82	85	88
MB-G10-24	10 inches	16.0-33.0	0.040	0.056	92	82	88	91

*Denotes the model number is not ULC Listed

WARNING: These appliances were tested to the operating voltage limits of 16-33 Volts for 24V models, 8-17.5V for 12V models, or 4.2-7.8V for 6V models using filtered (DC) or unfiltered full-wave-rectified (FWR). Do not apply 80% and 110% of these voltage values for system operation.

WARNING: Ensure the total RMS current and total average current required by all appliances that are connected to the system's primary and secondary power sources, NAC circuits, SM, DSM sync modules or Cooper Wheelock's power supplies do not exceed the power sources' rated capacity or the current ratings of any fuses on the circuits to which these appliances are wired. Overloading power sources or exceeding fuse ratings could result in loss of power and failure to alert occupants during an emergency, which could result in property damage and serious injury or death to you and/or others.

When calculating the total currents: Use Table 1 to determine the highest value of RMS Current or Average Current for an individual bell (across the expected operating voltage range of the bell). Then, multiply these values by the total number of bells; be sure to add the currents for any other appliances, including audible signaling appliances, powered by the same source and include any required safety factors.

If the peak current exceeds the power supplies' peak capacity, the output voltage provided by the power supplies may drop below the listed voltage range of the appliances connected to the supply and the voltage may not recover in some types of power supplies. For example, an auxiliary power supply that lacks filtering at its output stage (either via lack of capacitance and/or lack of battery backup across the output) may exhibit this characteristic.

WIRING DIAGRAM

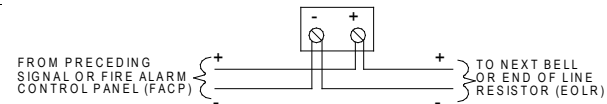


Figure 1

MOUNTING INFORMATION

Mounting options are shown in the following diagrams:

1. Unscrew the center bolt to remove the bell shell. (See Mounting Procedures Note 2.)
2. Connect wiring as shown in wiring diagram. Note polarity indicated on back cover of housing.
3. Mount housing with screws provided. (Note "TOP" arrow.)
4. Replace bell shell and secure with center bolt with 6-ft.-lbs torque. Ensure the shell is properly aligned with housing.

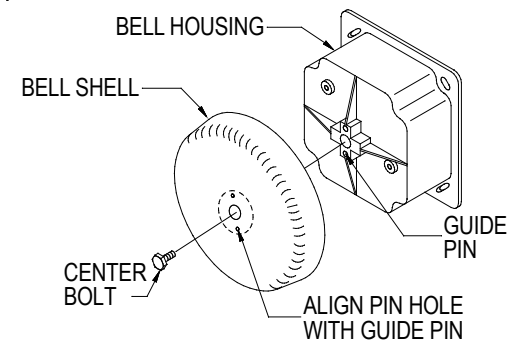
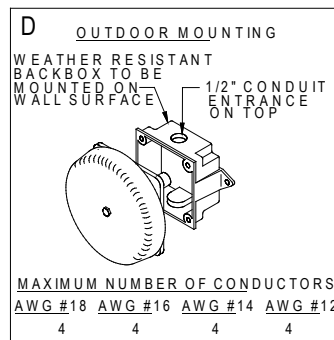
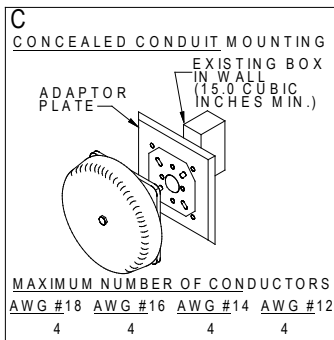
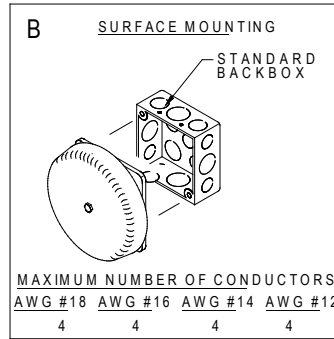
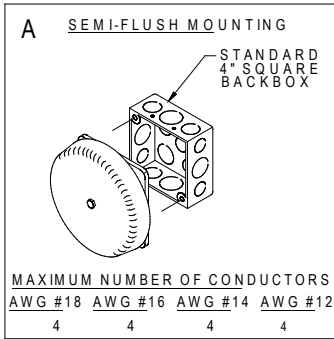


Figure 2: Bell Shell Mounting

MOUNTING OPTIONS: (Mounting Plates and backboxes ordered separately - specify color)



NOTE: Wiring method shall be in accordance with CSA C22.1, Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations, Section 32.

MOUNTING PROCEDURES

CAUTION: If sheathed multiconductor cable or 3/4-inch conduit fittings are used, verify the installed product has sufficient clearance and wiring room prior to installing backboxes and conduit.

1. For weather resistant installation, use outdoor mounting option. Outdoor backbox must be mounted vertically with "TOP" as marked to allow any moisture or condensation to drain properly through drain holes on bottom of backbox.
2. Each bell mechanism is adjusted to operate only with the shell provided. Do not mix shells and mechanisms during installation. Do not readjust bell mechanisms during installation.
3. The polarity shown in the wiring diagram is for the proper operation of the signals.
4. Inrush current of all bells is approximately 4 times rated current. This inrush current surge exists for about 0.006 seconds and must be supplied by the system power supply to ensure start-up of all devices. If the system power supply does not have sufficient surge capability (generally provided by large filter capacitors), loading of the supply should be based on the DC bell inrush requirements rather than on their rated (steady-state) current. Ensure the system power supply is compatible with the specified inrush current.
5. All bells operate on full-wave-rectified (unfiltered) DC as well as pure (filtered) DC. Motor Bells will operate over a voltage range of: 6VDC = 4.2-7.8VDC; 12VDC = 8-17.5VDC; 24VDC = 16-33VDC. Operate only within specified voltage range for rated performance and endurance. Performance ratings are based on nominal input voltage.
6. All bells will operate on "coded systems" up to 2 on-off cycles per second
7. Each input terminal accepts (2) leads for in-out wiring of 12-22 AWG wire. Break wire run to provide electrical supervision. Strip leads approximately 3/8 of an inch for connection to terminals.
8. Select largest backbox shown in Mounting Options where possible, to provide additional wiring room for easy installation.
9. Conduit entrance to backboxes should be selected to insure sufficient wiring clearance for installed equipment. When extension rings are required, conduit should enter through backbox, not extension ring. Use Steel City #53151/1-1/2" deep or #53171/2-1/8" deep extension rings or equal with same area cut out in back.
10. Anechoic dB ratings are "free field" (anechoic) conditions. Typical indoor sound output is usually higher than rated anechoic dB.

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This appliance does not generate a temporal pattern signal. If the distinctive three-pulse temporal pattern Fire Alarm Evacuation Signal (or total evacuation) in accordance with NFPA 72 is required; the control unit must be used with appliances that can generate the temporal pattern signal. Refer to Manufacturer's instruction manual for details.

CAUTION: Check the installation instructions of the manufacturers of other equipment used in the system for any guidelines or restrictions on wiring and/or locating Notification Appliance Circuits (NAC) and notification appliances. Some system communication circuits and/or audio circuits, for example, may require special precautions to ensure electrical noise immunity (e.g., audio crosstalk).