



The MICROS Wireless Bump Bar

MWBB-10 and MWBB-20 User's Guide

This document describes the Micros Wireless Bump Bar (MWBB), a follow on to the popular Micros bump bar available in both 10 key and 20 key configurations.

Topics include an overview, feature list, installation considerations, operation and dimensional drawings of the 10 key and 20 key mounting brackets.

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Overview

The new Wireless Bump Bars retain the same extruded aluminum housing and sealed end caps for protection from the kitchen environment. The MWBB-10 and MWBB-20 use the same Duraswitch magnetic keys rated for up to 30 million operations.

The wireless capability frees the Bump Bar from the issues of routing cables and extension cables, and the possible loss of functionality resulting from a damaged or cut USB interface cable.

The AAA alkaline batteries will provide at least 3 months of operation.

In addition, the wireless bump bars feature:

- WirelessUSB Protocol 2.2
- Keypress Confirmation LED
- Flexible mounting orientation with supplied quick release brackets
- Future optional belt clip will be available for the MWBB-10 Bump Bar
- Low Battery Indicator.

The included mounting bracket secures the bump bar to any counter surface and features a thumbscrew lock for quick service. Each bump bar also features rubber feet to keep the unit stationary on a counter. The MWBB-10 will support an optional belt clip for portable use.

The MWBB-10 and MWBB-20 kits include the USB dongle, mounting bracket and batteries. The wireless bump bar and dongles are paired to the same 5-byte ID at the factory. Install the batteries and connect the USB dongle to the KDS controller and it's ready to go.

The 5-byte dongle ID is fixed. With over 64000 unique IDs possible, it is unlikely that adjacent bump bars will interfere with one another.

The Wireless Bump Bar can be paired to any Wireless Dongle by entering a sequence of keystrokes at the Bump Bar. This can be used when either the bump bar or dongle is replaced or in cases where the two bump bars communicate with the same dongle.

A procedure changing the bump bar pairing can be found in the operation section of this document.

Refer to the MICROS Wireless Bump Bar PMA for more information about KDS mounting options.

Dimensional drawings for each mounting bracket can be found at the end of this document.

MICROS Wireless Bump Bar Kit Contents

The MWBB-10 and MWBB-20 kits are shown in the Figure below.



Figure 1: The MWBB-10 and MWBB-20 Kit Contents

Each kit includes a Dongle and Bump Bar paired with unique 5-byte IDs. To change the Bump Bar ID, see page 11.

Battery Installation

Refer to Figure 2 to remove the end cap and install the AAA batteries. When replacing the batteries, always use Alkaline AAA type batteries.

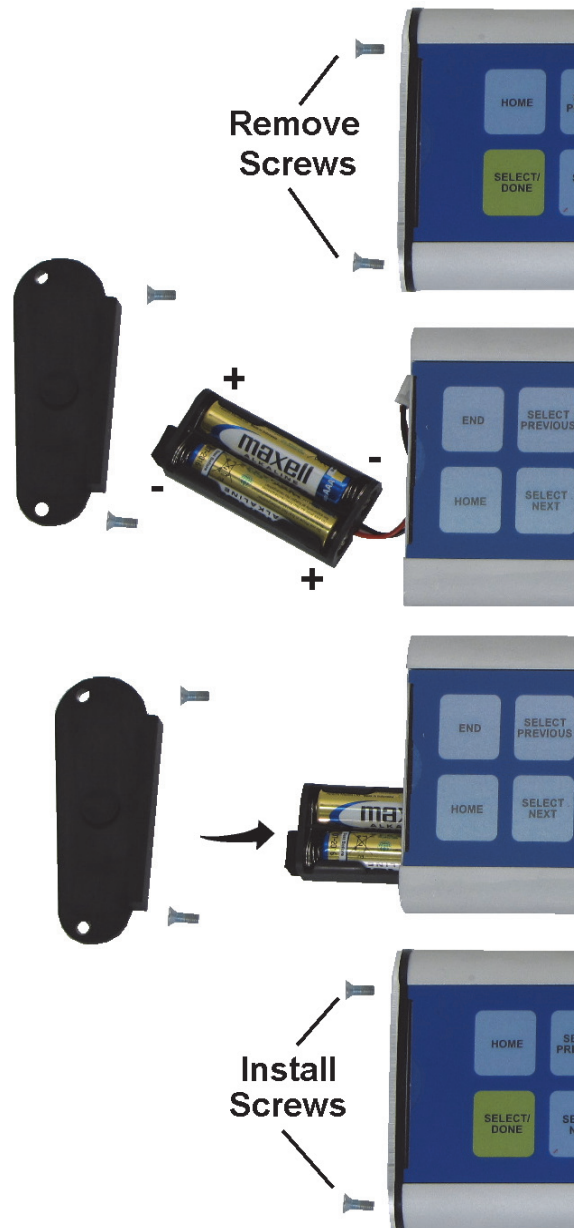


Figure 2: Installing the Batteries

Dongle Installation

Figure 3 shows the MWBB Dongle attached to a USB input of the MICROS KDS controller.



Figure 3: Installing the Wireless Bump Bar USB Dongle

To the operating system, the MWBB Dongle appears as an USB Human Interface Device (HID).

Installation Considerations

Before installing the mounting bracket(s) consider the following site related issues to ensure the best possible functionality from the MWBB in an active RF environment.

Range

Distances of up to 30 feet are possible when the dongle and bump bar are within 'line-of-sight' of each other, with no obstructions in the path of the RF signals.

As the number and type of obstructions between the dongle and bump bar increase, the range decreases. See the Classification of RF Obstructions section below for more detail.

For best results, the bump bar should be positioned so that the black acrylic cap along the top edge is oriented towards the dongle.

Classification of RF Obstructions

RF signals will encounter two types of obstructions that either weaken or reflect the signal, depending on its material composition.

The first type of obstruction is one that allows the signal to pass through, but attenuates, or weakens it. Some examples include walls constructed of wood, drywall, people, and concrete block. The amount of attenuation is proportional to the total thickness of materials that must be penetrated by the RF signal traveling the line-of-sight path.

The second type of obstruction is one that reflects the RF signals, allowing little or none to pass through. The reflected RF energy can cause interference even when the dongle and bump bar are located within line-of-sight. Any type of metallic substance falls into this category. This includes objects such as stainless steel food preparation areas, walk-in freezers, steel doors, and steel support beams.

Local RF Interference

The RF signals emitted by the MWBB are located in the unlicensed 2.40 - 2.50 GHz Industrial, ISM band. Nearby occupants of this band include microwave ovens (2.485 GHz), 802.11 b/g WiFi, cordless phones, IEEE 802.15.4 (WPAN), ZigBee, and other personal area networks. The MWBB should be located as far from these devices as possible.

The greater the distance between the dongle and the bump bar, plus the greater the number of obstructions between the two devices may allow extraneous RF devices to impact the operation of the bump bar.

In cases where the site is too noisy in terms of RF interference, MICROS recommends the use of the MBB-10 and MBB-20 wired Bump Bars.

To install the bump bar mounting brackets, refer to the dimensional drawings at the end of this document.

Operation

Figure 4 points out the location of the Keystroke Confirmation LED and low battery indicator.



NOTICE:

The LED brightness and speaker volume adjustments available in the MICROS Wired Bump Bar are not available in the Wireless version.

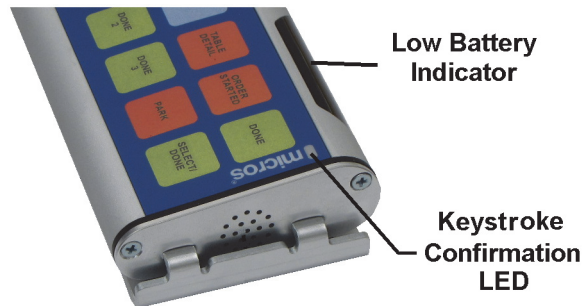


Figure 4: Bump Bar Operator Features

Keystroke Confirmation LED

When a key is pressed, the Keystroke Confirmation LED turns on to provide visual confirmation that the keystroke was accepted by the Wireless Dongle.

When the Wireless Dongle and Bump Bar are within range, the confirmation is immediate, with no delay between pressing the key and receiving the visual confirmation.

If a delay between pressing a button and the LED flashing occurs, check the following.

- A dongle paired to the same Bump Bar 5-byte ID is not installed in the KDS controller.
- The paired Dongle and Bump Bar are out of range, possibly due to obstructions or interference.
- Weak or dead batteries. Check the Bump Bar low battery indicator on the next page.

Low Battery Indicator

The Low Battery indicator appears on the lens as shown in the illustration below. The Low Battery Indicator starts blinking when the battery voltage reaches 2.2V.

- When the Low Battery Indicator is flashing Amber, replace the batteries.



Figure 5: Low Battery Indicator Icon

- If the Low Battery Indicator displays Red, the MWBB may not operate. The Red LED indicates the battery voltage is 2.0V.
 - When replacing batteries use AAA Alkaline Batteries Only.

Configuration Mode

The Configuration Mode is enabled from the Keypad and allows you to configure settings such as Upper/Lower Case characters, Normal/Reverse Character Orientation, and selecting 2x5 or 2x10 operation. After changing a parameter, the Bump Bar exits Configuration Mode and turns off the Keystroke LED. To pair a Wireless Bump Bar to a different Wireless Dongle, see page 11.

Lower Case Characters

Sets all alpha characters to lower case at the selected orientation as shown below Figure 6.

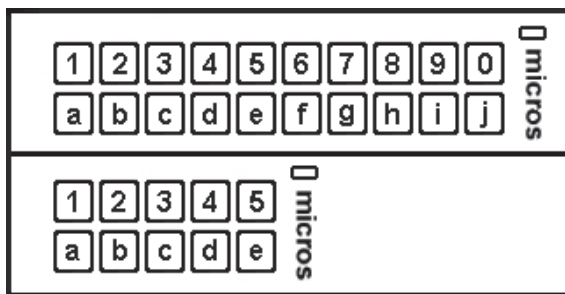


Figure 6: Lower Case Character Example

To select lower case characters:

- Simultaneously press and hold the [1], [A], and [3] keys until the Keystroke LED turns solid, then press [2], [1]. The Keystroke LED turns off.

Upper Case Characters

Sets all alpha characters at the selected orientation as shown in Figure 7.

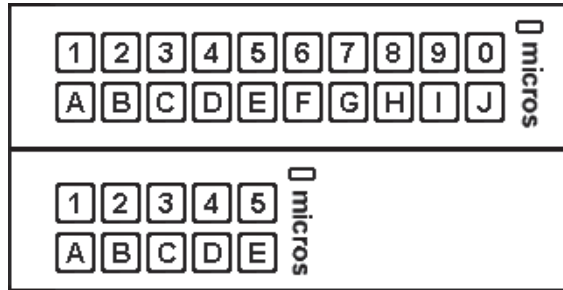


Figure 7: Upper Case Character Example

To select upper case characters:

- Simultaneously press and hold the [1], [A], and [3] keys until the Keystroke LED turns solid, then press [2], [2]. The Keystroke LED turns off.

Normal Character Orientation

In the Normal position, numeric characters appear in the top row, ascending from left to right. Alpha characters appear in the bottom row ascending from left to right as shown in Figure 8.

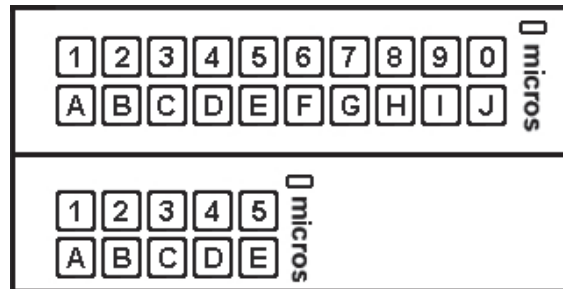


Figure 8: Normal Character Orientation Example

To select Normal Character Orientation:

- Simultaneously press and hold the [1], [A], and [3] keys until the Keystroke LED turns solid, then press [3], [1]. The Keystroke LED turns off.

Reverse Character Orientation

For greater flexibility when mounting the Wireless Bump Bar, reverse character orientation places alpha and numeric keys in descending order from left to right as shown in Figure 9.

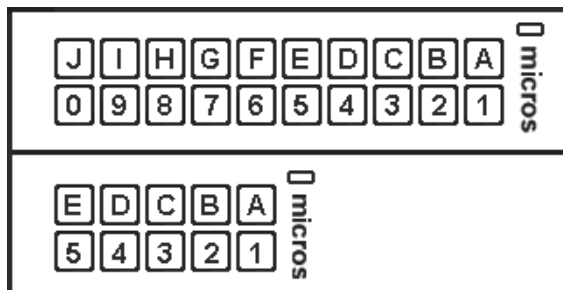


Figure 9: Reverse Character Orientation Example

To select reverse character orientation:

- Simultaneously press and hold the [1], [A], and [3] keys until the Keystroke LED turns solid, then press [3], [2]. The Keystroke LED turns off.

Keypad Type

The MWBB-10 (2x5) and MWBB-20 (2x10) Bump Bars use the same control board and firmware. The Keypad Type selection determines if the control board supports a 2x5 or 2x10 keypad and is normally set at the factory.

To select a 2x5 keypad:

- Simultaneously press and hold the [1], [A], and [3] keys until the Keystroke LED turns solid, then press [4], [1]. The Keystroke LED turns off.

To select a 2x10 keypad:

- Simultaneously press and hold the [1], [A], and [3] keys until the Keystroke LED turns solid, then press [4], [2]. The Keystroke LED turns off.

LED Test

The LED Test is used at the factory to exercise the Wireless Bump Bar LEDs.

To run the LED Test:

- Simultaneously press and hold the [1], [A], and [3] keys until the Keystroke LED turns solid, then press [e].
 - The LED Test turns on the Keystroke and Battery Low Indicator.

Pairing Procedure

The MWBB Dongle and Bump Bar are paired to the same 5-Byte ID at the factory. Figure 6 shows an example of the ID labels placed on the Bump Bar and Dongle.



Figure 10: Dongle and Wireless Bump Bar ID labels /w 5-Byte ID

The Wireless Dongle ID is fixed. However, the Wireless Bump Bar ID can be changed to pair with any Wireless Dongle ID. The procedure below describes how to change a Wireless Bump Bar ID to 'ee21d'. For standard alphanumeric key locations, see Figure 11, below.

- Simultaneously press and hold the [1], [A], and [3] keys until the Keystroke LED turns solid, release, then press the [1] key.
 - The Confirmation LED remains on indicate the unit is ready for the 5-Byte ID.
- Enter the Dongle 5-Byte ID. For example, [e], [e], [2], [1], and [d].
 - The Confirmation LED blinks as each character is entered, then turns off after the 5th byte to indicate acceptance of the new ID Code.



Figure 11: Wireless Bump Bar Alphanumeric Key Locations (Normal Orientation)

Opening the MWBB

This section describes how to open the MWBB-10 or MWBB-20 and access the internal components. The controller board does not contain user configurable jumpers or switches.

Remove the Controller Board

1. Remove the Batteries before opening the unit.
2. Remove the pair of screws from the right side end-cap.

The upper half of Figure 12, below shows the right side end-cap removed. The controller board is fitted in slots at the front and rear. The light pipe is part of the Low Battery Indicator.

3. Avoid pulling on the Keypad Cable. Pull the board out far enough to access the cables as shown in the Figure below.

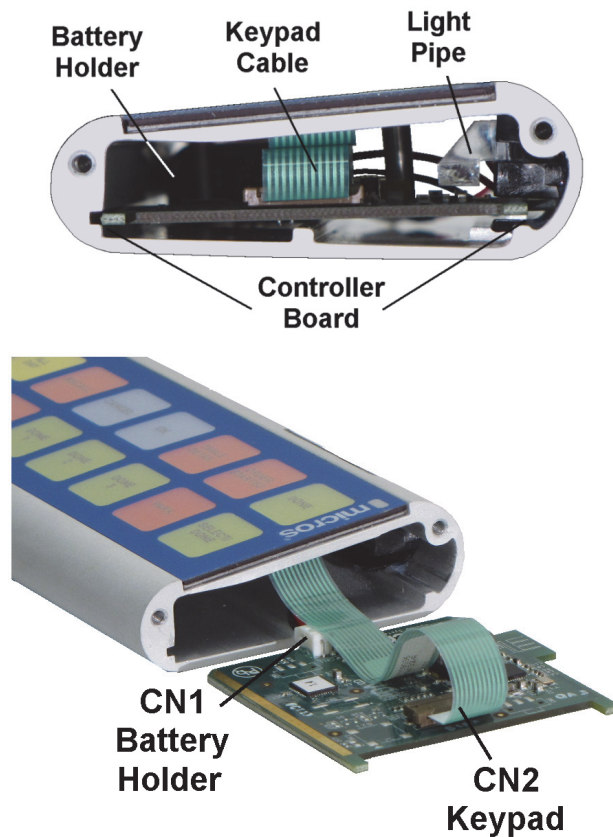


Figure 12: Accessing the MWBB Controller Board

4. To remove the Keypad Cable, be sure to position CN2 as shown on the left side of Figure 13, below.

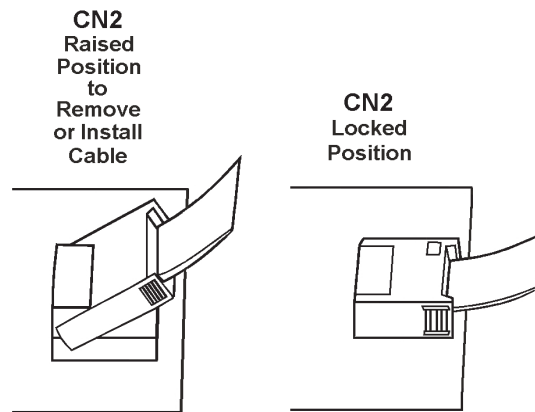


Figure 13: Removing/Installing the Keypad Ribbon Cable

5. Remove the Battery Cable from CN1.

Install the Controller Board

1. Refer to the top half of Figure 12 and position the board in the front and rear slots.
2. Connect the Keypad Cable to CN2 and the battery holder cable to CN1.
3. Place the controller board in the grooves located at the front and rear of the case, then start to slide the board into the case.
4. When installing the board, make sure the Keypad Cable does not become bunched up around CN2. The upper half of Figure 12 shows the correct board position.

Battery Holder

Figure 14 shows how the battery holder is attached to the controller board through a short extension cable.

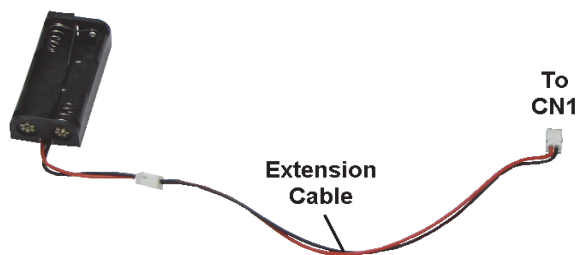


Figure 14: Battery Holder and Extension Cable

MWBB FRUs

This section contains the FRUs available for the MWBB-10 and MWBB-20.

Control Board, Wireless Bump Bar - PN 700634-201

Wireless Bump Bar Controller Board XBRG29 (/w Firmware) used for the MWBB-10 or MWBB-20.

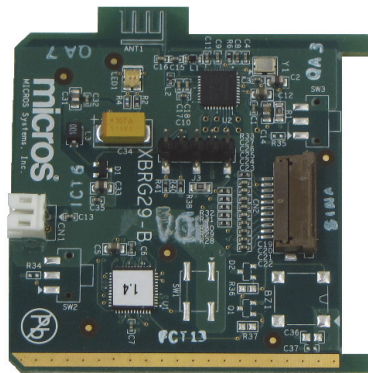


Figure 15: Replacement MWBB Control Board

Battery Holder, Wireless Bump Bar - PN 700538-015

Includes 2xAAA Battery Holder and Extension Cable.

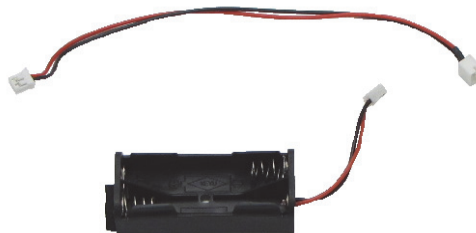


Figure 16: Replacement Battery Holder and Extension Cable

USB Receiver (Dongle), Wireless Bump Bar - PN 700879-205

Replacement Wireless Bump Bar Dongle. Device ID shown for reference only.



Figure 17: Replacement Wireless Bump Bar USB Dongle

End Caps - Wireless Bump Bar - PN 000160-020

Replacement End Caps for the Wireless Bump Bar. Please note that the battery side end cap will undergo modifications to allow a coin to be used to replace the batteries.

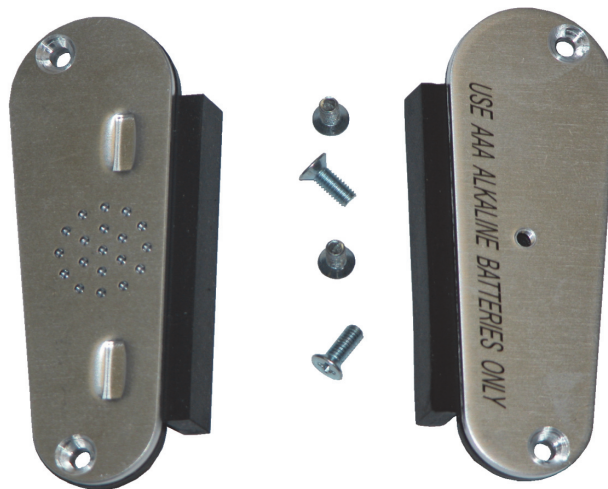


Figure 18: Replacement Wireless Bump Bar End Caps

Bracket, MICROS 10-Key Bump Bar

Mounting Bracket for both the 10 key MICROS wired and wireless bump bars.



Figure 19: 10 Key Mounting Bracket

Bracket, MICROS 20-Key Bump Bar

Mounting Bracket for both the 20 key MICROS wired and wireless bump bars.
Hole centers are compatible with current 3rd party KDS hardware.

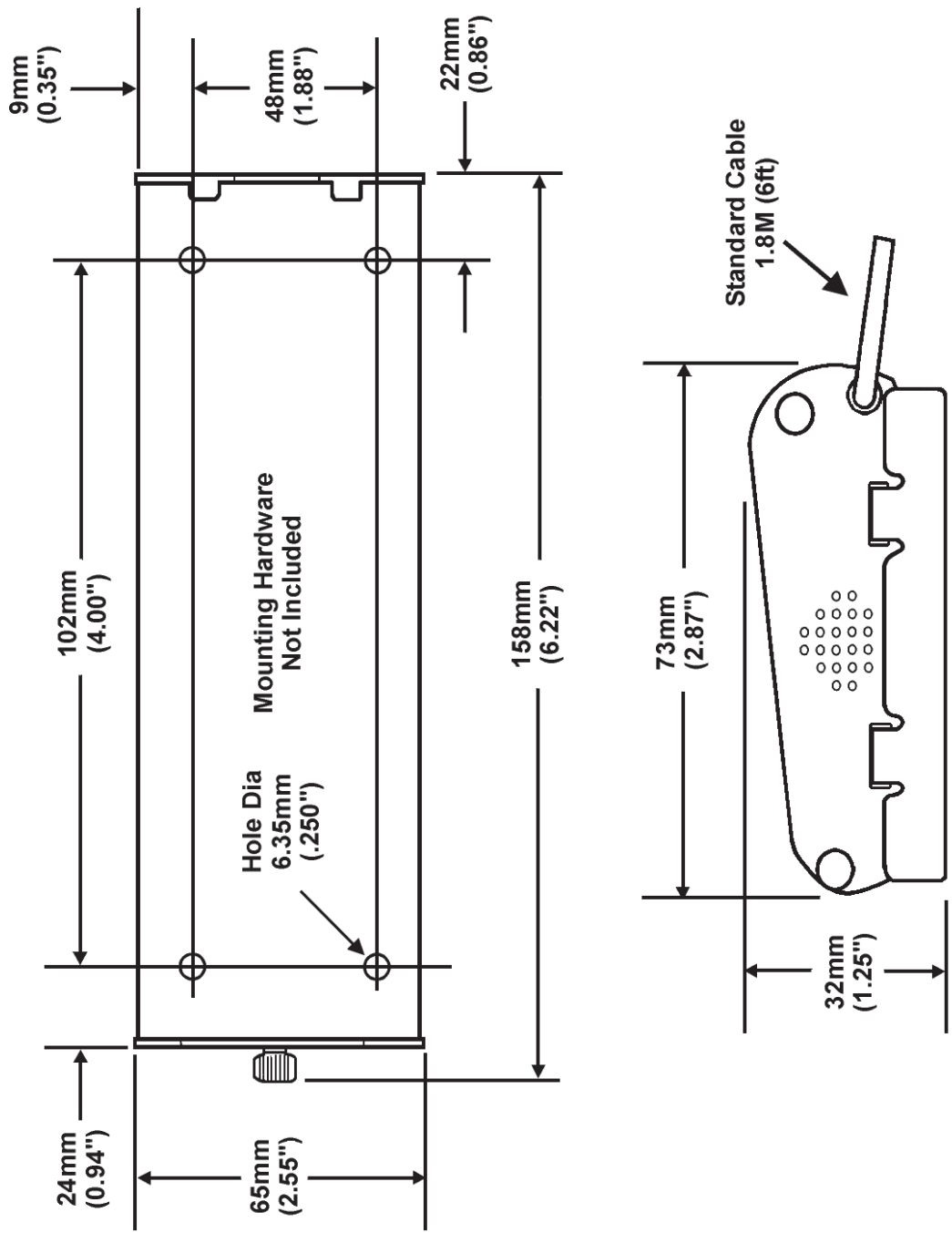


Figure 20: 20 Key Mounting Bracket

Specification Summary

Specifications	
Keyswitch Type	2x5 or 2x10 Duraswitch PushGate [®] keys rated to 30 million actuations.
Connectivity	WirelessUSB Protocol 2.2 (2.4GHz).
Batteries	2 AAA Alkaline Batteries
IP (Ingress Protection) Rating	55
Dimensions (w/bracket)	MWBB-10: 6.22"W x 2.87"D x 1.25"H (158mm x 73mm x 32mm)
	MWBB-20: 9.38"W x 2.87"D x 1.25"H (238mm x 73mm x 32mm)
Weight (w/bracket and batteries)	MWBB-10: 0.90 lbs. (0.41 kg)
	MWBB-20: 1.25 lbs. (0.57 kg)
Environmental	Operating Temperature: 0°C to 55°C (32°F to 131°F)
	Storage Temperature: -25°C to 80°C (-13°F to 176°F)
	Humidity: 90% relative humidity max.

MWBB-10 and MWBB-10 Bracket Dimensional Drawing



MBB-20 and MWBB-20 Bracket Dimensional Drawing

