

**MPACT LOCATION & ANALYTICS
HARDWARE INSTALLATION GUIDE
VERSION 1.0**

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Appendix A Customer Support

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ABOUT THIS GUIDE

This chapter is organized into the following sections:

- [Using the Documentation](#)
- [Zebra Technologies Corporation \("Zebra"\) End-User Software License Agreement](#)

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Using the Documentation

The following sections provide information about the document and notational conventions used in the guides, and provides a list of related documentation.

Document Conventions

The following conventions are used in this manual to draw your attention to important information:



NOTE: Indicates tips or special requirements.



CAUTION: Indicates conditions that can cause equipment damage or data loss.



WARNING! Indicates a condition or procedure that could result in personal injury or equipment damage.

Revision History

This guide has the following release and revision milestone history:

Release	Date	Change
Revision A	June, 2015	Initial release of document with new MPact beacons added.

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Notational Conventions

The following notational conventions are used in this document:

- Italics are used to highlight specific items in the general text, and to identify chapters and sections in this and related documents
- Bullets (•) indicate:
 - lists of alternatives
 - lists of required steps that are not necessarily sequential
 - action items
- Sequential lists (those describing step-by-step procedures) appear as numbered lists

Related Documentation

MPact Location and Analytics documentation includes the following:

- *MPact Location & Analytics Deployment Guide*
- *MPact Location & Analytics Server Reference Guide*
- *MPact Location & Analytics Server API Guide*
- *MPact Location & Analytics Toolbox Reference Guide*
- *MPact Location & Analytics Client Software Development Kit*

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CHAPTER 1 MPACT BLUETOOTH® SMART BEACON OVERVIEW

The MPact Platform employs Bluetooth® Smart beacons which can operated in various modes including Battery Save, iBeacon™ and MPact to provide the only indoor locationing platform to unify Wi-Fi and Bluetooth® Smart Technology to capture more analytics, accuracy and insight into consumers purchasing preferences. Use Bluetooth® Smart beacons to learn which aisles and products customers prefer, their shopping history, and what influences their buying decisions to create interactions that lead to transactions.

Beacon placements can be adjusted within a deployment floor plan, and depending on the mode selected, their battery life can be tracked over time. Administrators can cursor over a beacon on a site's floor plan to assess the beacon's remaining battery life.

This guide includes the following sections that describe the MPact beacons, characteristics, installation, and battery replacement.

- *Beacon Hardware Specifications and Installation*
 - *Beacon Part Number: MPACT-T1B20-000-WR*
 - *Beacon Part Number: MPACT-T1B10-000-WR*
 - *Beacon Part Number: MPACT-MB2000-01-WR*
 - *Beacon Part Number: MPACT-MB3000-01-WR*
- *Beacon Battery Replacement*
 - *Replacing Battery: MPACT-T1B20-000-WR and MPACT-T1B10-000-WR*
 - *Replacing Battery: MPACT-MB2000-01-WR*

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CHAPTER 4 BEACON HARDWARE SPECIFICATIONS AND INSTALLATION

The following setup processes must be complete as a prerequisite to installing beacon hardware:

- *MPact Server Installation and Setup* - see the *MPact Location & Analytics Deployment Guide*
- *MPact Toolbox and Beacon Installation* - see the *MPact Location & Analytics Deployment Guide*

Lozier® Shelves

Beacon brackets for the MPACT-T1B20-000-WR and MPACT-T1B10-000-WR can be used with the following Lozier products:

- TL Shelf
- DL Shelf
- HL Shelf
- Standard Base Deck

4.1 Beacon Part Number: MPACT-T1B20-000-WR

As a prerequisite, the following hardware items are required to mount the tie-wrap style beacon housing to a pole or similar structure:

- Beacon (tie-wrap style housing), part number - MPACT-T1B20-000-WR
 - When ordering, use the following part number: MPAC-T1B20-250-WR (Box of 25)
- Plastic tie wraps for attaching each beacon housing to the shelf

4.1.1 Installing the Tie-Wrap Style Beacon

Tie-wrap beacon housings are designed to attach to vertical or horizontal poles or similar mounting surfaces. In [Figure 4-1](#) below, there are openings located on the back of the beacon housing allowing a tie wrap to be inserted through the openings and wrapped around a pole or similar structure.

Notice the up arrow located on the middle of the beacon housing. This arrow indicates the optimal orientation for the beacon to function properly. Additionally, the smooth front of the beacon should face outward toward the aisle where client devices are expected to engage (dwell).

To activate a beacon part number - MPACT-T1B20-000-WR:

1. Activate one or more beacons by pulling the mylar strip off the beacon housing.

Figure 4-1 shows a beacon with the mylar strip attached to the left-hand side of the housing.

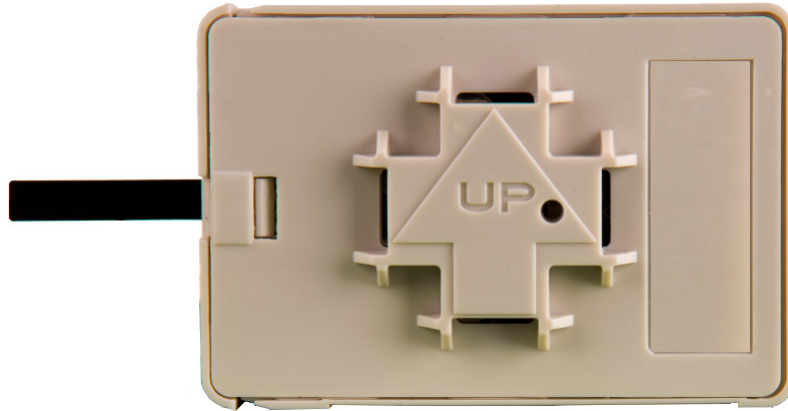


Figure 4-1 Tie Wrap Style Beacon - Part Number - MPACT-T1B20-000-WR

When installing numerous beacons, group beacons by category configurations and activate the beacons prior to scanning the barcodes and associating them with positions in the Toolbox.

2. After pulling off the last mylar strip for the group of deployment beacons, you have 20 seconds to associate the beacon in either offline or online mode in the Toolbox application.
3. From MPact Toolbox, select a site floor plan and an unassigned position for the beacon. Refer to the *MPact Location & Analytics Deployment Guide* for information on how to install and deploy the beacon from the Toolbox.

To mount the tie wrap beacon to a pole or similar structure:

1. Mount the beacon to a pole or similar structure using the plastic tie wrap. Tie can be placed vertically or horizontally but the arrow should still point up.

4.2 Beacon Part Number: MPACT-T1B10-000-WR

As a prerequisite, the following hardware items are required to mount beacon brackets to a Lozier style shelf:

- [Lozier® Shelves](#)
- Beacon: Part number - MPACT-T1B10-000-WR
 - When ordering, use the following part number: MPACT-T1B10-250-WR (Box of 25)
- Bracket mount, one of the following:
 - MPACT Metal Lozier Bracket: Part number MPACT-A1010-004-WR
 - MPACT Plastic Lozier Bracket: Part number MPACT-A1010-001-WR
- Phillips head screw driver for mounting the bracket (metal brackets only) to the Lozier shelf

4.2.1 Installing the Universal Style Beacon

Figure 4-2 shows a *universal* style beacon. While there is no up arrow on this beacon's housing, the beacon should be oriented similar to the tie wrap style of beacon housing, see [Beacon Part Number: MPACT-T1B20-000-WR](#).

Notice the up arrow located on the middle of the beacon housing. This arrow indicates the optimal orientation for the beacon to function properly. Additionally, the smooth front of the beacon should face outward toward the aisle where client devices are expected to engage (dwell).

To activate a beacon part number - MPACT-T1B10-000-WR:

1. Activate one or more beacons by pulling the mylar strip off the beacon housing.

Figure 4-2 shows a beacon with the mylar strip attached to the left-hand side of the housing.



Figure 4-2 Universal Style Beacon - Part Number - MPACT-T1B10-000-WR

When installing numerous beacons, group beacons by category configurations and activate the beacons prior to scanning the barcodes and associating them with positions in the Toolbox.

2. After pulling off the last mylar strip for the group of deployment beacons, you have 20 seconds to associate the beacon in either offline or online mode in the Toolbox application.
3. From MPact Toolbox, select a site floor plan and an unassigned position for the beacon. Refer to the *MPact Location & Analytics Deployment Guide* for information on how to install and deploy the beacon from the Toolbox.

To mount the universal style beacon to *Lozier® Shelves*:

1. Mount the universal beacon shelf-bracket on the shelf:
 - *Metal brackets*: Fit in place and tighten onto the shelving unit using a phillips-head screw driver.
 - *Plastic brackets*: Fit in place and snap onto the shelving unit.
3. Fit the beacon's universal style housing into the bracket (mylar tap pointing up) and turn the beacon housing clockwise 90 degrees.

The barcode label should face up toward the ceiling and the smooth front of the beacon should face out toward the aisle where the mobile client is expected to engage.

There are two styles of bracket mounts from which to choose, either metal or plastic for Beacon: Part number - MPACT-T1B10-000-WR.

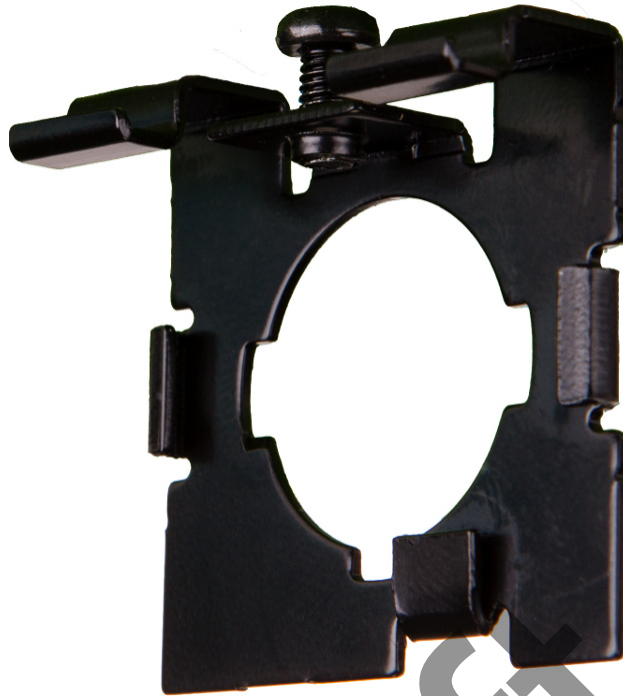


Figure 4-3 Universal Style Metal Bracket - Part Number MPACT-A1010-004-WR

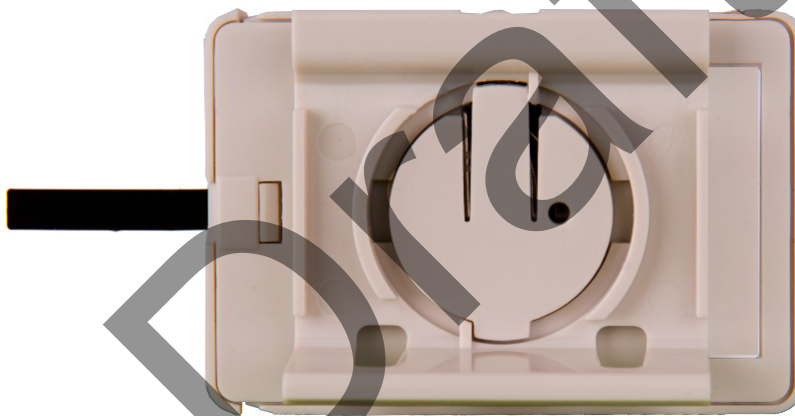


Figure 4-4 Universal Style Plastic Bracket with Beacon- Bracket Part Number MPACT-A1010-001-WR

4.3 Beacon Part Number: MPACT-MB2000-01-WR

As a prerequisite, the following hardware items are required to mount a beacon to a wall.

- [Lozier® Shelves](#)
- Beacon: Part number - MPACT-MB2000-01-WR
 - When ordering, use the following part number: MPACT-MB2000-01-WR (Box of 25)

- Bracket mount kit see [Figure 4-6](#) (included with part number MPACT-MB2000-01-WR):
 - Metal bracket
 - Two 1 inch Phillips head tap screw, and two 1 inch plastic wall inserts
 - Phillips head screw driver for mounting the bracket (metal brackets only) to a wall

4.3.1 Installing the Indoor Style Beacon

To activate a beacon part number - MPACT-MB2000-01-WR:

1. Activate one or more beacons by pulling the mylar strip out from inside the beacon housing.

[Figure 4-5](#) shows the back of a *Indoor style beacon*.



Figure 4-5 Indoor Style Beacon - MPACT-MB3000-01-WR

When installing numerous beacons, group beacons by category configurations and activate the beacons prior to scanning the barcodes and associating them with positions in the Toolbox.

2. After pulling off the last mylar strip for the group of deployment beacons, you have 20 seconds to associate the beacon in either offline or online mode in the Toolbox application.
3. From MPact Toolbox, select a site floor plan and an unassigned position for the beacon. Refer to the MPact Location & Analytics Deployment Guide for information on how to install and deploy the beacon from the Toolbox.

To mount the universal style beacon to a wall:

1. From MPact Toolbox, select a site floor plan and an unassigned position for the beacon.
2. Mount the Indoor Metal beacon wall bracket on the wall with the provided screws and plastic wall inserts:
 - *Bracket mount kit.*

There is one styles of bracket mount included with the Indoor Style Beacon: Part number - MPACT-MB2000-01-WR.

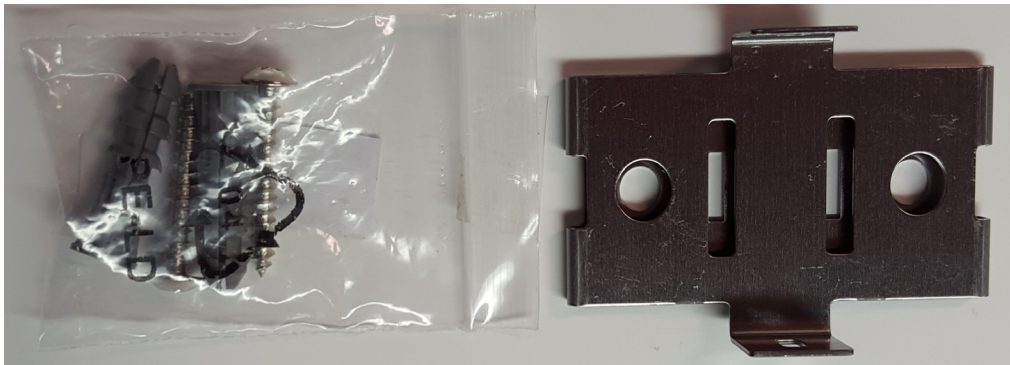


Figure 4-6 Metal Beacon Wall Mount Bracket: MPACT-MB2000-01-WR

3. Fit the beacon’s housing into the bracket.

The barcode label should face up toward the ceiling and the smooth front of the beacon should face out toward the aisle where the mobile client is expected to engage.



NOTE: Ensure the beacon is positioned correctly, because once the beacon is mounted on the bracket it will be difficult to remove the beacon.

Mode	Sleep	Configuration	Broadcast	LED Behavior
0-2 seconds	No action	No action	No action	
2+ -5	Broadcast	Broadcast	Broadcast	Slow flash when button flashes 300 ms on / 300ms off.
5+ - 10	Move to configuration	Remain in configuration	Move to configuration	Fast flash – 100ms /on & off
+ 10	Sleep	Sleep	Sleep	Solid light

MPact AA Battery Beacons	Indoor Wall Beacons
Wireless	Bluetooth 4.0 (Bluetooth Smart)
Modes	Battery Save, iBeacon, MPact, SecureCast
Beacon Channel	Configurable
Beacon Interval	Configurable
Dimensions	3.12" x 1.76" x 0.96"
Battery	Replaceable, Standard 2 AA Batteries

Transmit Power	5 dBm to -23 dBm
	Configurable from 5 dBm to -23 dBm
Antenna Type	Directional Antenna with 120 Degree Beamwidth
Operating Temperature	32° F to 104° F/0° C to 40° C
Transmit Range	15 ft. to 120 ft./4.57 m to 36.58 m, line of sight
Power Change	1 dB increments
Battery Life*	MPact mode: ~2 year @ 100ms
	iBeacon mode: ~2 year @ 100ms
	SecuraCast mode: ~2 year @ 100ms

4.4 Beacon Part Number: MPACT-MB3000-01-WR

A USB powered interface is required to power the USB Beacon. No additional hardware is required.

4.4.1 Installing the USB Style Beacon

Figure 4-7 shows a USB style beacon.

To activate a beacon part number - MPACT-MB3000-01-WR:

1. Insert the beacon into any standard USB power source.

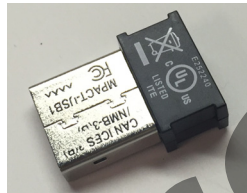


Figure 4-7 USB Style Beacon - MPACT-MB3000-01-WR

When installing numerous beacons, group beacons by category configurations and activate the beacons prior to scanning the barcodes and associating them with positions in the Toolbox.

2. After inserting the beacon(s) into any standard USB power source, associate the beacon in either offline or online mode in the Toolbox application.
3. From MPact Toolbox, select a site floor plan and an unassigned position for the beacon. Refer to the MPact Location & Analytics Deployment Guide for information on how to install and deploy the beacon from the Toolbox.

The barcode label should face up toward the ceiling and the smooth front of the beacon should face out toward the aisle where the mobile client is expected to engage.

MPact USB Beacons	USB Powered Beacons
Wireless	Bluetooth 4.0 (Bluetooth Smart)
Modes	iBeacon, MPact, SecureCast
Beacon Channel	Configurable
Beacon Interval	Configurable
Dimensions	0.57" X 0.27" X . 0.80"
Battery	Powered by any USB adaptor
Transmit Power	4 dBm to -23 dBm
	Configurable from 4 dBm to -23 dBm
Antenna Type	Omnidirectional Antenna
Operating Temperature	32° F to 104° F/0° C to 40° C
Transmit Range	15 ft. to 120 ft./4.57 m to 36.58 m, line of sight
Power Change	1 dB increments
Battery Life	N/A - Powered by USB

4.5 Beacon Battery Replacement

When a beacon's battery life is less than 20%, the beacon should be prioritized for immediate replacement. The beacon's battery is located within a battery tray in the beacon's housing.

This section includes procedures for replacing batteries for the following part numbers:

- [Replacing Battery: MPACT-T1B20-000-WR and MPACT-T1B10-000-WR](#)
- [Replacing Battery: MPACT-MB2000-01-WR](#)

4.5.1 Replacing Battery: MPACT-T1B20-000-WR and MPACT-T1B10-000-WR

To replace a beacon's battery in part number MPACT-T1B20-000-WR and MPACT-T1B10-000-WR:

1. Remove the beacon from the shelving unit (see information on the appropriate beacon part number).
2. With the bottom of the beacon facing up, gently lift each corner of the beacon's battery tray.

Figure 4-8 shows the beacon battery housing for part number MPACT-T1B20-000-WR and MPACT-T1B10-000-WR and MPACT-T1B10-000-WR. In this example, the battery tray is on the right and the corners of the battery tray are marked in red. When gently lifting each tray corner, slightly push the each corner out to dislodge corners of the tray.

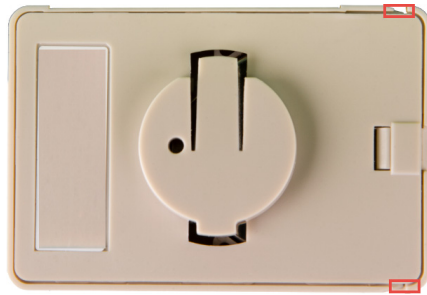


Figure 4-8 Beacon Battery Housing Example: MPACT-T1B20-000-WR and MPACT-T1B20-000-WR and MPACT-T1B10-000-WR

3. With both tray corners dislodged, gently slide the battery tray open, being careful not to drop the tray.

Figure 4-9 shows an open battery housing. In this example, the battery tray is a separate piece, along with the battery, on the right-hand side.

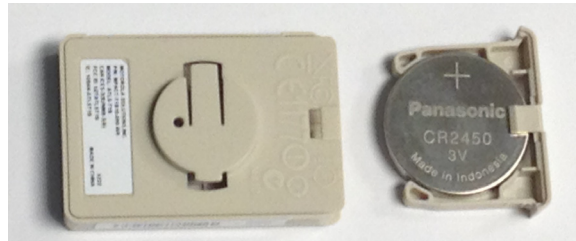


Figure 4-9 Battery Tray: MPACT-T1B20-000-WR and MPACT-T1B20-000-WR and MPACT-T1B10-000-WR

4. Remove the old battery and dispose of properly and replace it with a new battery (Panasonic CR2450)



NOTE: Pay attention to the position of the + on the battery. Installing the battery backwards may damage the Beacon

5. Close the tray, ensuring the latch is secure.

4.5.2 Replacing Battery: MPACT-MB2000-01-WR

To replace a beacon's battery in part number MPACT-MB2000-01-WR:

1. Remove the beacon from the shelving unit (see information on the appropriate beacon part number).
2. With the bottom of the beacon facing up, use your finger nail to gently lift the clip up to remove the back off the beacon's battery enclosure.
3. Remove the old batteries and dispose of properly and replace it with two new 2AA batteries.



NOTE: Pay attention to the polarity (+ and -) of the batteries. Installing the batteries incorrectly may damage the Beacon

Figure 4-10 shows an open battery enclosure of *Indoor Style Beacon*.



Figure 4-10 Open Battery Enclosure: MPACT-MB2000-01-WR

4. Close the battery enclosure, ensuring the clip is secure.

4.6 Beacon Hardware Regulatory Information

All devices are designed to be compliant with rules and regulations in locations they are sold and will be labeled as required.

Refer to the following Web site: www.zebra.com/support for specific regulatory information.

Any changes or modifications to this equipment, not expressly approved could void the user's authority to operate the equipment.

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APPENDIX CUSTOMER SUPPORT

If you have a problem with your equipment, contact Support for your region. Support and issue resolution is provided for products under warranty or that are covered by a services agreement. Contact information and Web self-service is available by visiting www.zebra.com/support.

When contacting Support, please provide the following information:

- *MAC ID of the unit*
- *Model number or product name*
- *Software type and version number*

Support responds to calls by email or telephone within the time limits set forth in support agreements. If you purchased your product from a business partner, contact that business partner for support.

Customer Support Web Site

The support site, located at www.zebra.com/support provides information and online assistance including developer tools, software downloads, product manuals, support contact information and online repair requests.

Manuals

To see manuals, go to: www.zebra.com/support.

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MN001100A01 Revision A

June 2015