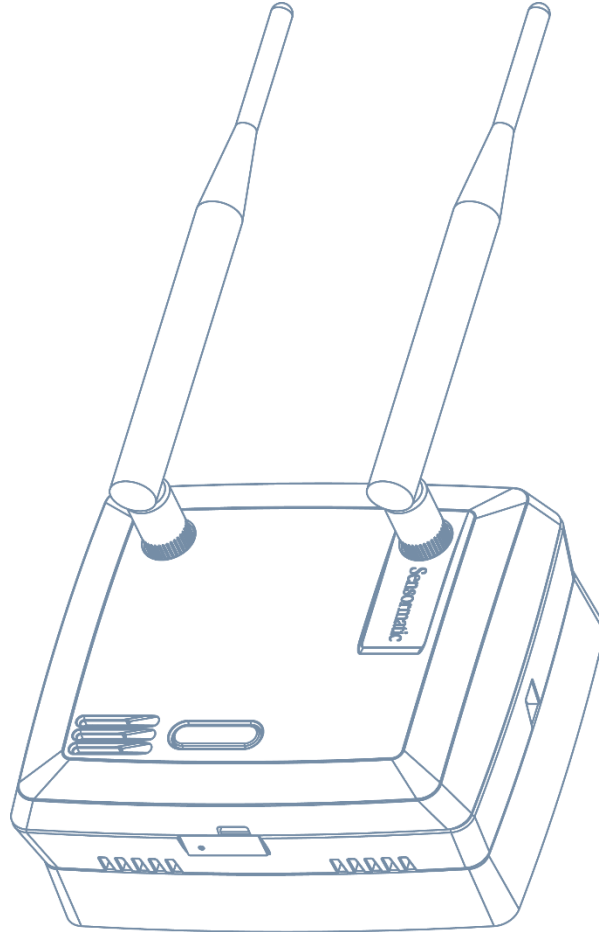

Wireless Device Manager (BIM1000)

Installation Guide



BIM1000

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About this guide

This installation guide explains how to install the Wireless Device Manager (BIM1000) with the Wireless Device Module (BIX1000), to synchronize and aggregate data from all Sensormatic-connected devices.

Additional documentation

The following is a list of additional documents related to this installation:

- *Wireless Device Module (BIX1000) Installation Guide, 8200-1088-15.*
- *Wireless Device Manager (BIM1000) and Wireless Device Module (BIX1000) Setup Guide, 8200-1088-01.*
- *Ultra Post® IV AMS-1012 Wireless Device Module (BIX1000) Cable Kit Installation Guide, 8200-1088-05.*
- *Ultra Post® VI AMS-1014 Wireless Device Module (BIX1000) Cable Kit Installation Guide, 8200-1088-06.*
- *Ultra 1.8 Meter ABS Pedestal Wireless Device Module (BIX1000) Cable Kit Installation Guide, 8200-1088-07.*
- *AMB9010-IPS and AMB-1200 Label Deactivator Controller Wireless Device Module (BIX1000) Cable Kit Installation Guide, 8200-1088-08.*
- *AMS-9050 Controller Wireless Device Module (BIX1000) Cable Kit Installation Guide, 8200-1088-09.*
- *AMS-9040 Controller Wireless Device Module (BIX1000) Cable Kit Installation Guide, 8200-1088-10.*
- *AMS-9060 Controller and AMS-1170-2C/4C Controller Wireless Device Module (BIX1000) Cable Kit Installation Guide, 8200-1088-11.*
- *ZBSMPROE ScanMax® Pro Label Deactivator Controller Wireless Device Module (BIX1000) Cable Kit Installation Guide, 8200-1088-12.*
- *IDKM-10XX/AMK-10XX SuperTag® Detacher Wireless Device Module (BIX1000) Cable Kit Installation Guide, 8200-1088-13.*
- *AMB-2011/AMB-1101/ZBAMB9010 EAS Label Deactivator Wireless Device Module (BIX1000) Cable Kit Installation Guide, 8200-1088-16.*
- *Wireless Device Module (BIX1000) Extension Cable Kit Installation Guide, 8200-1088-14.*
- *AMS-1080 Controller Wireless Device Module (BIX1000) Cable Kit Installation Guide, 8200-1088-17.*

Technical Support

For product bulletins, and the most recent updates to this guide, visit <https://sensormaticsecurelogin.com>.

Training

WARNING: Do not install a Wireless Device Manager (BIM1000) unless you have completed the following Wireless Device Manager (BIM/BIX) Training Curriculum modules:

- BIM and BIX Installation Technical Training.
- BIM Configuration Technical Training.
- Optional: SMaaS Overview Sales Training.

About the product

The Wireless Device Manager (BIM1000) is a wireless access point that uses an IEEE 802.15.4 wireless standard to connect to the Wireless Device Module (BIX1000).

The Wireless Device Module (BIX1000) uses the IEEE 802.15.4 wireless protocol to connect to the Wireless Device Manager (BIM1000) to synchronize all in-store Sensormatic-connected deactivation and detection controllers to collect data, and to provide a health status for all the connected devices. For an example, see **Figure 1** on page 5, and **Figure 3** on page 7.

The synchronization between the deactivation and the detection controllers minimizes failed deactivation at the Point-of-Sale (POS) and nuisance alarms at the store exit area. The data collected includes alarms, events, and people-counting statistics. It also collects alarm input responses through an Android tablet device.

Customers can use a desktop browser to log into a TrueVUE reporting platform, or a Shrink Management as a Service (SMaaS) platform, to access historical daily data reports from all the connected devices. The customer can also use an Android tablet device for alarm input responses.

Features

The Wireless Device Manager (BIM1000) has the following features:

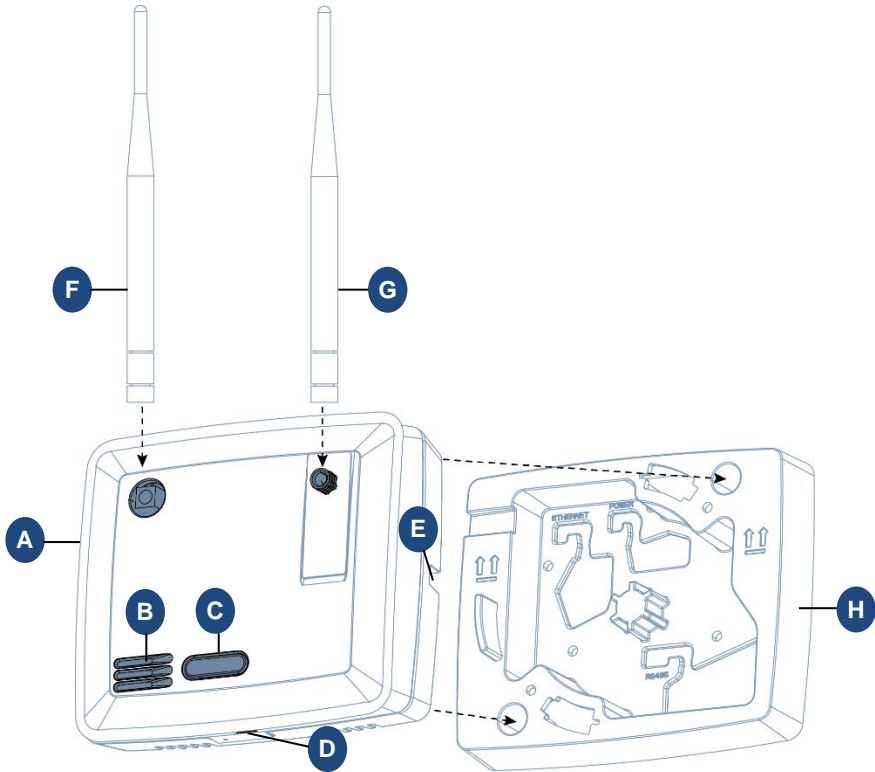
- An embedded web configurator.
- A wired EAS Network (RS-485).
- A wireless EAS Network, 802.15.4
- A wireless 802.11.B/G/N (Client and Soft AP).
- It can support 32 devices on each port, supporting 64 devices in total.
- MicroSD flash storage.
- Micro USB Type B access.
- Bluetooth radio for wireless setup and service.

Compatibility

The Wireless Device Manager (BIM1000) is compatible with the following devices with the Wireless Device Module (BIX1000):

- The Ultra Post® IV AMS-1012 Pedestal.
- The Ultra Post® VI AMS-1014 Pedestal.
- The Ultra 1.8 Meter ABS Pedestal.
- The AMS-9060 Controller.
- The AMS-9050 Controller.
- The AMS-9040 Controller.
- The AMS-1080 Controller.
- The AMS-1170-2C/4C Controller.
- The ZBAMB9010 EAS Label Deactivator Controller.
- The AMB9010-IPS EAS Label Deactivator Controller.
- The ZBSMPROE ScanMax® Pro Label Deactivator Controller.
- The AMB-1200C EAS Label Deactivator Controller.
- The AMK-1000 and the AMK-1010 SuperTag® Detacher.
- The IDKM-1000 and the IDKM-1010 SuperTag® Detacher.
- The AMB-2011 Value Pad II Countertop EAS Label Deactivator.
- The AMB-1101 VersaPass II Countertop EAS Label Deactivator.

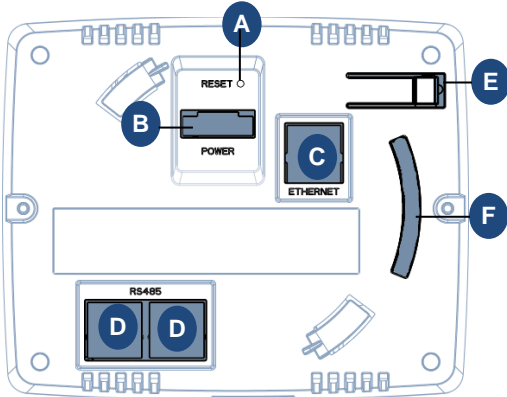
Figure 1. Wireless Device Manager (BIM1000) and BIM1000 mounting bracket



A	BIM1000, 0304-0170-01	B	Speaker
C	RGB visual display	D	Micro USB port
E	Locking tab	F	Radio antenna (802.15.4) Note: You can identify the radio antenna by its yellow connector
G	Wif-Fi antenna Note: You can identify the Wi-Fi antenna by its silver connector	H	BIM1000 mounting bracket, 0404-1247-01

Note: You can mount the Wireless Device Manager to a hollow cavity wall, to a ceiling, or to a surface-mounted electrical box using the BIM1000 mounting bracket. Ensure you commission the BIM1000 and verify its operation before you attach the BIM1000 module to the mounting bracket.

Figure 2. Back view of Wireless Device Manager, 0304-0170-01



A	Reset button	B	Power port
C	Ethernet port	D	RS485 port
E	Locking tab	F	Tamper switch

Part numbers

Table 1 lists the part numbers you require to install a Wireless Device Manager (BIM1000).

Table 1. Wireless Device Manager (BIM1000) part numbers

Part number	Description	Quantity
0352-0766-01	BIM1000 Installation Kit	1
1400-0033-01	T-bar clip	2
1400-0205-01	T-bar clip, 1/4-20, 5/8" L, 15/16" W	1
2838-0015-01	Flange nut, 1/4-20, 7/16 WAF	2
2880-0070-01	Toggle bolt, 1/4-20 x 6.00	1
2880-0094-01	Anchor, self-drill, with screws, #8 x 1-1/4	2
0304-0170-01	BIM1000 module	1
0404-1247-01	BIM1000 mounting bracket	1
3411-0027-01	Antenna	1
5606-0131-01	BIM1000 power supply Note: You must order the BIM1000 power supply separately.	1
0652-0897-01	BIM1000 power supply extended cable kit Note: You must order the BIM1000 power supply extended cable kit separately.	1
6003-0313-01	Micro USB-B to USB-B cable, 1.8m Note: You must order the micro USB-B to USB-B cable separately.	1

Tools required

Confirm that you have the following tools before you install a Wireless Device Manager (BIM1000):

- A #2 Philips head screwdriver.
- A cable tester.
- A digital voltmeter.
- A micro USB cable, 6003-0313-01, or an Ethernet patch cable.
- A drill, and assorted drill-bits.
- A drywall saw.

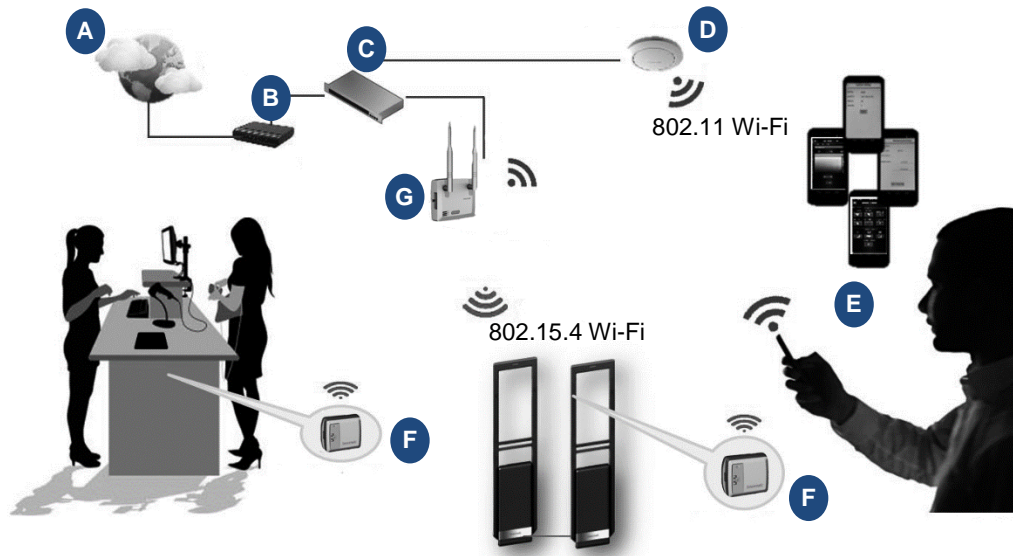
Section I: Before you begin

Before you install a Wireless Device Manager (BIM1000), ensure that you adhere to the criteria in the following sections.

Survey and planning requirements

This section outlines the site survey and planning requirements, and the systems requirements that are critical to the correct installation of a Wireless Device Manager (BIM1000).

Figure 3. Overview of the Wireless Device Manager (BIM1000) solution



A	Internet	E	LP Manager
B	Gateway	F	Wireless Device Module (BIX1000)
C	Network switch	G	Wireless Device Manager (BIM1000)
D	Wireless Access Point (802.11 Wi-Fi)		

Survey requirements

You must access the following information before you proceed with the installation of a BIM1000:

- The layout and design of the installation site.
- The location of each BIM1000 module. You can obtain this information from the Network Typology Map.
- Identify each BIX1000 you need to program to each BIM1000 module.

Network Topology Map requirements

You require the following information for each device you place on the network for the Wireless Device Manager (BIM1000) to work with a Wireless Device Module (BIX1000). This information is in the Network Topology Map that the project manager or the coordinator for the account supplies, or in the IP Request form document that the customer's IT department supplies.

- The location of each BIM1000 module.
- The switch location, name, and port number.
- Any Wi-Fi restrictions, if setting up the BIM1000 to operate in Access Point (AP) mode.
- The Wi-Fi channel.
Note: The Wi-Fi channel is dependent on the region of installation.
- The Wi-Fi access point location and the Service Set Identifier (SSID).
- A static or a dynamic IP address.
- The subnet mask.
- The gateway
- The Network Time Protocol (NTP) Server.
- The Ethernet MAC address.
- The Wi-Fi Subnet Mask.
- The Wi-Fi Default Gateway.
- The SIP server address.

Application and firmware requirements

To support the installation of a Wireless Device Manager (BIM1000), you must download the latest firmware bundle, 1.00 or later, and the BIM Web Launch Tool from <https://sensormaticsecurelogin.com/>.

To download the BIM Web Launch Tool, complete the following steps:

1. Open a web browser and launch <https://sensormaticsecurelogin.com/>.
2. Enter your valid log on information and click **Login**.
3. From the **Tech Support** menu, click **EAS**.
4. Click **Software Download**.
5. Click **BIM Web Launch Tool**.
6. To download the software bundle, click the link, and save the file to a local folder on your laptop.
7. Log out of www.sensormaticsecurelogin.com/.
8. On your laptop, rename the file you saved to an .exe file. Click the executable file, and click **Run**.
9. Follow the setup wizard instructions to save the software on your laptop.

Note: Files save to the following location: C:\Program Files\Sensormatic\BIM Software Bundle (Program Files (x86) for 64 bit machines).

TrueVUE requirements

To support TrueVUE reports for a Wireless Device Manager (BIM1000) installation, you require the following:

- TrueVUE version 7.4 or later.
- The SIP URL as specified in the Network Topology Map.
- Valid service credentials, if authentication is necessary.
- The store name, the store number, and the division number.
- The heartbeat interval.
- Ensure that the appropriate port is open, typically port 8080 or 8081.

Laptop requirements

You require the following items for your laptop:

- Microsoft® Internet Explorer® version 11, or Mozilla® Firefox® version 56, or Google® Chrome® version 64, browser installed.
Note: Ensure that JavaScript blockers are disabled on the web browser.
- A USB port.
- An Ethernet adapter.

Component installation requirements

This section outlines the component installation requirements to install a Wireless Device Manager (BIM1000).

Electrical power requirements

Confirm the following electrical power requirements are in place to install a Wireless Device Manager (BIM1000):

- The AC power cord could be carrying 120Vac or 240Vac. The AC source must be a 2-wire type with ground. It also must be a 24-hour, unswitched outlet with less than 0.5Vac between neutral and ground.

Note: The BIM1000 takes its Sync signal from this AC power source.

- The BIM1000 can operate from generator supplied AC power if it meets the AC power requirements.

Important: You must select Generator Mode when configuring the BIM1000 for use in multiple generator environments.

Wiring requirements

Confirm the following wiring requirements are in place for each piece of hardware before you install a Wireless Device Manager (BIM1000):

- RS-485 cabling, including the termination of cabling, the pinouts, and a diagram with RS485-High, RS485-Low, and Sync connections outlined.
- All Ethernet patch cables must be CAT5e, CAT6, or CAT6e.

Safety

You must adhere to the following safety instructions when you install a Wireless Device Manager (BIM1000):



WARNING: Risk of electric shock

Disconnect all power sources before servicing.

- Do not install the Wireless Device Manager (BIM1000) in a plenum or other environmental air-handling space.
- You must use plenum-rated cables, unless the cables are in raceways.
- Installation of the BIM1000 must comply with the latest national electrical codes, national fire code, and all applicable local codes and ordinances. National or local wiring codes may differ between regions. Adherence to these codes supersedes instructions in this document.
- You must observe and respect all the safety instructions in this installation guide, and or the operation of the Wireless Device Manager (BIM1000).
- You must mount the Wireless Device Manager (BIM1000) only as instructed in this installation guide. Mounting the Wireless Device Manager (BIM1000) any other way can affect its operation.
- The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications can void the user's authority to operate the equipment.
- You must install the antennas for this transmitter with a separation distance of at least 20 centimetres (8 inches) from all persons, and must not be co-located or operating in conjunction with any other antenna or transmitter.

Installation prerequisites

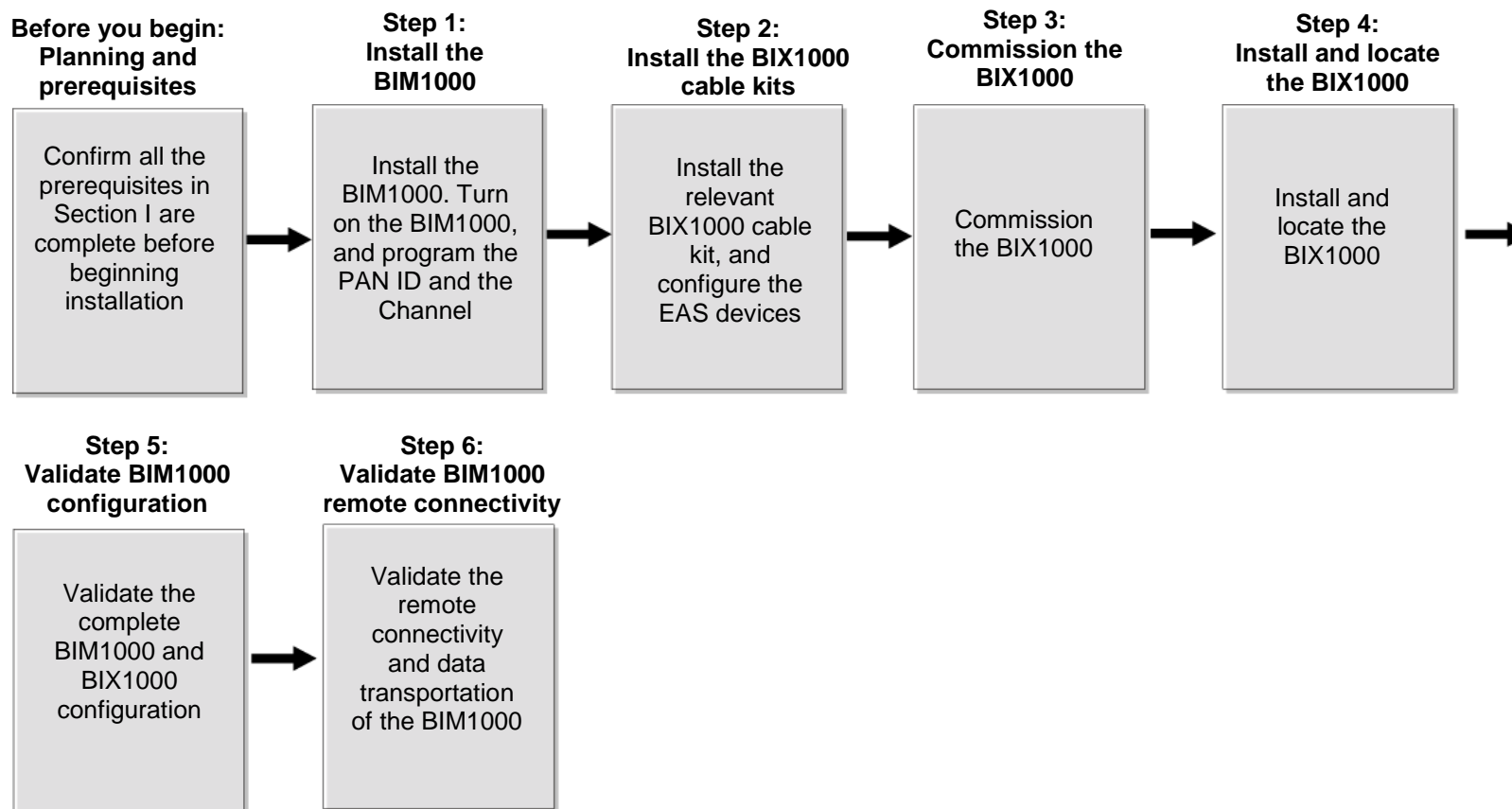
To install a Wireless Device Manager (BIM1000), you must have the following prerequisites in place before you proceed:

- Do you have the Network Topology Map requirements, or IP Request Form?
- Do you have the location of each BIM1000 identified? You can obtain this information from the Network Typology Map.
- Is there power and data, for example Ethernet, Wi-Fi, or 4G gateways where you plan on locating the BIM1000?
- Do you have the applicable network ports open for functionality and device management support?
- Have you completed the necessary training required to install the Wireless Device Manager (BIM1000)?

Section II: Installation sequence overview

Figure 4 gives an overview of the complete installation sequence you must follow when you install a BIM1000 and a BIX1000. You must install the Wireless Device Manager (BIM1000) before you install the Wireless Device Module (BIX1000).

Figure 4. BIM1000 and BIX1000 complete installation sequence



Important: This installation guide only describes the following steps in the complete BIM1000 and BIX1000 installation sequence:

- **Before you begin: Planning and prerequisites**
- **Step 1: Install the BIM1000**

Section III: Connecting the Wireless Device Manager (BIM1000)

This section outlines how to connect the Wireless Device Manager (BIM1000).

Overview of connection steps

This section gives an overview of the steps involved in connecting a Wireless Device Manager (BIM1000).

- Step 1: Connecting the Wireless Device Manager.
- Step 2: Commissioning the Wireless Device Manager.
- Step 3: Verifying the Wireless Device Manager.
- Step 4: Optional: Connecting to a cellular modem

Step 1: Connecting the Wireless Device Manager

You can connect the Wireless Device Manager (BIM1000) in the following ways:

- An Ethernet cable set-up
- A USB set-up
- A Wi-Fi set-up
- A Bluetooth set-up

Note: Wi-Fi and Bluetooth are disabled by default. To connect to the BIM1000 module using a Wi-Fi or a Bluetooth set-up, refer to the *Wireless Device Manager (BIM1000) and Wireless Device Module (BIX1000) Setup Guide, 8200-1088-01*.

Ethernet cable set-up

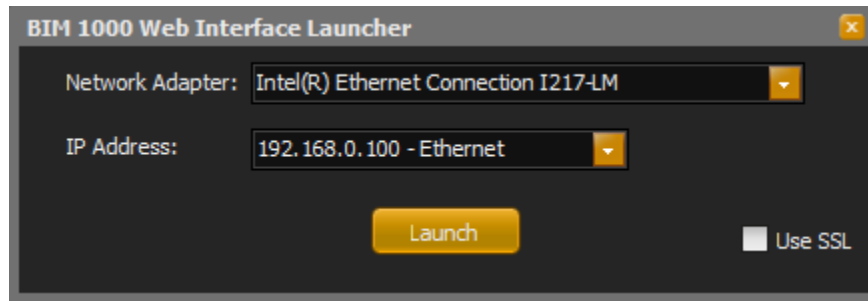
To connect a Wireless Device Manager (BIM1000) using an Ethernet cable set-up, complete the following steps:

1. Connect the Ethernet cable to your laptop and to the Wireless Device Manager (BIM1000).
2. Connect to the Wireless Device Manager (BIM1000) in one of the following ways:
 - Use the BIM Web Launch Tool to connect to the Wireless Device Manager (BIM1000), by completing the following steps:
 - a. On your laptop, open the BIM1000 Web Launch Tool. For an example of the BIM1000 Web Launcher Interface, see **Figure 5** on page 13.
 - b. From the **Network Adapter** list, select the relevant adapter to create the network interface.
 - c. From the **IP Address** list, select **192.168.0.100 – Ethernet**.
 - d. Click **Launch**.

Note: This launches a web browser to connect to the Wireless Device Manager (BIM1000).



Figure 5. BIM1000 Web Interface Launcher



- Use the laptop network settings to connect to the Wireless Device Manager (BIM1000) using the laptop's network settings, by completing the following steps:
 - a. Navigate to the laptop's network settings by completing the following steps to:
 - i. Click **Start**.
 - ii. Click **Control Panel**.
 - iii. Click **Network and Internet**.
 - iv. Click **Network and Sharing Center**.
 - v. Ensure that the laptop's network matches the following network settings for the BIM1000:
 - BIM default IP address: 192.168.0.100
 - BIM default Gateway: 192.168.0.254
 - BIM default Subnet mask: 255.255.255.0
 - b. Verify that the laptop's IP address is on the same subnet as the Wireless Device Manager (BIM1000) by completing the following steps:
 - i. On your desktop toolbar, click the **Network** icon.
 - ii. Click **Local Area Connection**.
 - iii. Click **Properties**.
 - iv. Click **Internet Protocol Version 4 (TCP/IPv4)**.
 - v. Click **Properties**.
 - vi. Click **Use the following IP address**.
 - vii. In the **IP address** field, enter 192.168.0.101
 - viii. In the **Subnet mask** field, enter 255.255.255.0 and click **OK**.
 - c. On the laptop, launch an internet browser.
 - d. In the internet address bar, enter the following IP address of the Wireless Device Manager (BIM1000), 192.168.0.100

Note: 192.168.0.100 is the default IP address to launch the Wireless Device Manager Web Interface. When it connects, the Wireless Device Manager Web Interface displays.

3. **Important:** Complete the following steps to gain access to the Wireless Device Manager (BIM1000).

To log on to the Wireless Device Manager (BIM1000) for the first time, you require a password. To obtain a password, complete the following steps:



- a. In the User Login pane, from the **User** list, select **Service**, and then click **Generate** to generate a challenge string.

Note: The generated string is valid for one week only. Do not click the Generate button more than once. If you click the button more than once, you need to obtain another password.

- b. Copy the generated string in the **Generate Challenge String** field.
4. Launch an internet browser and navigate to <https://sensormaticsecurelogin.com/>.
5. Enter your valid log on details, and click **Login**.
6. Read the Terms & Conditions, and if you agree, select the check box, and click **Agree**.
7. From the **Tech Support** menu, click **Configurator Registration**, and complete the following steps:
 - a. From the **Product Code** list, click **AMS-9060 Web Configuration UI**.
 - b. In the **Register Number** field, enter the generated challenge string that you copied in step 3.b.
 - c. Click **Submit**.

Note: A challenge string and service password is sent to the email you registered with.

USB set-up

To connect a Wireless Device Manager (BIM1000) using a micro USB cable, 6003-0313-01, complete the following steps:

1. Connect the micro USB cable, 6003-0313-01, to your laptop and to the Wireless Device Manager (BIM1000). For the location of the micro USB port on the BIM1000, see item D, in **Figure 1**.
2. Connect to the Wireless Device Manager (BIM1000) in one of the following ways:
 - Use the BIM Web Launch Tool to connect to the Wireless Device Manager (BIM1000) by completing the following steps:
 - a. On your laptop, open the BIM Web Launch Tool.
 - b. From the **Network Adapter** list, select the relevant adapter to create the network interface.
 - c. From the **IP Address** list, select **192.168.2.100 – USB**.
Note: 192.168.0.100 is the default IP address to launch the Wireless Device Manager Web Interface.
 - d. Click **Launch**.
Note: This launches a web browser to connect to the Wireless Device Manager (BIM1000).
 - Use the laptop network settings to connect to the Wireless Device Manager (BIM1000) by completing the following steps:
 - a. Navigate to the laptop's network settings by completing the following steps to:
 - i. Click **Start**.
 - ii. Click **Control Panel**.
 - iii. Click **Network and Internet**.
 - iv. Click **Network and Sharing Center**.
 - v. Ensure that the laptop's network matches the following network settings for the BIM1000:
 - BIM default IP address: 192.168.2.100
Note: All computer IP addresses must use 101 as the last octet for any interface used with the Wireless Device Manager.
 - BIM default Gateway: 192.168.0.254
 - BIM default Subnet mask: 255.255.255.0
 - b. Verify that the laptop's IP address is on the same subnet as the Wireless Device Manager (BIM1000) by completing the following steps to:
 - i. On your desktop toolbar, click the **Network** icon.
 - ii. Click **Local Area Connection**.
 - iii. Click **Properties**.
 - iv. Click **Internet Protocol Version 4 (TCP/IPv4)**.
 - v. Click **Properties**.
 - vi. Click **Use the following IP address**.
 - vii. In the **IP address** field, enter 192.168.2.101
 - viii. In the **Subnet mask** field, enter 255.255.255.0 and click **OK**.
 - c. On the laptop, launch an internet browser.



- d. In the internet address bar, enter the following IP address of the Wireless Device Manager (BIM1000), 192.168.2.100

Note: When it connects, the Wireless Device Manager Web Interface displays.

3. **Important:** Complete the following steps to gain access to the Wireless Device Manager (BIM1000).

To log on to the Wireless Device Manager (BIM1000) for the first time, you require a password. To obtain a password, complete the following steps:

- a. In the User Login pane, click **Generate** to generate a challenge string.

Note: The generated string is valid for one week only. Do not click the Generate button more than once. If you click the button more than once, you need to obtain another password.

- b. Copy the generated string in the **Generate Challenge String** field.

4. Launch an internet browser and navigate to <https://sensormaticsecurelogin.com/>.

5. Enter your valid log on details, and click **Login**.

6. Read the Terms & Conditions, and if you agree, select the check box, and click **Agree**.

7. From the **Tech Support** menu, click **Configurator Registration**, and complete the following steps:

- a. From the **Product Code** list, click **AMS-9060 Web Configuration UI**.

- b. In the **Register Number** field, enter the generated challenge string you copied in step 3.b.

- c. Click **Submit**.

Note: A challenge string and service password is sent to the email you registered.

Step 2: Commissioning the Wireless Device Manager

This section outlines how to commission a Wireless Device Manager (BIM1000):

To commission the Wireless Device Manager (BIM1000), complete the following steps:

1. Return to the Wireless Device Manager web page, and use the challenge string to generate the service password, if necessary. See **Step 1: Connecting the Wireless Device Manager**.
2. From the **BIM Configuration** menu, click **BIM Status**.
3. Ensure that the versions and information in the following fields are correct, and click **Save**.
 - a. Software Version – 00.07.1, or higher
 - b. Bootloader Version – 00.00.5, or higher
 - c. IP Address – 192.168.0.100
4. Optional: If you need to update the firmware on the BIM1000, complete the following steps:
 - a. From the **BIM Configuration** menu, click **Firmware Update**.
 - b. Click **Browse**, and select the `BIM_BIX_RADIO_CFG_WEB_X_XX` tar file.
Note: X_XX in the tar file indicates the latest version of the firmware.
 - c. Click **Download**.
 - d. Wait for a **Transfer Completed Successfully** window to open, and then click **OK**.
 - e. Click **Update**.
 - f. If the update does not complete successfully, repeat steps a, b, c, d, and e.
Note: If the BIM1000 does not update successfully, you may be instructed to perform a factory reset. For further information, contact Technical Support. If you need to perform a factory reset, complete the following steps:
 - i. From the **BIM Configuration** menu, click **Radio Settings**.
 - ii. Record the values for the **Pan ID**, **Channel**, and **Power**, and then click **Save**.
 - iii. From the **BIM Configuration** menu, click **BIM Status**.
 - iv. Click **Factory Reset**.
 - v. Verify that the following firmware version updated successfully:
 - Software Version: 00.07.1
 - Bootloader version: 00.00.5
 - Radio version: 00.32.7
 - Wi-Fi version: 2.9.0.0
 - vi. From the BIM Configuration menu, click **Radio Settings**, and restore the radio settings.
5. From the **BIM Configuration** menu, click **Network Settings**, and enter static IP information, or check the DHCP option to get an assigned IP address.
6. Optional: If required, select the **Enable HTTP SSL** check box to enable Secure Sockets Layer (SSL) on the web server.
7. From the **BIM Configuration** menu, click **Radio Settings**, and complete the following steps:
 - a. In the **PAN ID** field, enter a value in hex from 0 x 0001 through to 0 x FFFE.
Note: The Personal Area Network (PAN) ID must be unique for each BIM1000.



- b. In the **Channel** field, enter the channel.

Note: The channel must be unique for each BIM1000. You can set a value from 11 to 26 for IEEE 802.15.4 radio frequencies.



Regulatory restriction: Do not use channel 25 or channel 26 in North America.

- c. Optional: Click **Generate** to generate a PAN ID and channel.
- d. In the **Tx Power** field, enter the Tx power value for the country of use, as shown in **Table 2**.

Table 2. BIM1000 and BIX1000 TX power

Device	TX power, North America	TX power, Europe
BIM1000	197 (20dB)	70 (10dB)
BIX1000	197 (20dB)	94 (10dB)
BIX1000EA	220 (20db)	85 (10db)

- e. Click **Save**.

Note: Write down the PAN ID and channel details to use later on when you commission the Wireless Device Module (BIX1000).

Step 3: Verifying the Wireless Device Manager

To verify that the Wireless Device Manager (BIM1000) is functioning correctly, complete the following procedure:

1. Launch an internet browser.
2. In the address bar, type `192.168.1.100` and press enter. The Wireless Device Manager Web Interface opens.
3. From the **User** list, click **Service**.
4. In the **Password** field, enter the password.
5. In the BIM Status pane, verify the following:
 - a. Verify the number of devices.
 - b. Verify the number of devices online.

Note: If the Wireless Device Manager is functioning correctly, the number of devices and the number of devices online match.

- c. In the SIP Server Status pane, verify the last connection time and success percentage.

Step 4: Optional: Installing a cellular modem

This step is optional if you chose to install a cellular modem.

To install a cellular modem, follow the instructions that come with the cellular modem.



Section IV: Installing the Wireless Device Manager (BIM1000)

This section outlines how to install a Wireless Device Manager (BIM1000).

Important: You must install the Wireless Device Manager (BIM1000) before you install the Wireless Device Module (BIX1000).

Note: You can power on and set-up the Wireless Device Manager (BIM1000) before you install it. To do this, proceed to **Step 3: Powering on the Wireless Device Manager** on page 25.

Overview of steps

This section gives an overview of the necessary steps to install a Wireless Device Manager (BIM1000):

- Step 1: Locating the Wireless Device Manager (BIM1000).
- Step 2: Mounting the Wireless Device Manager (BIM1000).
- Step 3: Connecting and securing the Wireless Device Manager (BIM1000).

Step 1: Locating the Wireless Device Manager

To locate the Wireless Device Manager (BIM1000) correctly, you must adhere to the following guidelines:

- Locate the BIM1000 a minimum of 2 feet or 24 inches from the Wireless Device Module (BIX1000). For more information, refer to the *Wireless Device Module (BIX1000) Installation Guide, 8200-1088-15*.
- **Table 3** lists the expected maximum line of sight range from BIM1000 to BIM1000 managers, and from BIM1000 to BIX1000 modules. The maximum line of sight ranges are based on environments free of obstructions and interference. The range can significantly degrade from the specified maximums.

Table 3. Expected maximum line of sight ranges between modules

Modules	Region	Expected maximum line of sight range
BIM1000 to BIX1000	EU	76.2 meters (250 feet)
BIM1000 to BIX1000	US	106.7 meters (350 feet)
BIM1000 to BIX1000EA	EU	106.7 meters (350 feet)
BIM1000 to BIM1000	EU	182.9 meters (600 feet)
BIM1000 to BIM1000	US	370 meters (1,217 feet)

- You must install the antennas for this transmitter with a separation distance of at least 20 centimetres (8 inches) from all persons, and must not be co-located or operating in conjunction with any other antenna or transmitter.



Step 2: Mounting the Wireless Device Manager

You can mount the Wireless Device Manager (BIM1000) in one of the following ways:

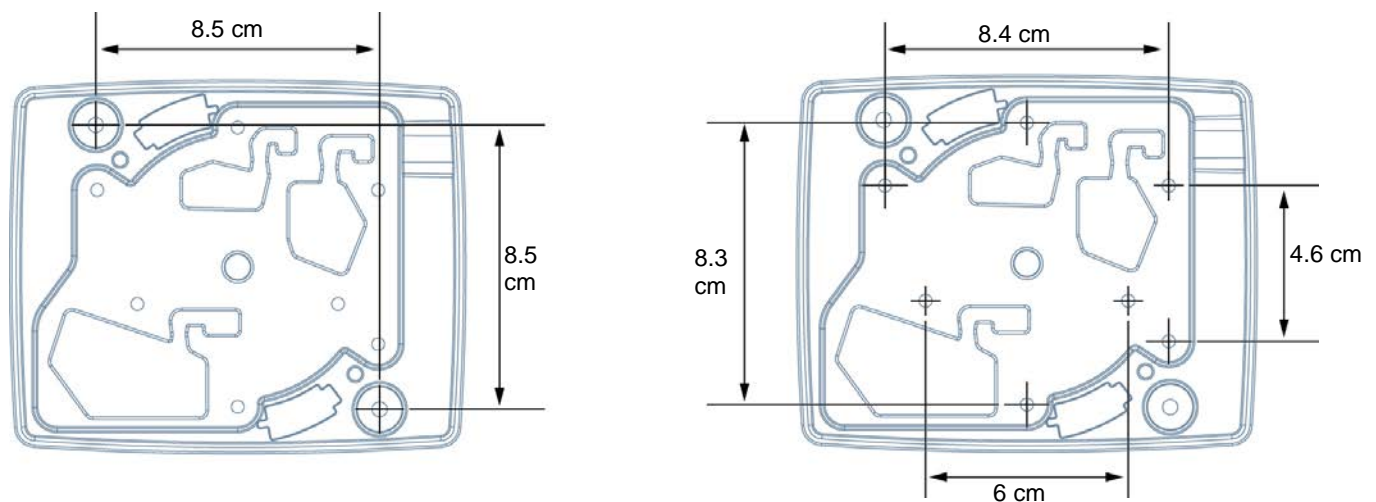
- To a surface-mounted electrical box.
- To a hollow cavity wall.
- To a ceiling.

Mounting the Wireless Device Manager to a surface-mounted electrical box

To mount the Wireless Device Manager (BIM1000) using a surface-mounted electrical box, you require the following equipment:

- A BIM1000 Installation Kit, 0352-0766-01.
- A BIM Mounting Plate, 0404-1247-01, supplied with the Wireless Device Manager (BIM1000).
- Electrical boxes: For North America, a contractor can supply quad-type electrical boxes or you can source them locally. For all other geographies, refer to the mounting pattern in **Figure 6** to determine the supported locally available electrical boxes.

Figure 6. Mounting hole dimensions on BIM1000 mounting bracket, back view



To mount the Wireless Device Manager (BIM1000) using an electrical box, complete the following steps:

1. Locate the Mounting Bracket, 0404-1247-01, and orientate it with the arrows pointing up to the ceiling. See **Figure 7** on page 21.
2. If the electrical box is not mounted, mount the electrical box using appropriate hardware.
3. Remove one or more knockouts on the electrical box.
4. Add strain relief to the knockouts where necessary to prevent the cables from chafing, and then secure the cable entry at the electrical box.
5. Complete the following steps to route the cables through the BIM1000 Mounting Bracket, 0404-1247-01:
 - a. If required, locate the RS485 cable, feed it through the **RS485** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the RS485 cable in the provided strain relief notch. For the location of the strain relief notch on the BIM1000, see **Figure 8** on page 22.



- b. Locate the Ethernet cable and feed it through the **Ethernet** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the Ethernet cable in the provided strain relief notch.
- c. Locate the power cable from the BIM1000 power supply extended cable kit, 0652-0897-01, and feed the three-pin connector end of the cable through the **Power** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the cable in the provided strain relief notch.

Note: Installing the Wireless Device Manager (BIM1000) to a 4x4 electrical box provides additional depth for cable connectors.

- 6. Orientate the Mounting Bracket, 0404-1247-01, with the arrows pointing up, over the electrical box.
- 7. Use two screws supplied with the electrical box, or two screws compatible with the electrical box, and secure the BIM Mounting Bracket, 0404-1247-01, to the electrical box.

Mounting the Wireless Device Manager to a hollow cavity wall

To mount the Wireless Device Manager (BIM1000) to a wall with a hollow cavity, you require the following equipment:

- A BIM Mounting Plate, 0404-1247-01, supplied with the Wireless Device Manager (BIM1000).
- A #2 Phillips screwdriver.
- A 2-inch (5 centimeters) bell saw, or hole saw.
- A drill, with assorted drill bits.
- A drywall saw.

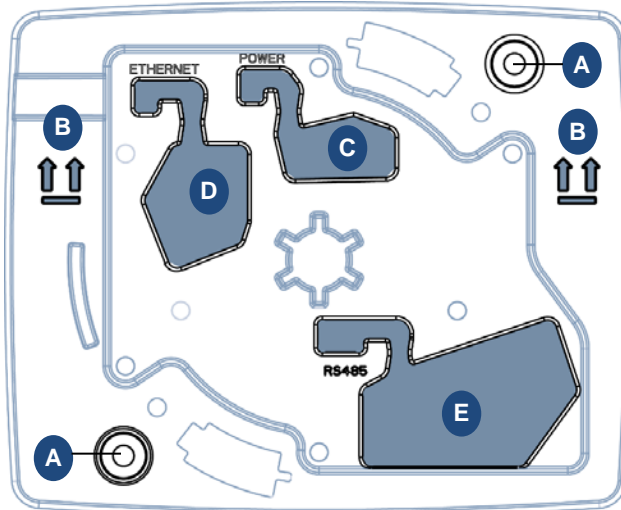
To mount a Wireless Device Manager (BIM1000) to a hollow cavity wall, complete the following steps:

- 1. Locate the BIM Mounting Bracket, 0404-1247-01, and orientate it with the arrows pointing up to the ceiling, as shown in **Figure 7**.

Important: You must locate the Wireless Device Manager (BIM1000) a minimum of 2 feet (24 inches) from the Wireless Device Module (BIX1000).

- 2. Use the BIM Mounting Bracket, 0404-1247-01, as a template and with a pencil, mark the mounting holes, and entry holes for the Power, the Ethernet, and the RS485 cables. See **Figure 7**.

Figure 7. Front view of the BIM Mounting Bracket, 0404-1247-01

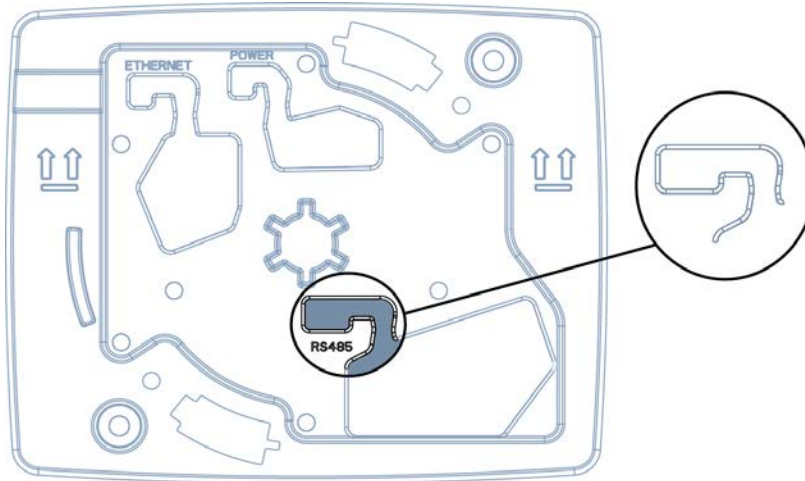


A	Mounting holes	B	Arrow up indicators
C	Power cable opening	D	Ethernet cable opening
E	RS485 cable opening		



3. Use a hand drill and a 2-inch (5 centimeters) drill-bit to drill the mounting holes on the wall.
4. Use a bell saw, or a hand saw, to cut out the Power, the Ethernet, and the RS485 cable holes.
5. From the BIM1000 Installation Kit, 0352-0766-01, locate two drywall anchors, 2880-0094-01, and insert into the mounting holes in the wall.
6. To prepare the cabling, complete the following steps:
 - a. Locate the RS-485 cable and feed it through the **RS485** cable opening on the BIM Mounting Bracket, 0404-1247-01.
 - b. Secure the RS485 cable into the strain relief notch. See **Figure 8**.

Figure 8. BIM Mounting Bracket cable strain relief feature



- c. Feed the Ethernet cable through the **Ethernet** cable opening on the BIM Mounting Bracket, 0404-1247-01.
 - d. Secure the Ethernet cable into the strain relief notch. See **Figure 8**.
 - e. Locate the three-pin connector cable from the BIM1000 power supply extended cable kit, and feed it through the **Power** cable opening on the BIM Mounting Bracket, 0404-1247-01.
7. Secure the three-pin connector from the power cable into the strain relief notch. See **Figure 8**.
8. Correctly orientate the BIM Mounting Bracket in place, with the up arrows pointing to the ceiling.
9. From the BIM1000 Installation Kit, 0352-0766-01, locate two drywall anchor screws, 2880-0094-01, and use a #2 Phillips screwdriver to secure the BIM Mounting Bracket, 0404-1247-01, to the wall.

Mounting the Wireless Device Manager to the ceiling

To mount the Wireless Device Manager (BIM1000) to the ceiling, you require the following equipment:

- A BIM1000 Installation Kit, 0352-0766-01.
- A BIM1000 Mounting Bracket, 0404-1247-01, supplied with the Wireless Device Manager (BIM1000).
- A drill with assorted drill bits.
- Plywood or a strut channel.

You can mount the Wireless Device Manager (BIM1000) to a hard ceiling, a T-bar of a ceiling grid support, or a suspended ceiling panel using the BIM Mounting Bracket, 0404-1247-01.

Mounting the BIM1000 Mounting Bracket to a hard ceiling

To mount the Wireless Device Manager (BIM1000) to a hard ceiling complete the following steps:

Note: If possible, mount the BIM Mounting Bracket into a known structural member using the appropriate hardware. Alternatively, use the supplied toggle bolt, 2880-0070-01, to anchor the BIM1000 Mounting Bracket.

1. Locate the BIM1000 Mounting Bracket, 0404-1247-01 and the BIM1000 Installation Kit, 0352-0766-01.
 - a. Use the BIM Mounting Bracket, 0404-1247-01, as a template, and with a pencil, mark the mounting holes, and the Power cable entry hole. If required, mark the entry locations for the RS485 or the Ethernet patch cables.
2. Use a drill with a 1/2 inch (12.5 millimeter) drill-bit, and drill the mounting hole in the ceiling.
3. Use a drill with a 1/2 inch (12.5 millimeter) drill-bit, and drill a hole for the power cable. If required, also drill a hole or holes for the RS485 or the Ethernet Patch cables.
4. From the BIM1000 Installation Kit, 0352-0766-01, locate the 6-inch toggle bolt, 2880-0070-01.
5. Adjust the toggle bolt to ensure that it can expand once you place it through the ceiling, and ensure that a minimum of a 1/2 inch (12.5 millimeters) of the toggle bolt remains exposed below the ceiling.
6. Thread the BIM1000 Mounting Bracket, 0404-1247-01, onto the toggle bolt, 2880-0070-01, and insert it through the ceiling.
7. Pulling down slightly on the bracket assembly, spin the BIM1000 Mounting Bracket to tighten it.

Note: If you have access to the area above the ceiling, you can tighten the toggle bolt, 2880-0070-01, from this location.

8. Place an additional screw on the BIM1000 Mounting Bracket, 0404-1247-01, to prevent the bracket from spinning or loosening when mounted. Alternatively, place the flange nut, 2838-0015-01, from the BIM1000 Installation Kit, 0352-0766-01, above the toggle bolt to secure the bracket in place.
9. Route the cables through the BIM1000 Mounting Bracket, 0404-1247-01, by completing the following steps:
 - a. If required, locate the RS485 cable, feed it through the **RS485** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the RS485 cable in the provided strain relief notch. For the location of the strain relief notch on the BIM1000, see **Figure 8** on page 22.
 - b. Locate the Ethernet cable and feed it through the **Ethernet** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the Ethernet cable in the provided strain relief notch.
 - c. Locate the power cable, feed the three-pin connector end of the cable through the **Power** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the cable in the provided strain relief notch.



Mounting the BIM1000 Mounting Bracket to a T-bar of a suspended ceiling support

To attach the BIM Mounting Bracket, 0404-1247-01, to a T-bar of a suspended ceiling support, complete the following steps:

1. Use a hand drill with a xx drill-bit, and drill a hole in the center of the plywood.
2. From the BIM1000 Installation Kit, 0352-0766-01, locate the 6-inch toggle bolt, 2880-0070-01.
3. Insert the toggle bolt, 2880-0070-01, through the plywood, and tighten the two flanged nuts, 2838-0015-01, to secure it to the BIM Mounting Bracket, 0404-1247-01.
4. Sit the plywood across the grid support in the ceiling.
5. From the BIM1000 Installation Kit, 0352-0766-01, locate the two T-bar clips, 1400-0033-01, and clip onto the ceiling grid support to secure in place.
6. Route the cables through the BIM1000 Mounting Bracket, 0404-1247-01, by completing the following steps:
 - a. If required, locate the RS-485 cable, feed it through the **RS485** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the RS485 cable in the provided strain relief notch. For the location of the strain relief notch on the BIM1000, see **Figure 8**.
 - b. Locate the Ethernet cable and feed it through the **Ethernet** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the Ethernet cable in the provided strain relief notch.
 - c. Locate the power cable, feed the three-pin connector end of the cable through the **Power** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the cable in the provided strain relief notch.

Mounting the BIM1000 Mounting Bracket to a suspended ceiling panel

To attach the BIM Mounting Bracket, 0404-1247-01, to a suspended ceiling panel, complete the following steps:

1. Use a hand drill with a xx drill-bit, and drill a hole in the center of the plywood.
2. From the BIM1000 Installation Kit, 0352-0766-01, locate the 6-inch toggle bolt, 2880-0070-01.
3. Insert the toggle bolt, 2880-0070-01, through the plywood, and tighten the two flanged nuts, 2838-0015-01, to secure it to the BIM Mounting Bracket, 0404-1247-01.
4. Sit the plywood across the grid support in the ceiling.
5. From the BIM1000 Installation Kit, 0352-0766-01, locate the two T-bar clips, 1400-0033-01, and clip onto the ceiling grid support to secure in place.
6. Complete the following steps to route the cables through the BIM1000 Mounting Bracket, 0404-1247-01:
 - a. If required, locate the RS-485 cable, feed it through the **RS485** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the RS485 cable in the provided strain relief notch. For the location of the strain relief notch on the BIM1000, see **Figure 8** on page 22.
 - b. Locate the Ethernet cable and feed it through the **Ethernet** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the Ethernet cable in the provided strain relief notch.
 - c. Locate the power cable, feed the three-pin connector end of the cable through the **Power** cable opening on the BIM Mounting Bracket, 0404-1247-01, and then secure the cable in the provided strain relief notch.



Step 3: Powering on the Wireless Device Manager

To supply power to the Wireless Device Manager (BIM1000) and connect the Ethernet and RS485 cables, complete the following steps:

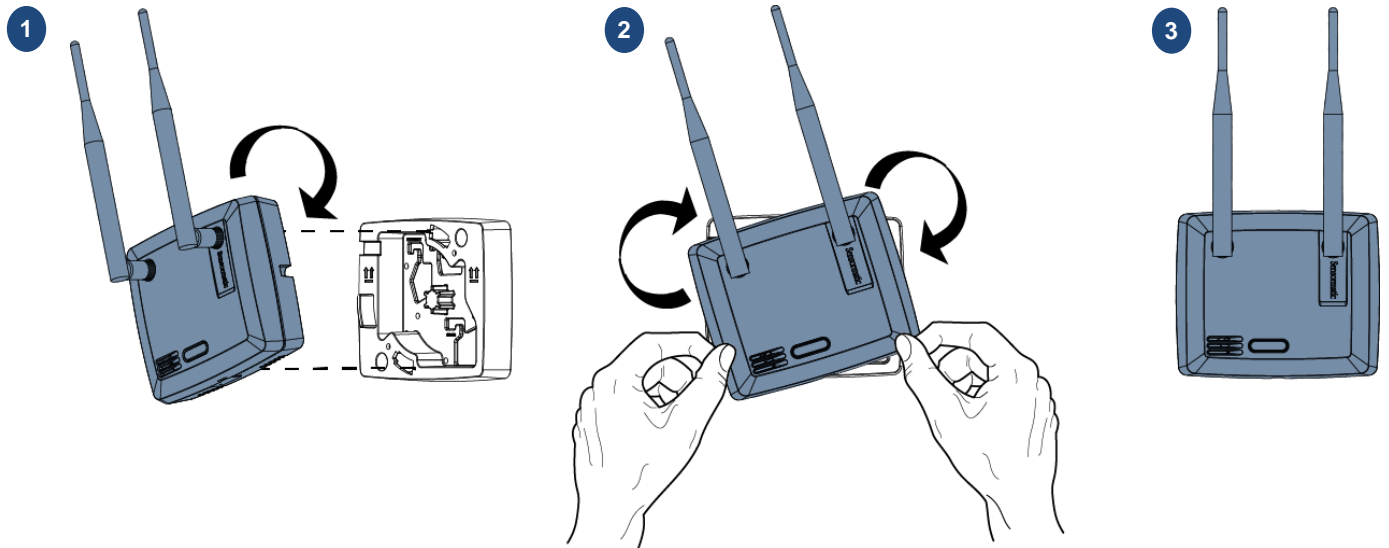
1. Insert the three-pin connector from the power cable to the **Power** port on the back of the Wireless Device Manager (BIM1000). For the location of the power port on the BIM1000, see **Figure 2** on page 5.
2. Insert the Ethernet cable to the **Ethernet** port on the back of the Wireless Device Manager (BIM1000). For the location of the Ethernet port on the BIM1000, see **Figure 2** on page 5.
3. Insert the RS485 cable to the **RS485** port on the back of the Wireless Device Manager (BIM1000). For the location of the RS485 port on the BIM1000, see **Figure 2** on page 5.

Section V: Securing the Wireless Device Manager

To secure the Wireless Device Manager (BIM1000) to the BIM1000 Mounting Bracket, 0404-1247-01, complete the following steps:

1. Align the Wireless Device Manager (BIM1000) to the BIM Mounting Bracket, 0404-1247-01, as shown in **Figure 9**.
2. Insert the Wireless Device Manager (BIM1000) to the BIM Mounting Bracket, 0404-1247-01, and rotate counter-clockwise to engage the locking tab, as shown in **Figure 9**.

Figure 9. Securing the Wireless Device Manager (BIM1000) to the BIM Mounting Bracket,



Removing the Wireless Device Manager from the mounting bracket

To remove the Wireless Device Manager (BIM1000) from the Mounting Bracket, 0404-1247-01, complete the following steps:

1. Use a small, flat screwdriver to push lightly on the tamper switch on the left-hand side of the Wireless Device Manager (BIM) to disengage the locking tab. For the location of the locking tab on the BIM1000, see **Figure 1** on page 5.
2. Rotate the Wireless Device Manager (BIM) counter-clockwise to release it from the BIM1000 Mounting Bracket, 0404-1247-01.

Specifications

Electrical

Power supply

Primary input 18VDC input, Sync and RS485 through RJ45 8 pin header with LEDs for RS485.

Environmental

Ambient temperature 0°C to 50°C (32°F to 122°F)

Relative humidity 0 to 90% non-condensing

Enclosure Rating UL94 V-O

Evaluated for altitudes less than 2,000 meters (6,561.68 feet)

Mechanical

Material:.....ABS

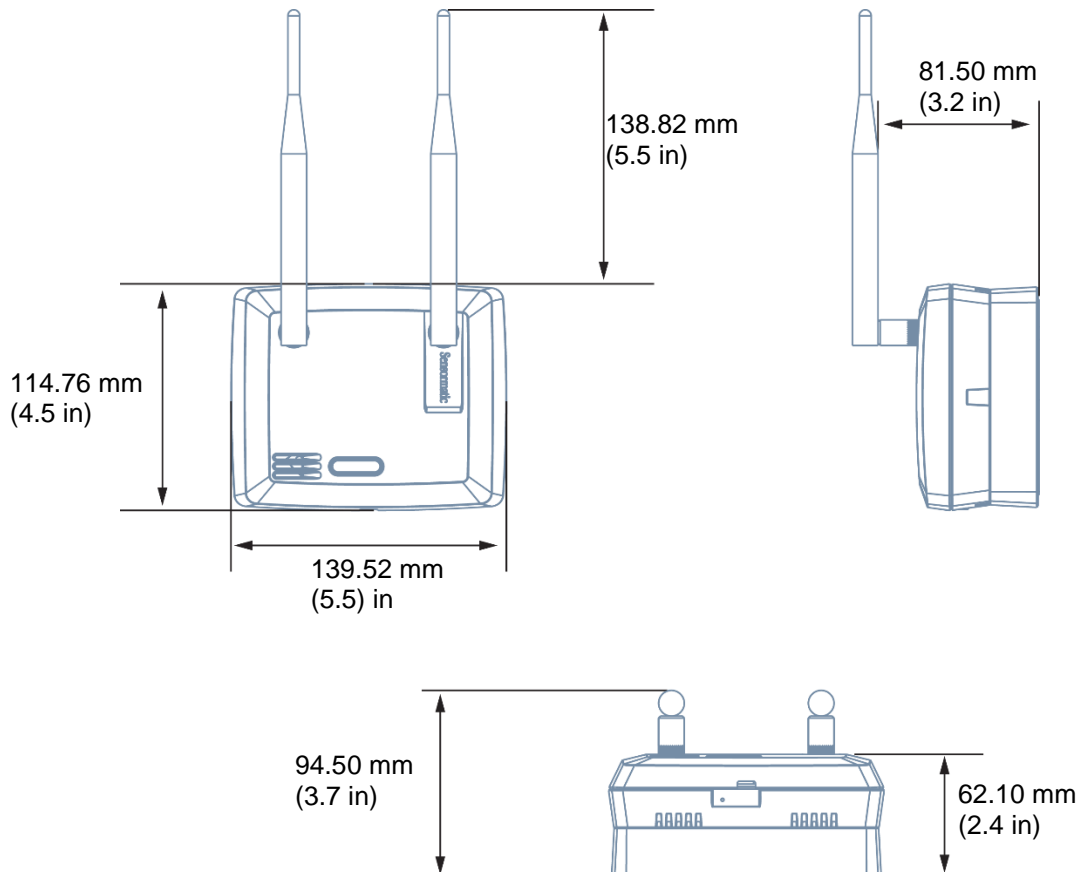
Color: Light grey

Dimensions: 139.52 mm X 114.76 mm X 62.10 mm

Weight (approx.): 419 g (0.92 lbs)

Dimensions

Figure 10. Wireless Device Manager (BIM) dimensions, front view



Declarations

Model: BIM1000

Regulatory information

Contains the following radios;

FCC ID: A8TBM78ABCDEFGH, Z64-CC3100MODR1

IC ID: 12246A-BM78SPPS5M2, 451I-CC3100MODR1

Radio

Frequency of operation

Type.....	BIM1000
Frequency band.....	2402.0 - 2480.0 MHz
.....	2412.0 – 2462.0 MHz
Maximum power	10 mW in the EU
.....	100 mW in NA

If frequency is selectable for your model, select only the country in which you are using the device. Any other selection will make the operation of this device illegal.

Approved antennas

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada.

Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This radio transmitter *IC: 3506A-BIM1000* has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio *IC: 3506A-BIM1000* a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Pulse/Larsen W1027

Polarization	Vertical
Composite gain	3.2 dBi
Impedance	50 ohms

Pulse/Larsen W1038

Polarization	Vertical
Composite gain	3.8 dBi
Impedance	50 ohms

L-Com model HG2403RD-RSF

Polarization	Vertical
Composite gain	3.0 dBi
Impedance	50 ohms



FCC ID: BVCBIM1000

This device complies with part 15 of the FCC Rules. *This device complies with Industry Canada's licence-exempt RSSs.* Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

México NOM 121: BIM1000

La operación de este equipo está sujeta a las siguientes dos condiciones:

- 1) es posible que este equipo o dispositivo no cause interferencia perjudicial y
- 2) este equipo debe aceptar cualquier interferencia, incluyendo la que pueda causar su propia operación no deseada.

INTERNATIONAL ID: BIM1000

EMC	47 CFR, Part 15
.....	EN 300 328
.....	EN 301 489-1
.....	EN 301 489-3
.....	EN 301 489-17
.....	RSS 210
Safety.....	UL/EN 60950-1
.....	CSA C22.2.60950-1



EQUIPMENT MODIFICATION CAUTION: Equipment changes or modifications not expressly approved by Sensormatic Electronics, LLC, the party responsible for FCC compliance, could void the user's authority to operate the equipment and could create a hazardous condition.

See **About this guide** on page 3.

Other declarations

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