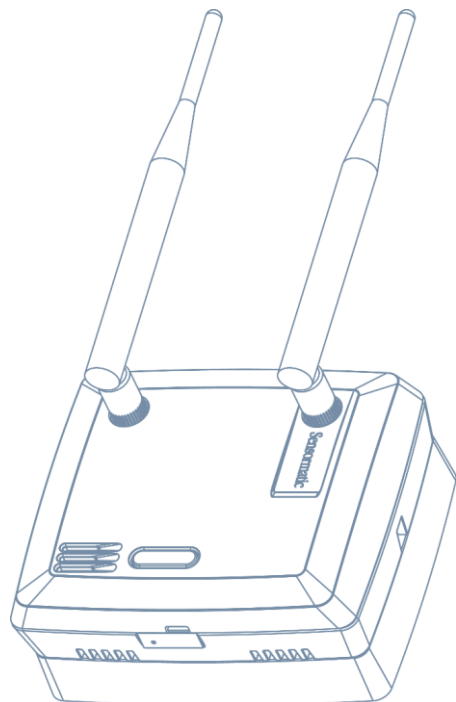


Business Intelligence Module (BIM1000)

Installation Guide



BIM1000

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About this guide

This installation guide explains how to install the Business Intelligence Module (BIM1000) with the Business Intelligence Accessory (BIX1000), to synchronize all Sensormatic-connected devices.

Additional documentation

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

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

Technical Support

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

About the product

The Business Intelligence Module (BIM1000) is a wireless access point that connects to the Business Intelligence Accessory (BIX1000).

Using IEEE 802.15.4 wireless protocol, the Business Intelligence Accessory (BIX1000) connects to the Business Intelligence Module (BIM1000) to synchronize all in-store Sensormatic-connected devices, to collect data and to provide a health status for all connected devices. For an example, see Figure 1 and Figure 2 on page 6.

The data collected includes alarms, events, and people-counting statistics. It also collects alarm response times to help eliminate false deactivation and detection alarms at store exits.

Customers can use a desktop browser to log into a TrueVUE reporting platform, or a Shrink Management as a Service (SMaaS) platform, to access daily data reports from all the connected devices.

The customer can also use the Device Mobile App (BIZ1000), which is compatible with iOS and Android smart devices, or they can use the Business Intelligence Module (BIM1000) Manager Interface, to monitor store-wide EAS device health, counts, and events in real-time.

Features

The Business Intelligence Module (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.
- It has MicroSD flash storage.
- It has Micro USB Type B access.
- It has Bluetooth radio for wireless setup.

Compatibility

The Business Intelligence Module (BIM1000) is compatible with the following devices:

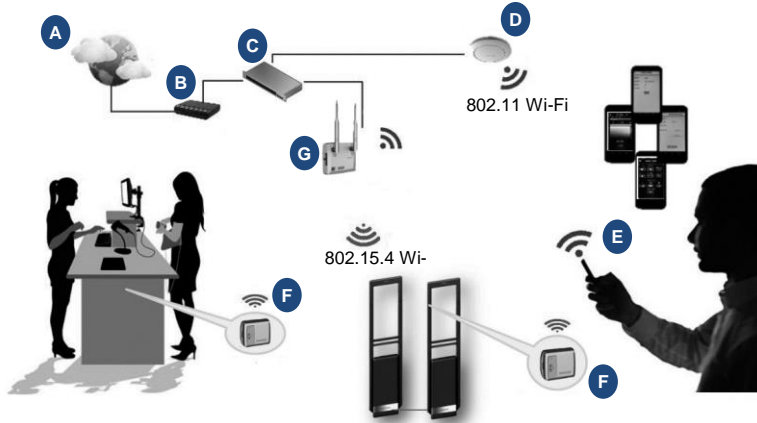
- The Ultra Post® IV AMS-1012 Pedestal.
- The Ultra Post® VI AMS-1014 Pedestal.
- The Ultra 1.8 Meter ABS Pedestal.
- The AMS-9060 Controller.
- The AMS-9050 Controller.
- The AMS-9040 Controller.
- The AMS-1080 Controller.
- The AMS-1170-2C/4C Controller.
- The ZBAMB9010 EAS Label Deactivator Controller.
- 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.

Commented [ARB1]: Comment from Marc:

It has mmd so same format but a chip not a card. Clarify with Marc.

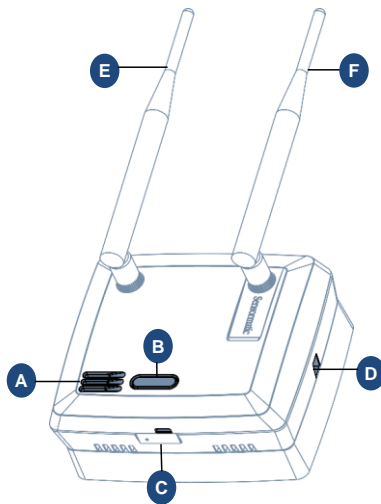
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Figure 1. Overview of the Business Intelligence Module (BIM1000) solution



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

Figure 2. Business Intelligence Module (BIM1000), 0304-0170-01



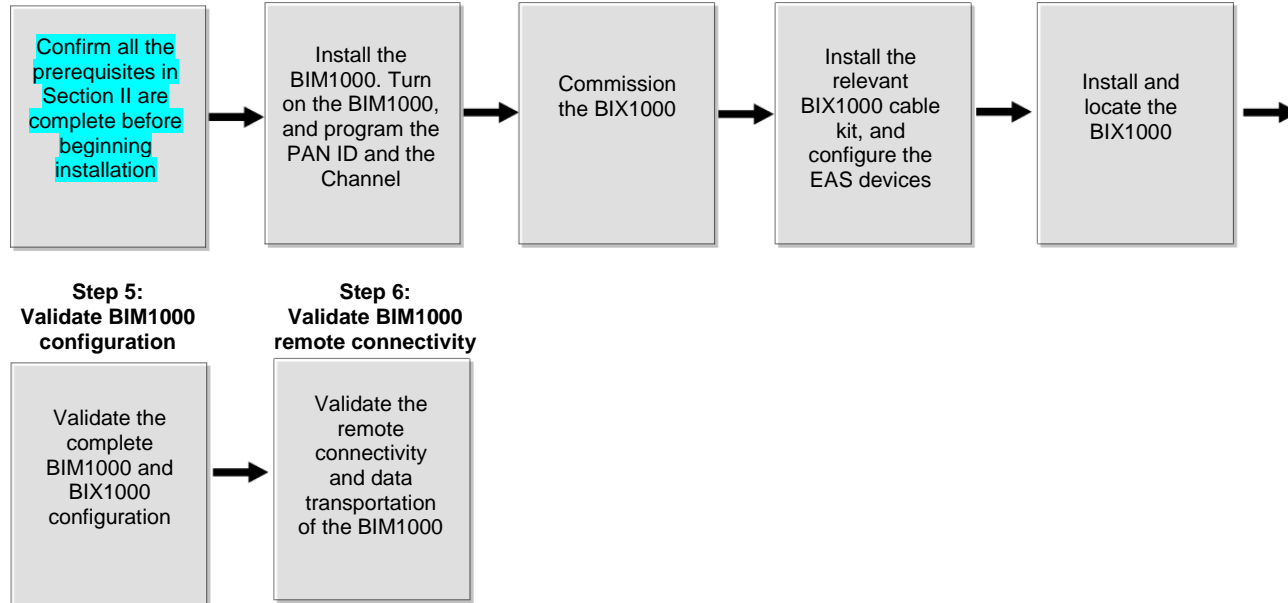
A	Speaker	B	RGB visual display
C	Micro USB port	D	Locking tab
E	Radio antenna (802.15.4)	F	Wi-Fi antenna

Section I: Installation sequence overview

Figure 3 gives an overview of the complete installation sequence you must follow when you install a BIM1000 and a BIX1000. You must install the BIM1000 before you install the BIX1000.

Figure 3. BIM1000 and BIX1000 complete installation sequence

**Before you begin:
Planning and prerequisites**



Commented [BA[G-C2]: Feedback from Marc, survey and planning should be a pre-step. Store layout, which BIX to which BIM, Network and RS-485 topology.

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 BIM**
- **Step 5: Validate the BIM1000 configuration**
- **Step 6: Validate BIM1000 remote connectivity**



Section II: Before you begin

Before you install a Business Intelligence Module (BIM1000), ensure that you adhere to the criteria outlined in the following sections.

Installation prerequisites

To install a Business Intelligence Module (BIM1000), you must have the following criteria 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 Topology 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 Business Intelligence Module (BIM1000)?

Training

WARNING: Do not attempt to install a Business Intelligence Module (BIM1000) unless you have completed the Wireless Device Manager (BIM/BIX) Training Curriculum.

To install a Business Intelligence Module (BIM1000), you must complete the following technical training modules:

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

Part numbers

Table 1 lists the part numbers you require to install a Business Intelligence Module (BIM1000).

Table 1. Business Intelligence Module (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
0352-0473-01	Ceiling mount, IVS	1
0404-1244-01	BIX mounting back cover kit	1
3135-1525-01	BIM Power Supply	1
0352-0897-01	BIM PWR connector-cable	1
6003-0313-01	Micro USB B to USB-B cable, 1.8m	1

Commented [ARB3]: These part numbers are not included in the BOM Marc sent me. Are these going to be included in the BOM or do they need to be ordered separately?

Could you please provide the part number for the power connector cable, I cannot locate it on Windchill?



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 BIM1000.

Survey requirements

You must access the following criteria 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 when you install a Business Intelligence Module (BIM1000) to work with a Business Intelligence Accessory (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 NTP Server.
- The Ethernet MAC address.
- The Wi-Fi Subnet Mask.
- The Wi-Fi Default Gateway.
- The SIP Server address.

Application and firmware requirements

In order to support the installation of a Business Intelligence Module (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 logon information and click **Login**.
3. From the **Tech Support** menu, click **EAS**.
4. Click **Software Download**.
5. Click **BIM Web Launch Tool Vx.xx**
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**.

Commented [BA[G-C4]: Question for Marc Blanchenay:
Does the installer need to do this or will it be included in the Network Typology Map?



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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 x.x. (Program Files (x86) for 64 bit machines).

TrueVUE requirements

To support TrueVUE reports for a Business Intelligence Module (BIM1000) installation, you require the following:

- TrueVUE ,version 7.5 or later.
- The SIP URL as stated in the Network Topology Map.
- If authentication is necessary, you need your valid service credentials.
- The store name, the store number, and the division number.
- The heartbeat interval.
- Ensure the appropriate port is open, typically port 8080 or 8081.

Commented [ARB5]: Included as per conversion with John Clark. 7.5 is scheduled for release in April.

Laptop requirements

You require the following items for your laptop:

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

Commented [ARB6]: Removed the wireless adapter and the Bluetooth adapter from this list. Wi-Fi and Bluetooth are disabled by default so moving these sections to the Setup Guide.

Component installation requirements

This section outlines components installation requirements to install a Business Intelligence Module (BIM1000).

Electrical power requirements

Confirm the following electrical power requirements are in place to install a Business Intelligence Module (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 Business Intelligence Module (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.

Tools required

Confirm that you have the following tools before you install a Business Intelligence Module (BIM1000):

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

Safety

You must adhere to the following safety instructions when you install a Business Intelligence Module (BIM1000):



WARNING: Risk of electric shock

Disconnect all power sources before servicing.

- Do not install the Business Intelligence Module (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 Business Intelligence Module (BIM1000).
- You must mount the Business Intelligence Module (BIM1000) only as instructed in this installation guide. Mounting the Business Intelligence Module (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 collocated or operating in conjunction with any other antenna or transmitter.

Commented [ARB7]: Reply from Bill Owsley:

We have not yet received the FCC certificate and expect it by months end.
Because the application has the 2 antennas in it, I would guess the certificate might not have that statement.
TBD.



Section III: Installing the Business Intelligence Module (BIM1000)

This section outlines how to install a Business Intelligence Module (BIM1000).

Important: You must install the Business Intelligence Module (BIM1000) before you install the Business Intelligence Transceiver (BIX1000).

Note: You can power on and set-up the Business Intelligence Module (BIM1000) before you install it. To do this, proceed to **Step 4: Powering on the Business Intelligence Module** on page 28.

Overview of steps

This section gives an overview of the steps involved in installing a Business Intelligence Module (BIM1000):

- Step 1: Locating the Business Intelligence Module (BIM1000).
- Step 2: Mounting the Business Intelligence Module (BIM1000).
- Step 3: Connecting and securing the Business Intelligence Module (BIM1000).

Step 1: Locating the Business Intelligence Module

To locate the Business Intelligence Module (BIM1000) correctly, you must adhere to the following guidelines when you locate the Business Intelligence Module (BIM1000).

- Locate the BIM1000 a minimum of 2 feet or 24 inches from the Business Intelligence Transceiver (BIX1000). For more information, refer to the *Business Intelligence Accessory (BIX1000) Installation Guide, 8200-1088-15*.
- **Table 2** lists the expected maximum line of sight range from BIM1000 to BIM1000 modules, 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 2. 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 collocated or operating in conjunction with any other antenna or transmitter.

Commented [BA[G-C8]: For the moment starting with this value. Manny will get back to me once tests are performed over the coming weeks. (05/02/18)

Commented [ARB9]: TBD.



Step 2: Mounting the Business Intelligence Module

You can mount the Business Intelligence Module (BIM1000) in one of the following ways:

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

Mounting the Business Intelligence Module to a hollow cavity wall

To mount the Business Intelligence Module (BIM1000) to wall with a hollow cavity, you require the following equipment:

- A Ceiling Mount IVS Kit, 0352-0473-01.
- A BIM Mounting Plate, 0404-1247-01, supplied with the Business Intelligence Module (BIM1000).
- A #2 Phillips screwdriver.
- A 2-inch (5 centimeters) bell saw, or hole saw.
- A drill, with assorted drill bits.
- A drywall saw.

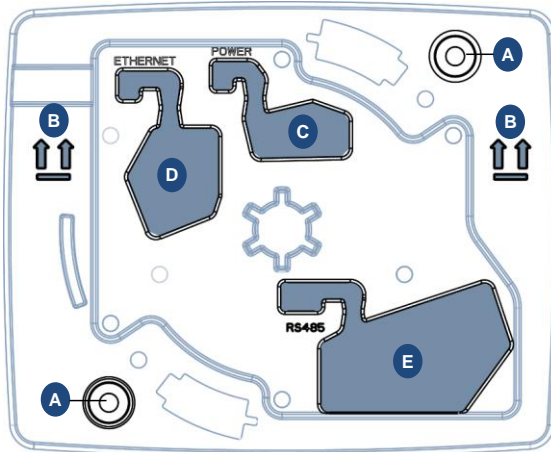
To mount a Business Intelligence Module (BIM1000) to a hollow cavity wall, complete the following steps:

1. Locate the BIM Mounting Bracket, 0404-1247-01, and orientate it with the arrows pointing up to the ceiling, as shown in **Figure 4**.

Important: You must locate the Business Intelligence Module (BIM1000) a minimum of 2 feet (24 inches) from the Business Intelligence Accessory (BIX1000).

2. Use the BIM Mounting Bracket, 0404-1247-01, as a template and with a pencil, mark the mounting holes, and the Power, the Ethernet, and the RS485 cable entry holes. See **Figure 4**.

Figure 4. 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		



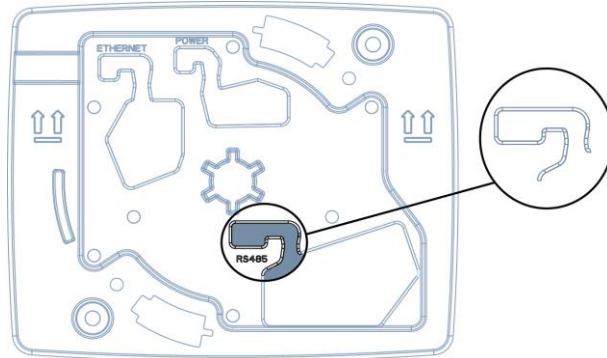
PRELIMINARY

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 Ceiling Mount IVS Kit, 0352-0473-01, 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 5**.

Commented [WM[G-C10]]: Is this the correct drill-bit size for the mounting holes?

Commented [WM[G-C11]]: Are these the correct anchors from the kit? There's two types.

Figure 5. 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 5**.
 - e. Locate the three-pin connector cable from the XXXXX 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 5**.
8. Correctly orientate the BIM Mounting Bracket in place, with the up arrows pointing to the ceiling.
9. From the Ceiling Mount IVS Kit, 0352-0473-01, 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.

Commented [WM[G-C12]]: Where does the installer get the three-pin connector cable?

Commented [WM[G-C13]]: Are these the correct anchors from the kit? There's two types.

Mounting the Business Intelligence Module to the ceiling

To mount the Business Intelligence Module (BIM1000) to the ceiling, you require the following equipment:

- A BIM1000 Install Kit, 0352-0766-01.
- A BIM1000 Mounting Bracket, 0404-1247-01, supplied with the Business Intelligence Module (BIM1000).
- A drill with assorted drill bits.
- Plywood or a strut channel.

You can mount the Business Intelligence Module (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.

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Mounting the BIM1000 Mounting Bracket to a hard ceiling

To mount the Business Intelligence Module (BIM1000) to a hard ceiling complete the following steps:

1. Locate the BIM1000 Mounting Bracket, 0404-1247-01 and the BIM1000 Installation Kit, 0352-0766-01.
2. If possible, mount the BIM Mounting Bracket into a known structural member using appropriate hardware. Alternately, use the supplied toggle bolt, 2880-0070-01, to anchor the BIM1000 Mounting Bracket.
3. 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.
 - a. If required, mark the entry locations for the RS485 or the Ethernet patch cables.
4. Use a drill with a 1/2 inch (12.5 millimeter) drill-bit, and drill the mounting hole in the ceiling.
5. 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.
6. From the BIM1000 Installation Kit, 0352-0766-01, locate the 6-inch toggle bolt, 2880-0070-01.
7. Adjust the toggle bolt to ensure it can expand once you place it through the ceiling, and ensure a minimum of a 1/2 inch (12.5 millimeters) of the toggle bolt remains exposed below the ceiling.
8. Thread the BIM1000 Mounting Bracket, 0404-1247-01, onto the toggle bolt, 2880-0070-01, and insert it through the ceiling.
9. 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.
10. Place an additional screw on the BIM1000 Mounting Bracket, 0404-1247-01, to prevent the bracket from spinning or loosening when mounted. Alternately, 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.
11. 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 5**.
 - 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.

Commented [BA[G-C14]: Should this step sit here or do I need to move it? Or is this a note?

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. Complete the following steps to route the cables through the BIM1000 Mounting Bracket, 0404-1247-01:

Commented [BA[G-C15]: What size drill bit?

PRELIMINARY

- 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 5**.
- 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 5**.
 - 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.

Commented [BA[G-C16]: What size drill bit?

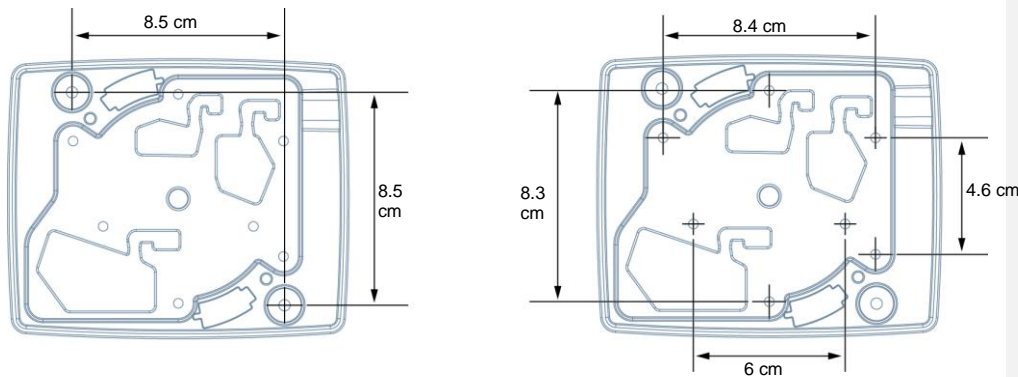
PRELIMINARY

Mounting the Business Intelligence Module to a surface-mounted electrical box

To mount the Business Intelligence Module (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 Business Intelligence Module (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 Business Intelligence Module (BIM1000) using an electrical box, complete the following steps:

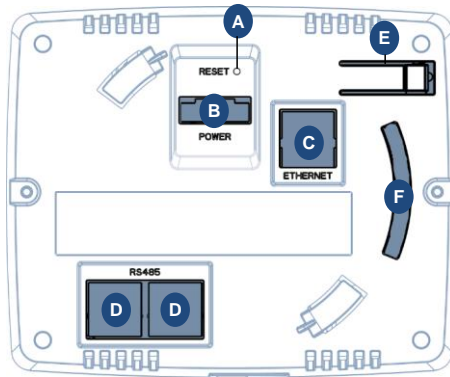
1. Locate the Mounting Bracket, 0404-1247-01, and orientate it with the arrows pointing up to the ceiling. See **Figure 4**.
2. If the electrical box is not mounted, mount the electrical box using appropriate hardware.
3. Remove one or more knockouts on the electrical box.
4. Add strain relief to the 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 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 5**.
 - 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.
Note: Installing the Business Intelligence Module (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.
5. 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.

Step 3: Connecting and securing the Business Intelligence Module

To secure the Business Intelligence Module (BIM1000) to the Mounting Bracket, 0404-1247-01, complete the following steps:

1. Locate the Business Intelligence Module (BIM1000).
2. Insert the three-pin connector from the power cable to the **Power** port on the back of the Business Intelligence Module (BIM1000). See **Figure 7**.

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

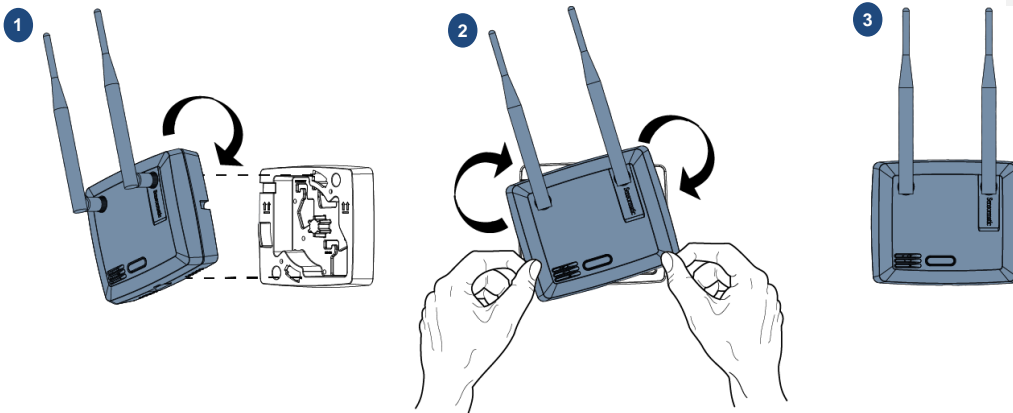


A	Reset button	B	Power port
C	Ethernet port	D	RS485 port
E	Locking tab	F	Tamper switch

3. Insert the Ethernet cable to the **Ethernet** port on the back of the Business Intelligence Module (BIM1000). See **Figure 7**.
4. Insert the RS485 cable to the **RS485** port on the back of the Business Intelligence Module (BIM1000). See **Figure 7**.
5. Align the Business Intelligence Module (BIM1000) to the BIM Mounting Bracket, 0404-1247-01. See **Figure 8** on page 19.
6. Insert the Business Intelligence Module (BIM1000) to the BIM Mounting Bracket, 0404-1247-01, and rotate counter-clockwise to engage the locking tab.

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Figure 8. Securing the Business Intelligence Module (BIM1000) to the BIM Mounting Bracket,



Removing the Business Intelligence Module from the mounting bracket

To remove the Business Intelligence Module (BIM1000) from the Mounting Bracket, 0404-1247-01, complete the following steps:

1. Use a small, flat screw driver to push lightly on the tamper switch on the left-hand side of the Business Intelligence Module (BIM) to disengage the locking tab.
2. Rotate the Business Intelligence Module (BIM) counter-clockwise to release it from the Mounting Bracket, 0404-1247-01.

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Section IV: Connecting the Business Intelligence Module (BIM1000)

This section outlines how to connect the Business Intelligence Module (BIM1000).

Overview of connection steps

This section gives an overview of the steps involved in connecting a Business Intelligence Module (BIM1000).

- Step 1: Connecting the Business Intelligence Module.
- Step 2: Installing a cellular modem.
- Step 3: Configuring the Business Intelligence Module.
- Step 4: Powering on the Business Intelligence Module.
- Step 5: Verifying the Business Intelligence Module.

Equipment required

To connect the Business Intelligence Module (BIM1000), you require the following equipment:

- ?
- ?

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Step 1: Connecting the Business Intelligence Module

You can connect and power the Business Intelligence Module (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 Wi-Fi or Bluetooth set-up, refer to the *Business Intelligence Module (BIM1000) and Business Intelligence Accessory (BIX1000) Setup Guide, 8200-1088-01*.

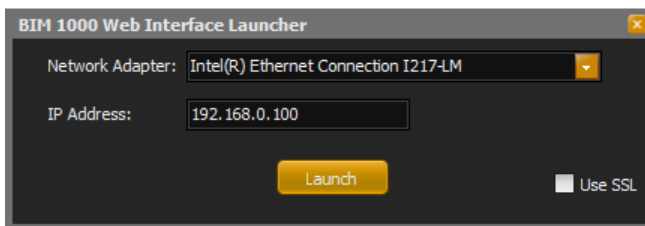
Ethernet cable set-up

To connect a Business Intelligence Module (BIM1000) using an Ethernet cable set-up, complete the following procedure:

1. Connect the Ethernet cable to your laptop and to the Business Intelligence Module (BIM1000).
2. You can connect to the Business Intelligence Module (BIM1000) in one of the following ways:
 - Use the BIM Web Launch Tool to connect to the Business Intelligence Module (BIM1000) using the BIM Web Launch Tool, by completing the following steps:
 - a. On your laptop, open the BIM Web Launch Tool.
 - b. From the **Network Adapter** list, select the relevant Ethernet connection type.
 - c. In the **IP Address** field, enter 192.168.0.100
 - d. Click **Launch**.

Note: This launches a web browser to connect to the Business Intelligence Module (BIM1000).

Figure 9. BIM1000 Web Interface Launcher



- Use the laptop network settings to connect to the Business Intelligence Module (BIM1000) using the laptop's network settings, by completing the following steps:
 - a. Complete the following steps to navigate to the laptop's network settings:
 - i. Click **Start**.
 - ii. Click **Control Panel**.
 - iii. Click **Network and Internet**.
 - iv. Click **Network and Sharing Center**.



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- 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. Complete the following steps to verify that the laptop's IP address is on the same subnet as the Business Intelligence Module (BIM1000):
 - i. Click the **Network** icon on your desktop toolbar.
 - 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 192.168.0.100
 - 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 Business Intelligence Module (BIM1000), 192.168.0.100

Note: When it connects, the Wireless Device Configuration webpage displays.

4. To logon to the Business Intelligence Module (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 Challenge String button more than once, if you click the button more than once, you need to obtain another string.
 - b. Copy the string that is generated in the **Generate Challenge String** field.
5. Launch an internet browser and navigate to <https://sensormaticsecurelogin.com/>.
6. Enter your valid logon details, and click **Login**.
7. Read the Terms & Conditions, and if you agree, select the check box and click **Agree**.
8. 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 4b.
 - c. Click **Submit**.

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

USB set-up

To connect a Business Intelligence Module (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 Business Intelligence Module (BIM1000). For the location of the micro USB port on the BIM1000, see item C, in **Figure 2**.
2. You can connect to the Business Intelligence Module (BIM1000) in one of the following ways:
 - Use the BIM Web Launch Tool to connect to the Business Intelligence Module (BIM1000) using the BIM Web Launch Tool, by completing the following steps:
 - a. On your laptop, open the BIM Web Launch Tool.
 - b. From the **Network Adapter** list, select the relevant Ethernet connection type.
 - c. In the **IP Address** field, enter `192.168.2.100`
 - d. Click **Launch**.

Note: This launches a web browser to connect to the Business Intelligence Module (BIM1000).
 - Use the laptop network settings to connect to the Business Intelligence Module (BIM1000) using the laptop's network settings, by completing the following steps:
 - a. Complete the following steps to navigate to the laptop's network settings:
 - 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: `192.168.2.10`
 - BIM default Gateway: `192.168.0.254`
 - BIM default Subnet mask: `255.255.255.0`
 - b. Complete the following steps to verify that the laptop's IP address is on the same subnet as the Business Intelligence Module (BIM1000):
 - i. Click the **Network** icon on your desktop toolbar.
 - 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 `192.168.2.100`
 - 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 Business Intelligence Module (BIM1000), `192.168.2.100`

Note: When it connects, the Wireless Device Configuration webpage displays.

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4. To logon to the Business Intelligence Module (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 Challenge String button more than once, if you click the button twice, you need to obtain another string.
 - b. Copy the string that is generated in the **Generate Challenge String** field.
5. Launch an internet browser and navigate to <https://sensormaticsecurelogin.com/>.
6. Enter your valid logon details, and click **Login**.
7. Read the Terms & Conditions, and if you agree, select the check box and click **Agree**.
8. 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 4b.
 - c. Click **Submit**.
Note: A challenge string and service password is sent to the email you registered.

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Step 2: 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.

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Step 3: Commissioning the Business Intelligence Module

This section outlines how to commission a Business Intelligence Module (BIM1000):

To commission the BIM1000, complete the following steps:

1. Return to the Business Intelligence Module webpage, and use the challenge string to generate the service password, if necessary. See **Step 1: Connecting the Business Intelligence Module**.
2. From the **BIM Configuration** menu, click **BIM Status**. 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
3. 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 dialog box 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 you 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.
4. From the **BIM Configuration** menu, click **Network Settings**, and enter static IP information, or check the DHCP option to get an assigned IP address.
5. Optional: If required, select the **Enable HTTP SSL** check box to enable SSL on the web server.
6. 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.

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Note: The Channel must be unique for each BIM1000. You can set a value from 1 to 26 for IEEE 802.15.4 radio frequencies.

- 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 3**.

Commented [BA[G-C19]: Marc mentioned that this differs from Wi-Fi, do I need to note this here and do they need to use a different value.

Commented [ARB20]: Needs to be ironed out, and John A to include a country dropdown menu. To be decided.

Table 3. BIM1000 and BIX1000 TX power

Device	TX power, North America	TX power, Europe
BIM1000	197 (20dB)	57 (10dB)
BIX1000	197 (20dB)	78 (10dB)
BIX1000EA	220 (20db)	89 (10db)

Commented [ARB21]: Bill Rider to confirm

- e. Click **Save**.

Note: Write down the PAN ID and Channel details to use later on when you configure the BIX1000.



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Step 4: Powering on the Business Intelligence Module

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To power on the Business Intelligence Module (BIM1000), complete the following procedure:

1. Plug it in
2. When LEDs blinking
- 3.
- 4.

Power Cable Route

The power cable route goes from:

- The AC outlet inside the main electrical box in which the power supply module (1) and female-to-female coupler (2) reside.
- Down through existing conduit into the UltraLink[®] enclosure below.
- Up through existing conduit and alarm module electrical box (3).
- To a 4x4 electrical box (4) mounted 3.7m (12ft) from the floor (the Sync AP mounts here using two screws as shown below). A length of conduit (5) will need to be added for power to reach this box.

Notes:

The 4.6m (15ft) Cat5 cable supplied is used to get power to the Sync AP.

DO NOT connect this cable to the Sync AP or the female-to-female coupler inside the main electrical box at this time. These connections will be done at the end of the setup process.

If the cable does not fit through the conduit, then cut off one of its connectors close to the end of the cable, route the cable, then reattach the connector (see page 5 for reattachment instructions).



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Step 5: Verifying the Business Intelligence Module

To verify that the Business Intelligence Module (BIM1000) is functioning correctly, complete the following procedure:

1. Launch an internet browser.
2. In the address bar, enter **192.168.1.100** and press enter. The Business Intelligence Module (BIM) Web Interface opens.
3. From the **User** dropdown 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 Business Intelligence Module is functioning correctly, the Number of Devices and the Number of Device online match.
 - c. In the **SIP Server Status** pane, verify the last connection time and success percentage.

Commented [WM[G-C23]: Is this the password that the customer set earlier?



Specifications

Electrical

Power supply

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

Environmental

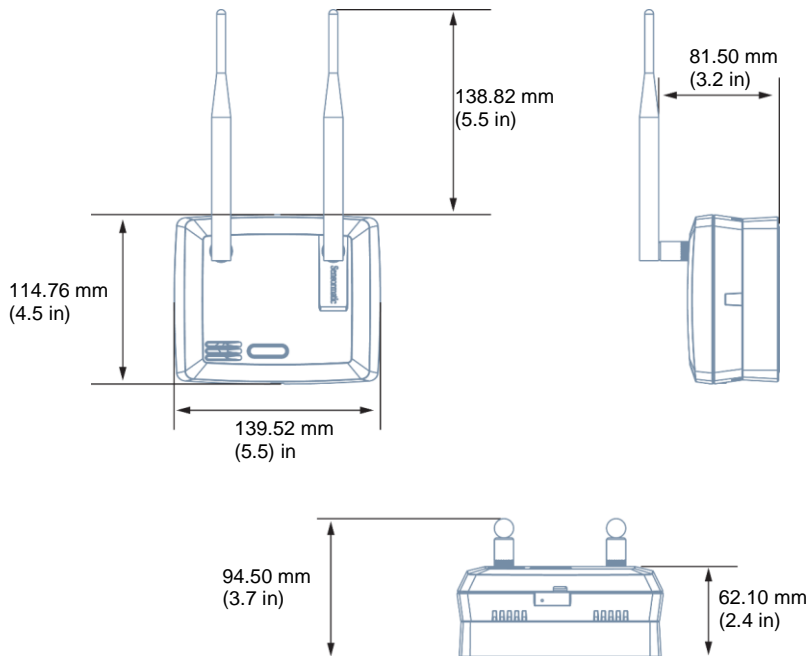
Ambient temperature 0°C to 50°C (14°F to 122°F)
Relative humidity 0 to 90% non-condensing
Enclosure Rating UL94 V-O
Evaluated for altitudes less than 2,000 meters (6,561.68 feet)

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. Business Intelligence Module (BIM) dimensions, front view



Declarations

Model: BIM1000

Regulatory information

Contains the following radios;

FCC ID: A8TBM78ABCDEFGH, Z64-CC3100MODR1

IC ID: 12246A-BM78SPPS5M2, 4511-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



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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 4.

Other declarations

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