Sensormatic

ZBAMB-9012 EAS Label Deactivator Antenna Installation Guide

8200-0747-86

Rev A

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Contents

About this guide

This installation guide explains how to install the AMB-9012 Controller. You must install the AMB-9012 Controller as outlined in this guide. Other related documents that can help you with this installation include the following:

- *ZBAMB-9012 EAS Label Deactivator Antenna Setup Guide, 8200-0747-87*.
- The setup guide for the deactivation Antenna being connected.

⚠ **WARNING: Regulatory restriction:** For indoor use only.

⚠ **WARNING: Declaration of Conformity:** If this product was installed in a European Union or European Free Trade Association member state, give the Declaration of Conformity included with this product to the manager or user. By law, this information must be provided to the user.

⚠ **WARNING: Intended use:** Only install this device as described in this guide.

⚠ **WARNING:** See Precautions for additional warnings and cautions

Product description

The ZBAMB-9012 deactivator controller connects to a Sensormatic ScanMax® technology deactivator Antenna to deactivate AM low energy security labels. A Status LED on the controller is solid green when power is applied.

ⓘ **Note:** Tyco Integrated Security service group or a third party service provider perform the installation.

Installation options

- To install the AMB-9012 Controller on the countertop, perform the installation procedure as described in this guide.
- To install the AMB-9012 Controller with the ZBSMP-B1 Under-Counter Mounting Bracket, see installation guide, 8200-0054-03.
- To install the AMB-9012 Controller with the ZPSTP-RA Remote Alarm Module, see installation guide, 8200-0838-01.

Technical support

For product bulletins and updates to documentation, if you are a Johnson Controls employee or Johnson Controls subcontractor, visit http://sensormatictechsupport.jci.com. If you are a business partner, visit http://www.globalpartneredge.com.

Deactivator pads and coils used with the AMB-9012 Controller

Table 1: Deactivator pads and coils

Deactivator pad	Consists of one or two coils inside a housing
Deactivator coil	A vertical or horizontal coil in a standalone housing or inside a barcode scanner

Table 2 displays high inductance pads compatible with the AMB-9012 Controller.

Table 2: High inductance pads

Pad	Tx Power
ZBSMPLPE (LP Pro)	Medium
ZBSMPPPE (PowerPad Pro)	Medium
ZBSMPSPE (SlimPad Pro)	Medium
ZBSMPIPE (IP Pro)	Medium
ZBSMPCPE (Compact Pad Pro)	Medium

Table 3 displays scanner integrated high inductance coils compatible with the AMB-9012 Controller.

Table 3: Scanner integrated high inductance coils

Coil	Tx Power
ZBSMPIS (ScanMax IS)	Medium
ZBSMPNS2 (ScanMax NS2)	Medium
ZBSMPHS (ScanMax HS)	Medium
ZBAMB5110H, ZBAMB5110V	Medium
ZBAMB5120A	Medium
ZBAMB5220A	High
ZBAMB5278A	Medium
ZBAMB5410A	Medium

Table 4 displays low inductance pads or coils compatible with the AMB-9012 Controller.

Table 4: Low inductance pads or coils

Pad or Coil	Tx Power
ZBAMB5010A2 Coil	Low
ZBAMB5011A Pad	Low
ZBAMB5012A Pad	Low
ZBAMB5182A Coils*	Low
ZBAMB5184A Coil *	Low
ZBAMB5185A Coil *	Low
ZBAMB5190A Coil *	Low
ZBAMB5212 Coil *	Low
ZBAMB5274H, ZBAMB5274V Coils *	Low

Table 4: Low inductance pads or coils

Pad or Coil	Tx Power
ZBAMB5279 Coil *	Low
ZBAMB5780 Coil	Low
ZBAMB5277A Coil	Low
ZBAMB5470A Coil	Low
ZBAMB5194L Coil	Low
ZBAMB5290A Coil *	Low

ⓘ **Note:** * Scanner integrated.

Product features

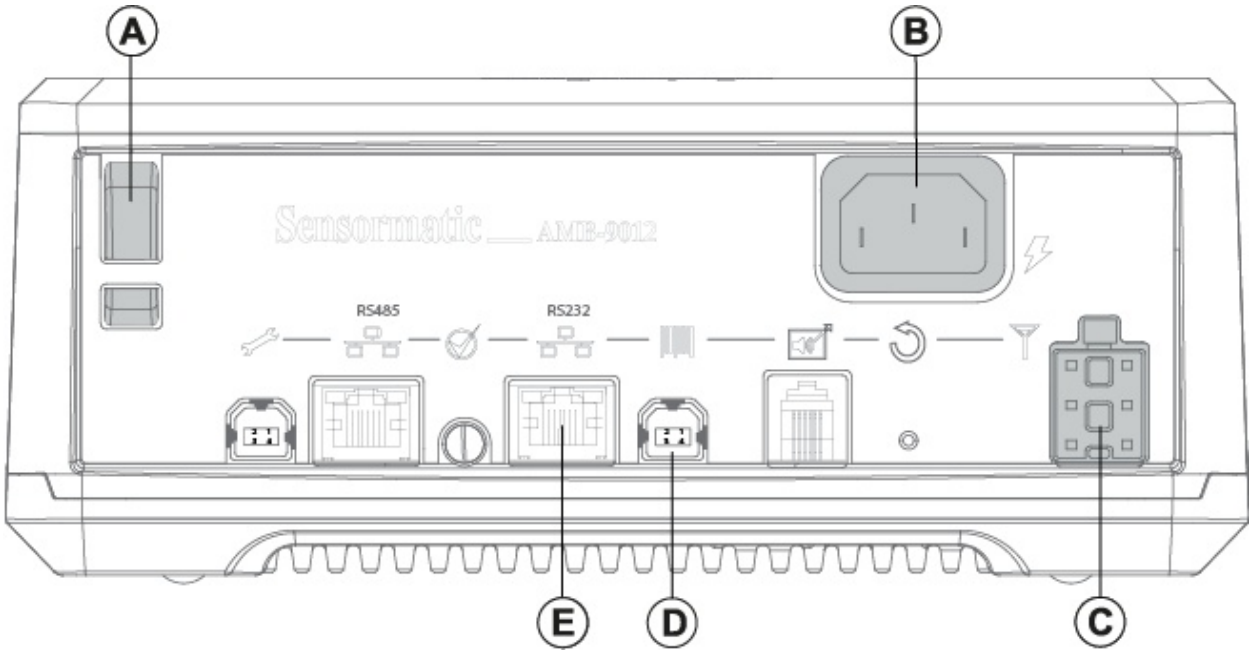
The AMB-9012 Controller includes the following highlights:

- Identifies incorrect coil selection.
- Re-synchronization.
- Adjustments to label types (SR/DR), transmit power, and detection and deactivation fields.
- Status LED for basic diagnostics.

Front panel features

Figure 1 outlines the AMB-9012 Controller's front panel features.

Figure 1: Front panel features



Callout	Description
A	Cable notch: to secure the AC power cable with a cable tie
B	Power connector

Callout	Description
C	Antenna cable port
D	USB scanner port
E	R232 scanner port

Setup

A Deactivation Universal Configurator is used to setup the controller. The configurator installs on a laptop computer with Microsoft® Windows 10 to connect to the Service port on the controller.

Sychronization

The AMB-9012 Controller provides the following synchronization features:

Resynchronization

Enabled using the software configurator, resynchronization enables the user to force the controller to resynchronize its transmission to other nearby EAS systems.

Wired synchronization

The Universal Synchronization standard, wired synchronization, is supported on the Network port as either transmit or receive mode, and is set up in the software configurator.

POS integration

The scanner port enables POS integration. POS devices such as barcode scanners can control deactivation when connected to the scanner port. POS devices must be programmed with special software. See Voltage specifications in Precautions.

Networking

Two network ports provide the ability to enable external Sensormatic devices to send data to a store's POS network using the RS485 port for the purpose of remote diagnostics or data mining. The external device, for example, the BIM1000 and the BIX1000 must be programmed with special software.

Precautions

Adhere to the following precautions:

Safety precautions

⚠ **WARNING: Hazardous areas.** Do not install this product in areas where highly combustible or explosive products are stored or used.

⚠ **WARNING: Power considerations:**

- Plug this product into an unswitched AC outlet with less than 0.5 VAC between neutral and ground. This product is designed to be operated on a power system that includes a protective earth terminal.
- Do not connect to UPS power.
- Do not plug or unplug any cable with power on.
- When the cordset is not provided with this product, a cordset certified to the national requirements of the country of installation must be used.

⚠ **WARNING: Altitude limitation:** This product is evaluated for use at altitudes up to 3200 m (10,500 ft).

⚠ **WARNING: Risk of electric shock:** No user-serviceable parts. Do not attempt to open this product.

⚠ **WARNING: Power cord / cable routing:** Route the power cord and deactivator cables away from mechanisms whose operation may pinch or otherwise damage it. Failure to do so may damage equipment or injure people nearby.

Cleaning precautions

➤ **Important:** Before you clean the device, remove the Antenna cable from the device.

- Wipe the housing with a soft and moist cloth, not soaked, with mild detergent. Wipe off any excess.
- Keep spills from entering the housing.
- Do not use the following solutions:
  - Spray cleaners.
  - Ammonia or chlorine-based cleaning solutions. These can cause damage to the housing or corrode internal parts.
  - Abrasives, solvents, or flammable liquids.

Installation precautions

You must adhere to the following installation guidelines:

- **Ventilation:** Install the controller in a location that has adequate free space around it and is not cluttered with debris.
- **Sidewall mounting:** When you mount the controller to a sidewall of a counter, do not mount the cable connectors on the controller face down.
- **Cable reach:** Ensure that you place the controller in a location where the power cord can connect to the controller and the AC outlet, and the pad or coil cable can connect to the controller. The length of the power cable is 1.83 meters or 6 feet.
- **Antenna cable:** Do not hotplug the Antenna cable. This can cause controller failure.

Installing the AMB-9012 Controller

The controller can be placed on a shelf under the countertop, attached to the underside of the countertop or attached to the sidewall of the counter using an optional ZBSMP-B1 mounting bracket.

⚠ **WARNING:** When the controller is mounted to a sidewall of a counter, the cable connectors must not face down.

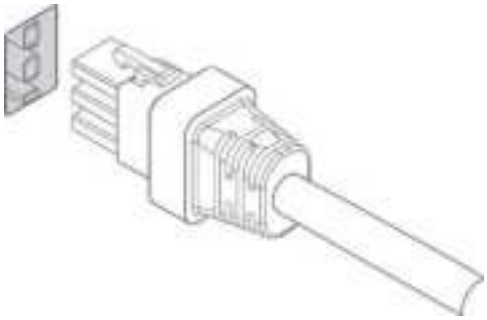
ⓘ **Note:** The AMB-9012 is compatible or can be connected to the legacy Antenna cable.

Procedure

To install the AMB-9012 Controller, complete the following steps:

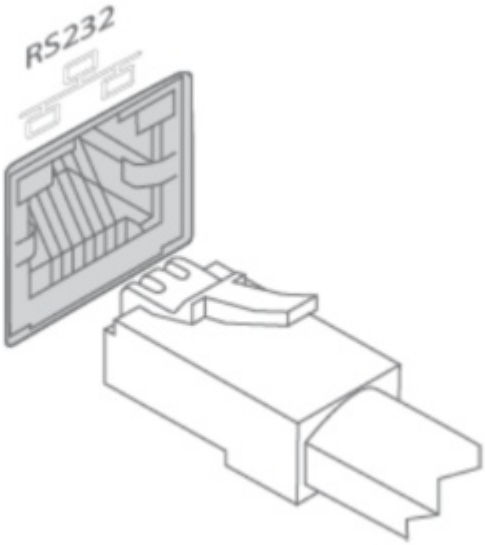
1. Connect the deactivator pad or coil Antenna cable to the Antenna cable port on the controller.

Figure 2: Connecting the Antenna cable



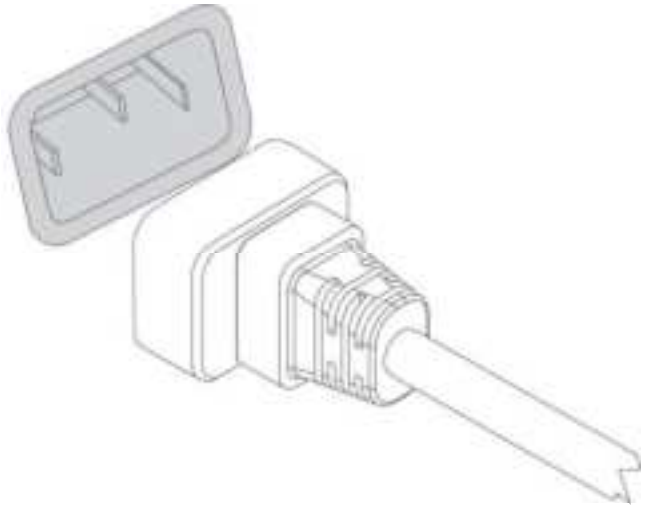
2. **Optional:** If using a barcode scanner, plug the barcode scanner interface cable into the Scanner port on the controller.

Figure 3: Connecting the interlock cable to the ZBAMB9012 controller



3. **Optional:** If using the ZPSTP-RA Remote Alarm Module, plug the Remote Alarm Module cable into the remote port on the controller.
4. Plug the AC power cord into the controller and plug the other end of the AC power cord into an unswitched AC outlet that has less than 0.5 Vac between neutral and ground.

Figure 4: Connecting the AC power cord to the controller



The Status LED blinks green. While the controller auto-synchronizes, the LED can briefly flash amber. Resynchronizing can take up to ten seconds.

⚠ **CAUTION:** If the status LED is solid red, stop, and return the controller to an authorized repair center.

⚠ **CAUTION:** If you remove the controller for service, leave the coil Antenna cable in place. The Antenna maintains system settings for the coil location, and automatically updates the new controller.

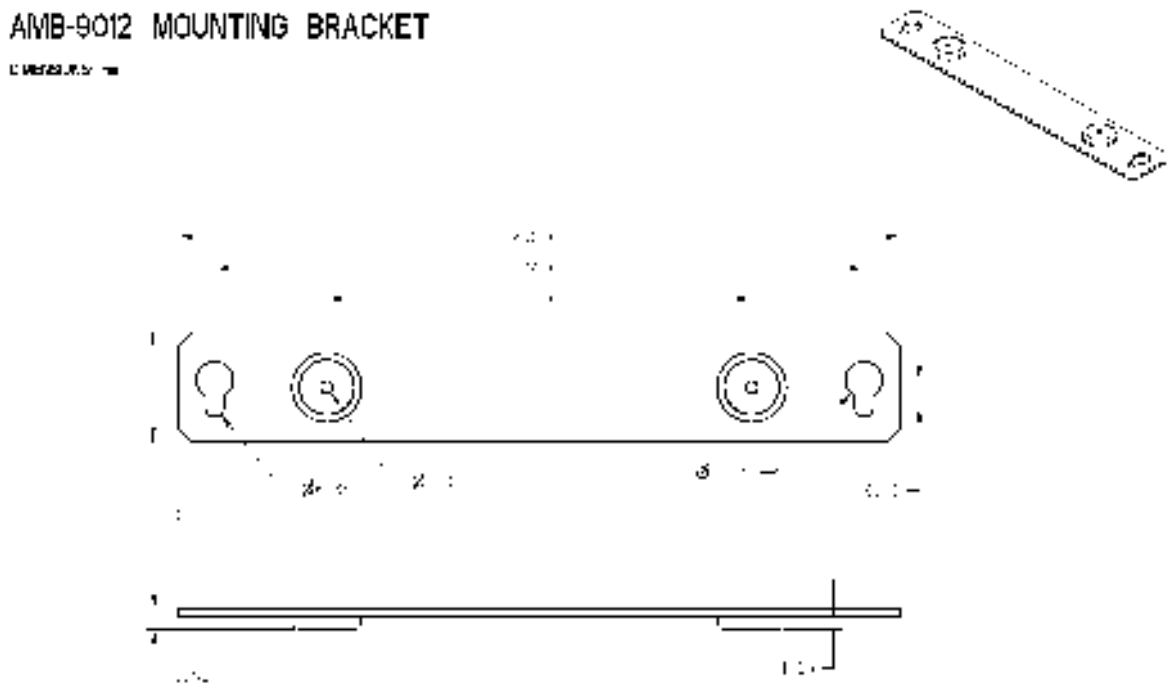
5. Secure the power cord to the controller's cable notch using a cable tie.
6. If installing the controller in a country where it is necessary to indicate that magnetic fields are present, on the deactivation pad or coil that the controller connects to, ensure that the Magnetic Field label is placed next to the Sensormatic logo. If the pad or coil is hidden, ensure the label is placed over or near the device.

   ⚠ **WARNING:** In some countries, it is necessary to indicate that magnetic fields are present. If you install this product in such countries, ensure that the Magnetic Field label is placed on or near the deactivation pad or coil that the controller connects to. The Magnetic Field label must be visible to the user.
7. Refer to setup instructions for the deactivator pad or coil. For more information, see .

Appendix

For information on the AMB-9012 Mounting bracket see the following.

Figure 5: Mounting bracket



Specifications

Electrical specifications

Primary input	100-120V/ 220-240VAC ~50-60Hz
AC line current	1.4A

Transmitter specifications

Operating frequency	58kHz (+200Hz)
Transmit burst duration	1.6ms
Transmit current (in coil)	2.3A peak
Maximum burst repetition rate (50Hz ac)	150Hz
Maximum burst repetition rate (60Hz ac)	180Hz

Receiver specifications

Center Frequency	58.4kHz

Scanner port specifications

Maximum input voltage	+25Vdc (±5%)
Input 1+ and Input 2+:	
Input voltage	±5–12Vdc typical, greater than 12V observing the 32mA maximum
Input current	10mA source minimum input current
Minimum pulse duration	100ms
Detect out	Open-collector side of an opto-isolator
Input maximum pull-up voltage	+25Vdc This output remains in the open state until label detection occurs. It then shorts to the Detect Common for a minimum of 39ms based on label vicinity to the Antenna plus 7 detection windows (5.555 x 7 = 39mS).
Detect common	Emitter side of the Detect Out opto-isolator. It normally should be tied to D Ground (J8, Pin 6). Maximum current limit: 6.3mA @ Vce < 10V 2mA @ Vce < 0.4V

Environmental specifications

Operating temperature	0°C to 40°C (32°F to 104°F)
Non-operating temperature	–40°C to 70°C (–40°F to 158°F)
Relative humidity	0% to 90% Non-condensing

Mechanical specifications

Height	10.1 cm (4 in.)
Width	26.2 cm (10.3 in.)
Depth	22.1 cm (8.7 in.)
Weight	2.2 kg (4.8 lb)

Connector inputs/outputs

Each Network RS485 Port (8-pin modular jack)

Pin 1: RS485 HI (RS-485 Driver A)

Pin 2: RS485 LO (RS-485 Driver B)

Pin 3: Universal Sync A (RS-485 Driver A)

Pin 4: +5V* (Configurator controlled on/off, 250mA max.)

Pin 5: Spare +5V* (Configurator controlled on/off, 250mA max.)

Pin 6: Universal Sync B (RS-485 Driver B)

Pin 7: D Ground

Pin 8: D Ground

ⓘ **Note:** *Can be +12V if powered by an LDM II.

Scanner Port (8-pin modular jack)

See Specifications.

Pin 1: +5Vdc (125mA max.)

Pin 2: Scan In + (390 ohms in series with opto LED anode)

Pin 3: Scan In – (opto LED cathode)

Pin 4: Detect Open Emitter (usually tied to D Ground, pin 6)

Pin 5: Detect Open Collector (0.15-0.4V @ 2mA output low level when Detect OE grounded)

Pin 6: D Ground

Pin 7: RXD POS (RS-232 levels)

Pin 8: TXD POS (RS-232 levels)

Service RS-232 Port (4-pin modular jack)

ⓘ **Note:** The Service Port should not be used for POS applications. Use the Scanner Port.

Pin 1: RXD

Pin 2: TXD

Pin 3: D Ground

Pin 4: Not Connected

USB

Remote Port (6-pin modular jack)

Pin 1: +22V (75mA max.)

Pin 2: Red LED

Pin 3: Green LED

Pin 4: Audio

Pin 5: Key Switch

Pin 6: P Ground

Antenna Out Ports

Pin 1: X

Pin 2: Y

Pin 3: X Ret

Pin 4: Y Ret

Pin 5: Chassis Ground

Pin 6: Antenna Signal

Declarations

Regulatory compliance

Pad or coil	Model number
ZBSMPLP	DEAC STP-LP
ZBSMPPP	DEAC STP-PD
ZBSMPCP, ZBSMPCP-F	DEAC STP-CD
ZBSMPSP	DEAC STP-SD
ZBSMPIP	DEAC STP-SD
ZBSMPIS	DEAC STP-JD
ZBSMPNS2	DEAC STP-JD
ZBAMB5010A	AMB-5010
ZBAMB5010A2	AMB-5010
ZBAMB5011A	AMB-5011
ZBAMB5012A	AMB-5012
ZBAMB5110H, ZBAMB5110V	AMB-5110
ZBAMB5120A	AMB-5120
ZBAMB5182A	AMB-5182
ZBAMB5184A	AMB-5184
ZBAMB5185A	AMB-5185
ZBAMB5190A	AMB-5190
ZBAMB5220A	AMB-5220
ZBAMB5212A	AMB-5212
ZBAMB5274H, ZBAMB5274V	AMB-5274

Pad or coil	Model number
ZBAMB5278A	AMB-5278
ZBAMB5279A	AMB-5279
ZBAMB5410A	AMB-5410
ZBAMB5780	AMB-5780
ZBAMB5277A	AMB-5277
ZBAMB5470A	AMB-5470
ZBAMB5194L	AMB-5194
ZBAMB5290A	AMB-5290

Regulatory information

FCC ID:BVCAMB9012

This device complies with part 15 of the FCC Rules. 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.

ⓘ **Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: reorient or relocate the receiving Antenna, increase the separation between the equipment and receiver, connect the equipment into an outlet on a circuit different from that to which the receiver is connected, and/or consult the dealer or an experienced radio/TV technician for help.

IC: 3506A-AMB9012, **MODEL:** LFAMB2102

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

   This device complies with the Canadian ICES-003 Class B specifications. CAN ICES-003(B) / NMB-003 (B).

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempt de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Table 5: Regulatory information

EMC	47 CFR, Part 15
	EN 300 330
	EN 301 489-1
	EN 301 489-3
	RSS 210
	ICES-003
Safety	UL/EN 62368-1
	CSA C22.2.62368-1

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

PERFORMANCE FEATURES: All required safety assessments have been performed on this product. The security-related performance features have not been evaluated by the safety agency.

Other declarations

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