

Kronos InTouch™ Installation Guide

*Instructions for installing and maintaining the Kronos
InTouch™ data collection device.*



Document Revision: A

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Contents

Chapter 1: Before You Install the Kronos InTouch™

| | |
|-------------------------------------|----|
| Unpacking the Kronos InTouch™ | 10 |
| Standard model | 10 |
| Slim Profile model | 11 |
| Notes | 12 |
| Planning the installation | 13 |
| Mounting template | 13 |
| Location | 14 |
| Access | 14 |
| Power source | 15 |
| Adherence to local codes | 15 |
| Ethernet cables | 16 |
| Optional devices | 16 |
| Required tools | 17 |
| Required Personnel | 18 |
| Configuration settings | 19 |
| Next step | 19 |

Chapter 2: Installing the Standard Model Kronos InTouch™

| | |
|--|----|
| Prepare the location | 22 |
| Step 1: Determine the power source for your site | 22 |
| Step 2: Mark insertion points for the base | 24 |
| Step 3: Install the AC outlet | 28 |
| Widen the badge reader slot (optional) | 29 |
| Remove cable access plugs | 32 |
| Mount the base | 33 |
| Example 1: Mounting over an AC outlet: | 35 |
| Example 2: Mounting with direct AC wiring | 36 |
| Example 3: Mounting near an AC outlet: | 37 |

| | |
|--|----|
| Route the cables | 38 |
| Securing the Ethernet cable | 39 |
| Install optional devices | 40 |
| Install the transformer | 41 |
| Attach the transformer holder and transition board to the base | 43 |
| Attaching the transformer holder only | 43 |
| Attaching the transition board to the transformer holder | 44 |
| Attaching the transition board and transformer holder assembly to the base 45 | |
| Install additional options | 45 |
| Connect Ethernet cable | 46 |
| Secure cables with the strain relief clip | 49 |
| Connect battery, transition board, and transformer cables | 52 |
| Turn on the power to the device | 53 |
| Verify that the power is on | 54 |
| Close and lock the Kronos InTouch™ | 55 |
| Tighten the strain relief clip | 55 |
| Close the cover and tighten the screws | 55 |
| Next step | 57 |

Chapter 3: Installing the Slim Profile Kronos InTouch™

| | |
|--|----|
| Prepare the location | 60 |
| Step 1: Determine the power source for your site | 60 |
| Step 2: Mark insertion points for the base | 61 |
| Widen the badge reader slot (optional) | 63 |
| Mount the base | 66 |
| Route the cables | 68 |
| Cable routing guidelines | 69 |
| Routing the Ethernet cable | 69 |
| Routing the AC Wall transformer cord | 70 |
| Install optional devices | 71 |
| Secure the cables with the strain relief clip | 71 |
| Connect power and cables to the main board | 74 |
| Verify that the power is on | 76 |
| Close and lock the Kronos InTouch™ | 77 |

| | |
|--|----|
| Tighten the strain relief clip | 77 |
| Close the cover and tighten the screws | 77 |
| Next step | 79 |

Chapter 4: Troubleshooting Hardware and Operations

Appendix A: Removing a Series 4000 Device

| | |
|---|----|
| Before you remove the Series 4000 device | 88 |
| Use the host application software to collect data | 88 |
| Disconnect and remove the Series 4000 device | 89 |

Appendix B: Opening and Disconnecting the Kronos InTouch™

| | |
|---|-----|
| Step 1. Use the host application software to collect data | 116 |
| Step 2. Open the Kronos InTouch™ | 116 |
| Step 3: Disconnect the power | 118 |
| Step 2: Disconnect cables from the main board | 120 |
| Example 1: Transition board cables | 120 |
| Example 2: Ethernet cable | 121 |
| Example 3: Linear imager cable | 122 |
| Step 3: Disconnect the finger scan device | 123 |
| Step 4: Store the front cover in a protected area | 125 |
| Step 5: Disconnect battery, transformer, and transition board | 125 |
| Step 6: Disconnect external readers | 127 |
| Step 7: Remove transformer holder and transition board | 128 |

Index

Chapter 1

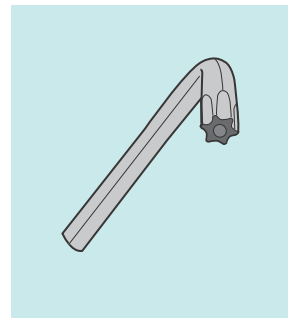
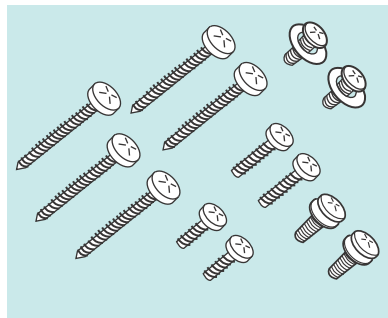
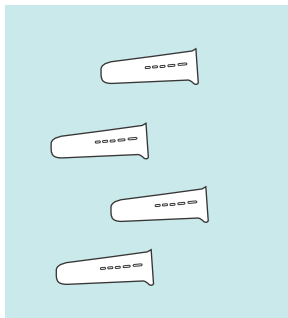
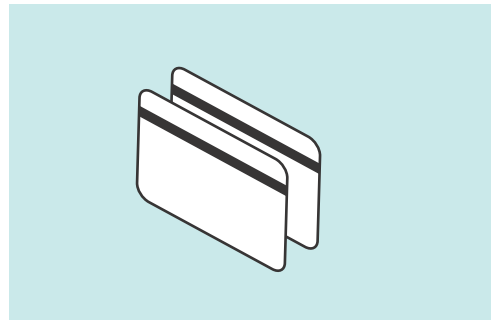
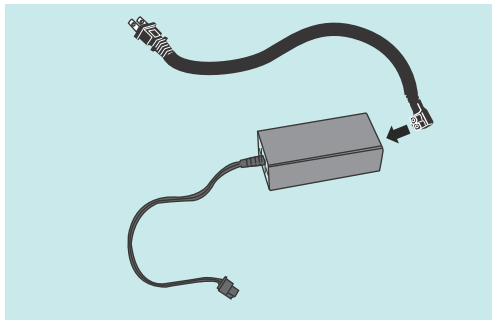
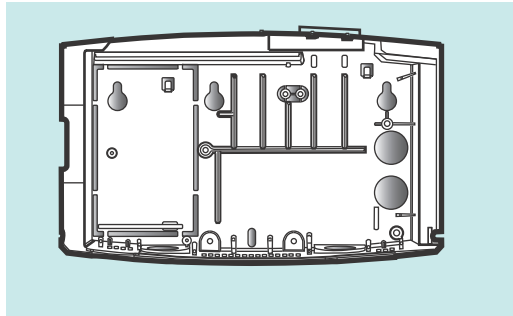
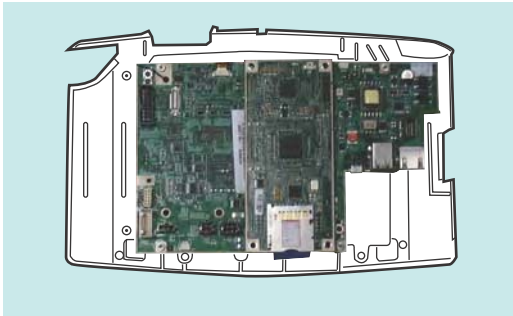
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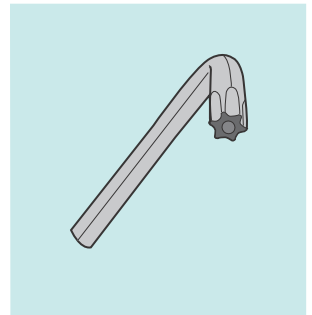
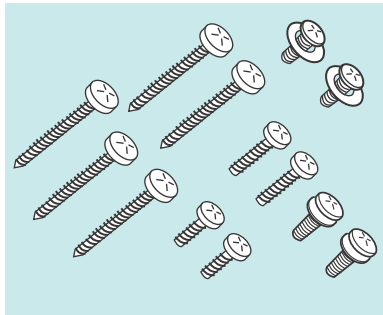
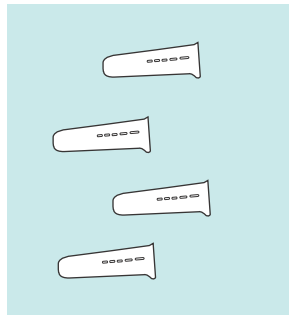
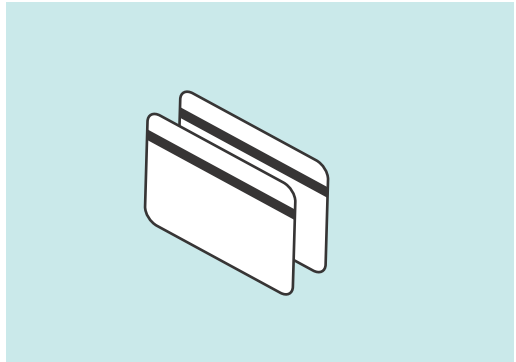
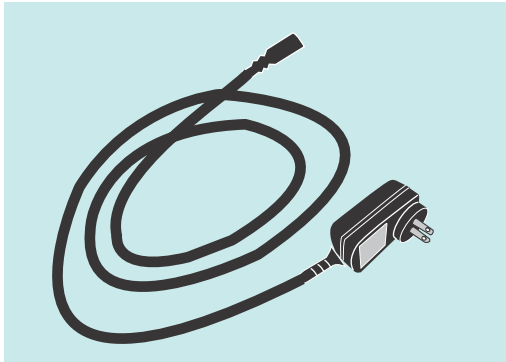
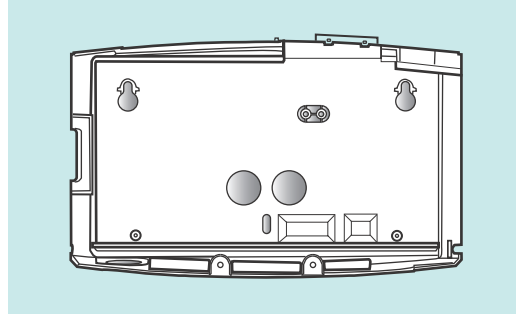
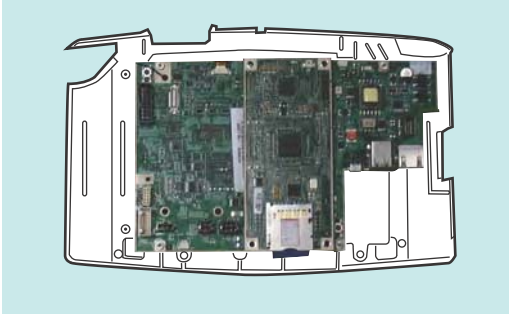
- [“Unpacking the Kronos InTouch™”](#) on page 10
- [“Planning the installation”](#) on page 13
- [“Required tools”](#) on page 17
- [“Configuration settings”](#) on page 19
- [“Next step”](#) on page 19

Unpacking the Kronos InTouch™

Standard model



Slim Profile model



Notes

- The contents of your kit may vary depending on the model and the options ordered for your site. For example, the type of transformer and the length of its power cord may vary depending on the model and your locale.
- Do not remove the cover assembly from its anti-static packaging until you are ready to install the Kronos InTouch™.
- A separate plastic bag contains items such as the following:
 - Power cord strain relief clip
 - Ethernet cord strain relief clip
 - Mounting screws
 - Plastic anchors for dry wall installation
 - A security wrench (for the three torx screws on the enclosure)
 - Badges
- Save the paper mounting template and any other printed documents.

Caution: To avoid damaging the main board, always wear an anti-static wrist strap when touching the main board of the Kronos InTouch™ in any way, including connecting and disconnecting wires.

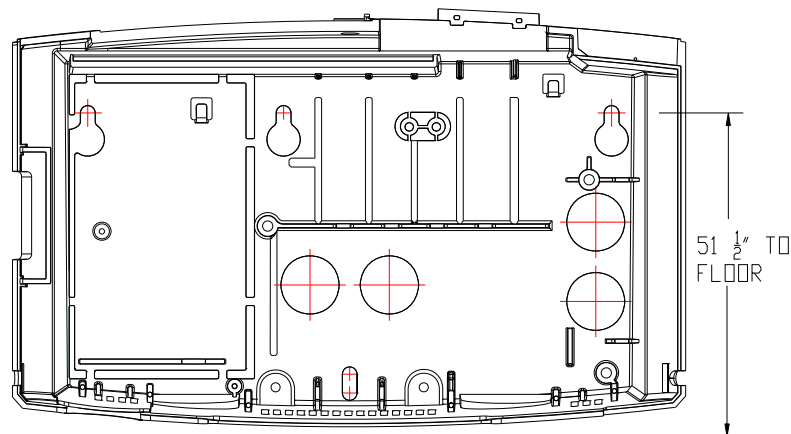
Planning the installation

This section describes how to prepare your site for the installation of the Kronos InTouch™.

Mounting template

The Kronos InTouch™ kit includes a paper mounting template that you will use to mark the wall with the following measurements and indicators:

- Where to screw the base cover into the wall
- Where the AC outlet must be located
- Where cables must exit the wall into the Kronos InTouch™
- Where cables enter the device from the bottom



Review the following sections to determine how you will use that template to install the Standard or Slim Profile model Kronos InTouch™ at your site.

Location

- The Kronos InTouch™ is designed for mounting on walls in typical office and indoor manufacturing environments. Recommended wall surfaces are drywall (sheetrock) and wood.
- Install the Kronos InTouch™ in an area where the screen is not exposed to direct sunlight or other high-intensity lighting that could make the screen difficult to read.
- Ensure that the location for the Kronos InTouch™ falls within the following temperature and humidity ranges:
 - Temperature ranges:
 - Operating: 0 to 40 degrees Celsius (32 to 104 degrees Fahrenheit)
 - Storage: -20 to +70 degrees Celsius (4 to 158 degrees Fahrenheit)
 - Humidity range (operating and storage): 10% to 95% non-condensing

Access

- New location — To provide optimal access to the Kronos InTouch™ for the widest range of users, Kronos recommends that the top two mounting screws be no higher than 54 and 7/8 inches (1.4 meters) above the floor.
- Existing location — If you are replacing an existing Kronos Series 4000 device, you can use the same location (54 and 3/8 inches [1.4 meters] above the floor) as long as it otherwise conforms to the guidelines and specifications described in this chapter.

(To remove an installed Kronos Series 4000 device, see [Appendix A, “Removing a Series 4000 Device,”](#) on page 87.)
- ADA (Americans with Disabilities Act) compliance:
 - The 54 and 7/8 inch height specification (1.4 meters) ensures that no part of the Kronos InTouch™ that personnel will physically use (badge reader, keypad) will be higher than the limit set by the ADA.
 - Devices mounted on a wall must not protrude more than 4 inches (10 cm) from the wall. You must mount the Kronos InTouch™ directly to the wall.

- If you are in doubt about any regulations, Kronos recommends that you check the current ADA requirements.

Power source

The AC power source must be grounded 100 to 240 VAC, 50/60Hz input voltage. There are several power options, depending on the model (Standard or Slim Profile) and the configuration required for your site:

- Standard model — Uses standard AC power from an internal or external source. It includes an integrated, autosensing, AC power transformer that supports an IEC C13 external power cord connection. This type of connection allows the use of compatible international power cords.

Choose from the following power supply methods:

- Mounting over an AC outlet (recommended)
- Mounting with direct AC wiring
- Mounting near an AC outlet
- Slim Profile model — Choose from the following power supply methods:
 - Using a power-over-Ethernet cable
 - Mounting near an external AC outlet

Adherence to local codes

Installation of the Kronos InTouch™, including all electrical wiring, must comply with all applicable national, federal, state, and local safety codes and standards.

Ethernet cables

- Location — Plan to install the Kronos InTouch™ in a location that allows an easy and secure connection to an external network (for example, using the Ethernet cable).
- Ethernet requirements and specifications:
 - Your network must comply with the IEEE 802.3AF standard.
 - The Kronos InTouch™ supports 10BASE-T or 100BASE-T Ethernet communication and autosensing between 10Mbit and 100Mbit.
 - Ethernet communication requires an RJ-45, 8-wire connection, and must meet all other wiring code specifications.
- All cables must be in place before installing the Kronos InTouch™.

Optional devices

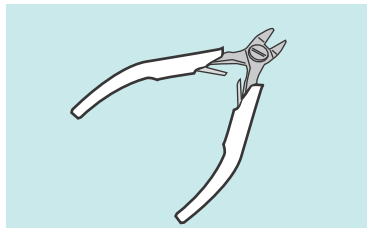
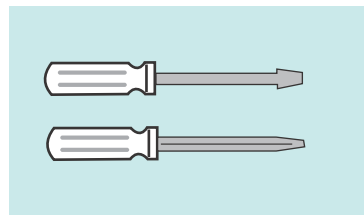
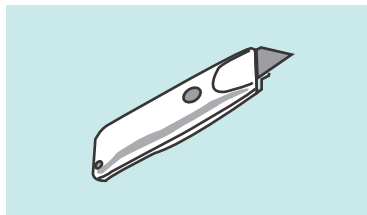
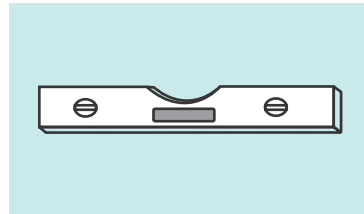
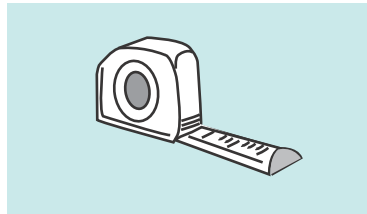
If you plan to connect certain optional devices to the Kronos InTouch™, note the following considerations

- Some optional devices (remote readers, for example) must be mounted within a certain number of feet (or meters) of the Kronos InTouch™.
- Some optional devices (for example, the finger scanning option) have components or cables that must be attached to the Kronos InTouch™ before that device is completely assembled.

Review the instructions in this guide and in the documents that accompany each optional device.

Required tools

In addition to the security wrench that is included with the kit, you will need the following tools



Note:

- Because of the small size of certain screws, Kronos recommends that you use small screwdrivers (number 1 or 2) with magnetic tips.
- The wire cutters should be small as well. For example, a 5-in. flush cutter or a circuit board cutter.

Required Personnel

Depending on the Kronos InTouch™ model that you purchased and the implementation planned for your site, you will need the following personnel:

- A licensed electrician to install or move AC outlets and power cables
- A qualified person to run Ethernet cable
- One or more qualified installers to assemble the device and mount it on the wall (a second person may be necessary to hold the front cover while the other person attaches components to the front and back covers)
- A network administrator or similarly qualified individual to configure device settings on the Kronos InTouch™ and on the server where the supporting Workforce Central software is installed

Configuration settings

After you power up the Kronos InTouch™, a network administrator or similarly qualified individual must configure the settings for that device. Those settings must match the information that the administrator entered on the server using the device management software.

The device management system administrator's guide, *Kronos InTouch™ User's Guide*, and the release notes have all the necessary information.

Next step

Depending on the Kronos InTouch™ model purchased for your site, go to one of the following chapters to install that device:

- [Chapter 2, “Installing the Standard Model Kronos InTouch™,”](#) on page 21
- [Chapter 3, “Installing the Slim Profile Kronos InTouch™,”](#) on page 59

Installing the Standard Model Kronos InTouch™

This chapter contains the following sections:

- [“Prepare the location”](#) on page 22
- [“Widen the badge reader slot \(optional\)”](#) on page 29
- [“Remove cable access plugs”](#) on page 32
- [“Mount the base”](#) on page 33
- [“Route the cables”](#) on page 38
- [“Install optional devices”](#) on page 40
- [“Install the transformer”](#) on page 41
- [“Attach the transformer holder and transition board to the base”](#) on page 43
- [“Install additional options”](#) on page 45
- [“Connect Ethernet cable”](#) on page 46
- [“Secure cables with the strain relief clip”](#) on page 49
- [“Connect battery, transition board, and transformer cables”](#) on page 52
- [“Turn on the power to the device”](#) on page 53
- [“Close and lock the Kronos InTouch™”](#) on page 55

Note: If you purchased the Slim Profile Kronos InTouch™ model, go to [Chapter 3, “Installing the Slim Profile Kronos InTouch™,”](#) on page 59.

Prepare the location

Before you install the Standard model Kronos InTouch™, complete these steps:

- [“Step 1: Determine the power source for your site”](#) on page 22
- [“Step 2: Mark insertion points for the base”](#) on page 24
- [“Step 3: Install the AC outlet”](#) on page 28

Step 1: Determine the power source for your site

Before you start the installation, plan with your electrician (if required for the AC outlet option that you choose) how the Kronos InTouch™ will connect to AC outlets at your site.

Choose from the following options and review the associated cautions.

AC outlet options

- Install *over* an AC outlet (recommended) — If you are replacing a Series 4000 device with the Kronos InTouch™ and are using the same location, you can use the existing AC outlet.

If the installation is at a new location, you will need to install the AC outlet (requires a licensed electrician) in the location that you mark on the wall with the mounting template (described in [“Step 2: Mark insertion points for the base”](#) on page 24).

- Install with the *internal* direct wiring option — You install this separately orderable option during the Kronos InTouch™ installation procedure. [“Step 2: Mark insertion points for the base”](#) on page 24 describes how to mark the entry point for the power line. You then run the AC power line externally through conduit into the Kronos InTouch™ (requires a licensed electrician).
- Install *near* an AC outlet
 - Use this method if you cannot install the Kronos InTouch™ over an AC outlet or cannot use the internal direct wiring option.

- Select a location where the distance from the power cable hole at the bottom of the Kronos InTouch™ is not more than 5 feet (1.5 meters) from the AC outlet.

Note: Installing the device near an AC outlet does *not* protect against the AC power cord from being deliberately or inadvertently unplugged from the outlet.

Cautions

- A licensed electrician must install the AC outlet and associated wiring *before* you install the Kronos InTouch™
- The AC line that supplies power to the Kronos InTouch™ must be equipped with an appropriate disconnect device (proper fuse or circuit breaker).
- Do not connect the Kronos InTouch™ power line to circuits that are being used for electrical devices that draw large amounts of power, such as air conditioning units, electrical motors, and compressors.
- Avoid running a communications cable near devices that interfere with data transmission.

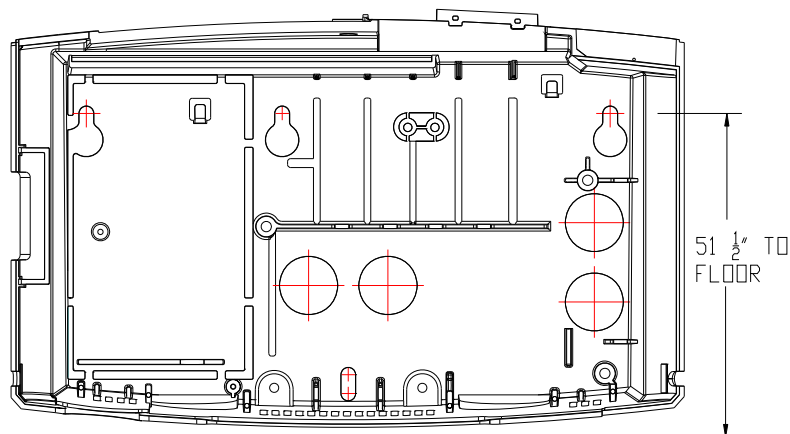
Step 2: Mark insertion points for the base

To mark areas on the wall where you will install the device, use the mounting template or the base of the device.

Using the mounting template

The mounting template is printed on a sheet of paper that is included with your Kronos InTouch™ kit. Use that template to mark the areas of the wall where you plan to install the Kronos InTouch™.

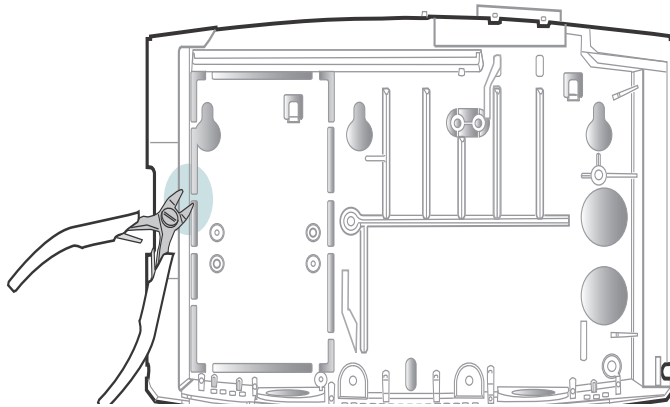
Note that you use the same template for both models: the two large holes in the middle are for the Slim Profile model and the two large holes on the right are for the Standard model.



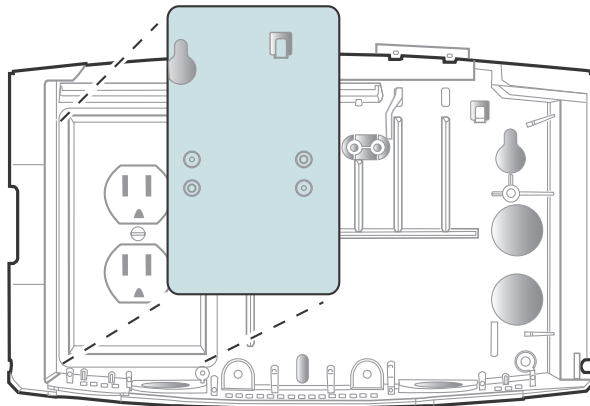
Using the base of the device as the template

You can also use the base of the Kronos InTouch™ as the template. Note, however, that if you plan to install the device *over* the AC outlet, first remove the plastic knockout plate from the base of the Kronos InTouch™. This will allow the base to fit over the outlet as you hold the base against the wall.

1. Use a small wire cutters to cut the plastic tabs that anchor the knockout:



2. Remove the plate:



Marking the wall

1. Tape the mounting template (or position the base) at the optimal height and location for the Kronos InTouch™.
 - The top mounting screws must be 51 and 1/2 inches (1.3 meters) above the floor, for ADA compliance.
 - Use a level to ensure that the top of the template is horizontal to the floor.

Note: If you are replacing a Series 4000 device, you can install the Kronos InTouch™ on the same area of the wall but you cannot use the same screw holes.

2. If installing over an AC outlet (Standard model only), mark the location for the installation of that outlet. (If you are replacing a Series 4000 device that was previously mounted over an AC outlet, you can use that same outlet for the Kronos InTouch™.)
3. Mark the location of the mounting screw holes, as follows
 - Installing *over* an AC outlet: Mark the two top screws to the right of the knockout plate and the single screw in the bottom middle. (See the illustration in “[Example 1: Mounting over an AC outlet:](#)” on page 35.)
 - Installing *near* an AC outlet: Mark the top screw that is on the far left (on the knockout plate), the top screw on the far right, and the single screw in the bottom middle. (See the illustration in “[Example 3: Mounting near an AC outlet:](#)” on page 37.)
 - Installing with direct AC wiring: Mark the top screw that is on the far left (on the knockout plate), the top screw on the far right, and the single screw in the bottom middle. (See the illustration in “[Example 2: Mounting with direct AC wiring:](#)” on page 36.)
4. If you plan to run an AC power line externally through conduit to the internal direct wired option inside the Kronos InTouch™, mark the point of entry into the bottom left hole of the base, as indicated on the template. (See the illustration in “[Example 2: Mounting with direct AC wiring:](#)” on page 36.)
5. If you plan to run an Ethernet cable or cable from a remote reader through the wall to enter the Kronos InTouch™ from the back or through the bottom, use

the template to mark the point of entry. (See the illustrations in [“Securing the Ethernet cable”](#) on page 39.)

6. If you are installing the Kronos InTouch™ *near* an AC outlet, be sure the outlet is within 5 feet (1.5 meters) of the template.
7. After you finish marking all entry points, screw holes, etc., remove the mounting template (or base) from the wall.

Step 3: Install the AC outlet

If you plan to install *near* an existing AC outlet, skip this step.

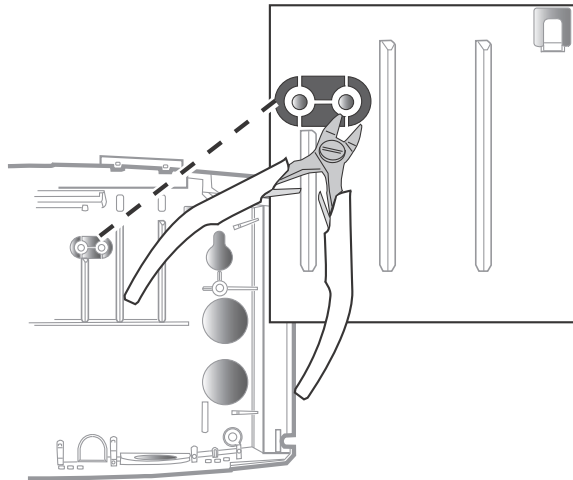
- To install *over* an AC outlet:
 - a. Be sure you have prepared the location and reviewed the cautions described in “[Step 1: Determine the power source for your site](#)” on page 22.
 - b. Use a licensed electrician to install the AC outlet at the location that you marked on the wall in “[Step 2: Mark insertion points for the base](#)” on page 24.
- To install with the *internal* direct wiring option, use a licensed electrician to run the power line (CL-2 code or higher) through conduit up to the point of entry that you marked on the wall in “[Step 2: Mark insertion points for the base](#)” on page 24.

Warning: Do not turn on the power for the direct wiring option until until you are directed to do so in this guide or in the installation guide for that option kit.

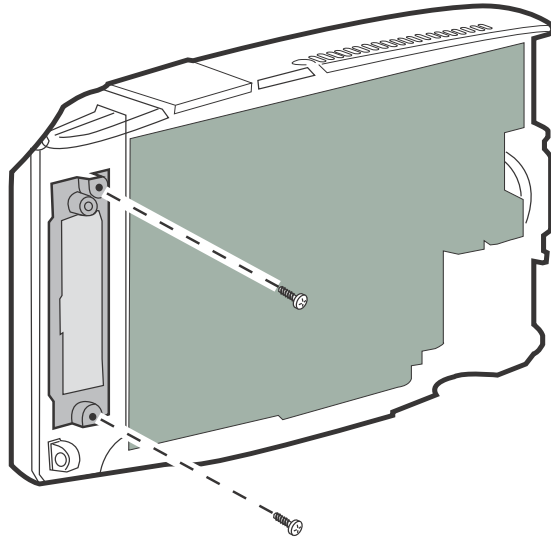
Widen the badge reader slot (optional)

If the badges that you will use with the Kronos InTouch™ are more than 0.05 in (1.27 mm) thick, you need to install two spacers in the badge reader (card or mag) to accommodate the badges. The spacers are molded into the base of the Kronos InTouch™.

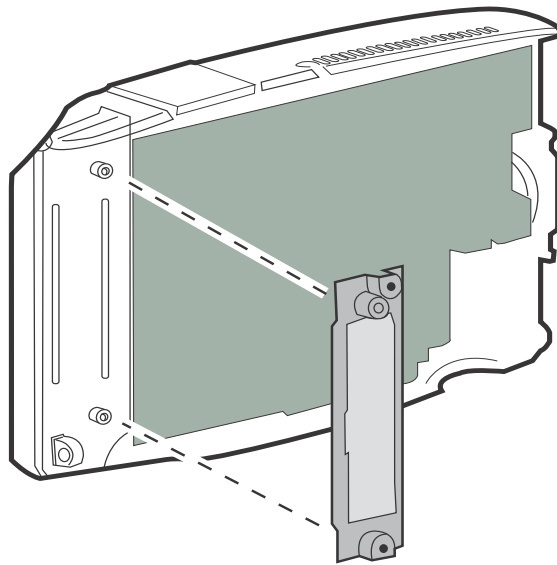
1. Use a wire cutters to remove the spacers from the base.



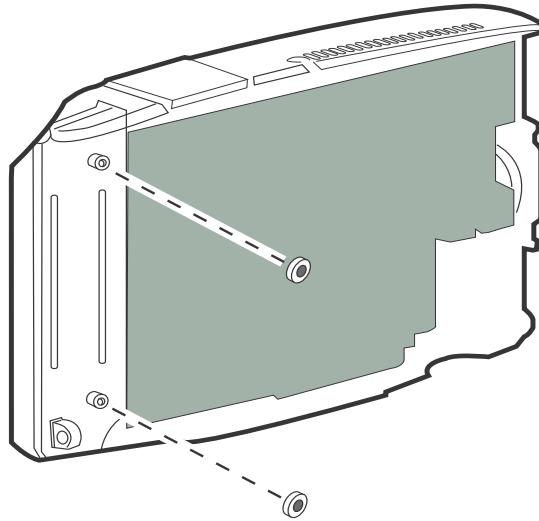
2. On the inside of the front cover, use a Phillips screwdriver to loosen the two screws that hold the badge reader cover in place.



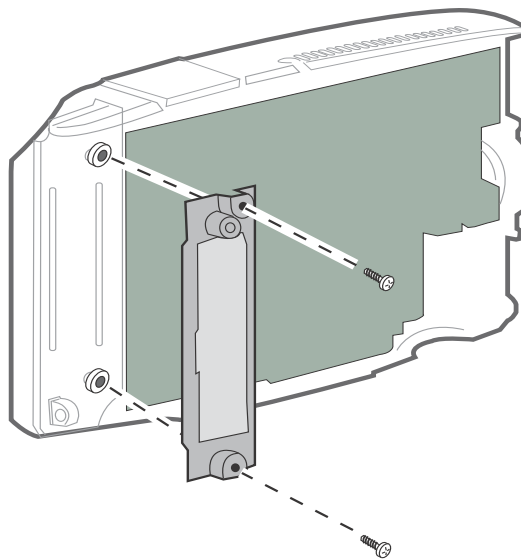
3. Remove the badge cover.



4. Press the two spacers onto the tops of the two channels that hold the screws.

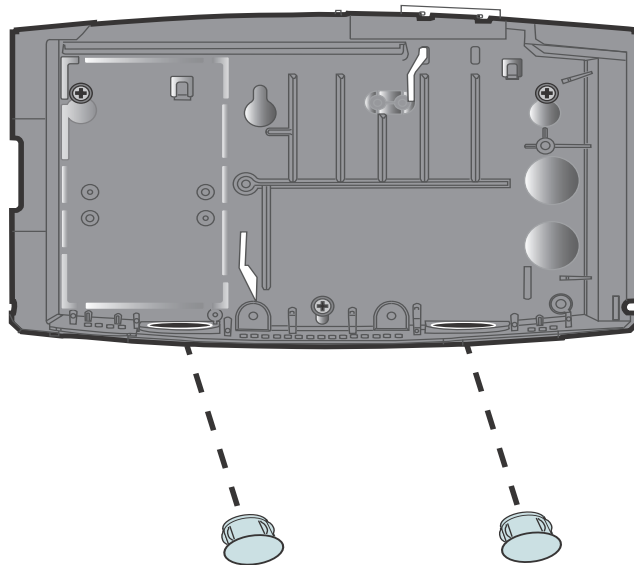


5. Insert the reader cover back onto the base. Tighten the screws on the reader cover.



Remove cable access plugs

The base of the Kronos InTouch™ has two cable access holes in the top right of the base and two holes at the bottom of the base. Remove the plastic plug from each hole through which you plan to run cable

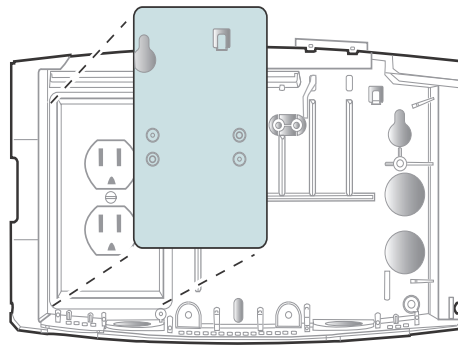
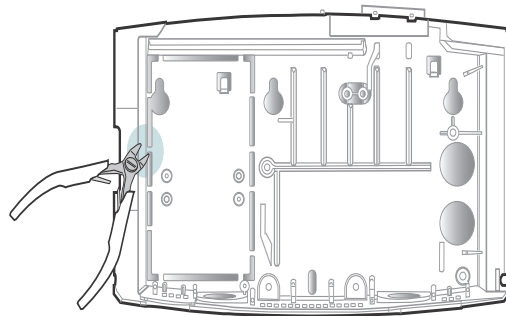


Note: To install with the direct AC wiring option, you must use the bottom hole on the left side of the base (right side in the view from the back in the illustration above). See [“Example 2: Mounting with direct AC wiring”](#) on page 36. Use the other holes to run other cables.

Mount the base

After you prepare the location, drill holes at the locations on the wall that you marked with the template. Then, mount the base of the Kronos InTouch™ to the wall:

1. To install the device over an AC outlet, remove the knockout plate (if it has not already been removed)).



2. Using the two large holes on the right that you marked on the wall from the mounting template or the base, use a 3/8 inch drill bit to drill holes into the wall at those marked locations. Those holes will be used to run the Ethernet cable, the cable from a remote reader, and any other cables that you plan to run through the wall in to the base of the Kronos InTouch™.

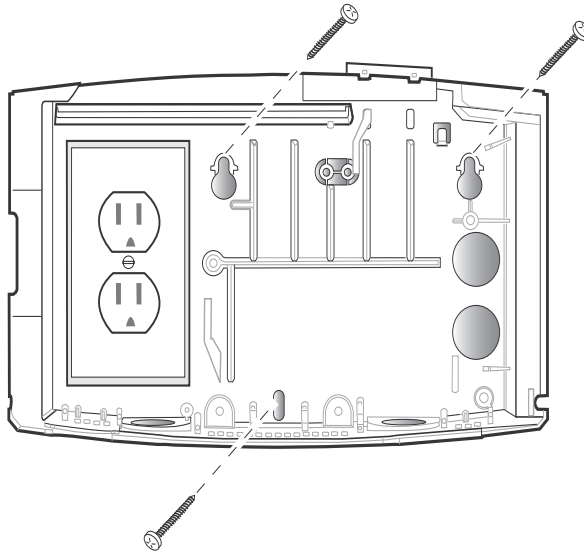
3. To mount the base on *wood*:
 - a. Drill pilot holes for the top two mounting screws and the bottom mounting screw. See examples on [page 35](#), [page 36](#), and [page 37](#).
 - b. Use a drill or screwdriver to drive the top two mounting screws and the bottom middle screw (supplied with the Kronos InTouch™) into the wall, leaving 1/4 inch (6 mm) between the head of the screw and the wall.

To mount the base on *drywall*:

- a. Use a 9/32 inch drill bit (7.1 mm) to drill holes for the three wall anchors (included with the kit). See examples on [page 35](#), [page 36](#), and [page 37](#).
 - b. Install a wall anchor in each screw hole. Push or tap the wall anchors until they are flush against the wall.
 - c. Install the top two screws and the bottom middle screw, leaving 1/4 inch (6 mm) between the head of the screw and the wall.
4. Align the top two screw holes and bottom middle screw hole in the base with the screws in the wall, and gently set the base in position.
5. Tighten the top two screws and bottom middle screw so that they are flush against the base.

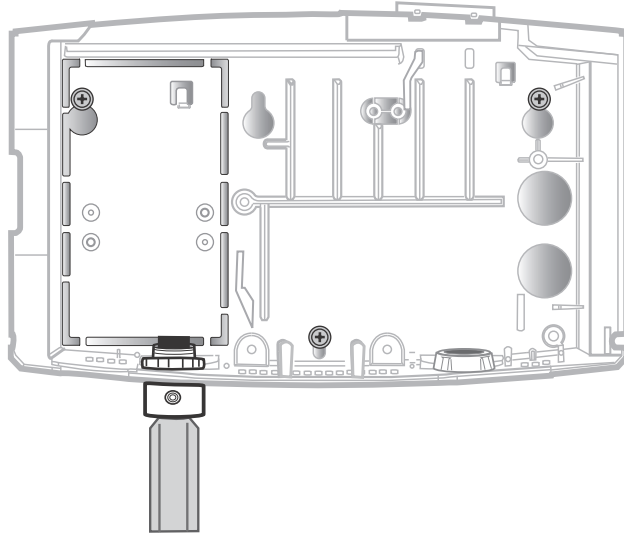
Note: Do not tighten the screws excessively. If the wall surface is not smooth, you may crack the base.

Example 1: Mounting over an AC outlet:

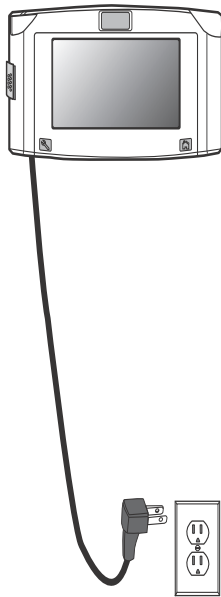
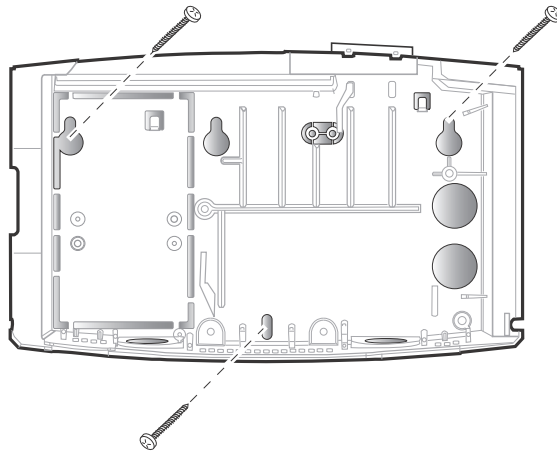


Note: The sample illustrations in this chapter for installing other components and options show the Kronos InTouch™ installed directly over an AC outlet. However, the procedures note alternative steps, as necessary, if you are using the internal direct AC wiring option or mounting the Kronos InTouch™ near a wall outlet.

Example 2: Mounting with direct AC wiring



Example 3: Mounting near an AC outlet:



Route the cables

Follow these guidelines as you route specific cables, along with AC power cord, through the points of entry into the base of the Kronos InTouch™. For example:

- Ethernet — Route the cable through the back wall into the base or through the hole at the bottom of the base
- Remote readers — If you purchased a remote bar coder reader, remote proximity reader, or a corresponding upgrade, you must run those cables through the wall or along the wall into the base of the Kronos InTouch™. See the installation guides for those options.

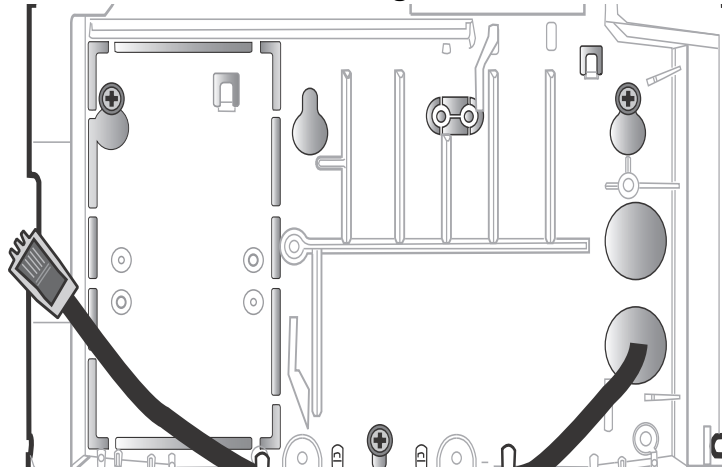
Note: You must route these cables into the base *before* you attach the plastic transformer holder or transition board to the base. Otherwise, you may not have clear access to the cables when you need to connect them to the main board or transition board of the Kronos InTouch™.

| Point of Entry | Approximate Amount of Slack After Point of Entry |
|--|--|
| Through the wall into the back of the Kronos InTouch™ base | <ul style="list-style-type: none">• Ethernet cable: 16 in. (40.6 cm) of slack after the point of entry into the Kronos InTouch™• Remote reader cable: 23 inches (58.4 cm) |
| Through the bottom of the Kronos InTouch™ base | <ul style="list-style-type: none">• AC wall transformer cord: 12 in. (30.5 cm)• Ethernet cable: 6–12 in. (15.2–30.5 cm), depending on which hole is used• Internal AC power line: TBS• Remote reader cable: 10 inches (25.4 cm) |

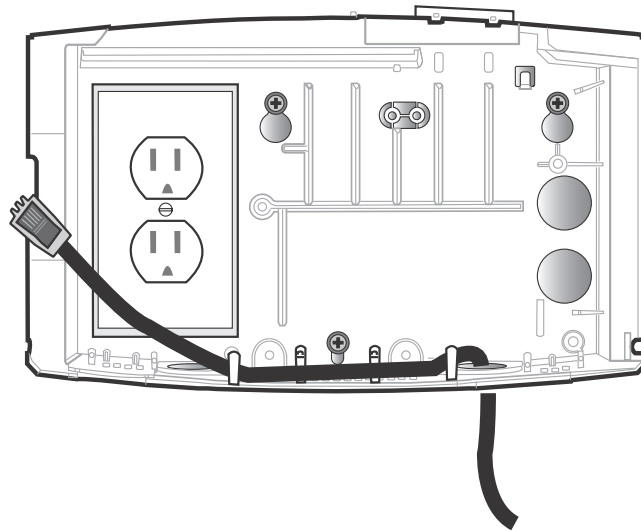
Securing the Ethernet cable

The following illustrations show how to secure the Ethernet cable in the channels of the Standard base. Avoid excessive bending or crimping of the cable.

Ethernet cable routed through the wall



Ethernet cable routed through the bottom of the base



Install optional devices

If you purchased optional devices that require you to install components inside the base, install them now and then go to the next section of this guide, [“Install the transformer.”](#)

For example:

- Internal Direct AC Wiring Option — Refer to the instructions that you received with the option kit.

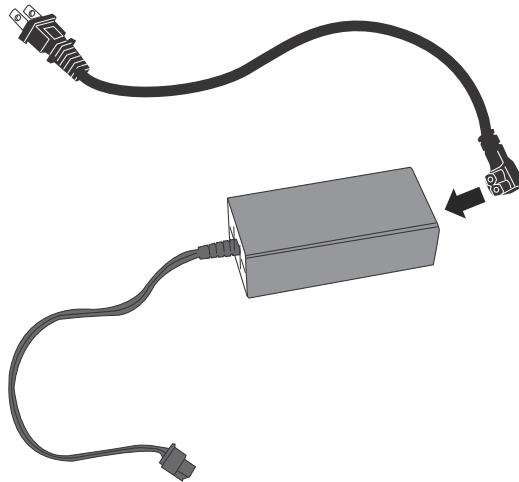
Warning: Before you begin the internal direct wiring installation, be sure that power to the AC line is shut off.

- Backup Battery Option — Refer to the instructions that you received with the option kit.

Install the transformer

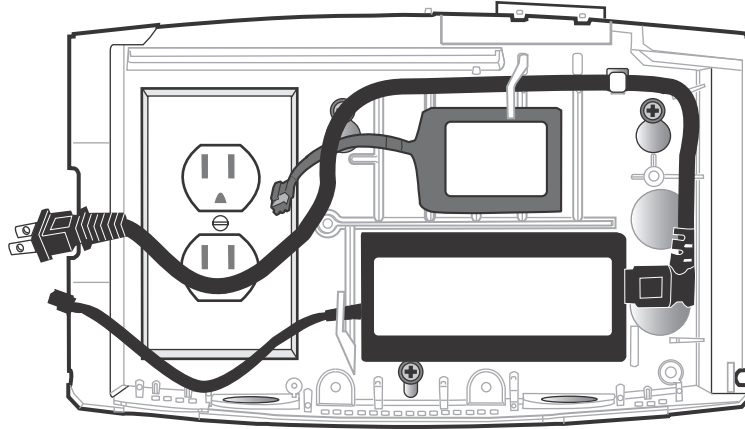
After installing the optional devices in the base, install the transformer:

1. Plug the power cord into the top of the transformer.
 - Use the supplied 12-inch (30.48 cm) cord if you mounted the Kronos InTouch™ over an AC outlet or are using the internal direct AC wiring option.
 - Use the 6-foot (1.8 meters) cord if you are using an external AC outlet.
 - Hold the transformer so that the power cord that you just plugged in is at the top and the non-labeled side of the transformer is facing you.



Note: The type of transformer and length of the cord may vary depending on your locale and which configuration was ordered for your site.

2. Position the transformer as shown (battery pack also shown):



Warning: Do not plug in the transformer or battery until you are directed to do so.

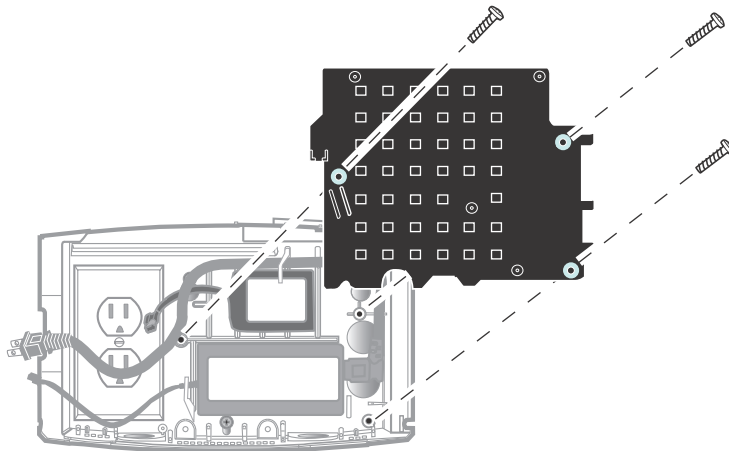
Attach the transformer holder and transition board to the base

Attach the transformer holder and transition board to the base. (The transition board is an option that you must install when installing other options such as remote readers or the backup battery.)

Note that you may find it easier to attach the transition board to the transformer holder *first* and then attach that assembly to the base. The following illustrations show both methods.

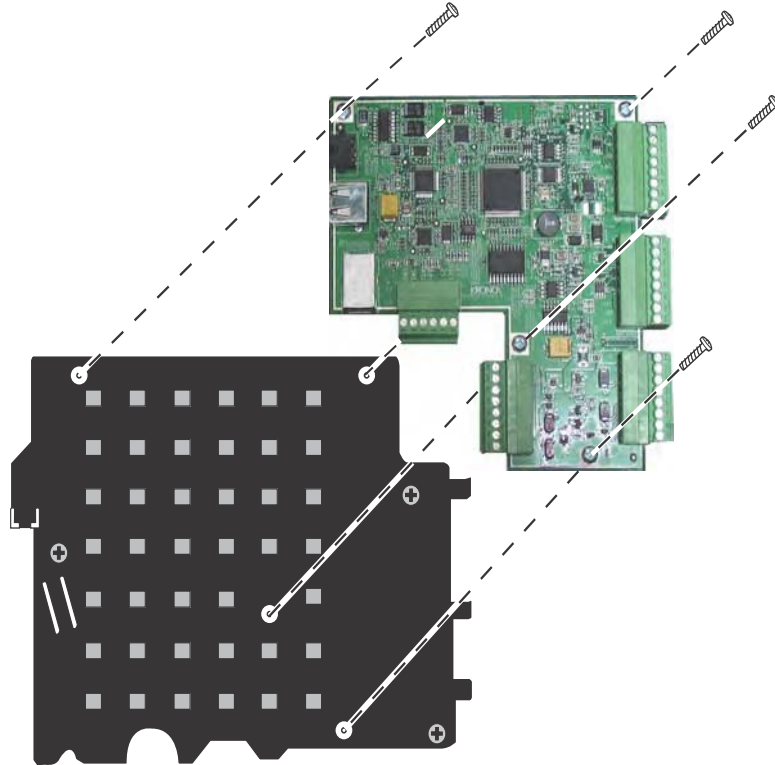
Attaching the transformer holder only

Use the supplied screws to attach the plastic holder to the base



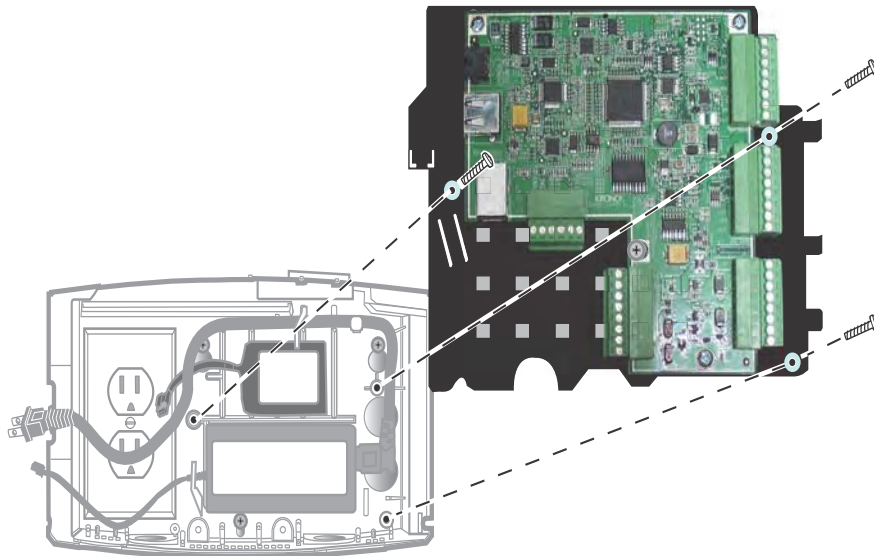
Attaching the transition board to the transformer holder

Use the supplied screws to attach the transition board to the plastic transformer holder.



Attaching the transition board and transformer holder assembly to the base

Use the supplied screws for the transformer holder to attach the transition board and holder assembly to the base of the Kronos InTouch™:



Install additional options

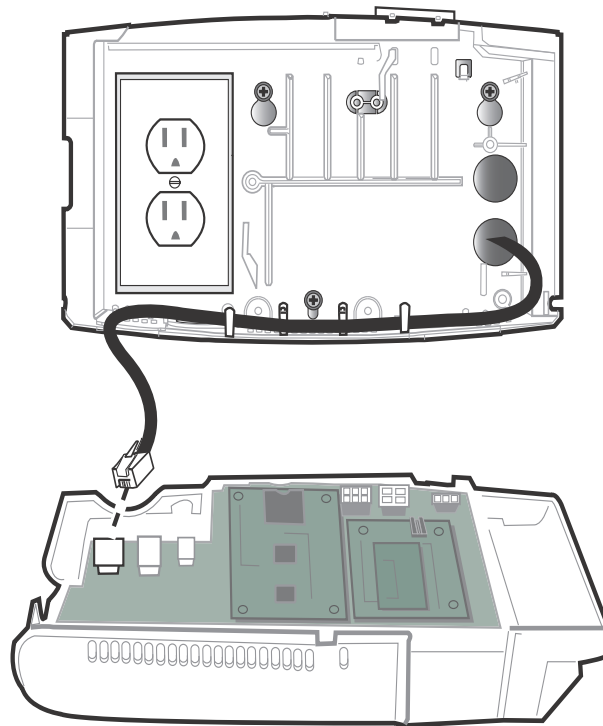
If you purchased optional devices such as the following, install them now and then return to this guide to resume the installation.:

- Remote bar code or proximity readers (you should have already run the cables into the base by this stage of the installation)
- Linear imager
- Finger scanning device

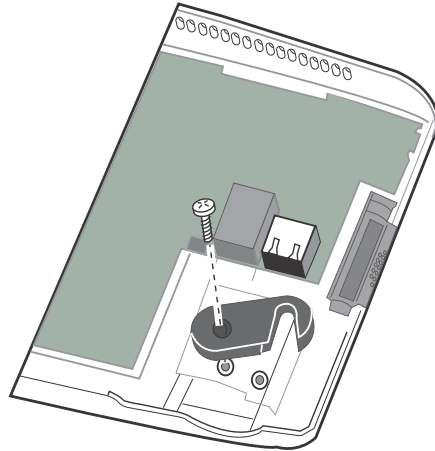
Refer to the instructions that you received with each option.

Connect Ethernet cable

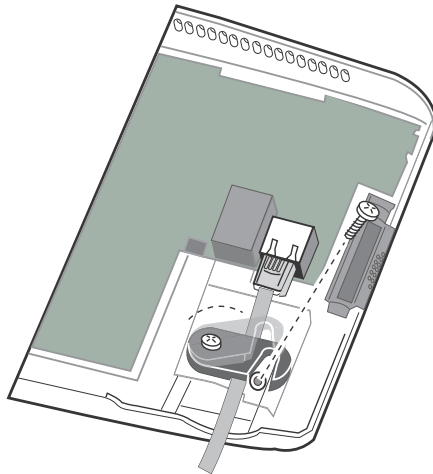
1. Plug the cable into the Ethernet port to connect the Kronos InTouch™ to the local area network. (Note that the cable can also be routed through either of the bottom holes in the base.)



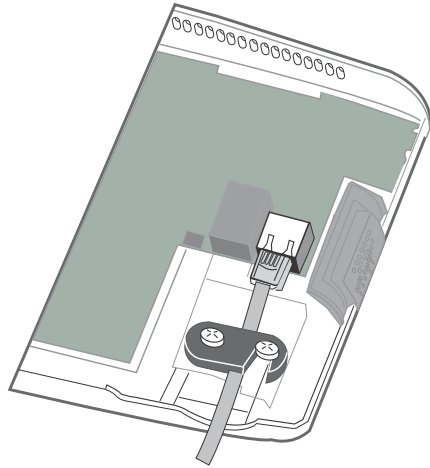
2. Attach the Ethernet strain relief clip.
 - a. Insert screw and clip as shown. Do not fully tighten the screw



- b. Swivel the clip over the Ethernet cable.



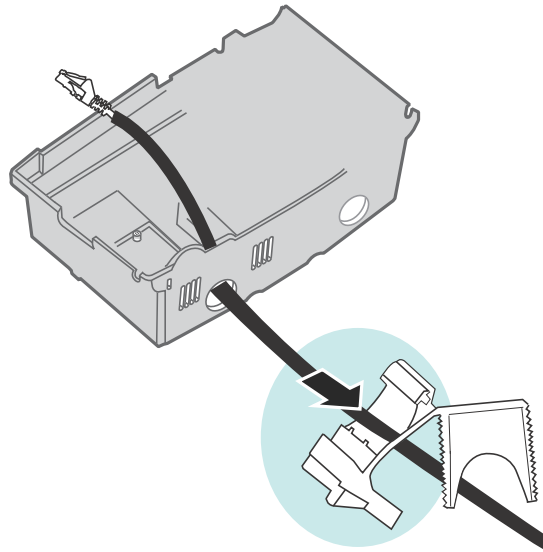
- c. Tighten both screws.



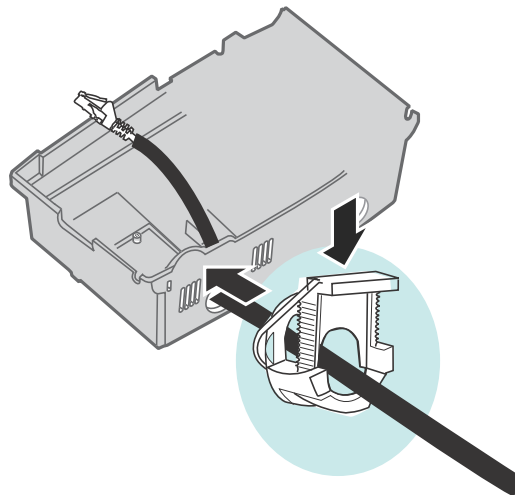
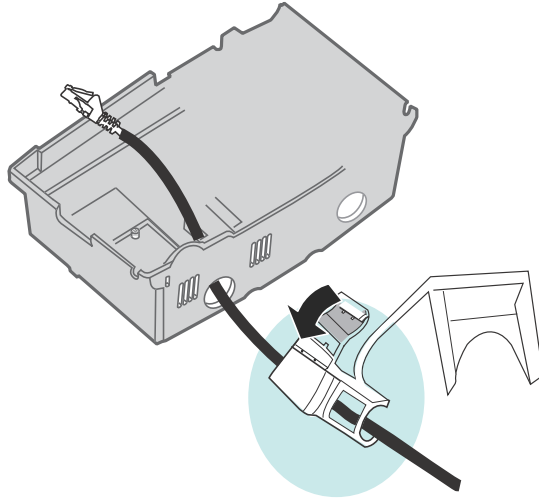
Secure cables with the strain relief clip

Use the strain relief clips to secure any cables (for example, power cord and Ethernet) that come up through the bottom of the Kronos InTouch™. To install the clip, see the following series of diagrams. You can use the clips to secure cables in both bottom holes.

1. Put the clip around the cable and then run the cable through the hole in the base.

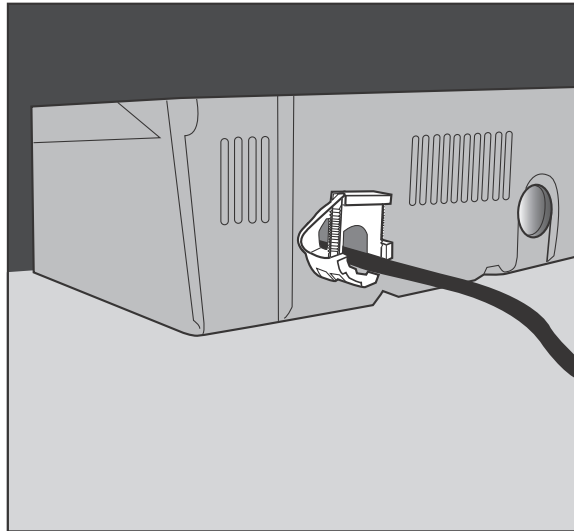


2. Close the top and bottom halves of the clip together and then insert that assembly through the hole in the base.



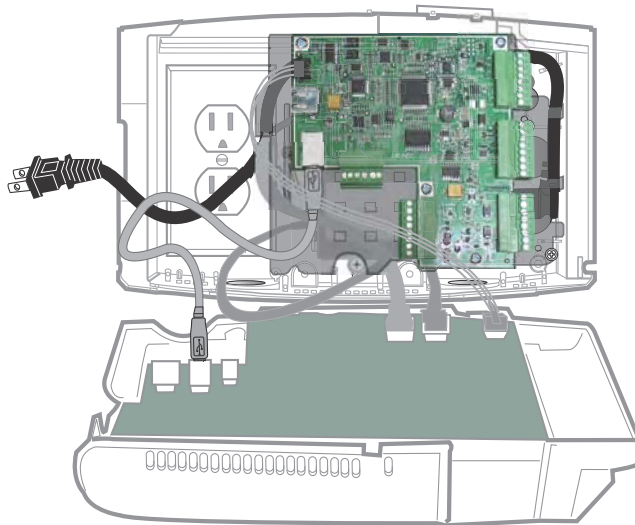
3. Push the clip assembly through hole in the base.

Important: Do *not* tighten the clip. Wait until you have verified that the device is on and that all components that are connected to those cables are working correctly.



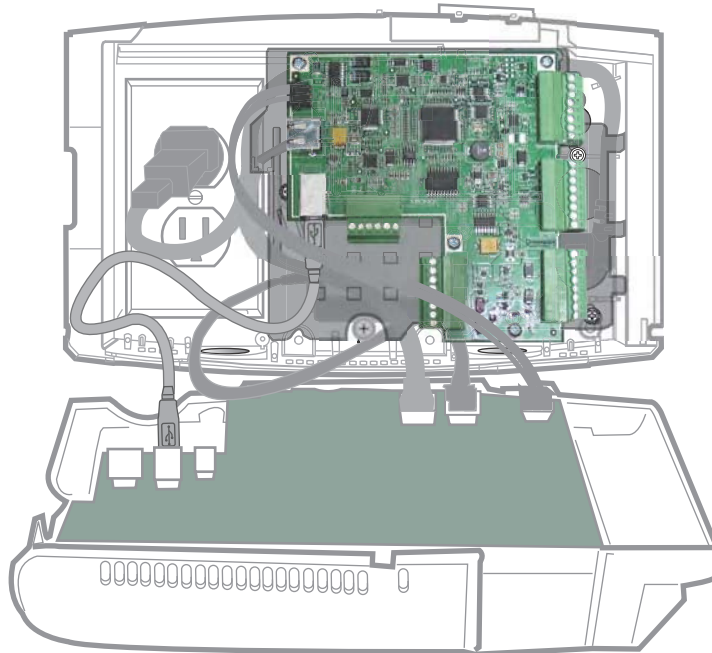
Connect battery, transition board, and transformer cables

- Backup battery — Plug the cable into the 6-pin connector on the main board.
- Transformer — Plug the ribbon power cable into the 4-pin connector (J1) on the main board.
- Transition board
 - Connect the power (ribbon) cable from the 3-pin connector on the transition board to the 3-pin connector on the main board.
 - Connect the data transmission cable from the mini-USB port on the transition board to the standard USB port on the main board.



Turn on the power to the device

1. Depending on your configuration:
 - Turn on the power to the internal direct wire component
 - Plug the external wall transformer into the AC outlet
 - Plug the transformer cord into the AC outlet over which the base is mounted. For example:



2. Close the cover of the Kronos InTouch™ enough so that you can view the display screen as the device initializes.

Note: When the Kronos InTouch™ is first powered on and running, the optional backup battery is not yet charged. It takes approximately 24 hours for the battery to fully charge.

Verify that the power is on

A red light inside the Kronos InTouch™ indicates that the power is on. If that light is *not* on, check the power connections.

After you turn on the power, the Kronos InTouch™ initializes and performs internal diagnostics. When the initialization finishes, the system displays the time and date on the touch screen. If the screen does not display the time and date, check all your connections and then contact your product representative if necessary.

When the Kronos InTouch™ has successfully initialized, go to [“Close and lock the Kronos InTouch™”](#) on page 55.

Close and lock the Kronos InTouch™

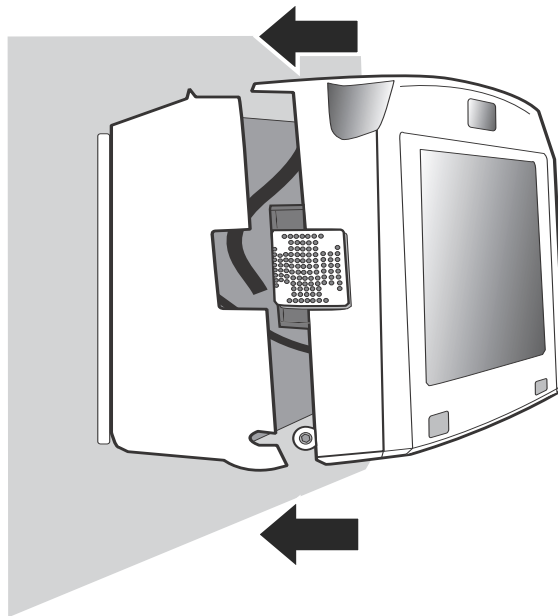
When the Kronos InTouch™ is powered on and operating, you can then tighten the strain relief clip, close the front cover, and then lock the assembly.

Tighten the strain relief clip

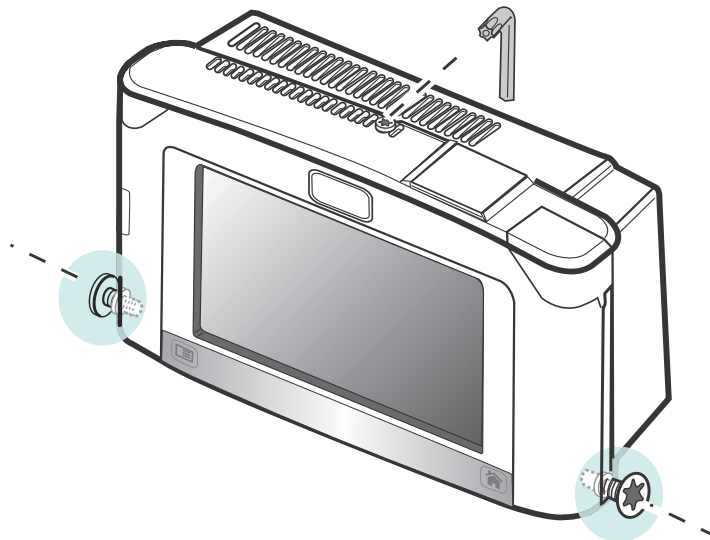
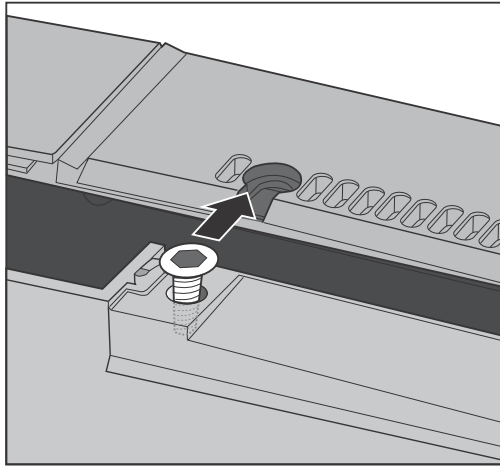
Adjust the slack in the cables as necessary and then tighten the strain relief clip that you previously inserted through the bottom hole of the base.

Close the cover and tighten the screws

1. Close the front cover onto the back clover. Do not close it on any of the cables inside the Kronos InTouch™. Do *not* force the cover when closing it.



2. Use the security wrench to tighten the top screw and then the two screws on the sides.



Next step

To configure the Kronos InTouch™ for your site, the network administrator or similarly qualified individual configures device settings on the host server and then on the Kronos InTouch™. The following documents provide that information:

- The device management system administrator's guide
- The *Kronos InTouch™ User's Guide*

Chapter 3

Installing the Slim Profile Kronos InTouch™

This chapter contains the following sections:

- [“Prepare the location”](#) on page 60
- [“Widen the badge reader slot \(optional\)”](#) on page 63
- [“Mount the base”](#) on page 66
- [“Route the cables”](#) on page 68
- [“Install optional devices”](#) on page 71
- [“Secure the cables with the strain relief clip”](#) on page 71
- [“Connect power and cables to the main board”](#) on page 74
- [“Close and lock the Kronos InTouch™”](#) on page 77

Note: If you purchased the Standard Kronos InTouch™ model, go to [Chapter 2, “Installing the Standard Model Kronos InTouch™,”](#) on page 21.

Prepare the location

Before you install the Kronos InTouch™, complete these steps:

- “[Step 1: Determine the power source for your site](#)” on page 60
- “[Step 2: Mark insertion points for the base](#)” on page 61

Step 1: Determine the power source for your site

Before you start the installation, plan how the Kronos InTouch™ will connect to a power source at your site.

Power options

- Install using a power-over-Ethernet cable for power.
- Install *near* an AC outlet and use the wall transformer connection for power.

Cautions and notes

- Select a location where the distance from the power cable hole at the bottom of the Kronos InTouch™ is not more than 5 feet (1.5 meters) from the AC outlet. Install an outlet if necessary.
- The AC line that supplies power to the Kronos InTouch™ must be equipped with an appropriate disconnect device (proper fuse or circuit breaker).
- Do not connect the Kronos InTouch™ power line to circuits that are being used for electrical devices that draw large amounts of power, such as air conditioning units, electrical motors, and compressors.
- Avoid running communications cable near devices that interfere with data transmission.

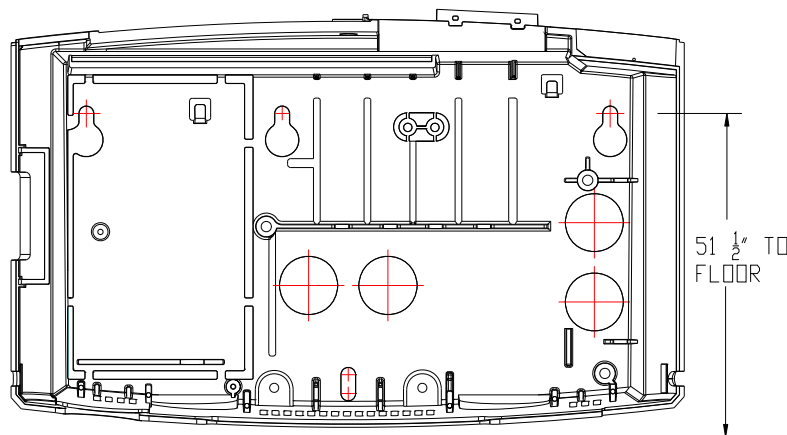
Step 2: Mark insertion points for the base

To mark areas on the wall where you will install the device, use the mounting template or the base of the device

Using the mounting template

The mounting template is printed on a sheet of paper that is included with your Kronos InTouch™ kit. Use that template to mark the areas of the wall where you plan to install the Kronos InTouch™. (You can also use the base itself as the template.)

Note that you use the same template for both models: the two large holes in the middle are for the Slim Profile model and the two large holes on the right are for the Standard model.



1. Tape the mounting template (or position the base) at the optimal height and location for the Kronos InTouch™.
 - The top mounting screws must be 51 and 1/2 inches (1.3 meters) above the floor, for ADA compliance.
 - Use a level to ensure that the top of the template is horizontal to the floor.

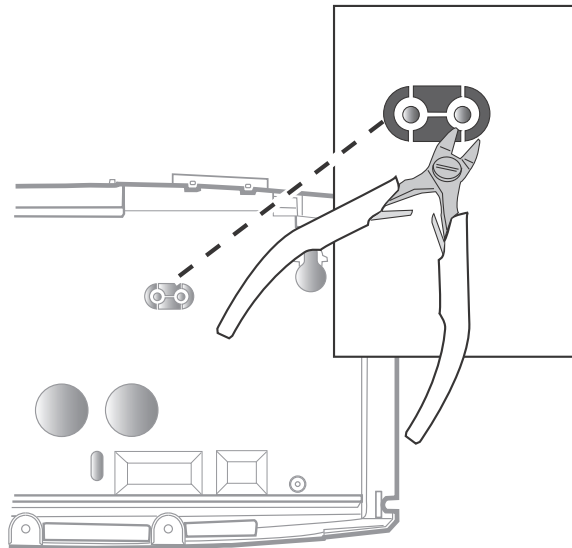
Note: If you are replacing a Series 4000 device, you can install the Kronos InTouch™ on the same area of the wall but you cannot use the same screw holes.

2. Mark the location of the mounting screw holes: Mark the top screw that is on the far left, the top screw on the far right, and the single screw in the bottom middle. (See the illustration in [“Mount the base”](#) on page 66.)
3. If you plan to run an Ethernet cable through the wall to enter the Kronos InTouch™ from the back or through the bottom, use the template to mark the point of entry. (See the illustrations in [“Routing the Ethernet cable”](#) on page 69.)
4. If you are installing the Kronos InTouch™ *near* an AC outlet, be sure the outlet is within 5 feet of the template. (See the illustration in [“Cable routing guidelines”](#) on page 69.)
5. After you finish marking all entry points, screw holes, etc., remove the mounting template (or base) from the wall.

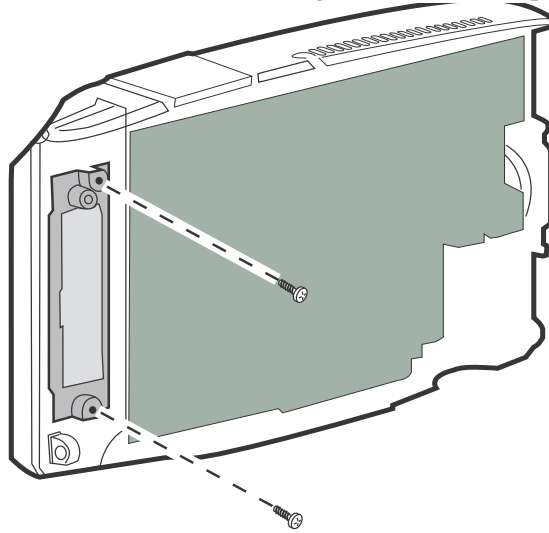
Widen the badge reader slot (optional)

If the badges that you will use with the Kronos InTouch™ are more than 0.05 in (1.27 mm) thick, you need to install two spacers in the badge reader (card or magnetic) to accommodate the badges. The spacers are molded into the base of the device.

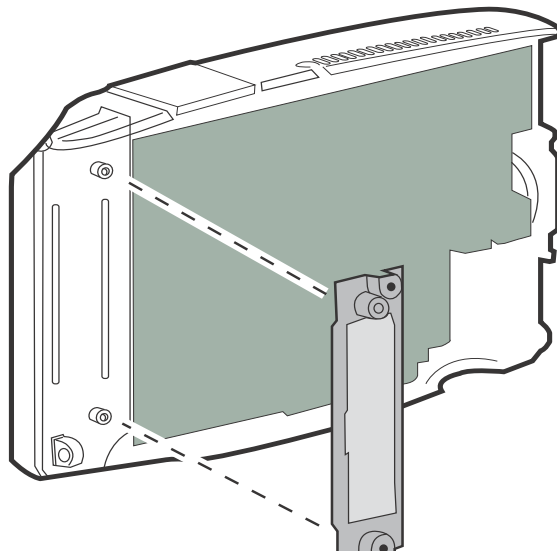
1. Use a wire cutters to remove the spacers from the base.



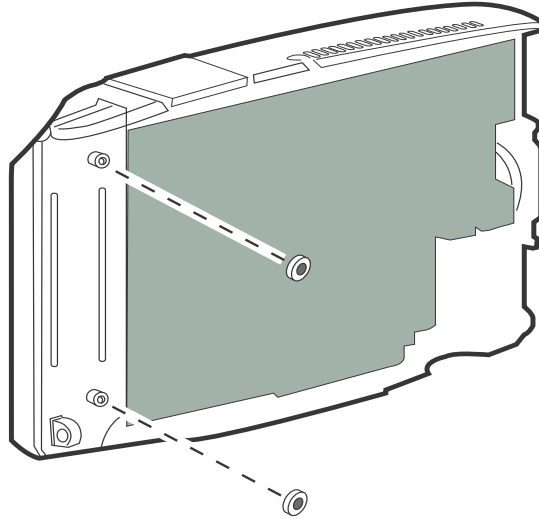
2. On the inside of the front cover, use a Phillips screwdriver to loosen the two screws that hold the badge reader cover in place.



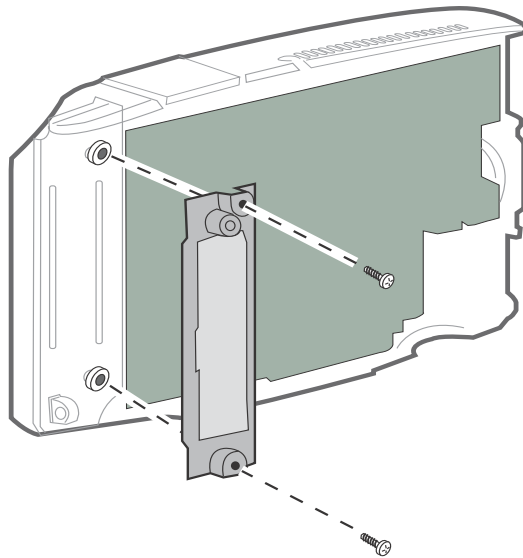
3. Remove the badge cover.



4. Press the two spacers onto the tops of the two channels that hold the screws.



5. Insert the reader cover back onto the base. Tighten the screws on the reader cover.



Mount the base

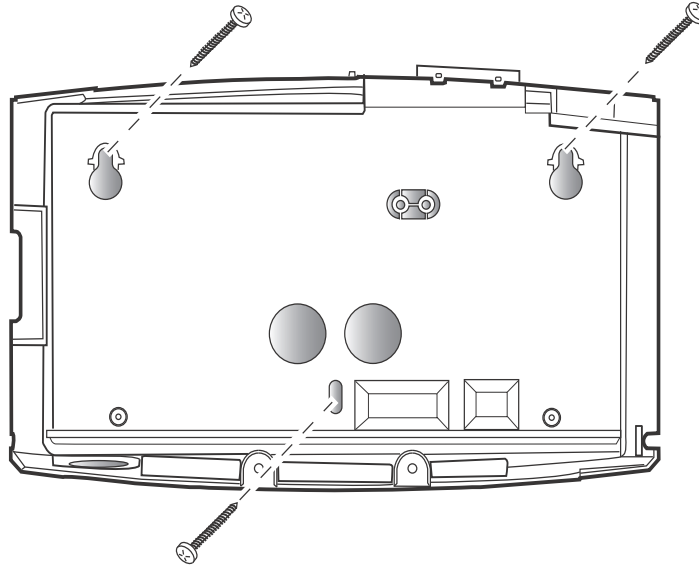
After you prepare the location, mount the base of the Kronos InTouch™ to the wall as follows:

1. To mount the base on *wood*:
 - a. Drill pilot holes for the top two mounting screws and the bottom mounting screw.
 - b. Use a drill or screwdriver to drive the top two mounting screws and the bottom middle screw (supplied with the Kronos InTouch™) into the wall, leaving 1/4 inch (6 mm) between the head of the screw and the wall.

To mount the base on *drywall*:

- a. Use a 9/32 inch drill bit (7.1 mm) to drill holes for the three wall anchors.
- b. Install a wall anchor in each screw hole. Push or tap the wall anchors until they are flush against the wall.
- c. Install the top two screws and the bottom middle screw, leaving 1/4 inch (6 mm) between the head of the screw and the wall.

2. Align the top two screw holes and bottom middle screw hole in the base of the Kronos InTouch™ with the screws in the wall, and gently set the base in position.

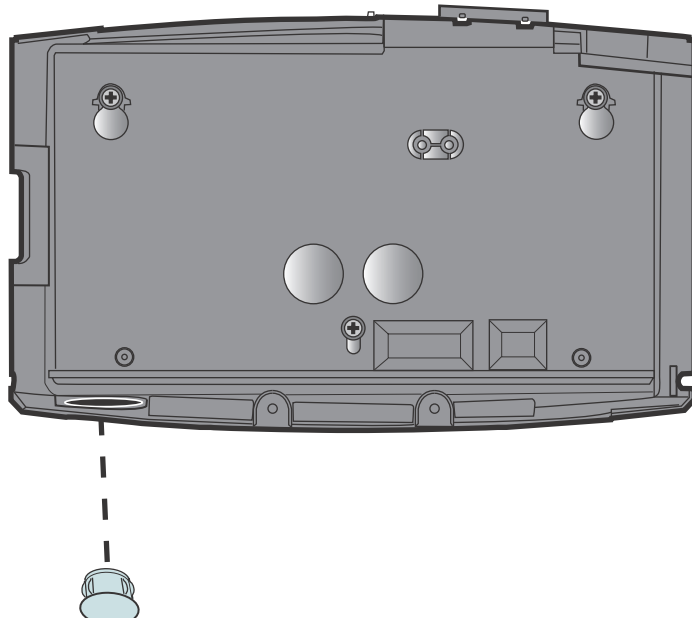


3. Tighten the top two screws and bottom middle screw so that they are flush against the base of the Kronos InTouch™.

Note: Do not tighten the screws excessively. If the wall surface is not smooth, you may crack the base.

Route the cables

The base of the Kronos InTouch™ has two cable access holes centered near the bottom of the base and one hole at the bottom of the base. Remove the plastic plug from the bottom hole if you plan to run cable through the bottom of the unit.



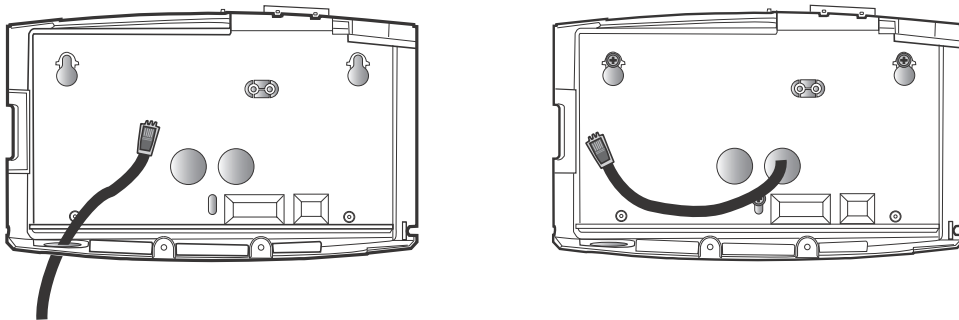
Cable routing guidelines

Follow these guidelines as you route the Ethernet cable or AC wall transformer cord through the point of entry into the Kronos InTouch™:

| Point of Entry | Approximate Amount of Slack After Point of Entry |
|--|--|
| Through the wall into the back of the Kronos InTouch™ base | <ul style="list-style-type: none"> Ethernet cable: 10 inches (25.4 cm) |
| Through the bottom of the Kronos InTouch™ base | <ul style="list-style-type: none"> AC wall transformer cord: 12 inches (30.5 cm) Ethernet cable: 6 inches (15.2 cm) |
| Through the top hole of the optional keypad that is attached to the bottom of the Kronos InTouch™ base | <ul style="list-style-type: none"> AC wall transformer cord: 18 inches (45.7 cm) Ethernet cable: 12 inches (30.5 cm) |

Routing the Ethernet cable

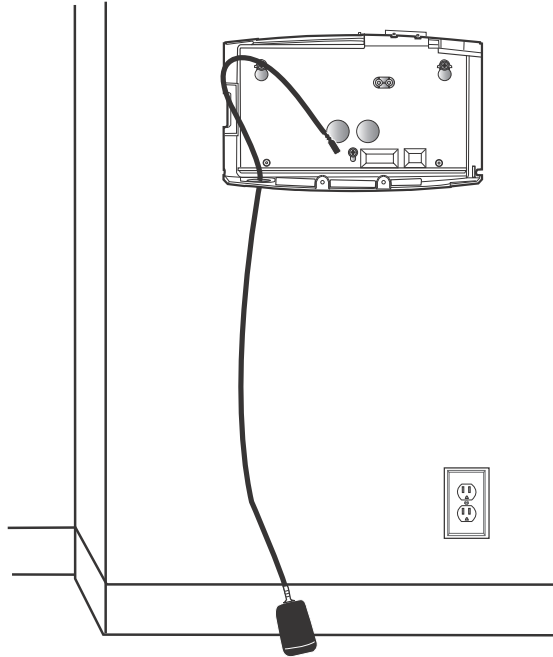
Run the Ethernet cable through the base. For example:



Warning: If the Ethernet cable is also the source of power for the device, do not plug it into the main board until you are directed to do so.

Routing the AC Wall transformer cord

Note that the base must be within 5 feet of the outlet.



Install optional devices

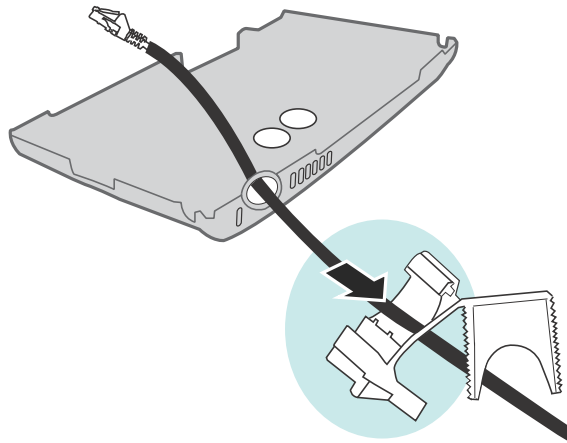
If you purchased an optional devices that require access to the Kronos InTouch™ before it is assembled and secured, install them now and then return to the next section of this guide.

For example, if you purchased a finger scan kit, refer to the instructions that you received with the option kit and install it now.

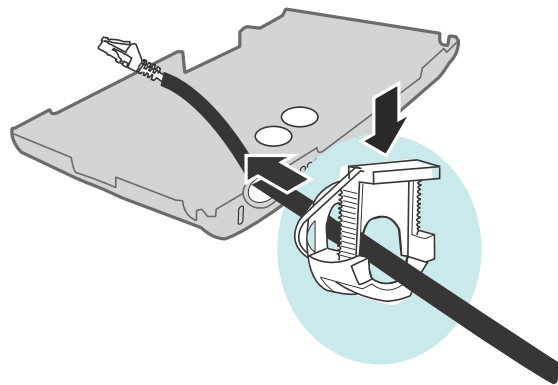
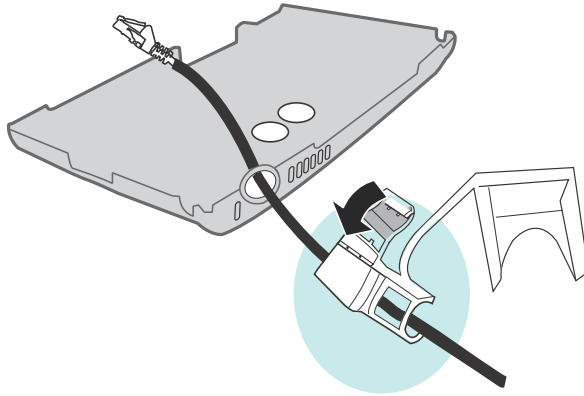
Secure the cables with the strain relief clip

Use the strain relief clip to secure any cables (power cord or power-over-Ethernet) that come up through the bottom hole of the Kronos InTouch™. To install the clip, see the following series of diagrams.

1. Put the clip around the cable and then run the cable through the hole in the base.

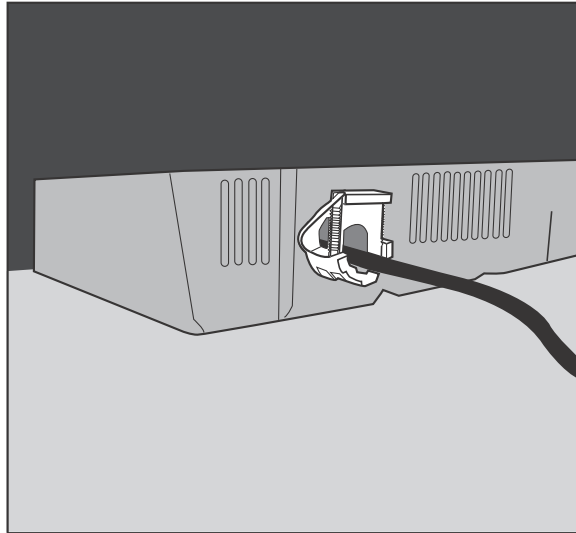


2. Close the top and bottom halves of the clip together and then insert that assembly through the hole in the base.



3. Push the clip assembly through hole in the base

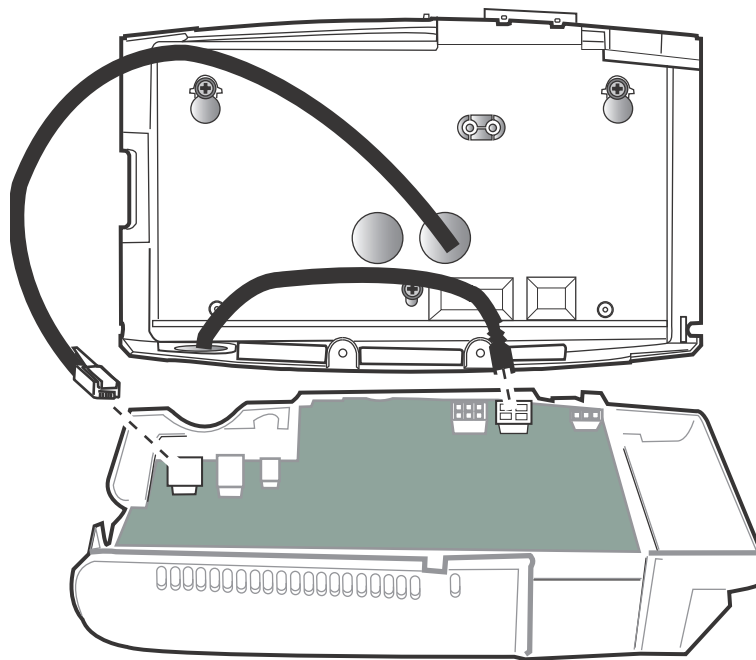
Important: Do *not* tighten the clip. Wait until you have plugged all cables into the main board, verified that the device is on, and adjusted the slack



Connect power and cables to the main board

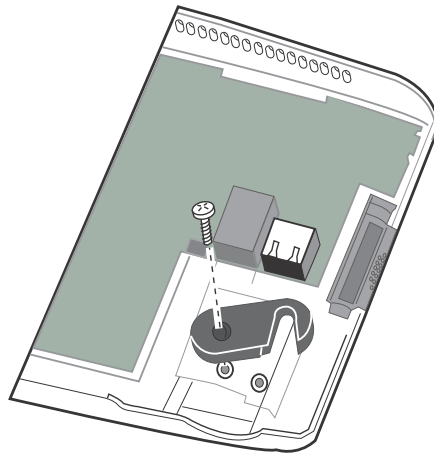
The following illustration shows the Ethernet cable and external wall transformer cable connected to the main board.

If the Ethernet cable is the source of the power, you do not need the external wall transformer cable.

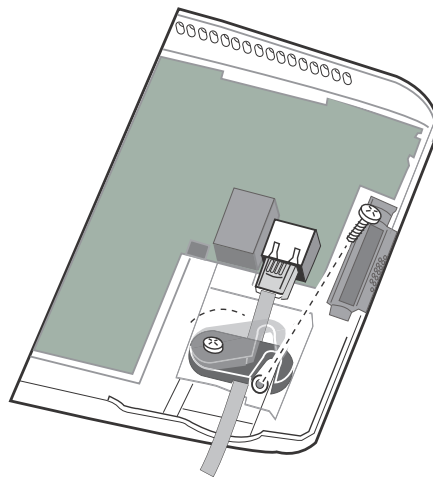


1. Connect the Ethernet cable to the main board. If you are using power-over-Ethernet cable, the unit will turn on.
2. Attach the Ethernet strain relief clip.

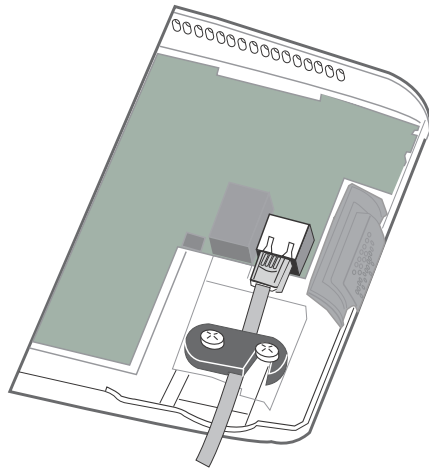
- a. Insert screw and clip as shown. Do not fully tighten the screw



- b. Swivel the clip over the Ethernet cable.



- c. Tighten both screws.



3. If the external wall transformer is the source of power, plug that power cable into the AC outlet and into the main board.
4. Close the cover of the Kronos InTouch™ enough so that you can view the display screen as the device initializes.

Verify that the power is on

A red light inside the Kronos InTouch™ indicates that the power is on. If that light is *not* on, check the power connections.

After you turn on the power, the Kronos InTouch™ initializes and performs internal diagnostics. When the initialization finishes, the system displays the time and date on the touch screen. If the screen does not display the time and date, check all your connections and then contact your product representative if necessary.

When the Kronos InTouch™ has successfully initialized, go to [“Close and lock the Kronos InTouch™”](#) on page 77.

Close and lock the Kronos InTouch™

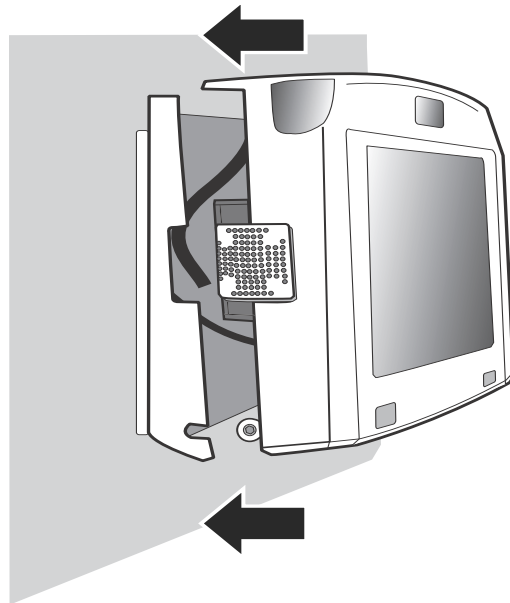
When the Kronos InTouch™ is powered on and operating, you can then tighten the strain relief clip, close the front cover, and then lock the assembly.

Tighten the strain relief clip

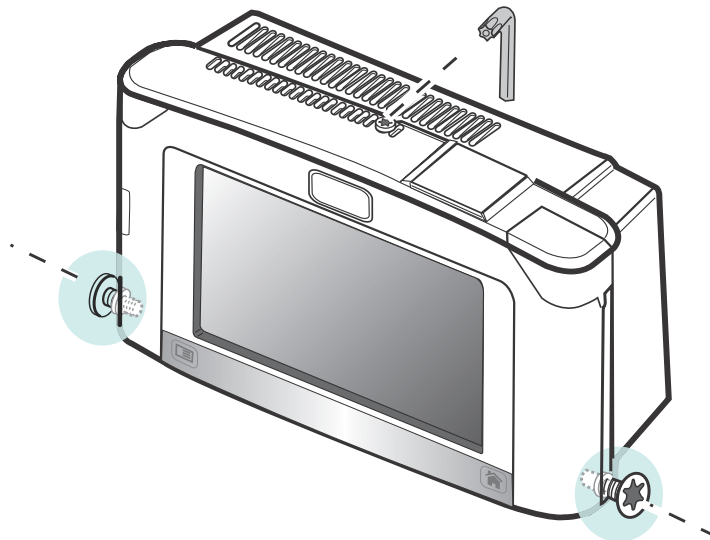
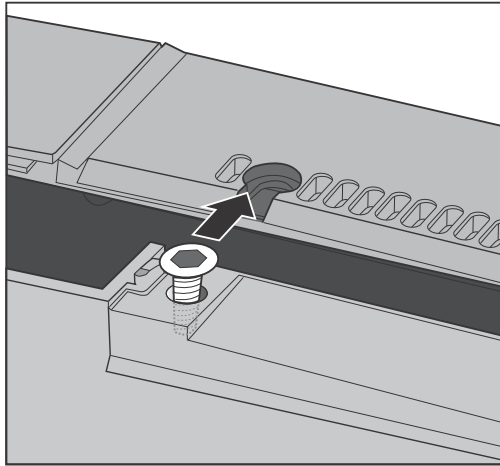
Adjust the slack in the cables as necessary and then tighten the strain relief clip that you previously inserted through the bottom hole of the base.

Close the cover and tighten the screws

1. Close the front cover onto the back clover. Do not close it on any of the cables inside the Kronos InTouch™. Do *not* force the cover when closing it.



2. Use the security wrench to tighten the top screw and then the two screws on the sides.



Next step

To configure the Kronos InTouch™ for your site, the network administrator or similarly qualified individual configures device settings on the host server and then on the Kronos InTouch™. The following documents provide that information:

- The device management system administrator's guide
- The *Kronos InTouch™ User's Guide*

Troubleshooting Hardware and Operations

This chapter presents instructions for troubleshooting and resolving issues related to installing the Kronos InTouch™ and ensuring that it is operating correctly.

| Symptom | Probable Causes | Corrective Action |
|--|--|--|
| The Kronos InTouch™ does not power up. | <i>If the Kronos InTouch™ is powered using standard AC power cable, the transformer is not properly plugged in to the main board of the Kronos InTouch™, the AC outlet, or both.</i> | If the Kronos InTouch™ is powered using a standard AC power cable: Check the connections to the main board and the AC outlet. Important: If the power cord is not plugged into the AC outlet, do <i>not</i> plug it in until you ensure that the transformer is properly connected to the main board. |
| | <i>If the Kronos InTouch™ is powered using Ethernet cable, the network may be down, or connections to and from the Power-over-Ethernet module may not be secure.</i> | If the Kronos InTouch™ is powered using Ethernet cable: <ul style="list-style-type: none">• Ensure that the network is running.• Ensure that the backup battery and network Ethernet cable are connected to the main board of the Kronos InTouch™. |

| Symptom | Probable Causes | Corrective Action |
|--|---|---|
| The power LED is turned on, but nothing appears on the screen. | <i>If the Kronos InTouch™ is powered using a standard AC power cable, the AC line is not live or is supplying improper voltage.</i> | Measure voltage at the AC outlet and, if necessary, locate another power source. Note: When the Kronos InTouch™ starts up, the LED is amber and the screen is blank for 1-2 minutes. If the screen remains blank, then there might be a problem and you can take the corrective action. |
| | <i>If the Kronos InTouch™ is powered using Ethernet cable, there is a issue with the network.</i> | <ul style="list-style-type: none">• Check the Ethernet connection at the Kronos InTouch™, and all other network connections.• Ensure that the network is supplied with an IEEE 802.3AF compliant power source. |

| Symptom | Probable Causes | Corrective Action |
|---------------------------------------|--|--|
| Kronos InTouch™ fails to read badges. | The badge is unreadable or does not meet the required badge specification. | <ol style="list-style-type: none"> 1. Inspect the badge for cleanliness. 2. Clean the badge and badge reader. |
| | The bar code on the badge is worn or scraped off. | Replace the badge. |
| | You did not configure the Kronos InTouch™ to read the symbology that your badges use. | <ol style="list-style-type: none"> 1. Access Maintenance mode at the Kronos InTouch™. 2. Access the Symbology settings. 3. Turn on the appropriate symbology. |
| | The Kronos InTouch™ is not enabled for the correct badge reader type or company ID code (if you are using a code). | Correct the badge reader and company ID code settings. If the host application is Workforce Timekeeper, use the Kronos InTouch™ device management software associated with the version of the application; if your host application is Timekeeper Central, use Configuration Manager. |
| | The badge reader may not be working correctly. | <p>Run the Badge Test test at the Kronos InTouch™:</p> <ol style="list-style-type: none"> 1. Access Maintenance mode at the Kronos InTouch™. 2. Tap the Test button on the touch screen. 3. Select Badge from the list of options. 4. Follow the prompts to conduct the test and note the result. <p>If the test does not indicate the issue, run a Reader Report as follows:</p> <ol style="list-style-type: none"> 1. Access Maintenance mode at the Kronos InTouch™. 2. Tap the Reports button and scroll down to Readers. <p>Note the report results and contact your Service Representative for assistance.</p> |

| Symptom | Probable Causes | Corrective Action |
|----------------------|--|---|
| Communication fails. | Communication settings are incorrect either at the Kronos InTouch™ or the host PC. | <ol style="list-style-type: none"> 1. Access Maintenance mode. 2. Click Communication Settings. 3. Check and, if necessary, correct the Device ID and IP Address. These settings must match the settings entered for the Kronos InTouch™ in the device management software. 4. Check the Gateway, Subnet Mask, and DNS IP Address settings. Ensure that the IP address is appropriate for the Subnet Mask and Gateway settings. 5. If DNS is enabled, ensure that the DNS server is running. 6. If the Comm Mode prompt is set to <i>Device Initiated</i>, also ensure that the following prompts are set correctly: Primary Server, Primary Server Port, Primary Server Instance ID <p>Important: These settings <i>must</i> match the corresponding settings in the Kronos InTouch™ configuration (Device Manager Setup > Devices) for the Kronos InTouch™.</p> <p>If the password feature is enabled in Device Manager for the Kronos InTouch™, the password set in Device Manager and at the Kronos InTouch™ (Primary Server Password, Verify Password) must match.</p> <p>If the password feature is disabled, a password must still be entered at the Kronos InTouch™. Any combination of 6 to 10 digits is valid.</p> <p>If you still cannot determine the problem, run the Communications Test (in Maintenance mode).</p> |

| Symptom | Probable Causes | Corrective Action |
|----------------------------------|--|---|
| Communication fails (continued). | Communications cabling is connected incorrectly. | <p>Ensure that all communications cables are routed correctly and connected properly. If the connections are secure, determine whether the cable is defective by doing the following:</p> <ul style="list-style-type: none"> • Check to see if the green communications LED inside the Kronos InTouch™ is lit. Use the security wrench to unlock and open the cover of the Kronos InTouch™. • Check to see if the green link light on the hub to which the Kronos InTouch™ is connected is lit. <p>If both lights are lit, the cable is not defective. The issue may be the network configuration. If both lights are not lit, the cable may be defective. Consult with your system administrator to resolve the issue.</p> |

Appendix A

Removing a Series 4000 Device

This appendix contains the following sections:

- [“Before you remove the Series 4000 device”](#) on page 88
- [“Disconnect and remove the Series 4000 device”](#) on page 89

Before you remove the Series 4000 device

Before you remove an installed Series 4000 device at your site, note the following:

- Remember to collect data from the Series 4000 device using your host application before you disconnect it.
- The location of the mounting screw holes for both the Series 4000 device and the Kronos InTouch™ are compatible. You can install the Kronos InTouch™ in the same location as the Series 4000 device that you are replacing. However, ensure that the location satisfies the following requirements:
 - To comply with the Americans with Disabilities Act (ADA), the top of the Kronos InTouch™ cannot be greater than 54 and 3/8 inches (1.4 meters) above the floor.
 - If the Kronos InTouch™ will be plugged into a wall outlet away from the device (the device is not mounted to cover an AC outlet), the unit cannot be more than 5 feet (1.5 meters) away from the outlet.

Caution: If the Series 4000 device that you are replacing uses an internal AC outlet, you must have a licensed electrician disconnect the power line from the outlet.

Attention: Si le Kronos InTouch™ de la série 4000 que vous remplacez est relié par une prise c.a. interne, vous devez faire appel à un électricien agréé pour débrancher la prise de la source d'alimentation.

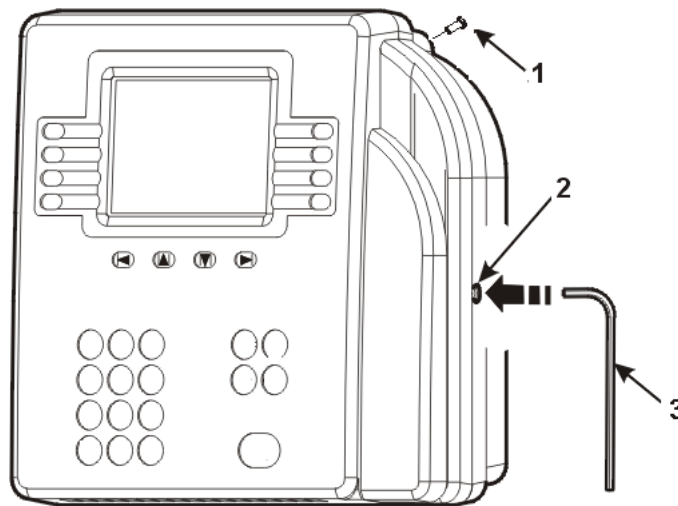
Use the host application software to collect data

Before you disassemble the device, use your host application software to collect all data. See the device management system administrator's guide and the online Help.

Disconnect and remove the Series 4000 device

Caution: Before you begin, be sure that you collected data from the Series 4000 device using your host application. Otherwise, the data will be lost.

1. Open the cover of the device by using the security wrench (3) to loosen the security screws (1 and 2) on the back and right side of the device.

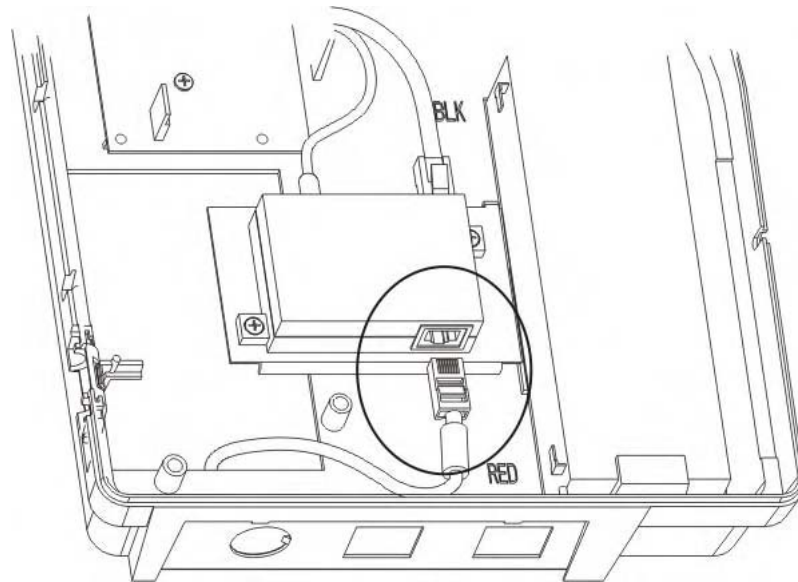


Caution: Open the cover slowly and carefully. Depending on which optional devices are connected to the device, you may not be able to open the cover all the way because of cables that are plugged into the main board.

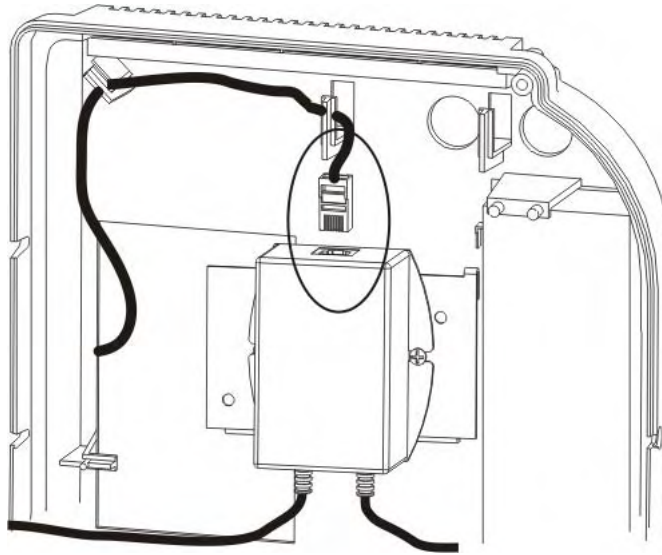
2. *If your device is powered by a standard AC power cable*, locate the electrical outlet that the device is plugged into and unplug the cable. This outlet could be a wall outlet over which the device is mounted (covering the outlet from view), a wall outlet away from the device, or an outlet assembled inside the device.

If power is supplied to your device through a network Ethernet cable, (device part number 8602004-xxx or 8602800-xxx only) unplug the Ethernet cable that runs into the device from the power-over-Ethernet module.

If the device uses the *LS15 Power-over-Ethernet module* (black module), refer to the following illustration to unplug the Ethernet cable from the module:

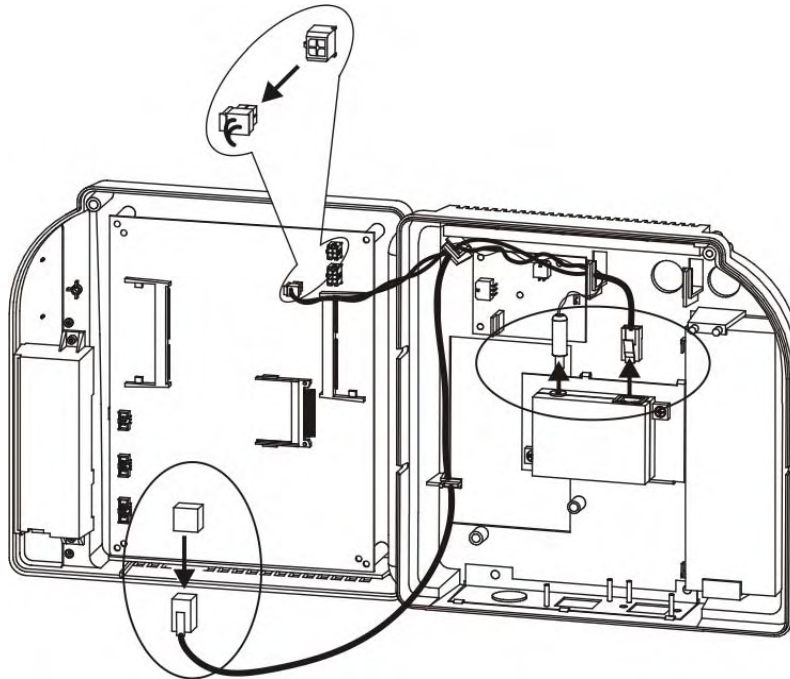


If the device uses the *GT-91080 Power-over-Ethernet module* (beige module), refer to the following illustration to unplug the Ethernet cable from the module:

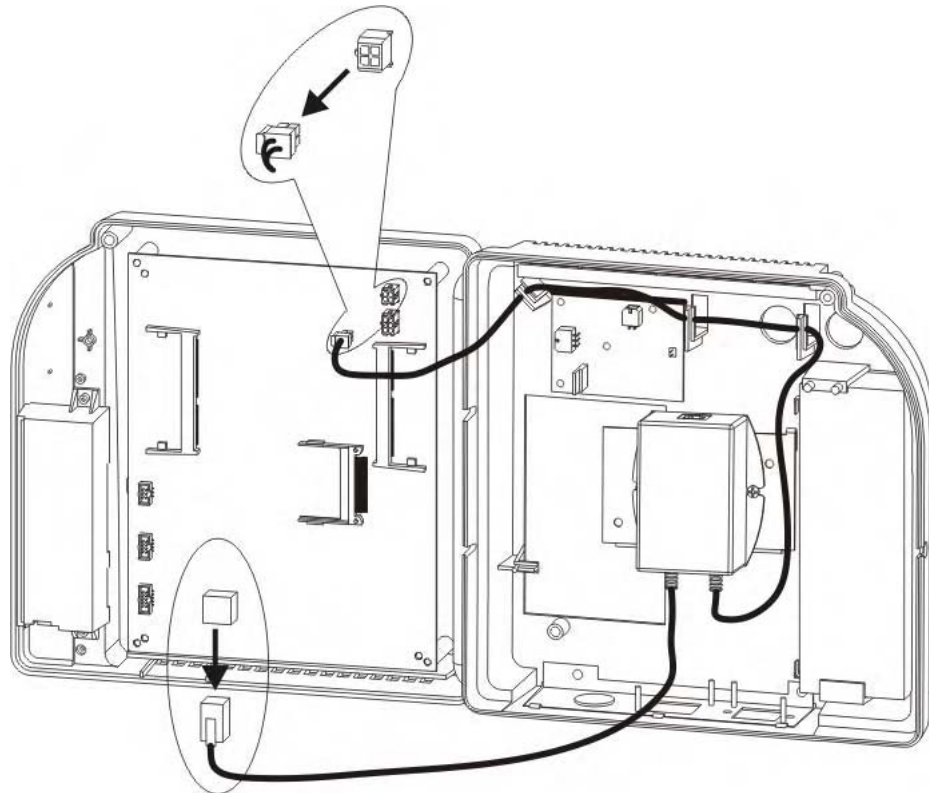


3. If a Power-over-Ethernet module is installed in the device (device part number 8602004-xxx or 8602800-xxx only):
 - a. Disconnect the power and Ethernet cables that run from the module to the main board inside the cover of the device.

If the device uses the LS15 Power-over-Ethernet Option Kit (black module), refer to the circled areas in the following illustration to disconnect the cables:

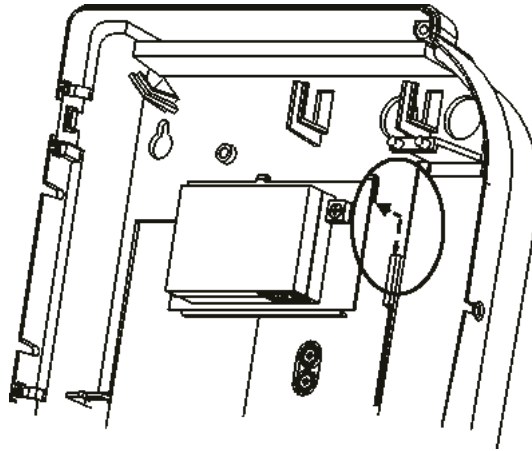


If the device uses the GT-91080 Power-over-Ethernet Option Kit (beige module), refer to the following illustration to disconnect the cables:

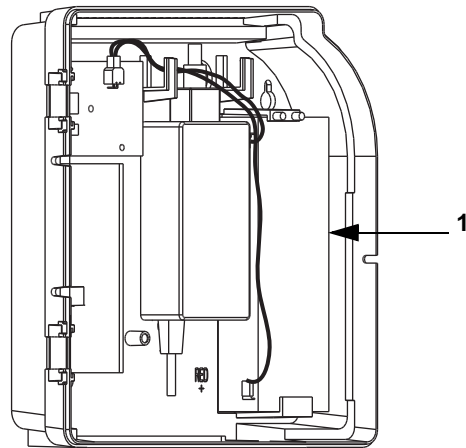


- b. Grip the power-over-Ethernet module firmly and push up so that the module and its mounting bracket slide off the channels molded into the

base. The method is the same for the LS15 and the GT-91080 modules. The following illustration shows the LS15 module.

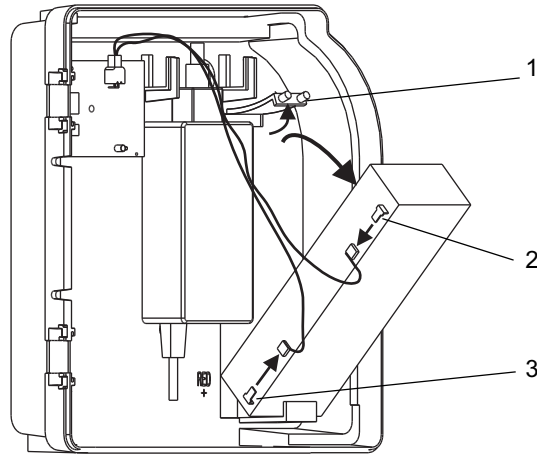


4. Determine whether the device has a backup battery (1) installed in the base. If so, go to [step 5](#). Otherwise, go to [step 6](#).



5. If the device has a backup battery:

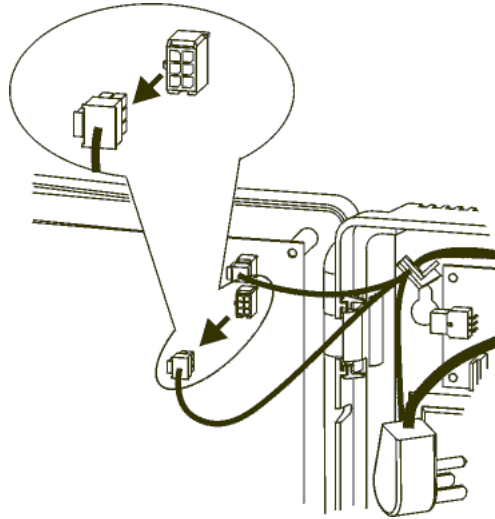
- a. Push up on the top bracket (1) and angle the battery out of position. Disconnect the wire from the negative battery terminal (2). Then, disconnect the wire from the positive battery terminal (3).



- b. Remove the battery and set it aside.
- c. Disconnect the battery charger board from the main board.

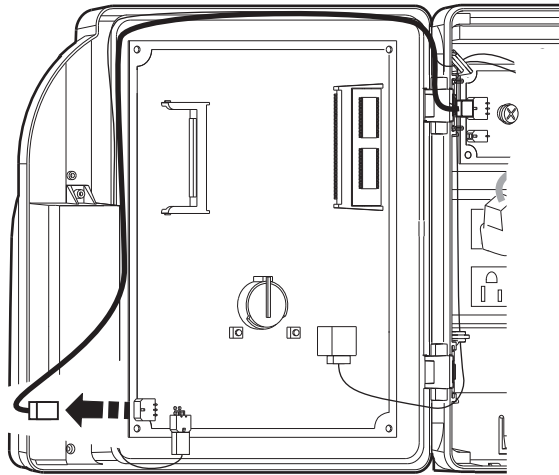
If the part number of the device is 8602004-xxx or 8602800-xxx, use the following illustration to locate the connection. Then, disconnect the

battery charger board: press the clip on the cable connector, and move the connector from side to side while you pull it out of the socket.



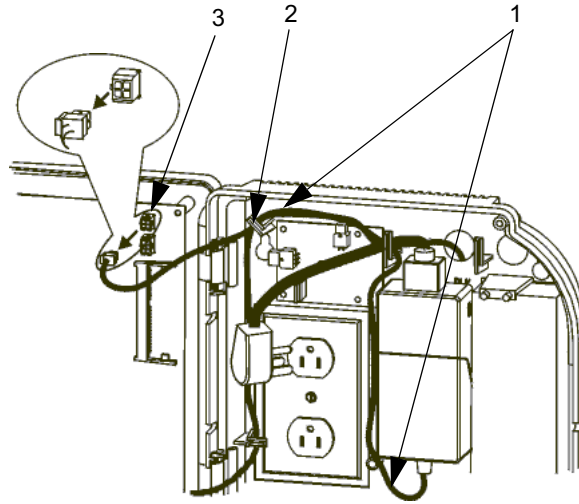
If the part number of the device is 8602000-xxx, use the following illustration to locate the connection. Then, disconnect the battery charger board from the mainboard of the device. To do this, press the clip on the

connector at the end of the cable and pull it to the left while moving the connector from side to side

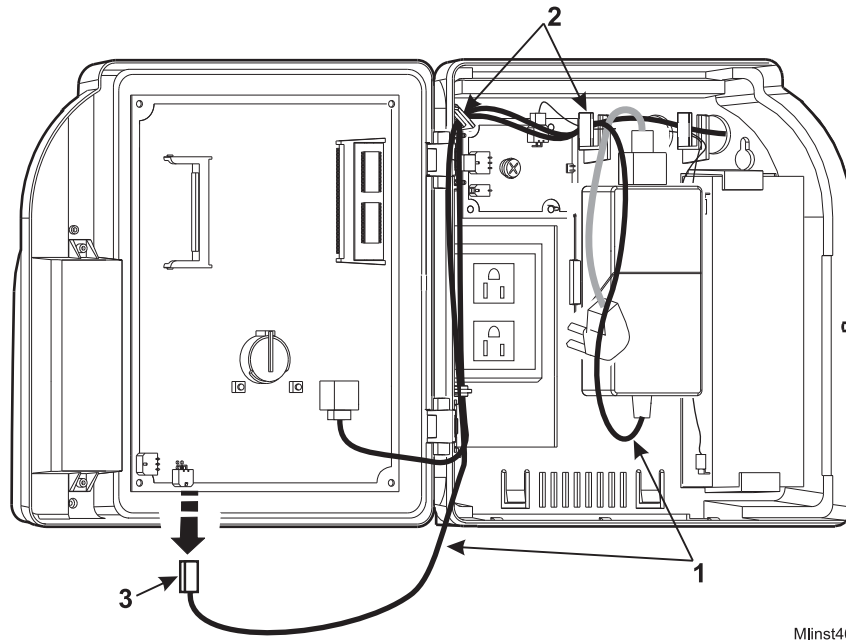


6. Remove the transformer:
 - a. Disconnect the transformer cable (1) from its connection on the main board (3). To do this, press the clip on the connector at the end of the cable and pull out while moving the connector from side to side.
 - b. Trace the wire back to the transformer, freeing it from one or more hooks (2) molded into the base of the device.

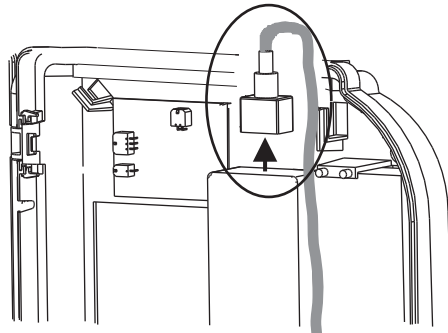
If the part number of the device is 8602004-xxx or 8602800-xxx, use the following illustration as a guide:



If the part number of the device is 8602000-xxx, use the following illustration as a guide. The numbered arrows point to the transformer cable (1), molded hooks (2), and the transformer connection on the main board (3).



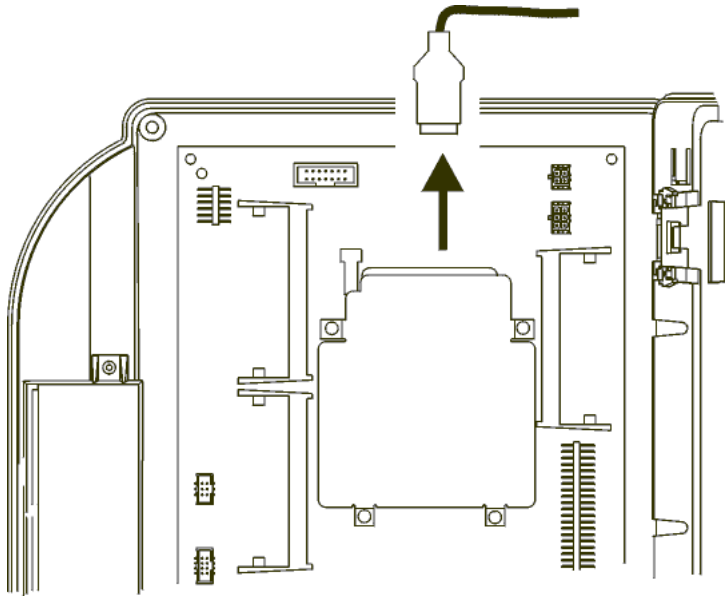
7. Unplug the power cable from the top of the transformer in the base of the device. See the circled area in the following illustration:



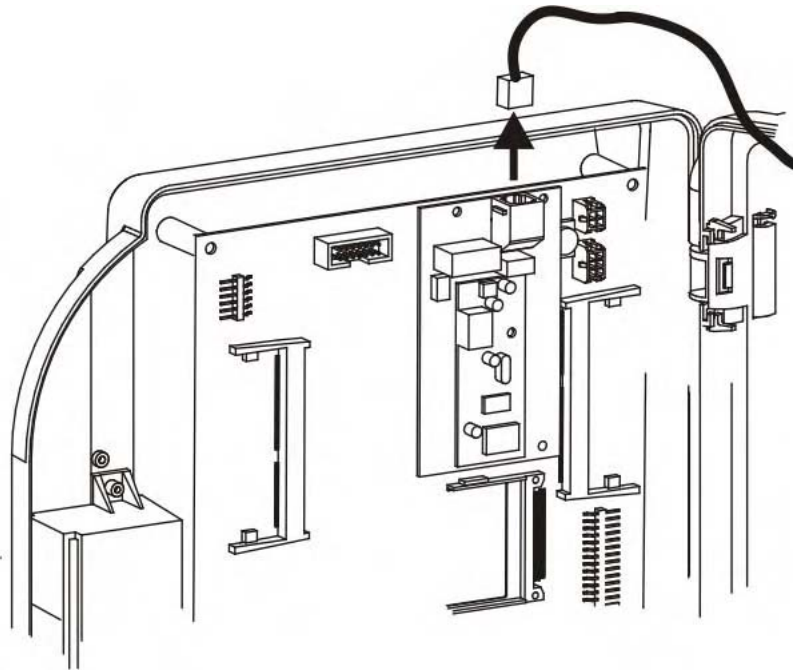
8. This step explains how to disconnect the modem or Ethernet cable, depending on which method of communication the device uses.

For devices that use *modem communication*, disconnect the cable that connects the telephone line to the modem card using the following instructions.

If the part number of the device is 8602000-xxx or 8602004-xxx, use the following illustration to locate the modem card. Then, disconnect the telephone line by squeezing on each side of the connector and pulling it away from the card in the housing.

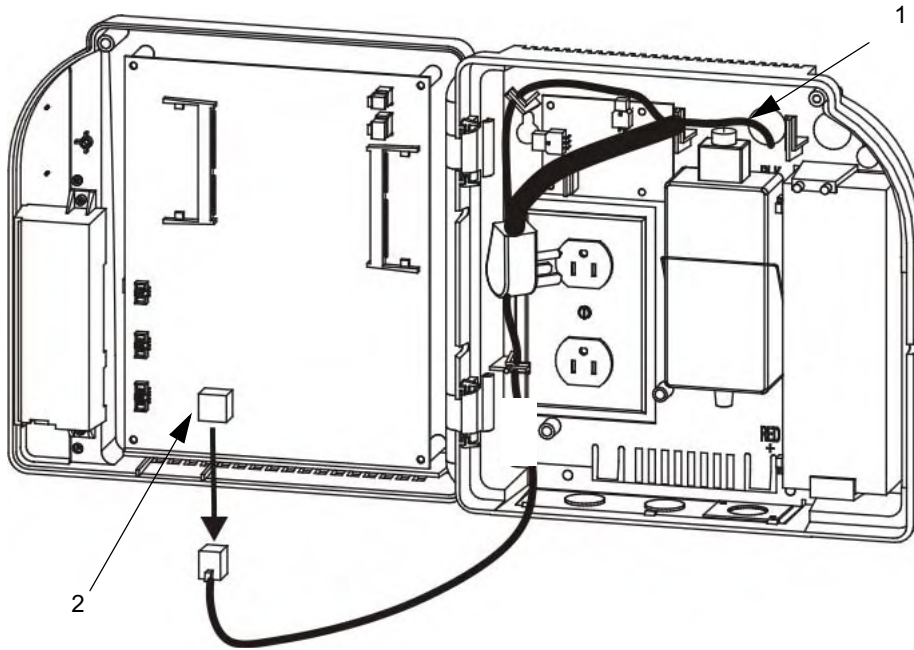


If the part number of the device is 8602800-xxx, use the following illustration to locate the modem card in the inside cover. Then, disconnect the telephone line from the modem card.

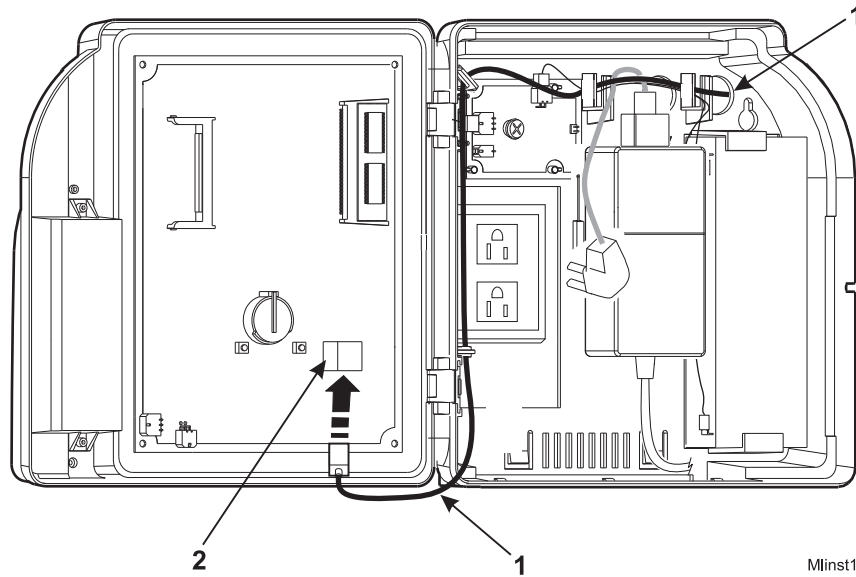


For devices that use *Ethernet communication*, disconnect the Ethernet cable (1) from the connector (2) on the main board. Press the clip on the connector and pull it down.

If the part number of the device is 8602004-xxx or 8602800-xxx, use the following illustration as a guide. Then, press the clip on the connector and pull it down.

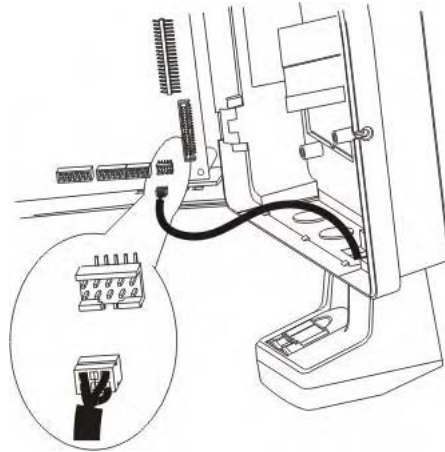


If the part number of the device is 8602000-xxx, use the following illustration to locate the Ethernet cable (1) and the connector on the main board (2). Then, press the clip on the connector and pull it down.

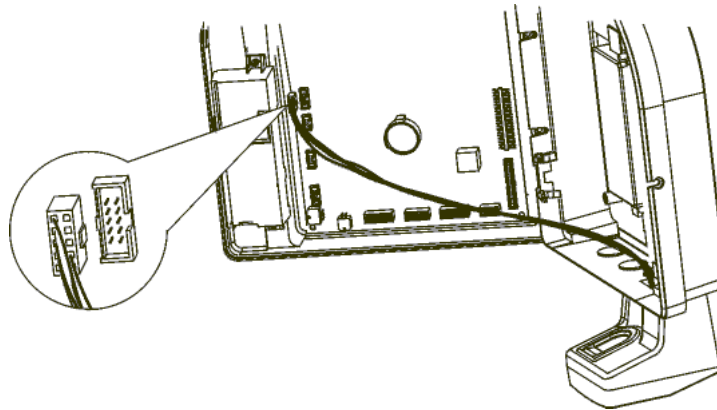


9. If the Kronos Touch ID verification device is attached to the device:

- a. *If the part number of the device is 8602004-xxx or 8602800-xxx, use the following illustration to locate the connection. Then, unplug the verification device from its connection on the main board.*

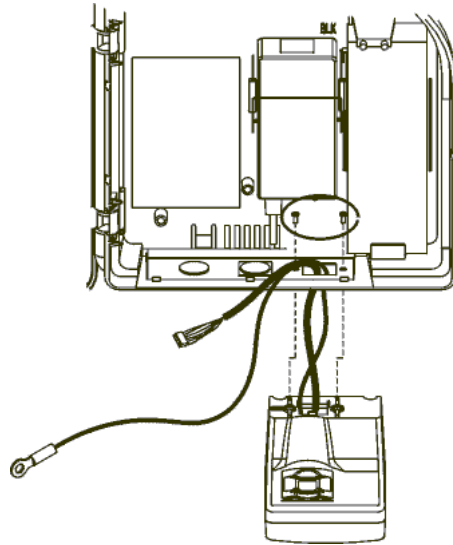


- If the part number of the device is 8602000-xxx, use the following illustration to locate the connection. Then, unplug the verification device from its connection on the main board.*



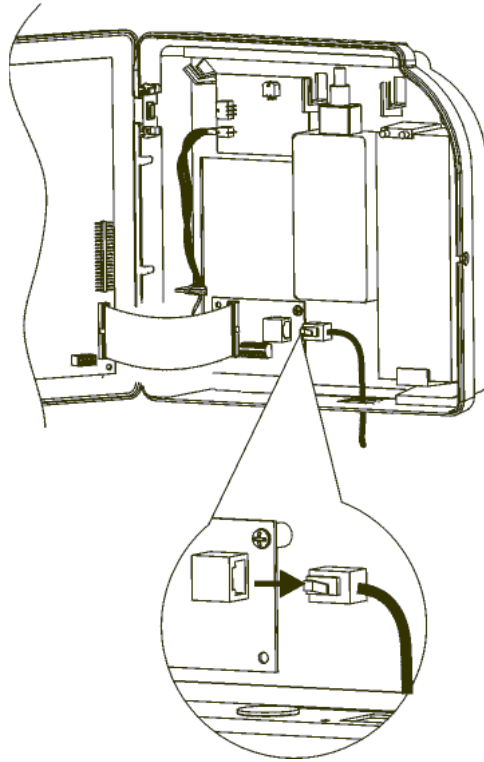
- b. Disconnect the green ground wire leading from the verification device by removing the screw and freeing the wire. Then, reinstall the screw.

- c. Remove the verification device from the device by loosening the two screws (circled in the illustration) holding it to the base, and set the verification device aside.



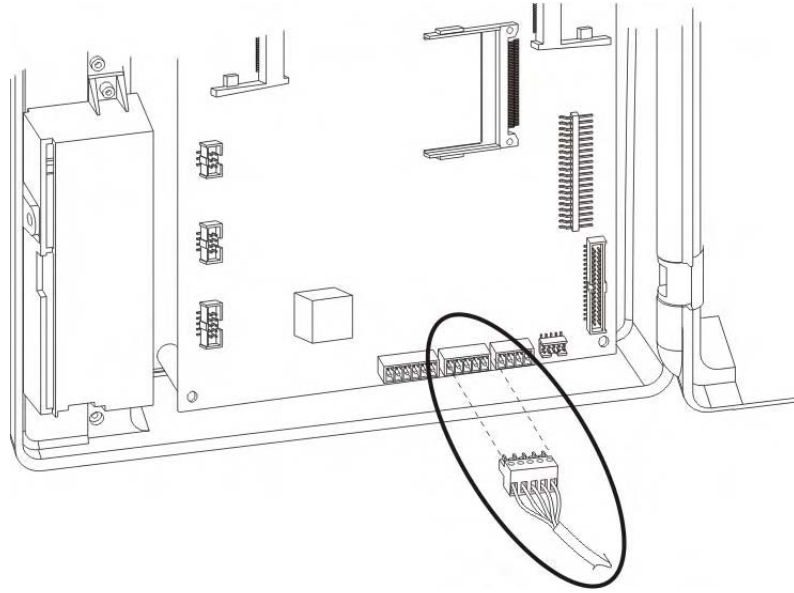
10. If your device uses an external reader (linear imager, or laser scanner):

- a. Disconnect the reader from the interface board, as shown in the following illustration:

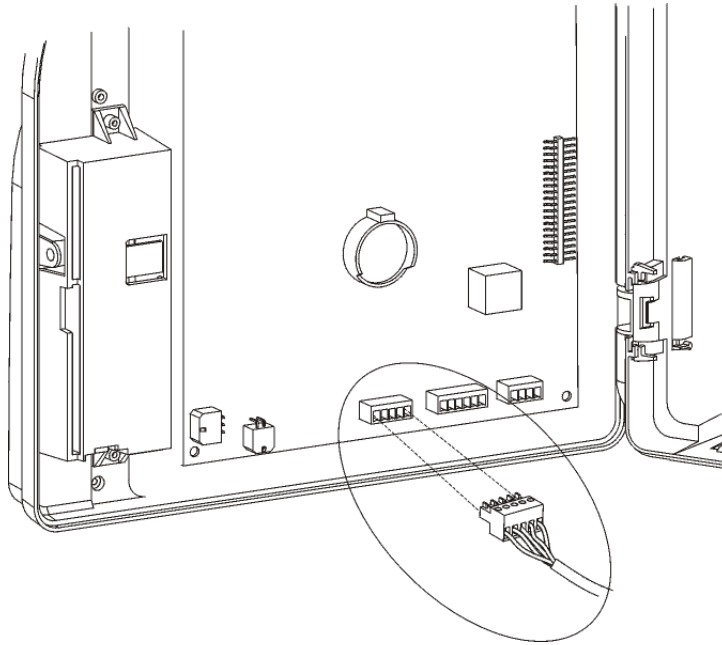


- b. Thread the reader cable out of the device and set the reader aside.
11. If your device uses a remote bar code reader, disconnect the reader from the device main board and thread the cable out of the device.

If the part number of the device is 8602004-xxx or 8602800-xxx, refer to the following illustration to disconnect the cable:

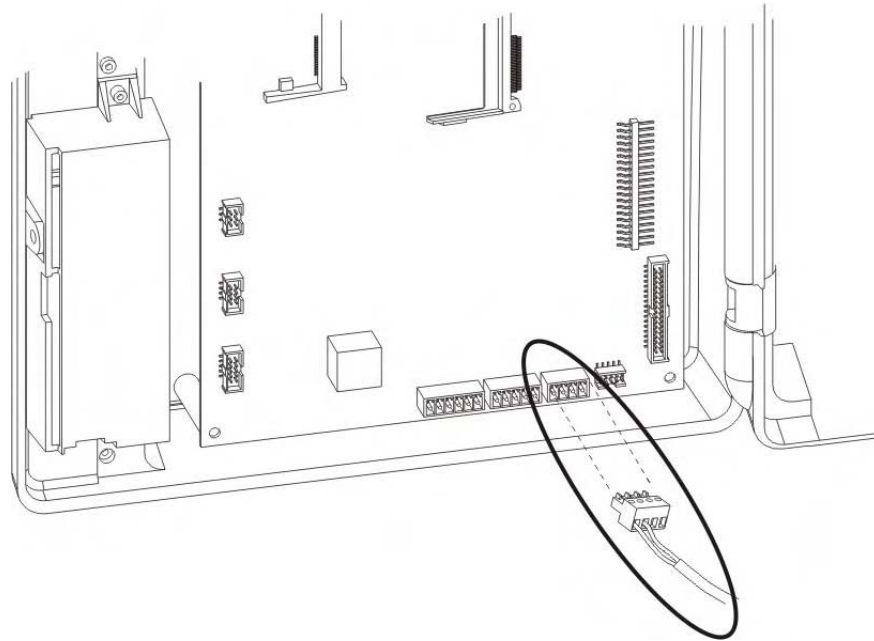


If the part number of the device is 8602000-xxx, use the following illustration to locate the connection and disconnect the cable:

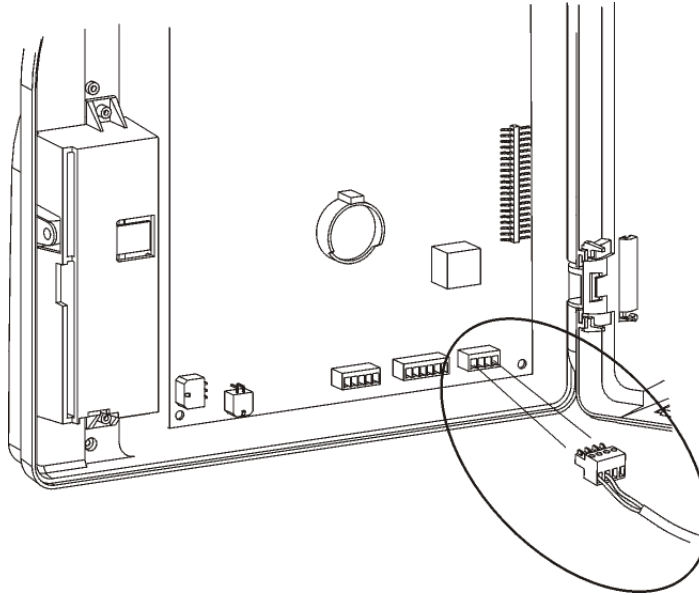


12. If your device uses a universal relay (for example, to ring a bell or operate a door strike), disconnect the relay from the device main board and thread the cable out of the device.

If the part number of the device is 8602004-xxx or 8602800-xxx, use the following illustration to locate the connection, and disconnect the cable:

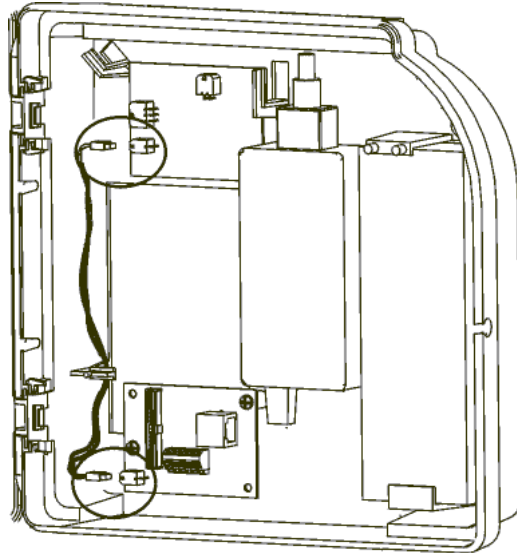


If the part number of the device is 8602000-xxx, use the following illustration to locate the connection and disconnect the cable:

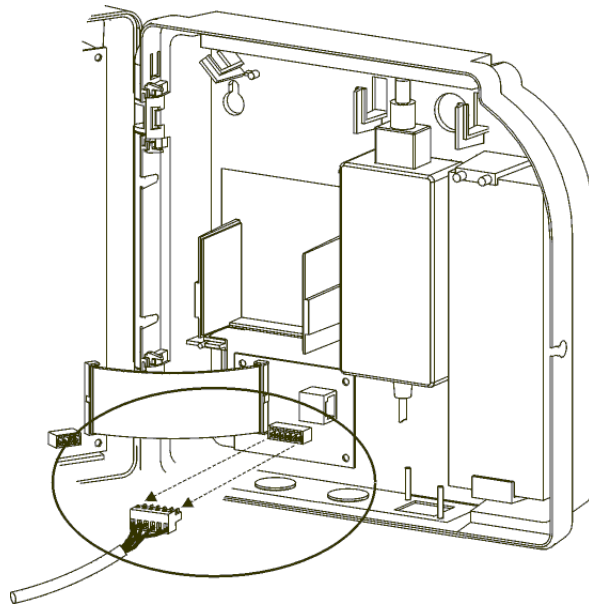


13. If your device uses a remote proximity reader:

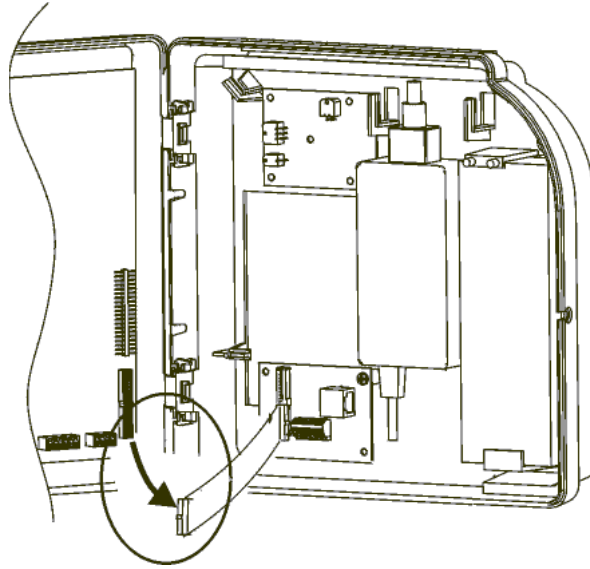
- a. Disconnect the 12-volt cable connecting the 4500 interface board to the battery charger board, as shown in the following illustration:



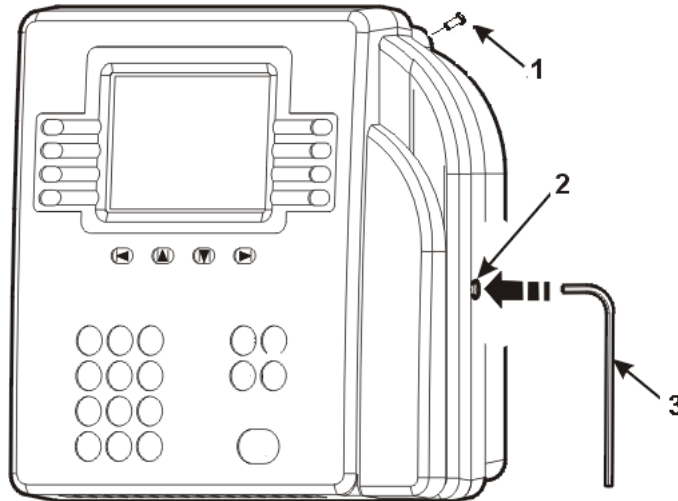
- b. Disconnect the remote proximity reader from the connection on the interface board, as shown in the following illustration:



14. Disconnect the end of the ribbon cable that connects the interface board to the main board in the cover (circled in the following illustration).



15. Close the device cover and tighten the two security screws (1 and 2) using the security wrench (3).



Opening and Disconnecting the Kronos InTouch™

If you need to open and disconnect the Kronos InTouch™ to add, remove, or replace any components or options, use this section to understand the general procedure and the order that each step occurs. You may not need to perform all of the steps, depending on which option you are installing or removing. See the installation guide for your specific option kit.

Note: If you are working with a support representative to troubleshoot a problem or to return the Kronos InTouch™ and any of its options, follow the procedures in the guide, *Returning the Kronos InTouch™ to Kronos*.

Required tools: You will need the security wrench that came with the Kronos InTouch™ and a Philips screwdriver.

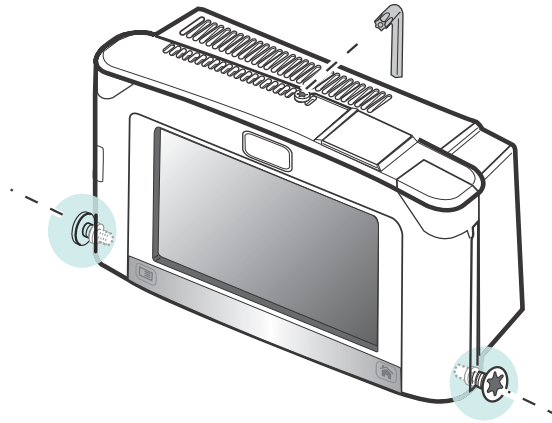
Step 1. Use the host application software to collect data

Before you disconnect and disassemble the device, a network administrator, or similarly qualified individual, must use the host application software to collect all data.

The device management system administrator's guide and the online Help describe how to perform those operations.

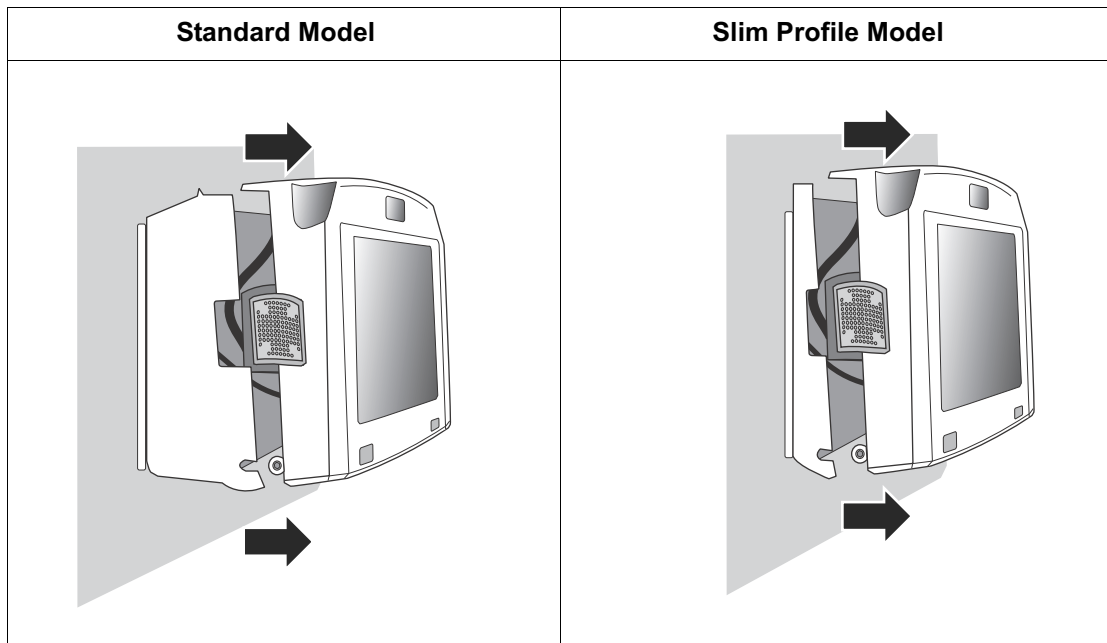
Step 2. Open the Kronos InTouch™

1. Use the security wrench that came with your Kronos InTouch™ to remove the top screw, and then loosen the security screws on the sides of the device.



2. Open the cover *slowly* and *carefully*. You may not be able to open the cover all the way if there are cables from optional components connected to the main board.

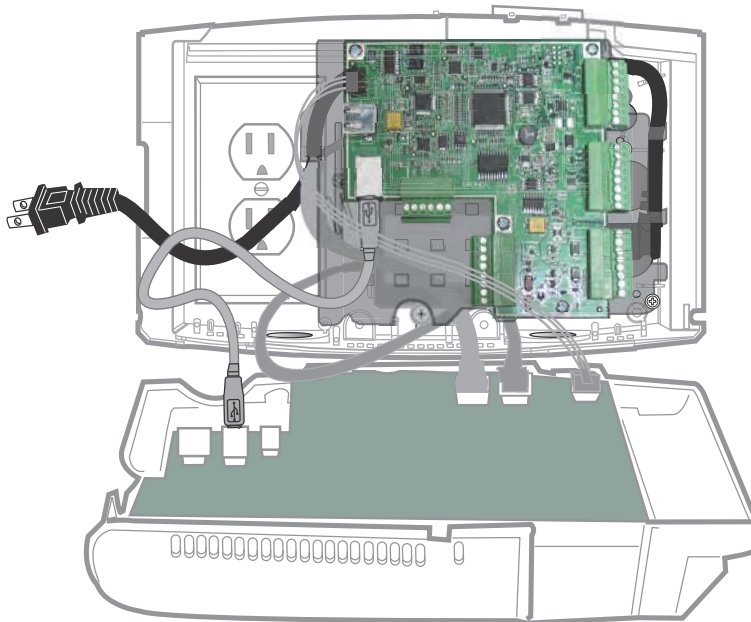
Note: You may need another person to hold the front cover as you work.



Step 3: Disconnect the power

Standard model

Unplug the power cable from the wall outlet over which the terminal is mounted (covering the outlet from view). For example:



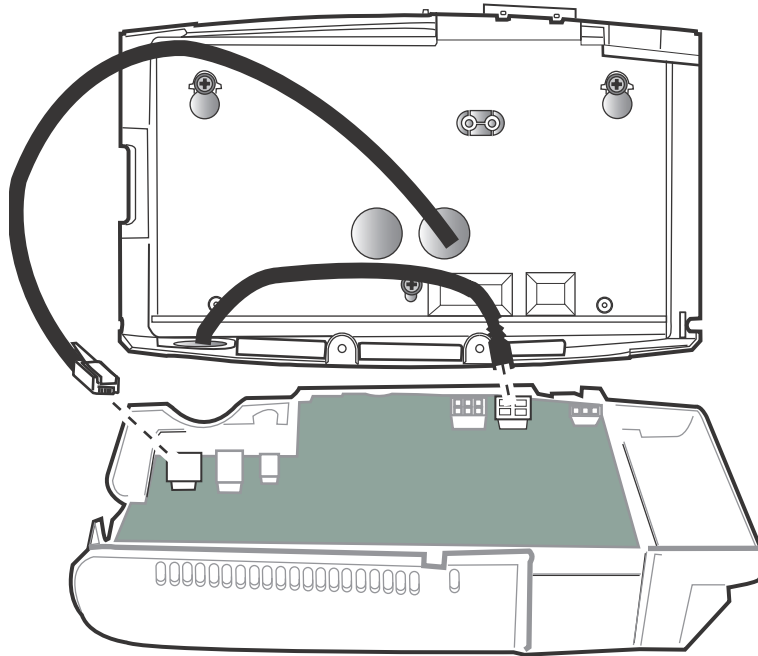
Depending on the configuration at your site, you can alternatively unplug the transformer from an external wall outlet or shut off the power to the internal direct AC wiring component.

Slim Profile model

Unplug the Ethernet cable (if that is the source of power for the device) or unplug the power cable that is connected to the wall outlet away from the device.

To remove the Ethernet cable, see [“Example 2: Ethernet cable”](#) on page 121.

The illustration below shows both cables.



Step 2: Disconnect cables from the main board

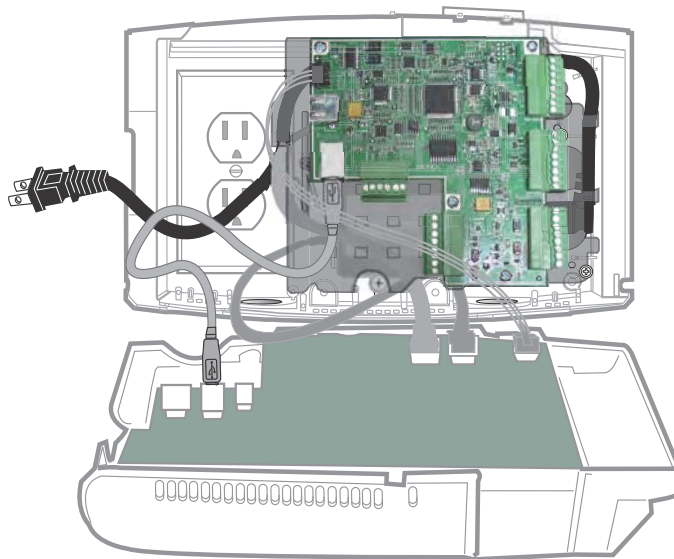
Disconnect the following cables (depending on your configuration) from the main board on the inside of the front cover:

- Transformer, backup battery, and transition board (Standard model only) — See “[Example 1: Transition board cables](#)” on page 120.
- Ethernet — See “[Example 2: Ethernet cable](#)” on page 121.
- Linear imager — Connected to standard USB port. See “[Example 3: Linear imager cable](#)” on page 122.

Note: Do *not* disconnect the USB cable that connects the touch screen to the main board.

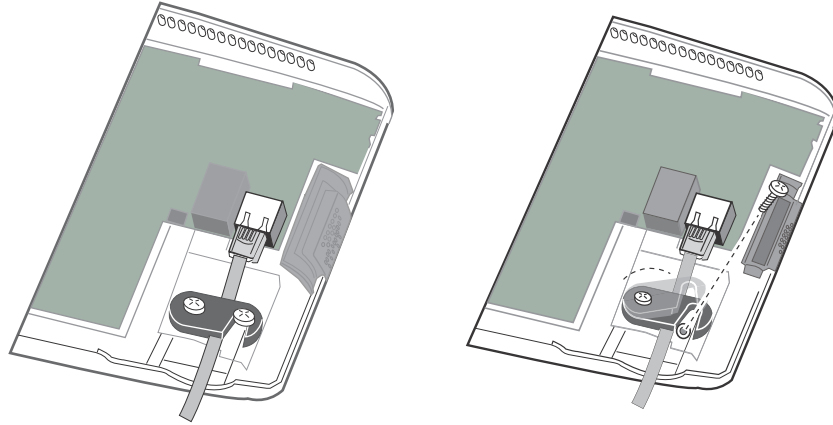
Example 1: Transition board cables

This example shows the cables from the battery, transformer, and transition board that you must disconnect from the main board

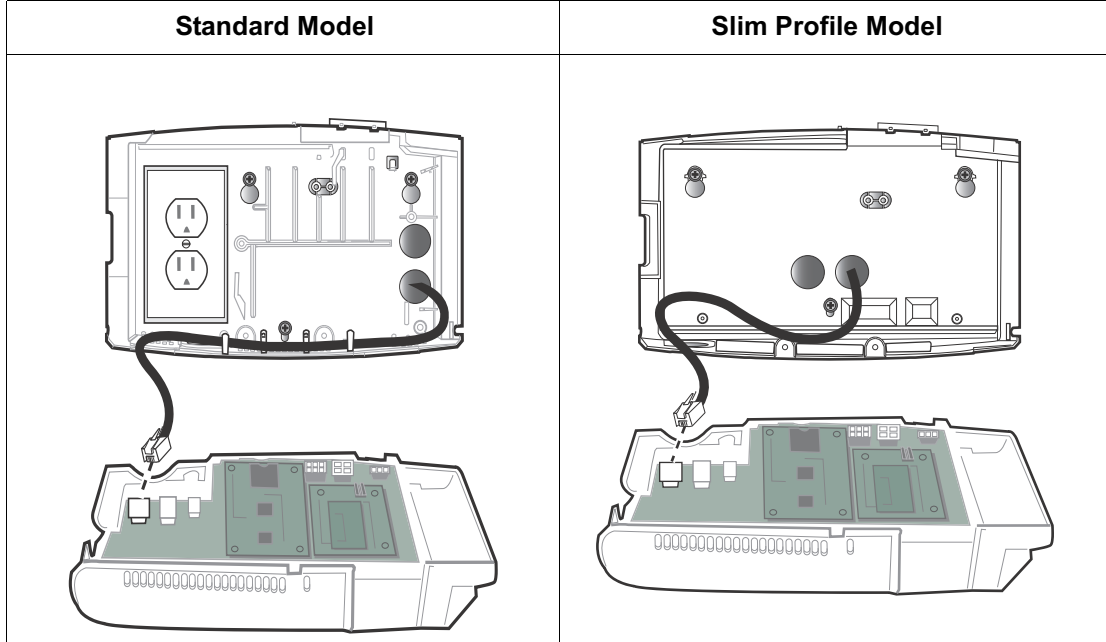


Example 2: Ethernet cable

1. Loosen and then swivel the strain relief clip before you remove the cable.

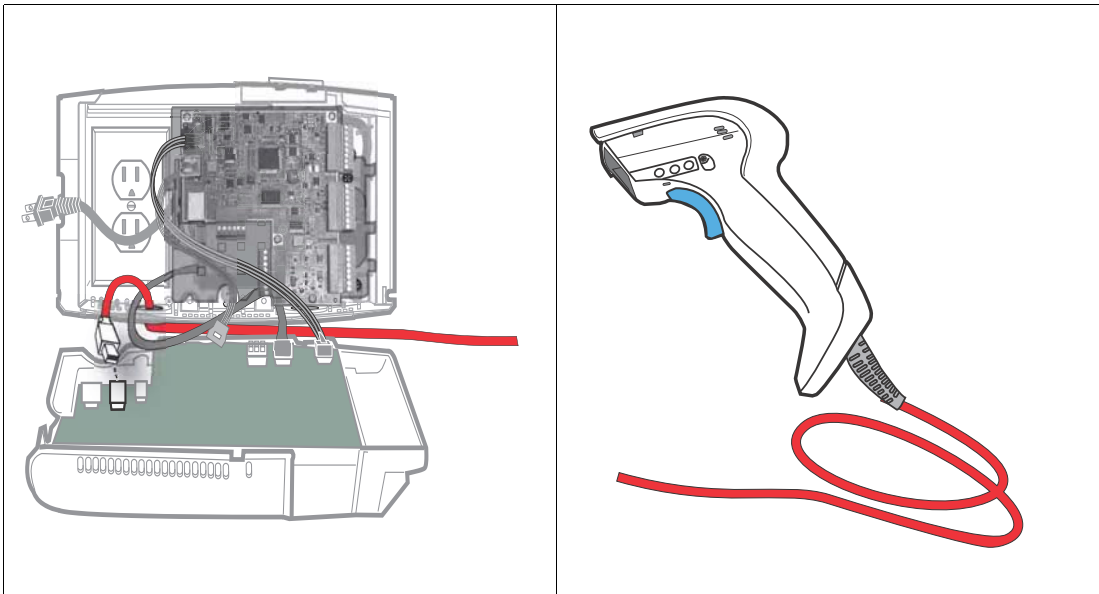


2. Push in the top of the Ethernet connector clip and then pull out the cable.



Example 3: Linear imager cable

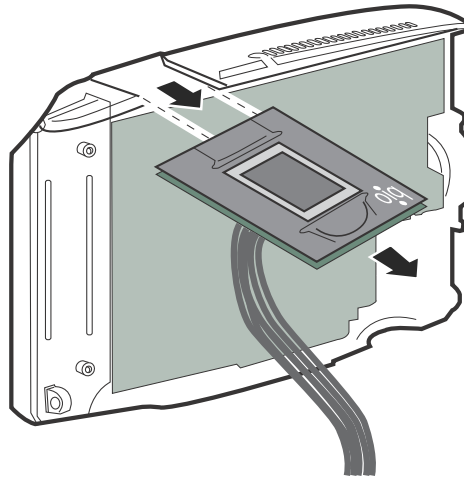
Disconnect the linear imager from the standard USB port on the main board of the device. (In some configurations, the imager may be plugged into a USB port on the transition board.)



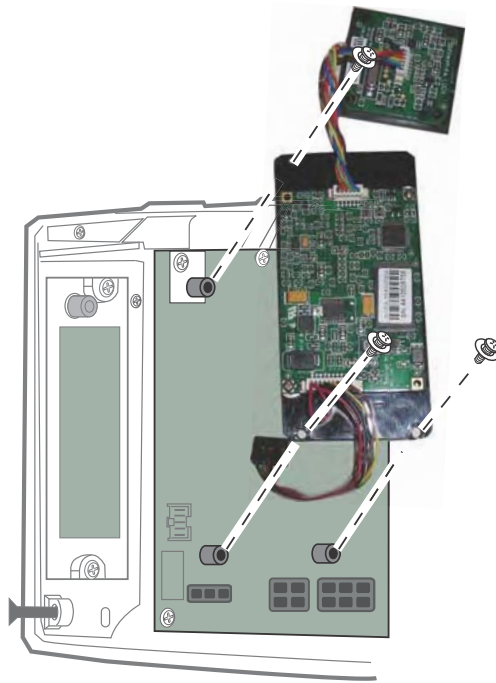
Step 3: Disconnect the finger scan device

If you do not have the finger scan option installed, skip to [“Step 4: Store the front cover in a protected area”](#) on page 125.

1. Remove the finger scan plate.



2. Remove the screws and then unplug the board from the main board.



3. Carefully store all components together in an area that will prevent damage.

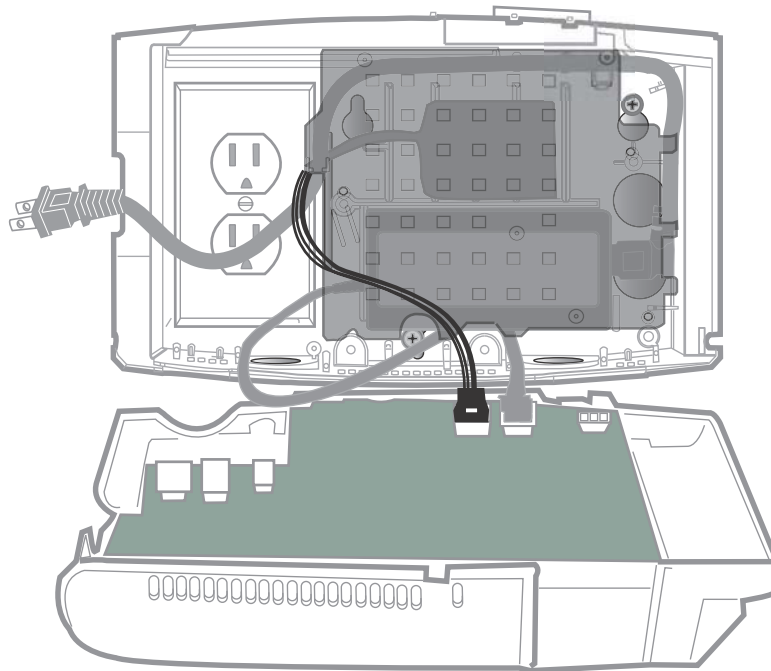
Step 4: Store the front cover in a protected area

After all cables and optional components have been removed from the front cover and main board of the device, set the cover assembly aside in a secure area where the touchscreen and main board will not get damaged.

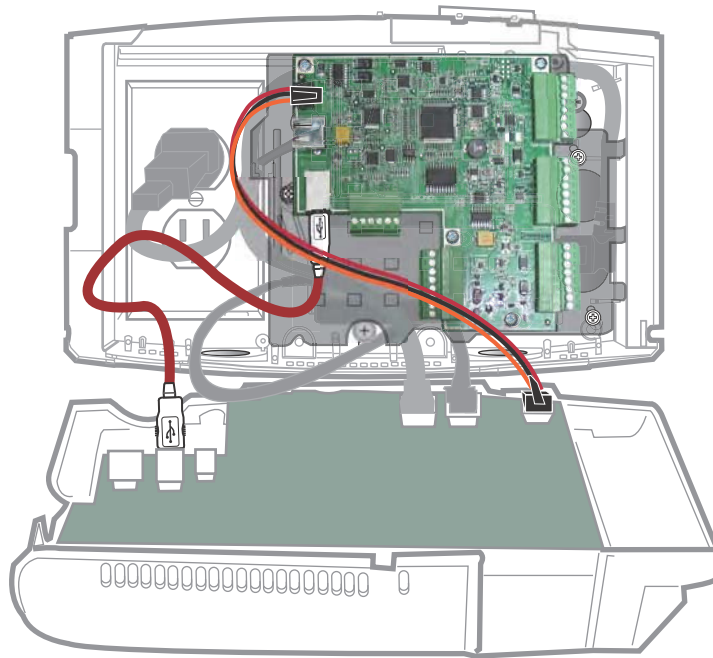
Step 5: Disconnect battery, transformer, and transition board

Use the following illustrations to determine whether your device has a backup battery, transformer, or transition board. Then unplug the cables for those components (Standard model only).

Transformer and battery only:



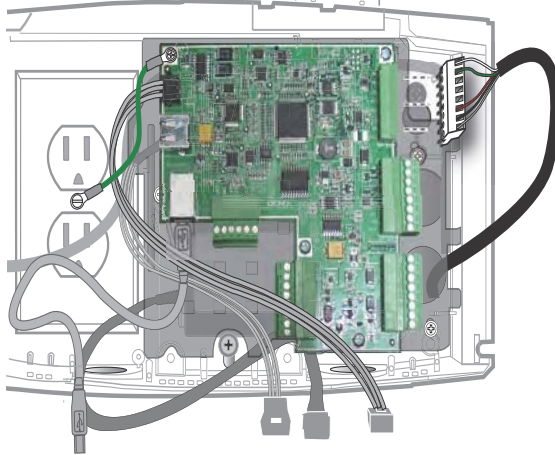
Transformer, battery, and transition board:



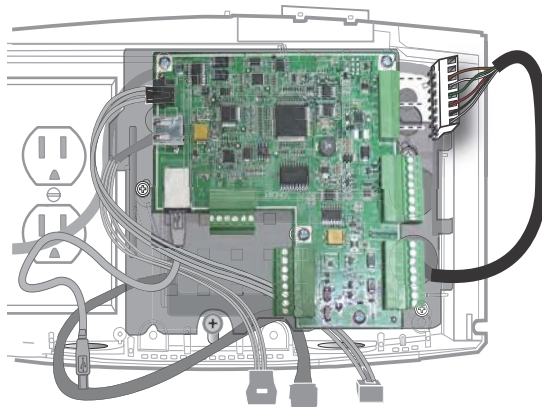
Step 6: Disconnect external readers

If you have a remote bar code reader or remote proximity reader, unplug those cables from the 8-position connectors on the right side of the transition board. See the following examples.

Remote bar code reader:

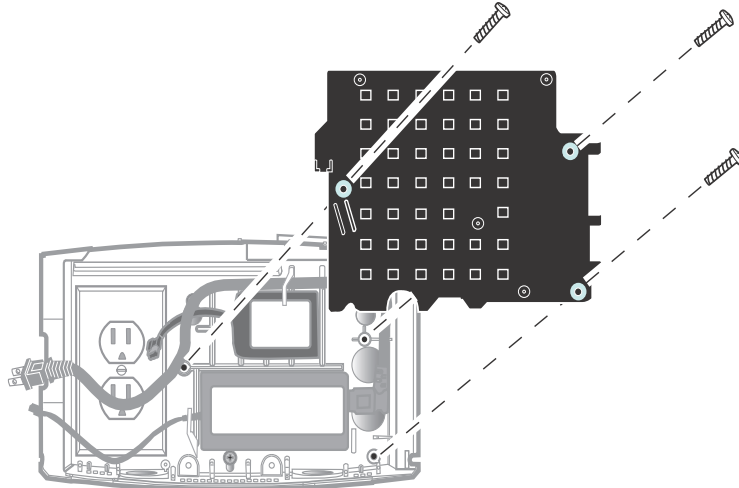


Remote proximity reader:

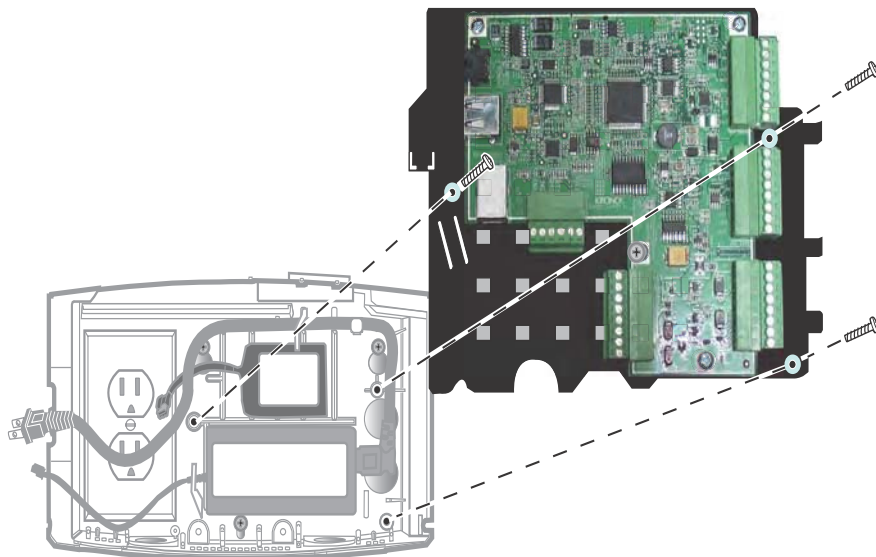


Step 7: Remove transformer holder and transition board

Transformer holder only



Transformer holder and transition board



Index

A

- ADA compliance 14
- assembling the InTouch device
 - connecting the Ethernet cable 39, 69
 - installing optional devices 40, 45, 71
 - installing the transformer 41
 - locking the cover 55, 77
 - supplying power 54, 74, 76

B

- badge reader slot, widening 29, 63, 65
- base of the InTouch device, mounting 33, 34, 66, 67

C

- cables, running into the InTouch device 38, 68
- cabling considerations 16
- compliance
 - ADA 14
 - electrical codes 15
- cover
 - closing and locking 55, 77

D

- disassembling the Series 4000 device 113

E

- electrical codes, compliance 15

- Ethernet cable, connecting to the InTouch device 39, 69

I

- installation
 - ADA compliance 14
 - cabling considerations 16
 - connecting the Ethernet cable 39, 69
 - electrical code compliance 15
 - installing the transformer 41
 - locking the cover 55, 77
 - mounting the base 33, 34, 66, 67
 - optional devices 40, 45, 71
 - removing a Series 4000 device 88
 - running cables into the InTouch device 38, 68
 - supplying power 54, 74, 76
 - widening the reader slot 29, 63, 65

L

- location of the InTouch device
 - preparing over an AC outlet 23, 60

M

- mounting the base 33, 34, 66, 67

O

- optional devices
 - considerations 16
 - installing 40, 45, 71

P

power, supplying to the InTouch device [53](#), [74](#)

R

removing a Series 4000 device [88](#)

running cables into the InTouch device [38](#), [68](#)

S

Series 4000 device, removing [88](#)

T

transformer, installing [41](#)

troubleshooting [81](#), [85](#)

V

verifying InTouch device operation [54](#), [76](#)

W

widening the badge reader slot [29](#), [63](#), [65](#)