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# Air Access™ LTEA Series AA-LTEA-PW Multi-Function Communicator INSTALLATION INSTRUCTIONS



WI2454ALF 12/21

## OVERVIEW

The Air Access™ model **AA-LTEA-PW** is a multi-function communicator and supervised Air Access interface module. The Air Access system allows you to upload and download lock programming features wirelessly, using the Air Access programming software. The **AA-LTEA** communicator is one link in the system that facilitates wireless communications between the Air Access software and an individual Networkx wireless lock mounted on a protected door.



As shown in the following illustration, the Air Access software is accessed through a secure Internet (cloud) connection. The software data is transmitted through a secure cellular connection to an **AA-LTEA-Series** communicator. The **AA-LTEA** communicator can be wired directly to a single Air Access Gateway module (e.g. the **AA-GATEWAYPOE**), or if multiple Gateways are needed, the **AA-LTEA** communicator must be wired directly to a stand-alone Ethernet switch located within the protected premises. The Ethernet switch can then be wired to up to six (6) Air Access Gateways. Each Gateway is wirelessly connected via a private wireless signal to up to 63 wireless locking devices. For more information about Air Access Gateways, see the documentation listed in **ADDITIONAL COMPONENTS**.

power supply uses a standard 12V, 4AH minimum (7AH maximum) rechargeable battery to provide communicator standby power. All 120VAC connections are to be made by a licensed electrician using suitable connectors, in accordance with N.E.C. and local code requirements. The **AA-LTEA-PW Ethernet** socket is connected to an open Ethernet port in the system's stand-alone Ethernet switch with a standard RJ-45 network cable.

**Important: Do NOT mount the AA-LTEA-communicator within 6 feet (1.8m) of a Gateway.**

## CAPACITIES

As shown in the previous illustration, up to six (6) **AA-GATEWAY** devices are supported for each **AA-LTEA-PW** communicator. Up to 63 wireless locks including up to 7 Expanders are supported for each **AA-GATEWAY**.

After securely mounting the unit, route the wires through the back knockout(s), or as specified by local codes. **See the Air Access Cloud Online Help for programming instructions.**

Air Access Series communicators use proprietary data-capture technology that captures and transmits signals to and from the Air Access Control Center (<https://airaccess.cloud>).

**AA-LTEA-PW** - Multi-function communicator and supervised interface module LTE (AT&T), SIM card included. White plastic enclosure, with dual antennas.

The following features are included:

- Power limited output to the Air Access communicator PC board 12V input terminals
- Battery connection red and black flying leads
- Monitored battery charging and Active battery test circuits
- Requires a sealed lead acid min 4AH / max 7AH battery for minimum 24-hour standby time (max charge current 200mA)
- Green **AC ON** LED visible from the exterior housing
- Yellow **TROUBLE LED "D4"** on PC board; flashes signify:

One flash: AC fail / brownout

Two flashes: Low battery

Three flashes: Charging circuit trouble

## ADDITIONAL COMPONENTS

In addition to the items previously referenced, the following additional products are available. All documentation availa-

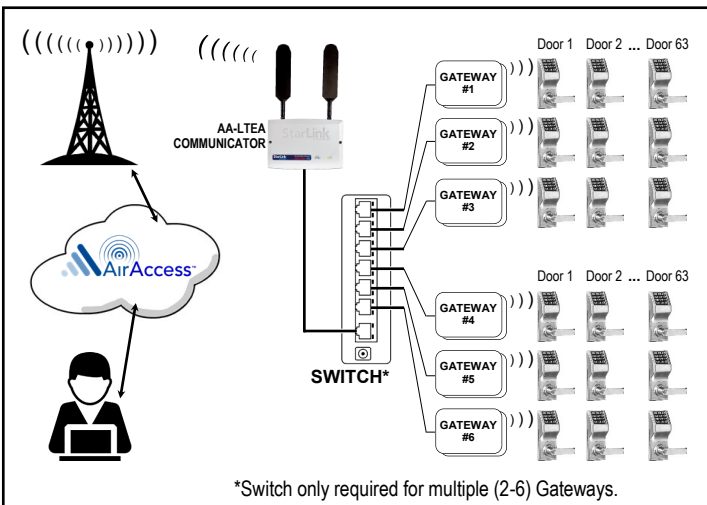


Fig. 1: Air Access Overview Flowchart

Installing the **AA-LTEA-PW** communicator is simple; it is powered by the model TRF12/T123 (16.5V / 20VA) external transformer plugged in to a standard 120VAC (60Hz) wall outlet, and then wired to the **SLE-ULPS-R** terminals 1 and 2 (see wiring diagram on page 6). The **SLE-ULPS-R**

ble for download at [tech.napcosecurity.com](http://tech.napcosecurity.com):

**AA-TRF** - Mini UPS or sm. transformer w/ power backup

**AA-POESW** - POE Switch

**AA-POEIJ** - POE Injector

**SLE-ANTEXT30** - Extended antenna with 30 feet of cable.

**SLE-ANTEXT50** - Extended antenna with 50 feet of cable.

**SLE-ANTEXT75** - Extended antenna with 75 feet of cable.

**SLE-ANTEXT100** - Extended antenna with 100 feet of cable.

**SLE-ANTEXT04** - Extended antenna with 4 feet of cable. (ideal for installations that may require a few extras dBs of gain but running the external cable may not be practical).

**SLE-ANT** - Antenna only.

All documentation available for download at [tech.napcosecurity.com](http://tech.napcosecurity.com):

**WI2447** - Air Access Quick Start Guide

**WI2449** - **AA-GATEWAY** Installation Instructions

**WI2450** - **AA-GATEWAYPOE** Installation Instructions

**WI2453** - **AA-LTEA** Installation Instructions

**WI2454** - **AA-LTEA-PW** Installation Instructions (this manual)

**Note:** Air Access Cloud Online Help available in the Air Access software.

## SPECIFICATIONS

### Electrical Ratings for 120VAC, 60Hz

- Input Voltage: 120VAC nominal
- Input Current: 200mA maximum
- Maximum Charging Current: 200mA

**IN1, IN2, IN3** and **PGM3** are reserved for future use.

### Physical (W x H x D)

- Metal Housing: 11½ x 9½ x 3½" (29.2 x 24.1 x 8.9cm)
- Mounting: Metal housing includes two keyhole slots for wall mounting
- Antenna Length: 8.25" (21cm)

### Environmental

- Operating Temperature: 0°C - 49°C (32°F - 120°F)
- Humidity: Maximum 93% Non-Condensing
- Indoor / dry location use only

## TERMINAL DESCRIPTIONS

Configure all inputs and outputs using the Air Access Control Center (<https://airaccess.cloud>). Located at the bottom of the Air Access communicator PC board, the terminals are described as follows:

**TB1:** PWR (+12VDC)

**TB2:** PWR GND (-)

**TB3-TB8:** Reserved for future use.

**Ethernet:** Connect the Air Access AA-GATEWAY or AA-GATEWAYPOE. **Note:** The Gateway at the premises

requires standby power (the system will not operate properly unless the Gateway and Ethernet switch are connected to a battery backup or generators). We recommend a UL 1481 / UL 864 or UL Listed ITE (*Information Technology Equipment*) UPS be used at the premises to power this device for a minimum of 24 hours.

**TB19-TB24:** Reserved for future use.

## LED DESCRIPTIONS

The PC board contains several LEDs. For locations, see wiring diagram on page 6.

### GREEN RF SIGNAL STRENGTH LED

Labeled "**D3**", this LED is located at the lower right corner of the PC board.

Every 30 seconds, the Air Access communicator receiver section turns on and listens to the cell tower. Depending on the signal strength detected, it will blink the Signal Strength LED from 1 to 5 times, providing a signal strength indicator that is updated constantly and is always displayed.

#### Green LED Operation

Signal strength (as received by the communicator) is displayed by this LED blinking 1 to 5 times at a constant rate (with a short delay between blink cycles). **Acceptable signal strength is greater than or equal to 2 blinks.**

### YELLOW OPERATIONAL STATUS LED

Labeled "**D4**", this LED is located at the bottom right of the PC board. Operation is as follows:

#### Normal Standby Condition:

- **Blinks on momentarily every 10 seconds:** Unit is in standby waiting to send data.

#### Sending or Receiving Data:

- **Very fast blinks:** Attempting to connect to a remote server
- **Blinks every 2 or 3 seconds:** Connected to the remote server successfully and in the middle of communication

### RED TROUBLE LED

Labeled "**D5**", this LED is located at the bottom right of the PC board. Operation is as follows:

- **1 Blink:** Low Aux Power input voltage
- **2 Blinks:** Battery trouble
- **3 Blinks:** Invalid Radio ID detected
- **4 Blinks:** RF trouble (antenna connection or cellular registration)
- **5 Blinks:** Communicator failure to remote server (radio).
- **6 Blinks:** Unit disabled from device communication
- **7 Blinks:** Unit has shut down without functionality; restart required to restore operation (full power down and full power up sequence)
- **8 Blinks:** Default jumper detected. Communicator programming options will be defaulted at power up

### RED DIAGNOSTIC LED

Labeled "**D7**", this LED is located in the middle of the PC board. One blink indicates a weak or non-existent signal

from the network (green LED is off). If this red LED is blinking in any other manner, please contact technical support.

- **1 Blink:** A weak or non-existent signal from the network (green LED is off)
- **2 Blinks:** Unable to receive RF signal strength reading from communicator
- **3 Blinks:** Encryption between communicator and remote server is detected as 'OFF'
- **4 Blinks:** Outbound connection is throttled for a short time to allow incoming access for the communicator. Applicable only when communicator failure to remote server has occurred
- **5 Blinks:** (Reserved)
- **6 Blinks:** Communicator unable to either register or connect to cell carrier
- **7 Blinks:** Communicator unable to power up
- **8 Blinks:** (Reserved)

### GREEN IP NETWORK CONNECTION LED

Labeled "DS14", this LED is located to the right of the **ETHERNET** socket on the PC board. Operation is as follows:

**Off** = No network cable detected

- **1 Blink:** Static IP
- **2 Blinks:** DHCP Client
- **3 Blinks:** DHCP Server

### RED IP NETWORK TROUBLES LED

Labeled "DS16", this LED is located to the right of the **ETHERNET** socket on the PC board. Operation is as follows:

**Slow Flashing:**

- **1 Blink:** No network cable detected
- **2 Blinks:** Communicator is broadcasting UDP and there is no response from AA GATEWAY
- **3 Blinks:** No AA-GATEWAY connection to the communicator
- **4 Blinks:** If MAC address table is populated with devices but not all devices are connected to the communicator
- **5 Blinks:** Total number of devices that connect to the communicator does not match the number of locks connected to the communicator.
- **6 Blinks:** Encryption disabled

### YELLOW IP NETWORK STATE LED

Labeled "DS15", this LED is located to the right of the **ETHERNET** socket on the PC board.

- **Blink every 3 seconds:** TCP traffic between the communicator and AA GATEWAY operating correctly.

## SUPPLYING POWER

Power is supplied by the model TRF12/T123 (16.5V / 20VA) external transformer plugged in to a standard 120VAC (60Hz) wall outlet, and then wired to the SLE-ULPS-R terminals 1 and 2 (see wiring diagram on page 6). The AA-LTEA-PW uses the transformer to convert the 120VAC voltage to 16.5VAC, then the SLE-ULPS-R power supply changes the 16.5VAC into the required 12VDC input (while also charging the battery). For proper operation in a power outage, UPS backup is recommended as the communicator will not be

able to communicate with Gateways if the power is lost. We recommend that standby power to the cable modem/router and switch at the premises be provided by UL 1481, UL 864 or ITE (*Information Technology Equipment*) Listed UPS at the premises to power these devices for 24 hours (unless an engine driven generator is provided on the premises).

## INSTALLATION STEPS

### STEP 1: ACCOUNT REGISTRATION

Create a new account and register specific Air Access communicator modules at [www.NapcoComNet.com](http://www.NapcoComNet.com). Accounts and modules registered via the Internet are enabled for activation within 24 hours.

### STEP 2: SELECT A MOUNTING LOCATION

**Do NOT mount the AA-LTEA-communicator within 6 feet (1.8m) of a Gateway.**

The mounting location should be indoors within the protected area and selected based on RF performance. It is HIGHLY recommended that the installer carefully adhere to the following recommendations BEFORE any wires are installed.

- Generally, high locations are best. DO NOT mount communicator in basements or below grade as unpredictable performance may result.
- DO NOT mount the communicator in non-climate controlled environments (i.e. attics may become extremely hot in summer, garages may become extremely cold in winter).
- Avoid mounting locations within 3 feet of AC power lines, fluorescent light fixtures, or large metal objects (air conditioners, metal garage doors, etc.) as these locations have been shown to have a detrimental effect on signal strength.
- A fair amount of care may be required to mount the communicator so as to achieve an optimal RF path. The installer should spend as much time as needed to obtain the highest signal level possible.
  - a. **Before applying power, be sure to connect the antenna.** Temporarily connect power to the communicator from a fully charged 12V (4AH minimum) battery. DO NOT mount the unit at this time. Press **Tamper** switch to send a signal.
  - b. Position the unit in the desired mounting location, with antenna oriented vertically. The signal strength is displayed by the Green "Signal Strength LED" labeled "D3" (located at the lower right corner of the PC board). The radio tower signal strength may fluctuate from day to day, therefore it is best to try to find a mounting location where the LED provides a **minimum of 2 blinks**.
  - c. Once a location has been selected based on signal coverage, permanently secure the unit using #8 screws (not supplied) in the two mounting holes.

**WARNING:** To ensure user safety and to satisfy FCC RF exposure requirements, this unit must be installed so that

a minimum separation distance of 60cm (24") is always maintained between the antenna of the transmitting device and nearby persons.

**STEP 3: WIRING**

**Wiring Methods**

- Strip wire carefully to avoid exposed conductors after installation, etc.)
- Use of Listed wire, ensuring that all conductors are to be insulated for the maximum voltage of any conductor in the enclosure
- All wiring methods must be performed in accordance with NFPA70, Articles 725, and 800

**STEP 4: APPLY POWER**

- **Attach antennas before applying power !**
- Wire the model TRF12/T123 (16.5V / 20VA) external transformer to the **SLE-ULPS-R** terminals 1 and 2 (snake the transformer wires through an appropriate knockout in the metal housing), then physically insert

the transformer into a standard 120VAC (60Hz) wall outlet, thus powering the unit

- Observing polarity, connect red (+) and black (-) flying leads to the terminals of a standard 12V, 4AH minimum (7AH maximum) rechargeable battery.

**STEP 5: SIGNAL VERIFICATION**

After triggering channels, use the Air Access communicator Signal Verification to ensure that the Air Access communicator Network has properly received the signals.

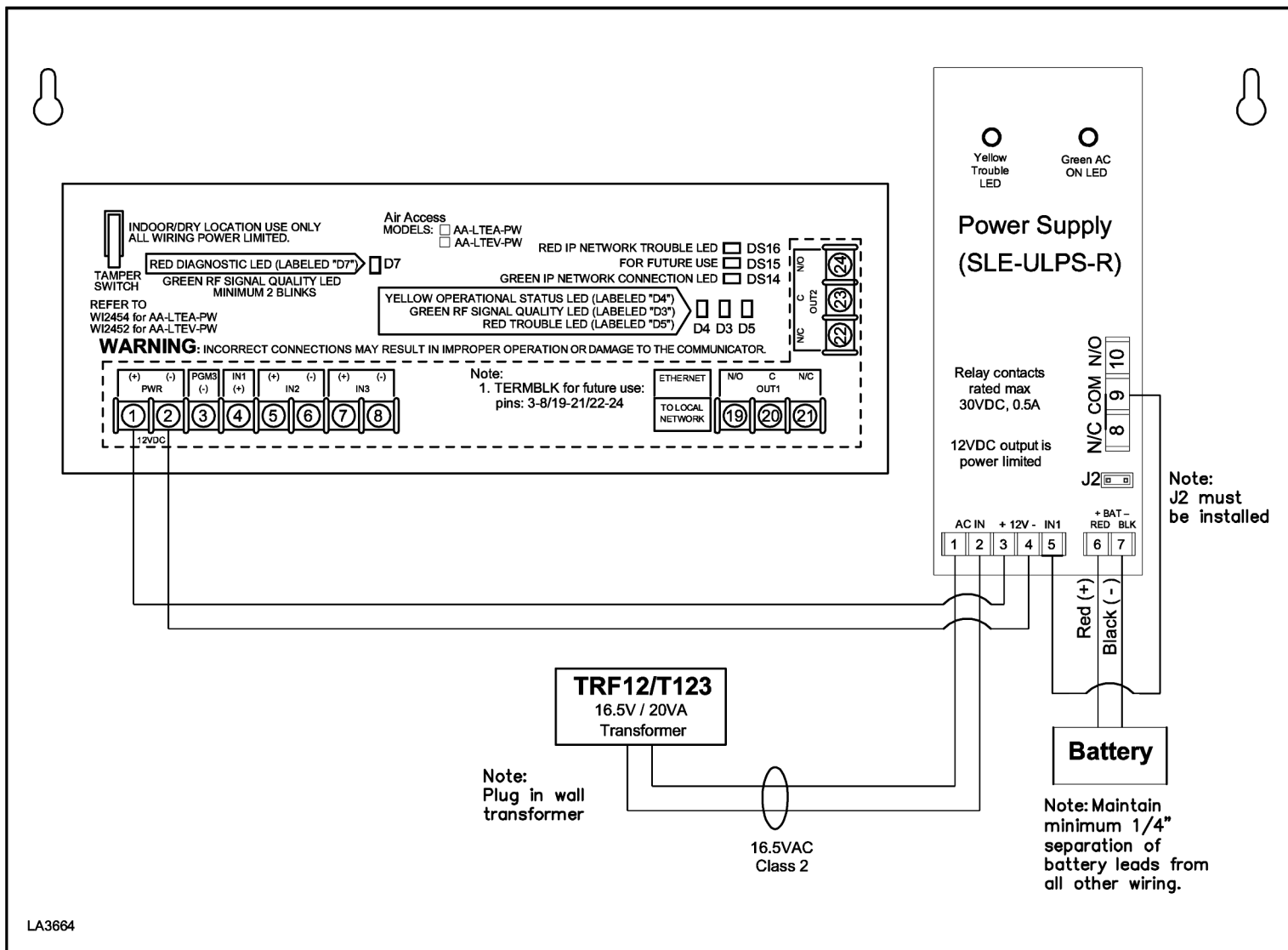
- **Verify Online:** To verify that the signals have been received by the Air Access Communicator Network online, go to the Air Access Control Center (<https://airaccess.cloud>), log in with your Username and Password, enter your **Company ID** number and the Air Access **Radio Number**, then click **Signal Log**.

**IMPORTANT:** Verify that the signals transmitted by the Air Access communicator have been properly received by your Air Access Communicator Network account before leaving the premises.

| SIGNALS ORIGINATED AT THE NOC   |  |  |
|---------------------------------|--|--|
| NOC Originated Alarms           | Initiated By   | Comments   |
| Supervisory Fail                | Automatically by NOC if fail to receive any signal from Air Access communicator within Supervisory Timeout duration.   | For Auto Enroll, uses captured telephone number, Sub ID and format. For Dealer Programmed, uses entered telephone number, Sub ID and format. |
| Press to Send Test Signal       | Manually by dealer from the Management Center <b>Signal Log</b> screen (located at <a href="https://airaccess.cloud">https://airaccess.cloud</a> ). Sends test into CS receiver.   | Same comment as above.   |
| Press to Send Communicator Test | Manually by dealer from the Management Center <b>Checkins</b> screen (located at <a href="https://airaccess.cloud">https://airaccess.cloud</a> ). Sends a command to the Air Access communicator to force a check-in to the Management Center. | ----   |

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# AA-LTEA-PW Wiring Diagram



## \*Notes:

- Licensed electrician required to wire the 120VAC connections to the transformer in accordance with N.E.C. and local code requirements. Refer to section "**SUPPLYING POWER**".
- Route 120VAC only through the housing knockouts.
- Keep all non-power limited wiring separate from all power-limited wiring inside the housing by 1/4".
- Shunt **J2** is used to ground IN1, be sure J2 jumper remains inserted in place.

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NAPCO is not an insurer of either the property or safety of the user's family or employees, and limits its liability for any loss or damage including incidental or consequential damages to NAPCO's original selling price of the product regardless of the cause of such loss or damage.

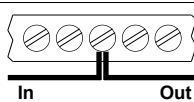
Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, or differentiate in their treatment of limitations of liability for ordinary or gross negligence, so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B Unintentional Radiator, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the Instruction Manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of more of the following measures: 1. Reorient or relocate the receiving antenna; 2. Increase the separation between the equipment and receiver; 3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected; 4. Consult the dealer or an experienced radio/TV technician for help.

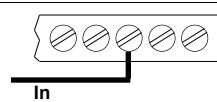
## IMPORTANT WIRING METHODS



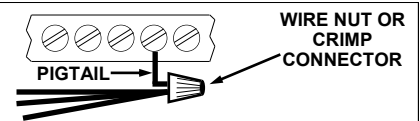
For single-conductor terminal blocks (like the type shown at left), to terminate more than one conductor to a terminal, use the wiring methods shown at right:



Incorrect



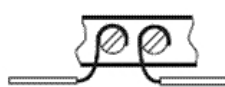
Correct -- Single incoming and/or pigtail with wire nut / crimp connectors



For "barrier" type terminal blocks (like the type shown at left), to terminate two conductors to a terminal, use the wiring methods shown at right:



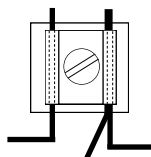
Incorrect



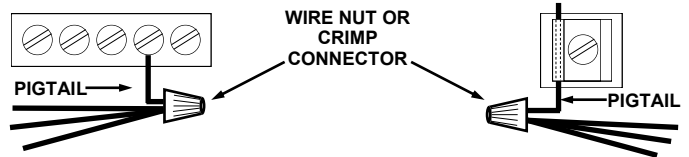
Correct -- Separate incoming and outgoing conductors



To terminate more than two conductors or conductors of different wire sizes to a terminal, use the "pigtail" type wiring method as shown at right. Use insulated wire for the pigtail, and firmly secure the conductors to the pigtail using an appropriate wire nut or crimp connector for the number and gauge of conductors used.



Incorrect



Correct -- Use pigtail and wire nut / crimp connector