



T350se Access Point Quick Setup Guide

NOTE: The minimum software revision for the T350se is ZoneDirector (ZD) 10.5 or later, or SmartZone (SZ) 6.0 or later.

This Quick Setup Guide provides step-by-step instructions on how to field-install the RUCKUS T350se Access Point (AP). For detailed information on planning the installation, performing a site survey, and operating the T350se, refer to the *RUCKUS Outdoor Access Point User Guide*, available at <https://support.ruckuswireless.com>.

WARNING! Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

WARNING! Installation of this equipment must comply with local and national electrical codes.

CAUTION! Form a 80-mm to 130-mm (3-in. to 5-in.) drip loop in any cable that is attached to the AP or the building. This will prevent water from running along the cable and entering the AP or the building where the cable terminates.

CAUTION! Be sure that grounding is available and that it meets local and national electrical codes. For additional lightning protection, use lightning rods and lightning arrestors.

CAUTION! Make sure that proper lightning surge protection precautions are taken according to local electrical code.

CAUTION! RUCKUS strongly recommends that you wear eye protection before mounting the T350se.

This Guide in Other Languages

- 请从以下网站获得该指南的简体中文版 <http://docs.commscope.com/?docs-box>.
- Vous trouverez la version française de ce guide à l'adresse suivante <http://docs.commscope.com/?docs-box>.
- このガイドの日本語版は <http://docs.commscope.com/?docs-box> でご覧ください。

- 이 가이드의 한국어 버전은 웹 사이트 (<http://docs.commscope.com/?docs-box>) 에서 확인하시기 바랍니다.
- Veja a versão em português (Brasil) deste guia em <http://docs.commscope.com/?docs-box>
- Puede ver la versión en español (América Latina) de esta guía en <http://docs.commscope.com/?docs-box>

Before You Begin

Before deploying RUCKUS products, please check for the latest software and the release documentation.

- Release Notes and other user documentation are available at <http://support.ruckuswireless.com/documents>.
- Software upgrades are available at <http://support.ruckuswireless.com/software>.
- Software license and limited warranty information are available at <http://support.ruckuswireless.com/warranty>.

Before deploying your RUCKUS Access Point, verify that all items listed in Package Contents are included in the package. If any item is damaged or missing, notify your authorized RUCKUS sales representative. Also, make sure that you have the required hardware and tools.

Required Hardware and Tools

- No. 2 Phillips screwdriver
- Small flat-blade screwdriver
- Wide flat-blade screwdriver
- Torque wrench or torque screwdriver with sockets
- Long-nose pliers
- Electrical wire stripping and terminal crimping pliers
- Pipe or pole, or a sturdy flat surface
- Electric drill with drill bits and customer-supplied wall anchors, flat washers, and hex nuts for flat-surface mount

Package Contents

A complete T350se field installation package includes all of the following items:

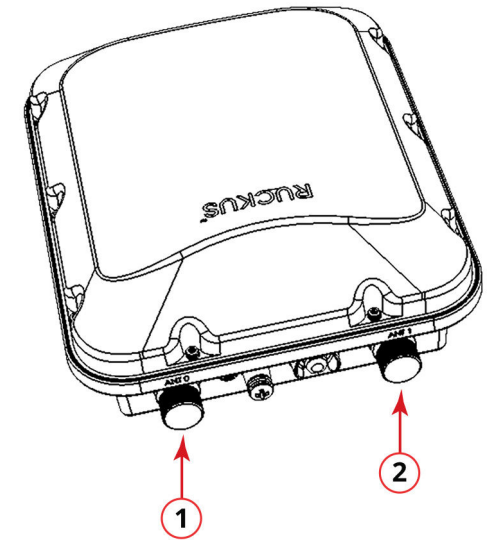
- T350se Access Point
- M25 data cable gland
- Ground wire with lug
- Pole/Wall Mount Bracket Kit
- Declaration of Conformity/Regulatory Statement

T350se Sector Antenna Coverage

The T350se AP is best deployed where internal antenna directional beamwidths can provide extended reach and

throughput to a 120-degree coverage area. Refer to the following figures for the azimuth and elevation coverage patterns.

FIGURE 1 T350se AP - Rear View



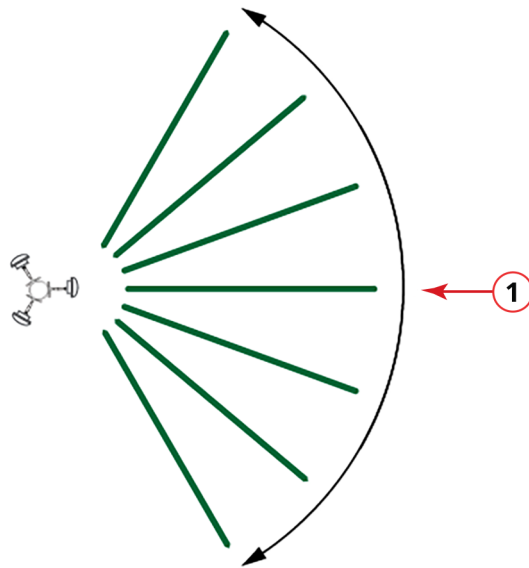
1. ANT 0

2. ANT 1

TABLE 1 Antenna Polarization

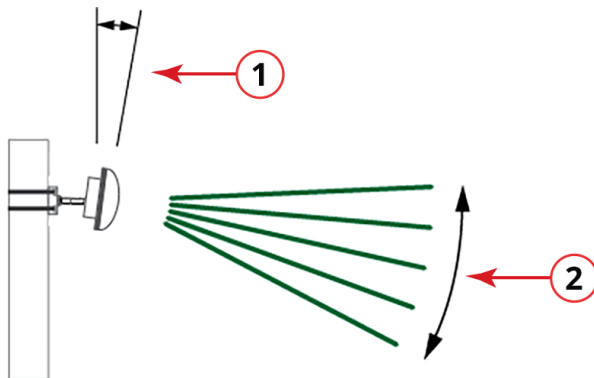
T350se Connections	External Antenna Connection	
	Vertical	Horizontal
ANT0	X	
ANT1		X

FIGURE 2 Typical AP Sector Azimuth Plane Coverage, Top View



1. Extended 120-degree reach

FIGURE 3 Typical AP Sector Elevation Plane Coverage, Side View



1. 12-degree to 20-degree downtilt recommended for extended coverage
2. Extended 30-degree vertical beamwidth

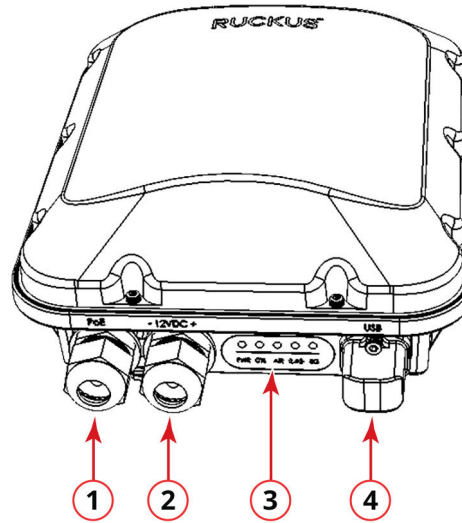
Mounting Instructions

Connecting and Sealing the RJ-45 Cables

Connect and seal the RJ-45 cables using the M25 data cable glands shown in the Figure below.

WARNING! Do not use any PoE injector not tested and approved by RUCKUS to power the T350se Access Point.

FIGURE 4 T350se LEDs and Ports

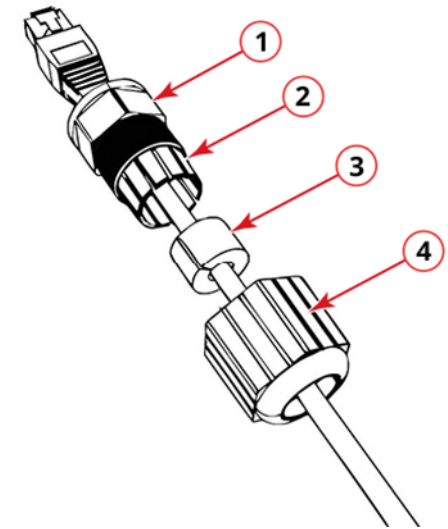


- | | |
|-----------|--------|
| 1. PoE | 3. LED |
| 2. 12V DC | 4. USB |

1. Feed the end of the cable through the sealing nut, rubber O-ring, clamping ring assembly, and cable gland base, as shown in [Figure 5](#).

NOTE: Do not seat the clamping ring and rubber O-ring into the gland body until the gland body has been torqued to specifications.

FIGURE 5 RJ-45 Cable and Gland Assembly



- | | |
|---------------------|------------------|
| 1. Cable gland base | 3. Rubber O-ring |
| 2. Clamping ring | 4. Sealing nut |

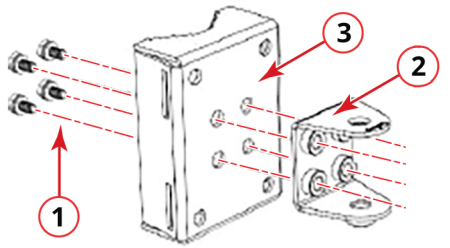
2. Use a wide flat-blade screwdriver to remove the required (PoE IN) blanking cap from the AP.
3. Connect the cable to the Ethernet port on the AP.
4. Tighten the cable gland base into the AP chassis to 7 N.m or 62 in-lbs.
5. Wrap the clamping ring assembly around the rubber O-ring. Make sure that the clamping ring assembly fully encloses the rubber O-ring.
6. Seat the clamping ring assembly and rubber O-ring in the cable gland base.
7. Hand-tighten the sealing nut.

Attaching the U-Joint Bracket to the Mounting Bracket

1. Position the U-joint bracket on the mounting bracket.

NOTE: Mount the U-joint bracket in any direction on the mounting bracket, preferably to allow AP azimuth adjustments. If mounted properly, the AP bracket allows AP elevation adjustments.

FIGURE 6 U-Joint Bracket Attached Horizontally to the Mounting Bracket



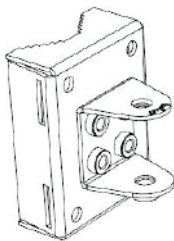
- 1. Bolt and washer sets
- 2. U-joint bracket
- 3. Mounting bracket

2. Use four 1/4-28 bolt and washer sets to mount the U-joint bracket to the mounting bracket. Tighten the bolts to 9.5 N.m (7 ft-lbs).
3. Continue with [Attaching the Mounting Bracket to a Flat Surface](#) on page 3 or [Attaching the Mounting Bracket to a Pole](#) on page 3.

Attaching the Mounting Bracket to a Flat Surface

1. Place the mounting bracket at the location on the flat surface where you want to mount the AP. Use the holes on the mounting bracket as a template to mark the locations of the mounting holes.

FIGURE 7 Attaching the Mounting Bracket to a Flat Surface



2. Remove the mounting bracket from the flat surface.
3. Drill holes required for the mounting hardware.

NOTE: The mounting hardware required for mounting to a wall is not included in the mounting kit.

4. Attach the mounting bracket to the flat surface using the mounting hardware.

5. Using the mounting hardware instructions, tighten the hardware to secure the mounting bracket.
6. Continue with [Mounting the Linkage Bracket to the U-Joint Bracket](#) on page 3.

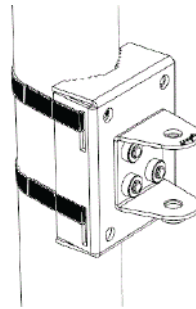
Attaching the Mounting Bracket to a Pole

1. Insert the open end of one steel clamp into the upper two slots on the mounting bracket.
2. Take the other steel clamp and insert it into the lower two slots on the mounting bracket.

NOTE: The clamps can be daisy-chained together to accommodate larger poles.

3. Use the clamps to attach the mounting bracket to the pole. Tighten the clamps to 3 N.m or 27 in-lbs, or per manufacturer's specifications.

FIGURE 8 Attaching the Mounting Bracket to a Vertical Pole



4. Continue with [Mounting the Linkage Bracket to the U-Joint Bracket](#) on page 3.

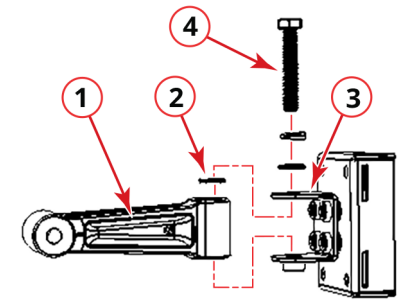
Mounting the Linkage Bracket to the U-Joint Bracket

The linkage bracket attaches to the U-joint bracket using an M8 bolt and washer set. The linkage bracket is symmetrical, and either end can be attached to the U-joint bracket.

NOTE: Make sure that the linkage bracket is installed with its serrated external-tooth lock washer on the *inside* of the U-joint bracket flanges. This ensures that the azimuth adjustment does not change.

1. Loosely assemble the linkage bracket, the U-joint bracket, one serrated external-tooth lock washer, and one M8 bolt and washer set.

FIGURE 9 Attaching the Linkage Bracket to the U-Joint Bracket



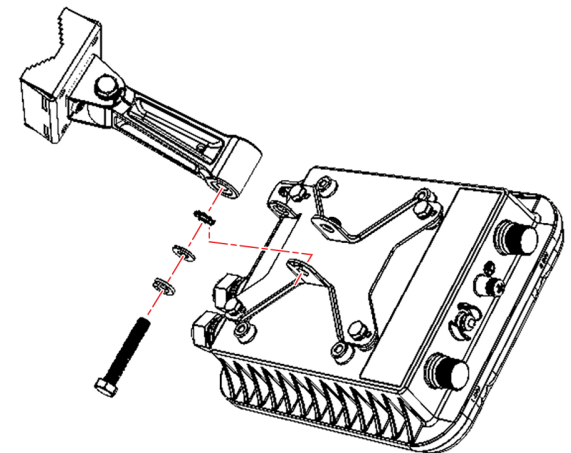
- 1. Linkage bracket
- 2. Serrated external-tooth lock washer
- 3. M8 bolt and washer set
- 4. U-joint bracket

2. Set the azimuth required by the AP.
3. Tighten the M8 bolt to 13.6 N-m (120 in-lbs).
4. Continue with [Attaching the AP Bracket to the Linkage Bracket](#) on page 3.

Attaching the AP Bracket to the Linkage Bracket

1. Attach the AP bracket to the linkage bracket using the included bolt, lock washer, flat washer, serrated external-tooth washer and nut, as shown in [Figure 10](#).

FIGURE 10 Attaching the Linkage Bracket to the AP Bracket



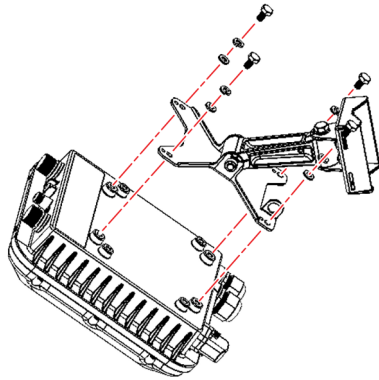
2. The linkage bracket is symmetrical, and either end can be attached to the AP bracket.

NOTE: Make sure that the linkage bracket is installed with its serrated external-tooth lock washer on the *inside* of the AP bracket flanges. This ensures that the elevation adjustment does not change.

Attaching the AP Bracket to the Access Point

1. Place the AP bracket onto the back side of the AP so that the four larger screw holes on the bracket align with the four screw holes on the AP.

FIGURE 11 Attaching the AP Bracket to the AP



2. Use four 0.5-inch x 0.250-28 hex bolts with split lock and flat washer sets to mount the AP bracket to the AP. Tighten the bolts to 2.5-3.0 N.m or 22-27 in-lbs.

CAUTION! Make sure that the screws are no longer than 0.5 inch. If a screw is longer than 0.5 inch, it can damage the AP chassis.

NOTE: This kit may include extra screws, nuts, and washers. You may use the extras where required.

3. Continue with [Setting the Elevation and Tightening the Elevation Bolt](#) on page 4.

Setting the Elevation and Tightening the Elevation Bolt

1. Set the elevation required by the AP.
2. Tighten the M8 bolt to 13.6 N-m (120 in-lbs).
3. Continue with [Powering the AP with DC Power](#) on page 6.

Connector Sealing Instructions

NOTE: N-Type connectors shown are representative examples.

NOTE: Applying sealing tape to both ends of the cable is recommended.

Step 1: Cleaning the Connectors and Your Hands

1. Clean all traces of dust, grease, and oil from your hands
2. Clean off any traces of dust, grease, and oil from the N-type bulkhead connector external threads
3. Make sure that the connectors are dry before continuing.

Step 2: Connecting the Cable with the Connector

1. If the AP is powered on, disconnect the AP from the power source.

CAUTION! Make sure that you disconnect the AP from the power source to avoid electrocution or equipment damage.

FIGURE 12 Connecting the Cable with the Connector



2. Unscrew the metal cap that protects the antenna connector. Place the metal cap in a safe place, in case you need it later.
3. Connect the cable to the connector. Use a torque wrench to tighten the cable coupling nut to 1.58 N.m (14 in-lb). If you do not have a torque wrench or if you are tightening a knurled coupling nut (as shown), hand-tighten the cable coupling nut until the internal gaskets are compressed, but do not overtighten.

Step 3: Wrapping the Exposed Connector Threads

1. Depending on the width of the sealing tape, either fold the tape in half or cut it to fit the exposed connector threads
2. Stretch the tape per the manufacturer's instructions

3. Working clockwise, gently stretch the sealing tape as you install it so that it covers the connector thread between the cable coupling nut and the base of the connector.
Make sure that the final wrap is approximately flush with the cable coupling nut, and then cut the sealing tape.

FIGURE 13 Wrapping the Exposed Connector Threads



NOTE: Cut, do not tear, the sealing tape. If the sealing tape is overstretched, it loses its self-amalgamating properties.

Step 4: Wrapping the Internal Layer of the Electrical Tape

1. Using scissors, cut the end of the electrical tape at an angle. This will allow the electrical tape to be applied with minimal bulk.

FIGURE 14 Cutting the End of the Electrical Tape



2. Wrap the electrical tape clockwise from the beginning of the cable coupling nut to just past the heat shrink tube on the cable. Do not cover the sealing tape installed in [Step 3: Wrapping the Exposed Connector Threads](#) on page 4.

FIGURE 15 Wrapping the Electrical Tape



FIGURE 17 Wrapping the Sealing Tape



FIGURE 19 Wrapping the Electrical Tape



Step 5: Wrapping the Main Sealing Tape

1. Using scissors, cut the end of the sealing tape at an angle. This will allow the sealing tape to be applied with minimal bulk.

FIGURE 16 Cutting the Sealing Tape at an Angle



2. Working clockwise, gently stretch the sealing tape from the beginning of the sealing tape installed in [Step 3: Wrapping the Exposed Connector Threads](#) on page 4 and continue wrapping to 12 mm (0.5 in.) past the electrical tape installed in [Step 4: Wrapping the Internal Layer of the Electrical Tape](#) on page 4.

NOTE: Cut, do not tear, the sealing tape. If the sealing tape is overstretched, it loses its self-amalgamating properties.

3. Gently knead the sealing tape from top to bottom to make sure there are no gaps and to amalgamate the sealing tape.

Step 6: Wrapping the Outer Layer of Electrical Tape

1. Using scissors, cut the end of the electrical tape at an angle. This will allow the electrical tape to be applied with minimal bulk.

FIGURE 18 Cutting the Electrical Tape at an Angle



2. Wrap the electrical tape clockwise to completely cover the sealing tape and continue wrapping to 12 mm (0.5 in.) past the sealing tape installed in [Step 5: Wrapping the Main Sealing Tape](#) on page 5.

Step 7: Repeating for the Other Cables

Repeat the connector sealing instructions for the three antenna connectors, as shown in Figure 20.

FIGURE 20 Repeating for Other Cables



Step 8: Creating Cable Drip Loops

Physically mount the AP and antennas at your desired location, preferably on the same mounting structure.

Form 80-mm to 130-mm (3-in. to 5-in.) drip loops with the cables.

FIGURE 21 Creating Cable Drip Loops



Earth Grounding the AP

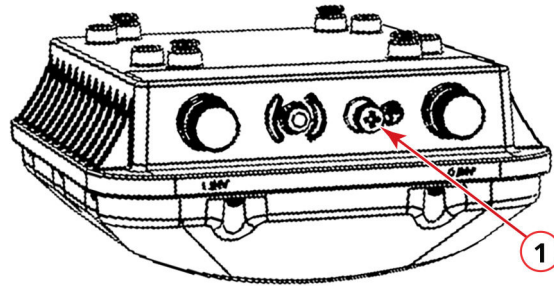
CAUTION! Make sure that earth grounding is available and that it meets local and national electrical codes. For additional lightning protection, use lightning rods and lightning arrestors.

NOTE: The color coding of ground wires varies by region. Before completing this step, check your local wiring standards for guidance.

Using the factory-supplied ground wire and ground screw and washer set, connect a good earth ground to the AP chassis ground point.

CAUTION! The T350se AP includes one 9-mm stainless steel M6x1 earth ground screw with split lock and flat washers. Make sure that any replacement screw is no longer than 9-mm. If a screw is longer than 9-mm, it can damage the AP chassis.

FIGURE 22 Connecting a Good Earth Ground to the AP



1. Earth grounding

Powering the AP with DC Power

The AP can draw power from the Ethernet input as a Class 4 device, providing a maximum of 22W to the system. Alternately, power can be supplied through a customer-provided 12V DC power supply (12V DC preferred, 7-20V DC acceptable) that will connect to a two-pin terminal block. The terminal block is accessible through a water-tight gland on one end of the unit. The terminal block connection has surge and polarity protection to protect against inserting the wrong polarity leads into the terminal block.

NOTE: If both the PoE and DC ports are used, separate cable glands must be used for each port. Additional cable gland (Part Number 902-0183-0000) can be purchased.

NOTE: When both the 12V DC and the 48V PoE power are active, the AP will prioritize the 12V DC power.

CAUTION! Ensure that the DC power source does not exceed 20V DC.

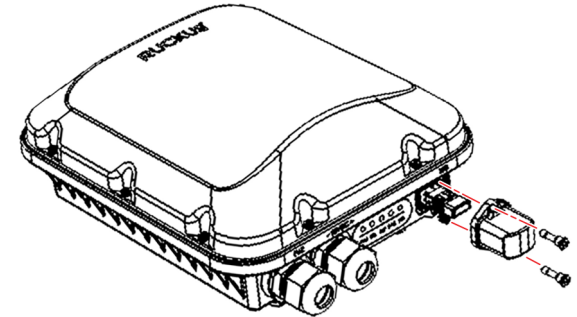
1. Install the DC power supply as described in the *DC Power Supply Installation Guide*.
2. Connect the DC cord to a DC power source.
3. Verify that the PWR LED is a steady green.

Installing a USB Dongle

To install a USB dongle (for example, an IoT radio device such as BLE, 802.15.4, Z-wave, or similar), remove the two 3-mm hex screws, remove the cap, and insert the dongle into the USB port. Once installed, replace the cap and the hex screws, and tighten the screws to 0.79 N.m or 7 in-lbs.

NOTE: If required, a larger USB dongle cap can be purchased separately. The maximum dimensions of the USB dongle that can be inserted (with the large USB dongle cap, part # 902-0127-000) are 6 cm x 2 cm x 1.1 cm. The USB port supports 2.5W.

FIGURE 23 Installing a USB Dongle



Troubleshooting

CAUTION! If required, you can reset the AP to its factory default settings by pressing the reset button located inside the PoE IN port. Use the tip of a pen or a 3-mm flat-blade screwdriver to press the reset button. Press and hold the reset button for 4 seconds or longer to restore to factory defaults. **DO NOT RESET THE AP TO FACTORY DEFAULT SETTINGS UNLESS SO INSTRUCTED.** (Doing this resets the AP IP address to 192.168.0.1.)

NOTE: After a reset, you can access the internal AP web interface using <https://192.168.0.1>. Your device must use any other address from 192.168.0.2 through 192.168.0.254, with subnet mask 255.255.255.0. The username is **super**, and the password is **sp-admin**.

For More Information

For information on how to configure and manage the AP, refer to the *RUCKUS Access Point User Guide*, available from <http://docs.commscope.com/?docs-box>.

For the product data sheet, refer to <https://www.ruckusnetworks.com/products/wireless-access-points/>.

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