



# 3Z IoA-1000 Quick Start Guide



### Benefits

- Easily attach to and monitor antenna alignment in real time from the field to your desk using your own customized software
- Easy to set up

### Features

- LTE CAT-M1/NB-IoT ready
- E-paper display for status & alerts
- 5+ year battery life (depending on reporting interval)
- IP67 rated
- Alarm capable
- Weather-resistant adhesive
- No maintenance required
- Cloud data management capabilities

### IoT SIM card requirements

- Nano SIM card
- NB-IoT or LTE CAT-M1 enabled, with automatic APN provisioning and no PIN
- PCO or ePCO enabled

**Important: The SIM card is not provided by VIAVI. Check with your IoA Administrator or your local IoT cellular network provider.**

### Preparation for use

When you unpack the unit, do the following:

- Inspect the unit for damage. If damaged, put back in box and contact VIAVI customer service (see the Technical assistance section).
- If undamaged, save the box and packing materials in case the unit needs to be returned in the future.

### Device preparation (before physical installation)

The device preparation is recommended to be done prior to arriving onsite. This ensures the IoA is ready to install without any issues.

**Note: For best results and minimum delay of setup, the unit should be within 59° F to 122° F (15°-50° C) during device preparation.**

**Important: Prior to installing the IoA unit on the antenna, set up the IoA using the VIAVI IoA Manager website or your company's IoA Console software. See the IoA Manager User's Guide or your IoA Administrator for more information.**

The IoA Manager will help you add sites, add IoAs to sites, and configure IMEI, Azimuth, Tilt, and Roll values of IoAs added to sites.

See the *IoA User's Guide* for more details on setup and configuration.

1. Remove the IoA, SIM card tray, and alcohol pad from the packaging. The device will show a standard welcome screen with the IMEI number of the device at the bottom, as shown here.
2. Place the SIM card in the tray. Notice the contacts of the SIM card should be facing up, with the notch of the SIM card in the upper left, as you face the front of the IoA.
3. Carefully insert the SIM card tray into the IoA.

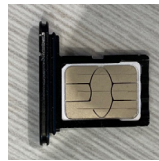


Once the SIM card tray is inserted, listen for two "clicks". The second "click" may take up to 7 seconds to occur.

After the second "click", the screen should show the QR code containing the IMEI of the device, showing the device is ready for setup.

The IMEI from this screen will be required as part of IoA configuration using the IoA Manager or your organization's IoA Console software. See your IoA Administrator for more information.

If Error 101 displays, please ensure the SIM card is seated properly in the tray.



SIM card placed in tray



Inserting SIM tray in IoA

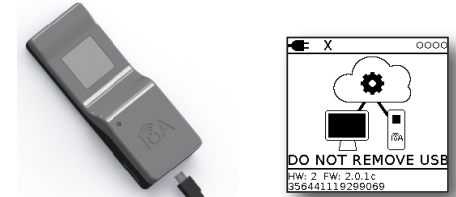
**Important: THE SIM TRAY MUST BE INSERTED BEFORE MOVING TO THE NEXT STEP.**

### Connecting to the IoA server

The next step is to connect the IoA to the server for final configuration.

1. Remove the USB cover sticker and provide power via the USB connection on the bottom of the IoA in order to download the configuration from the server immediately (approx. 1-2 mins).

Once connected to USB power, the IoA screen will indicate it is retrieving its configuration from the server, as shown here.

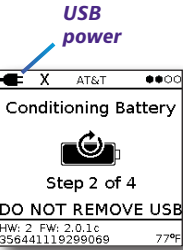


**Important: DO NOT REMOVE USB POWER UNTIL INSTRUCTED TO DO SO.**

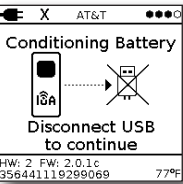
2. Next, the device will show the following "Conditioning Battery" screen. This step is to ensure that the batteries within the device are ready for field deployment.

A message is shown on the screen depicting which step the device is currently on. Depending on the signal strength, this procedure can take up to 10 mins.

If Error 103 displays, please ensure you have the correct SIM card. Check with your IoA Administrator or your local IoT cellular network provider. It should be provisioned for automatic APN and not require a PIN.



3. Once the first cycle has finished, a "Disconnect to Continue" message will appear. You may now safely remove the USB power while the device continues with its automated battery check.

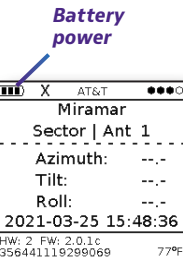


4. Once the power is disconnected, another "Conditioning Battery" screen will appear, this time it will take at least 10 iterations.

**Note:** You do not need to be present during this step and the IoA can be left to complete this task completely autonomously. This step can take around 20 mins depending on the signal strength of the device.



5. After the battery check and conditioning is complete, the device will show the configuration that it obtained from the server. The device will show the default reporting screen, as shown here.



## Applying the tape

Finally, apply the perimeter tape along the side of the loA, making sure to cover the SIM tray and USB slots of the unit.

For best results, surfaces must be clean and free of dirt, debris, and grease. Tape should be applied when surface temperature is between 50°–80° F (10°–27° C).

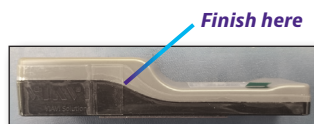
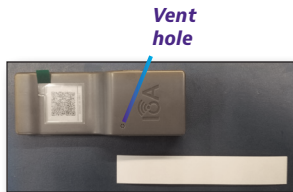
Before tape application, make sure SIM tray is fully inserted and is flush with the bottom enclosure.

1. Start tape application aligned with the vent hole on the front. Keep tape seal flush to the back of the bottom enclosure.

DO NOT peel backer all the way off to prevent debris from getting on adhesive during application.

2. Press out as many air bubbles in the tape as possible. Then, firmly press all surfaces and seams to make sure tape is adhered to all surfaces properly.

When finished, the tape may overlap the factory-applied tape around the LCD, which is normal.



## Prepping the antenna surface

Behind the host antenna, determine the best placement for the loA, away from any metal. Using the provided alcohol pad, clean all existing dust, residue, paint, etc.

If additional cleaning is required, it is recommended to use a 50:50 mixture of isopropyl alcohol (IPA) and water as the cleaning agent.

Wipe the target surface area dry to ensure no moisture exists prior to attaching the loA.



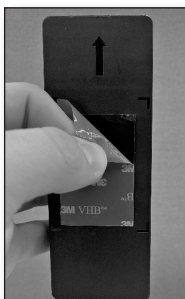
## Attaching the loA

**Important:** Please install your loA on the back surface of the antenna. As best practice, VIAVI recommends that the loA be placed on the top 1/2 of the antenna's back surface, and no closer than 2 inches from the left and right edges.

Keep in mind the loA should also be at least 2 inches away from any ferrous metals that may be used for antenna mounting and support.

On the reverse side of the loA, carefully remove the red protective adhesive tab exposing the black adhesive tape underneath.

An arrow on the back cover on the loA will indicate which direction is the top.



Once the correct orientation is identified, attach to the target surface area. Firmly apply pressure on the face of the loA Sensor for 15 seconds.

Congratulations, installation is complete!

## Commissioning the loA

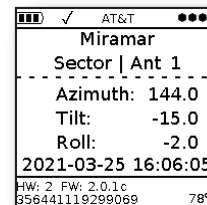
Once the loA device physical installation is complete, use the VIAVI loA Manager website or your loA Console to commission the device.

See the *loA Manager User's Guide* for more details on commissioning an loA sensor.

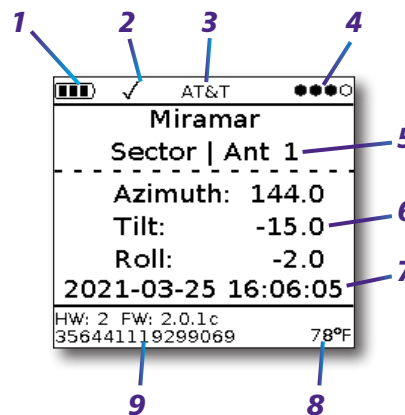
1. From the loA Manager website or your loA Console, navigate to the loA that is being set up.
2. This will then show all the relevant information about the loA device.
3. Verify the IMEI, azimuth, tilt, and roll values for the loA.
4. When ready, activate the loA via the loA Manager or your loA Console.

The device will now perform the commissioning process and the device screen will display a checkmark to the left of the carrier information the next time it transmits to the server.

This could take up to 24 hours depending on the time of the installation.



## loA display



1. **Power status** – Available battery life on the unit or if plugged into USB
  - **3 bars** – 80-100%
  - **2 bars** – 50-79%
  - **1 bar** – 0-49% (may not transmit at this level)
  - **Plug** – USB power
2. **Commissioned** – Shows if device has been commissioned or not (X or ✓)

3. **Carrier** – Current cellular carrier the device is connected to
4. **Signal strength** – Current signal strength
  - **4 dots** –  $\geq -80$ dB
  - **3 dots** –  $-80$ dB to  $-90$ dB
  - **2 dots** –  $-90$ dB to  $-95$ dB
  - **1 dot** –  $\leq -95$ dB
5. **Site, Sector, and Antenna** – Site information from the loA Manager
6. **Azimuth, Tilt, and Roll** – Current mechanical position of the unit
7. **Date / Time** – Date of the last transmission in UTC
8. **Temperature** – Current temperature around the device
9. **IMEI number** – IMEI of the device

## Technical assistance

If you require technical assistance, call 1-844-GO-VIAVI / 1.844.468.4284.

Outside US: +1-855-275-5378

Email: [TAC@viavisolutions.com](mailto:TAC@viavisolutions.com)

For the latest TAC information, visit

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