

Installation Steps

Please follow these easy steps when installing a Tigo Energy Maximizer System:

1. Read Installation and Safety Manual
2. Configure the system online
3. Connect Maximizers to the PV modules
4. Connect Maximizers in series
5. Record location of Maximizer Mac IDs on system map
6. Mount the Gateway(s) in the center of the array
7. Install Maximizer Management Unit (MMU) and connect to Gateways
8. Initiate Discovery and Power On
9. Verify RSSI and Gateway location
10. Test PV-Safe and string polarity

What to Bring to the Site

1. Module Maximizers (one per PV module)
2. Gateways (one per 150 Maximizers or 50 ft radius max)
3. Maximizer Management Unit (one per 360 Maximizers)
4. System schematic (for recording location of Maximizers)
5. RS-485 cable
6. Laptop PC (if internet available at installation site)

Stringing/design conventions

- If there is known mismatch (significant shade or tilt/azimuth differences), then best to balance this mismatch across multiple strings in the array
- Make sure strings can reach inverter turn-on voltage based on string voltage at NOCT
- When possible, use fewer, longer strings (e.g. 10 strings of 12 modules, rather than 12 strings of 10 modules)

Module Maximizer

- Make sure voltage of module is within voltage rating of Maximizer (can use configuration tool on the Tigo Energy website)
- Maximizers are mounted in the top right corner of the module frame (can also be mounted to rail if necessary)
- The set-screw provides bonding and mechanical tension
- Maximizers are connected in series from one Maximizer to the next
- Maximizers are in a polycarbonate box and therefore do not require grounding
- Maximizers cannot be installed on a partial array: they must be included on all solar modules in an inverter's MPPT zone
- Maximizers do not change the string sizing or voltage calculations



Gateway

If the system is installed on a roof with multiple planes, plan for at least one Gateway for each surface

- The Gateway communicates (wirelessly) with up to 150 Maximizers, with maximum radius of 50 ft. (15 m)
- Gateways are connected to the Management Unit along an RS-485 data cable
- If multiple Gateways are used on a system, they can be connected in series (up to 6) to the MMU along a single RS-485 cable run
- The Gateway should be mounted in the center of the Maximizers it is communicating with
- The Gateway is mounted in top left corner of a module frame
- In order to prevent water ingress, should be mounted with RS-485 connectors facing down



Management Unit

- The Tigo Energy Maximizer Management Unit calculates the optimization points for each of the Maximizers, and collects data to be sent to Tigo Energy's Datacenter
- The MMU is typically mounted next to the inverter
- Requires 120Vac power supply and internet (LAN) connection via Ethernet or WiFi connection. Also connected to the Gateways via an RS-485 data cable
- Can support up to 7 Gateways and 360 Maximizers
- Can be connected to other sensors or meters such as revenue-grade AC meter, lightmeter, temperature sensor, or inverter data cable





Module Maximizer

Mounting: behind each module
Quantity: one per module

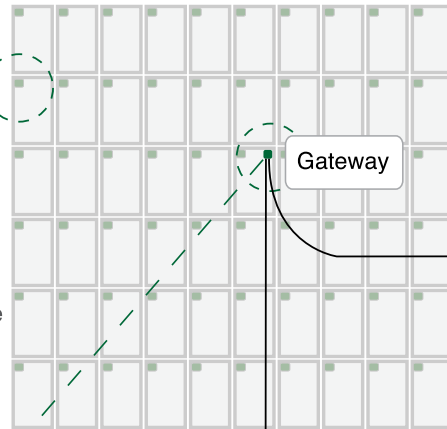
Communication: Wireless communication with Gateway



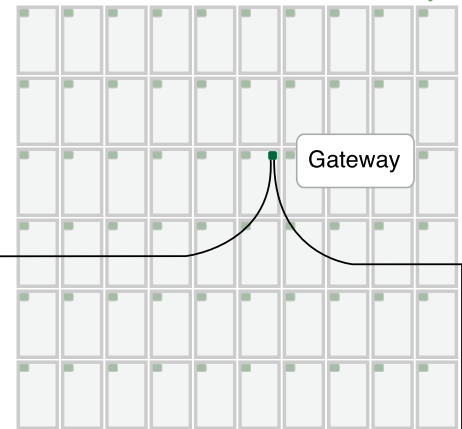
Gateway

Mounting: Position the Gateway at the center of the array, attach to the upper left-hand corner of a PV module frame
Quantity: one per 150 modules or based on 50 ft. radius

Sub Array 1



Sub Array 2



Gateway

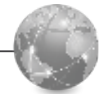
Gateway



Maximizer Management Unit (MMU)

Mounting: typically near inverter
Quantity: one per seven Gateways; one per 360 Maximizers

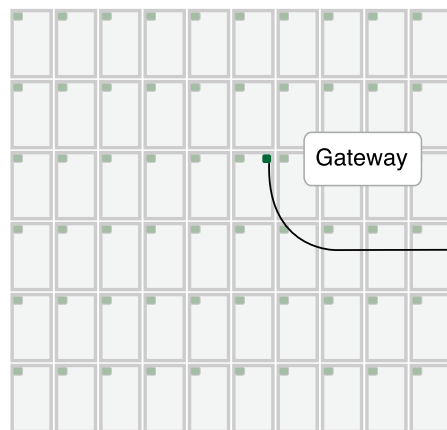
Communication: Wired connection (RS-485 cable) with Gateway and ethernet connection to internet
Power: 120 Vac required



Internet

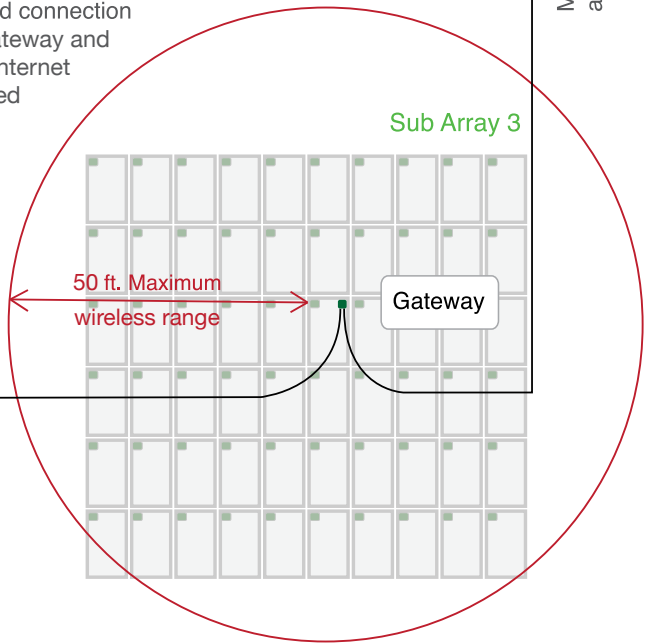
Maximum distance from Gateway to MMU along RS-485 cable: 4,000 ft

Sub Array 4



Gateway

Sub Array 3



50 ft. Maximum wireless range

Gateway