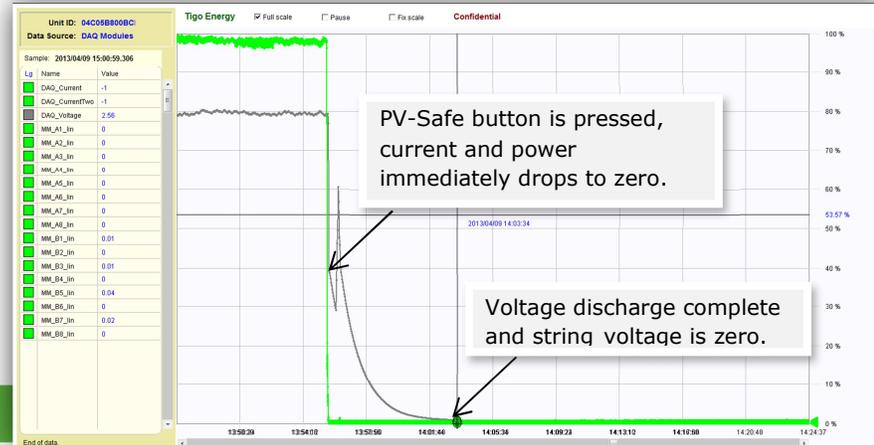


Tigo Energy PV-Safe™

The Tigo Energy optimizer system includes an advanced safety feature called PV-Safe. This enables the array to shut down at the module-level, which is by far the safest way to deactivate a solar system. When PV-Safe mode is activated, the optimizer disconnects the PV module from the string, leaving it with zero power output. This can be used for emergency situations or scheduled maintenance. It can be triggered manually or automatically.



Manual Operation

Press the PV-Safe button on the Maximizer Management Unit

Pressing the PV-Safe button will trigger the Management Unit (MMU) to send an “off” command to all optimizers. The user should confirm that the system has been successfully deactivated on the MMU display. The MMU will generate a report confirming the deactivation of each optimizer (for example: “Resp: 46/48”). Once deactivated, the optimizers will not turn on again until they receive an active “on” command from the user via the MMU on site.

Activate PV-Safe remotely via Tigo Energy module level monitoring software

The PV-Safe feature can also be activated using the Tigo Energy monitoring software. Users can activate PV-Safe using the Admin tab under the Control sub-tab. The user should confirm that the system has been successfully turned “off” using the voltage readings from each optimizer. Once deactivated, the optimizers will not turn on again until they receive an active “on” command from the user via the MMU on site.

Automatic Operation

Activate PV-Safe via the AC circuit breaker

In an emergency situation such as a fire, standard procedure for first responders is to disconnect the AC circuit breaker for the building. This loss of power from the grid causes the inverter and the MMU to shut off. Whenever the MMU and inverter both shut off, the optimizers will automatically enter PV-Safe mode and power off. Thus, even if the emergency personnel do not activate the PV-Safe directly, PV-Safe is equipped to detect standard safety protocol and respond to the emergency.

Detect module level safety hazards

The optimizer is constantly monitoring PV module parameters such as over voltage over temperature, and over current. The optimizer will immediately enter PV-Safe mode if a safety hazard is detected and report its status to the MMU. The MMU will decide whether there is a local threat and a single module level shut down is enough, or if there is a potential system safety hazard and PV-Safe mode is needed for the entire system.

Restart the system after PV-Safe

In cases where the PV-Safe is directly activated using the PV-Safe button or the remote control, the system must be manually restarted on site by following the menu sequence on the MMU display. In cases where PV-Safe is triggered due to a potential safety hazard, the MMU will shut down the system, run diagnostics, and attempt to turn back on. If this happens three times, the MMU will remain off until user intervention.