

SolarEdge TerraMax™ Inverter – Rectification of the Potential Induced Degradation - Application Note

Revision History

- Version 1.1, March 2024 – Name changed to TerraMax
- Version 1.0, January 2024 - Initial release

Contents

Revision History	1
Overview	1
Enable or Disable PID rectifier.....	1
Ensure PID rectifier operates at night	3
Power down the PID rectifier at night.....	4

Overview

This document describes the procedure for rectifying the Potential Induced Degradation (PID) in PV strings with P-type modules connected to the SolarEdge TerraMax Inverter.

The PID of photovoltaic (PV) panels is an effect that degrades the maximum power of PV modules over time. It is a phenomenon that substantially degrades the PV module output and performance. The PID effect increases with time and is more prevalent when the PV modules operate at a higher negative potential relative to ground.

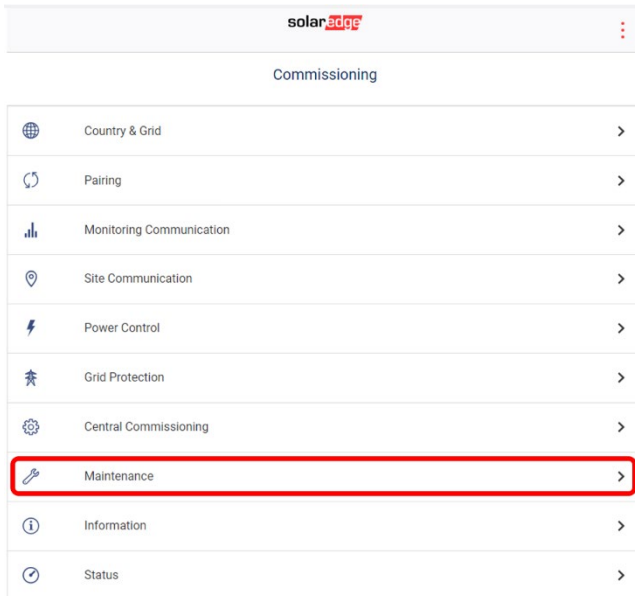
The SolarEdge TerraMax Inverter mitigates the PID effect by implementing PID Rectifier. The inverter uses a built-in PID rectifier circuit. At night, when the inverter is not producing power, the PID rectifier applies 750V_{DC} to both poles of the PV modules to reverse the PID effect. The PID rectifier is an option that you must activate via the SolarEdge SetApp application.

Enable or Disable PID rectifier using SetApp

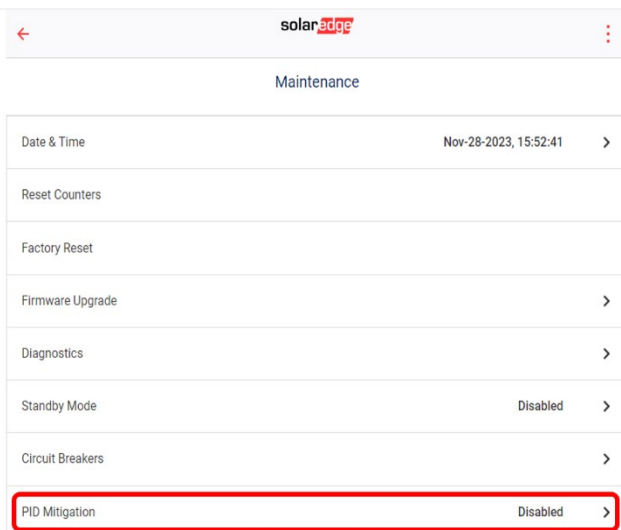
To enable PID rectifier

1. Turn ON the AC circuit breaker at the main distribution panel.
2. Turn the DC ON/OFF switch to the ON position.
3. Run SolarEdge SetApp on your mobile device and follow the on-screen instructions until the Commissioning screen is displayed.

4. In the Commissioning screen tap Maintenance.



5. Tap PID Mitigation.



6. Tap Rectifier.



NOTE

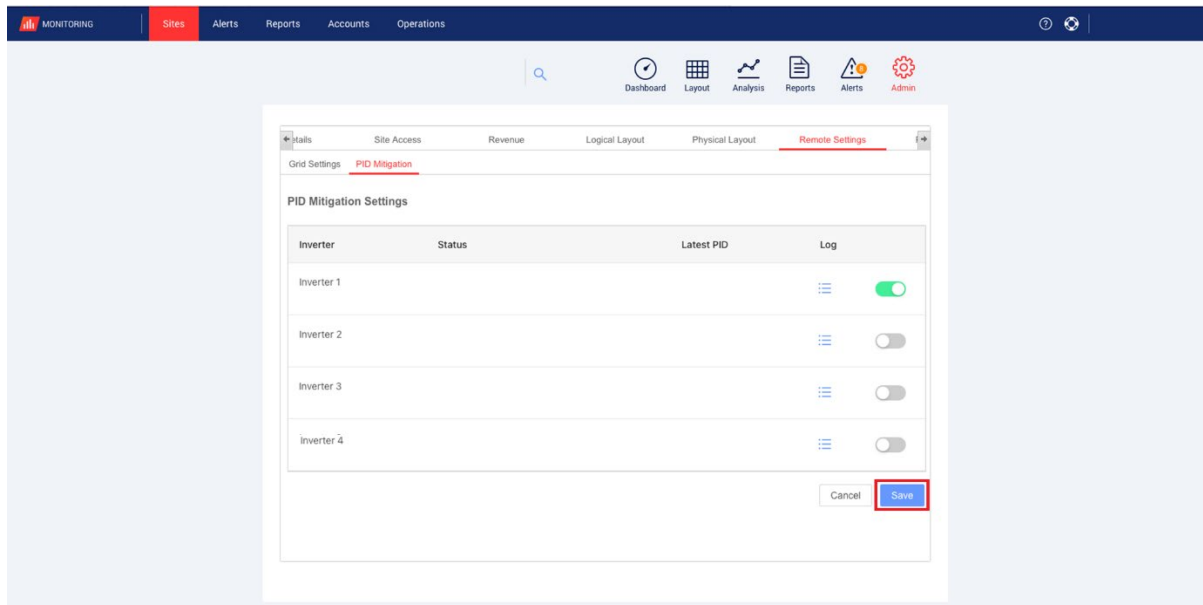
When PID rectifier is enabled, it operates when the inverter goes into night mode. It stops operating in the morning when the inverter wakes up. This cycle of operation continues daily when PID rectifier is enabled.

To disable PID rectifier

In the **Commissioning** screen tap **Maintenance** → **PID Mitigation** → **Disabled**.

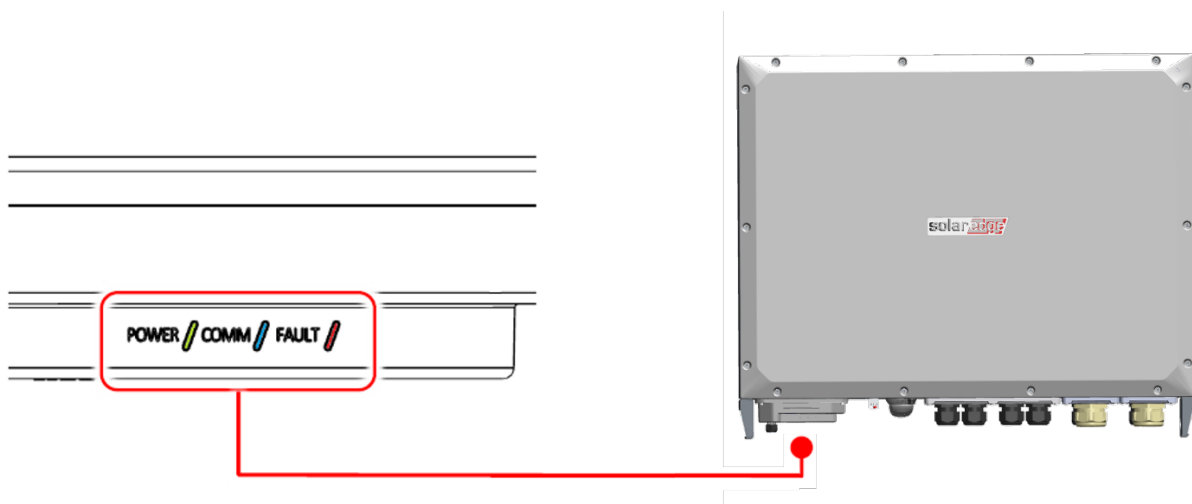
Enable or Disable PID rectifier using the Monitoring platform

1. In the **Sites** tab, select the required site.
2. Select **Admin** view.
3. In the **Admin** menu, scroll to and select **Remote Settings**.
4. Select **PID Mitigation**.
5. To enable PID Rectifier, set the Toggle **ON**.
6. To Disable PID Rectifier, set the Toggle **OFF**.
7. Click **Save**.



Ensure PID rectifier operates at night

1. Verify that the DC switch is ON.
2. Verify that the P/1/0 switch is in the "1" (ON) position.
3. Verify that the Fault LED (red) and Power LED (green) indication LEDs are blinking simultaneously.



**NOTE**

When PID rectifier operates, an indication displays in SetApp. In the SolarEdge Monitoring platform, the **Device screen** indicates that PID rectification is ON.

**WARNING**

High DC Voltage on PV strings (750V_{DC}). When the PID rectifier is active, **DO NOT** touch any component or perform any maintenance operation on the PV strings.

**NOTE**

The power consumption of the PID rectifier ranges between 15W and 25W, depending on the installation topography.

**NOTE**

PID Rectifier does not produce while Reactive Power at Night is enabled. Reactive Power at Night is disabled automatically when PID Rectifier is enabled.

Power down the PID rectifier at night

1. Set the P/1/0 switch to the "0" (OFF) position and wait until the Red LED turns-off, and the Green LED blinks.
2. Turn OFF the DC ON/OFF switch.

