GX SolarEdge Manual

1. Introduction

In 2019 SolarEdge has introduced a new feature that allows AC-coupling with alternative power sources (or non-grid power sources) such as the Victron Energy Inverter/chargers range, facilitating continuous solar production during outages or in off-grid scenarios.

When a solar inverter is operating concurrently with a non-grid source, it may be subjected to voltage and frequency fluctuations that exceed trips, which are preset according to regional grid connection requirements. To support simultaneous operation while powered by a non-grid energy source, SolarEdge has introduced an "Alternative Power Source mode" (APS) with extended, user-configurable, frequency&voltage operating range and frequency-power & voltage-power "off-grid" dedicated droops.

With this feature you can now build custom size AC Coupled Hybrid systems with the capability to enable zero feed-in to the grid when in On-Grid mode and frequency shifting power control in Off-Grid situations

The AC coupled system sizing guideline, Factor 1.0 rule, from Victron Energy for AC coupled system must be adhered to.

2. How to configure

1. Ensure that the GX Device and the SolarEdge system are both on the same LAN or WiFi network.
2. Enable ModbusTCP support on your SolarEdge system. Consult the SolarEdge documentation for that.
3. The Modbus Device id has to be set at 126. Some SE inverters might have that by default. Changing it is done in the SE inverter menu, configuration, RS485-1 menu. Although this is in the RS485 menu it also sets the ID for modbus over TCP-IP.
4. On the GX Device, navigate to Settings → PV Inverters. Search for the Solar Edge and complete the configuration.

RS485-1 menu on the Solar Edge, showing the Device ID setting:

Details:

1. The SE2200H - SE6000H range (HD-wave) was specifically tested, though several others are reported to work too.
2. During testing, we found that the SolarEdge PV Inverter accepts just one concurrent TCP connection. Additional connections are rejected.

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