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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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