solis seminars

Episode 28

PV Plant Safety. Inverter Power On and Power Off Operation

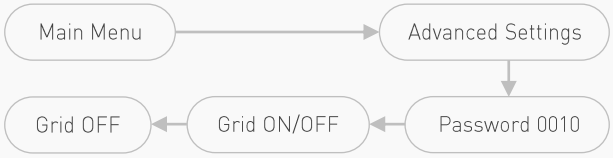
Background

During the operation and maintenance of a solar PV plant, we often power off and power on the inverter, which is normally related to the safety of equipment and the personal safety of O&M personnel but is there anything specific we should look out for during what is seemingly a very simple process? In this Solis Seminar, we will share some relevant tips for you.

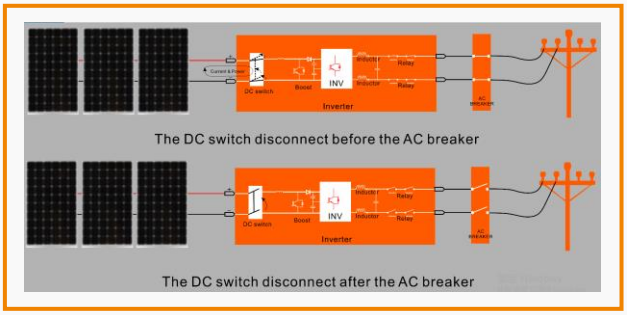
1. Powering Off the Inverter

When powering off the inverter for maintenance, Please follow the steps below:

① First, select the "Grid off" option through the inverter LCD to soft disconnect the inverter from the grid (this can prevent unnecessary grid surges from affecting the inverter).



② Then turn off the AC side breaker corresponding to the inverter, and the next turn off the inverter DC switch. The reason for doing it in this order is: by opening the AC circuit breaker first, the PV system in an open circuit state, to make sure the DC switch is switch off under no current & load condition, which is good for DC switch lifetime and system safe.



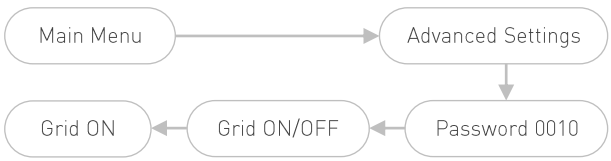
It should be noted that even if the DC switch and AC breaker are turned off, the inverter will still be holding electricity. You should wait for 5~10 minutes and after checking that there is no electricity for both DC and AC, and then safely disassemble the inverter or check the PV plant.(Note : When removing and checking PV strings, please pay attention to measuring its voltage. You must ensure that the voltage of PV Strings is lower than 30V or unplug the PV strings of the inverter in the evening.)

2. Inverter Power-on and Grid-Connected Operation

After maintenance of the PV plant or the inverter is completed, it is recommended to follow the steps below for power-on and grid-connected operation:

① After check all PV strings (positive and negative poles are not reversely connected) and the AC cable wiring is correctly installed (The line wire, neutral wire and PE wire are connected correctly), first close the AC circuit breaker, and then close the inverter DC switch, which can avoids the 1 to 3 minutes of grid connection delay caused by the "NO GRID" alarm.

② Then, select the "Grid on" option through the inverter LCD to soft connect the inverter from the grid.



③ You must ensure that the grid parameters of the inverter are set to the local distributor's requirements.

Please pay attention to all the DC data and AC parameters displayed on the LCD should are normally displayed before you leave the site.

3. Conclusion

Although these are small points of attention and are easily overlooked, taking note of these finer details can lead to the components of your inverter working better and for longer, and at the same time improve the grid-tied efficiency of the overall PV system.

If you have any other questions, you can contact Solis support engineers or go to www.solisinverters.com/aftersales.html