

Set the Q-U Characteristic Curve on Smartlogger1000&2000



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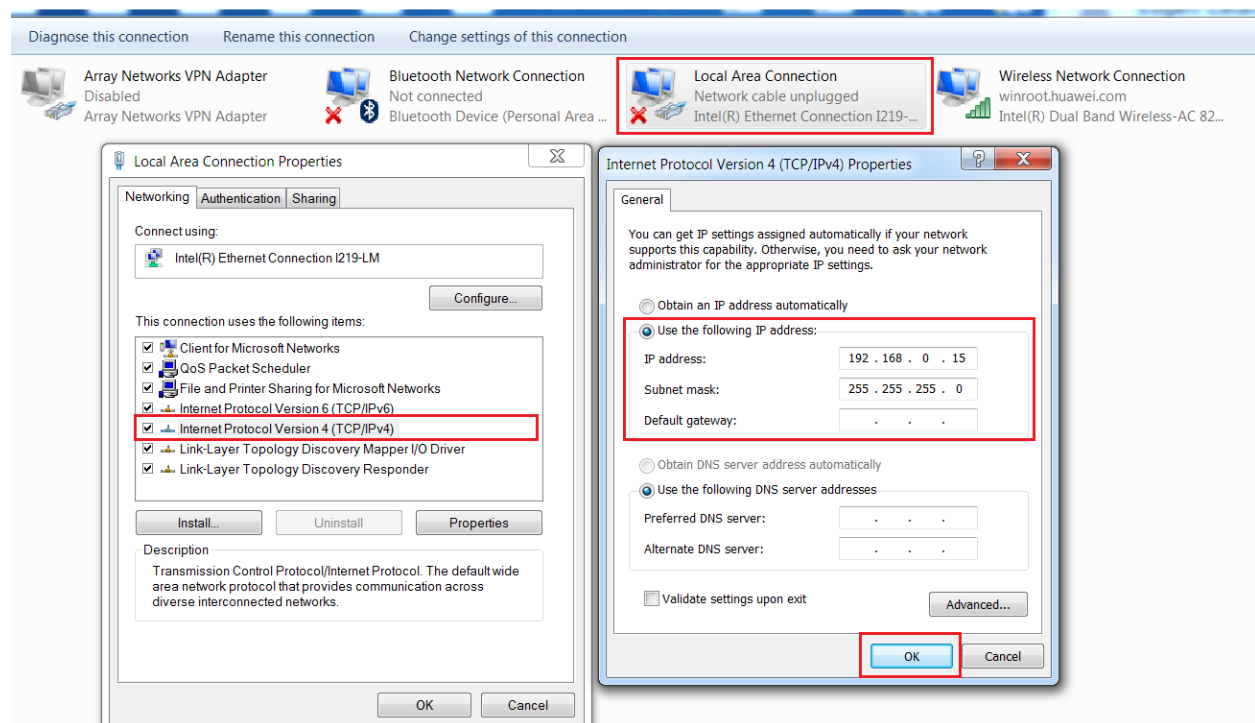
If you do not need the SmartLogger to send remote reactive power control commands, you can configure the characteristic curve on the SmartLogger as a substitute. The SmartLogger delivers the values configured for the characteristic curve to the inverter, which then operates in compliance with the configuration. The SmartLogger no longer adjusts the values.

The Q-U characteristic curve control mode is to dynamically adjust the ratio Q/S of output reactive power to apparent power in accordance with the ratio $U/U_n(\%)$ of the actual grid voltage to the rated grid voltage.

Procedure

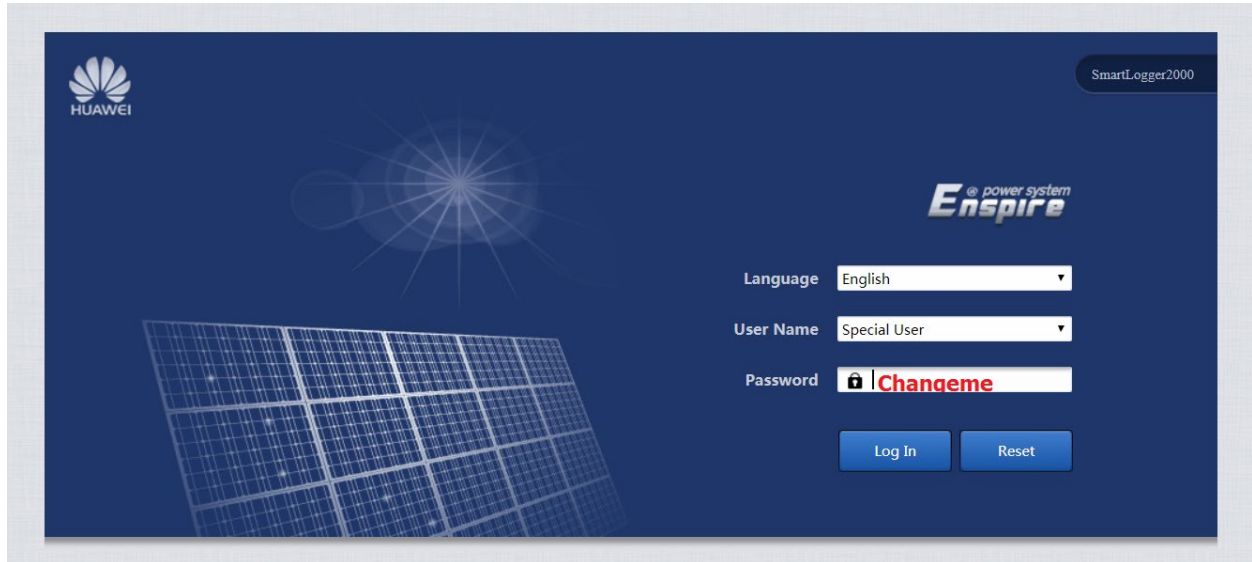
1. Set your computer local area connection with an IP in the same range with the Smartlogger

Go to Windows start->Control Panel->Network and Internet->Network and Sharing Center->Change adapter settings->Double click on Local Area Connection->Double click on Internet Protocol Version 4 and set the IP like below:



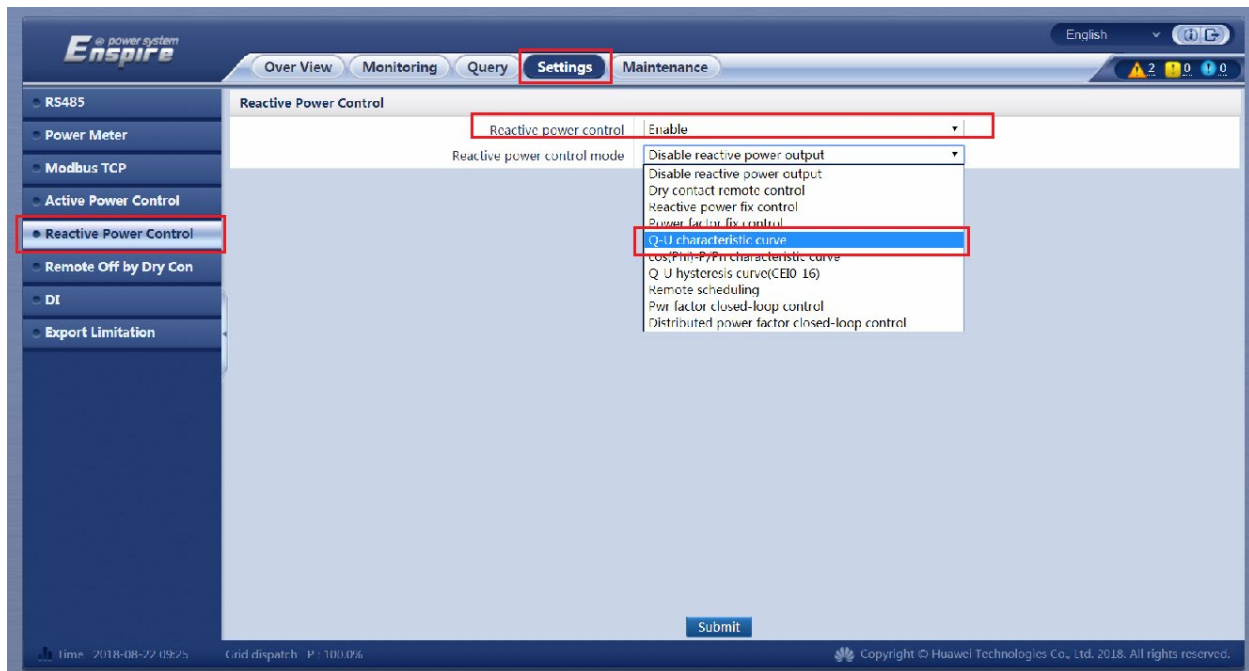
2. Login on Smartlogger as special user

Connect with a LAN cable the Ethernet ports of the Smartlogger and PC. Open a browser (Chrome 50 or IE11) and type the next link: <https://192.168.0.10>
Chose a user name “Special user” and type in the password. The default password for all users is “**Changeme**”.



3. Set Reactive power control mode to Q-U characteristic curve.

After you login choose Settings menu → Reactive power control → Enable reactive power control → choose from Reactive power control mode Q-U characteristic curve



4. Set the Q-U Characteristic curve

- Set Reactive power adjustment time accordingly with the grid operator recommendation-this time is the delay after the inverter will start to produce reactive energy
- Under a specific grid code, after you set **Percents of trigger frequency**, the characteristic curve takes effect only when the actual output active power of the inverter is greater than preset value (Italian grid specific requirement).
- Set the Characteristic curve point to 2, you can add a maximum of 10 valid points between the interval 98 and 106 like it is in the below example.
- Set the U/Un for each point. U it is the real voltage value measure by the inverter and Un is the nominal value accordingly with the grid voltage range. The U/Un value for the point A and B it is set accordingly with the value recommended by the grid operator.
- Set the Q/S for the point A and B. The values is also recommended by the grid operator.

Reactive Power Control Settings:

- Reactive power control: Enable
- Reactive power control mode: Q-U characteristic curve
- Reactive power adjustment time: 10 (5-120) s
- Percents of trigger frequency: 20 (10-100) %
- Characteristic curve points: 2

Q/S vs U/Un(%) Graph:

The graph shows a characteristic curve where Q/S is constant at -0.310 for U/Un(%) between 85.0 and 100.0. At U/Un(%) = 105.0, Q/S increases to 0.310 and remains constant up to 115.0. Point A is at (98.0, -0.310) and Point B is at (105.0, 0.310).

Point	U/Un(%)	Q/S
A	98.0 (80.0-115.0)	0.310 (0.500-0.600)
B	105.0 (80.0-115.0)	0.310 (-0.500-0.600)

Submit

After you set all the above value submit and monitor the inverters to see that the rule works accordingly with your settings.
 Configure the characteristic curve under instructions from professionals to ensure that the SUN2000 works properly.