Configuring for Continuous Switch Power or Host Controller Switch Power

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Technical Note

Continuous or Host-Controlled Switch Power

Switch power outputs on a Sure Cross® device are variable power supply outputs that can be used to power external devices. The switch power outputs are typically used in short bursts to turn on a sensor, sample the sensor output, and turn off the sensor, which is accomplished by a Sure Cross device powered by a 3.6 volt battery and specific timing parameters.

Some applications want to control the switched power outputs from the host or would like to always have the switched power output active. This technical note shows how to activate the switched power outputs on power-up or have the host system turn on or off the switch power outputs (SP1-SP4).

To provide continuous switch power or host system controlled switch power, follow these steps to configure your FlexPower Node.

1. Set the hardware DIP switches for host controlled mode (DIP switches 6, 7, and 8 set to ON, ON, OFF) to allow parameters to be changed from the User Configuration Tool (UCT). If you do not set the DIP switches for host controlled mode, any configuration changes are erased when the power is turned off.
2. Change the factory default setting to disable inputs from using the switch power. For example, the DX80 FlexPower Node with Boost associated switch power 1 to I/O 1 (in discrete mode) or I/O 3 (in analog mode). DIP switch 2 selects between Discrete Mode or Analog Mode.
3. Use an unused output (I/O 14) to define the switch power control and voltage. For host controlled switch power, all settings are the same except for the final default condition setting described in step 4.

Configure the Switch Power

Select an unused output for define for continuous switch power. For this example, we will be using I/O 14.

1. Disconnect the DX80 Node from its power.
2. Follow the instructions in the datasheet to access the DIP switches. Set the DIP switches for host-controlled mode: DIP switch 6 (ON), 7 (ON), and 8 (OFF).
3. Apply power to the Node and allow it to connect to its Gateway.
4. Connect the Gateway to a computer with the User Configuration Tool (UCT) software installed and launch the UCT software.
5. Go to the **Configuration** screen and click GET I/O Points to retrieve the network configuration.
6. Click on the arrow next to the analog input you'd like to associate with the continuous switch power. In this example, we are using input 3.
7. Under the Switch power **options** section, select External from the Power supply drop-down list.

8. On the Output side, enable Output 14.

9. From the output type drop-down list, select Switch Power Output.
10. In the Switched power **options** section, select Switch Power 1 from the drop-down list.
11. Select the output voltage from the drop-down list and set the warm-up time. Refer to the device/sensor datasheet for the appropriate output voltage and warm-up time.
12. Under the I/O **configuration** section, set the default output to 1.
13. Decide if you want continuous switch power or host-controlled switch power.
    - For continuous switch power—In the Output Default section (top of the screen), set the default output condition to Device power up
    - For host-controlled switch power—Do not set the Device power up Output Default condition. The host system turns on the switch power by setting I/O 14 to 1 and turns it off by setting I/O 14 to 0.
14. After all changes have been made, click SEND I/O Points to update the network configuration.
15. When asked to reset the device, select Yes.