

Theory and Terminology

What is FlexPower®?

Banner's FlexPower technology supplies a true wireless solution by allowing the device to operate using either 10 to 30 V dc, 3.6 V lithium D cell batteries, or solar power. This unique power management system can operate a FlexPower Node and an optimized sensing device for up to five years on a single lithium D cell.

- FlexPower Nodes may be powered from 10 to 30 V dc and use an external battery supply module to provide a battery back-up solution.
- When a FlexPower Node receives 10 to 30 V dc, it operates like a standard 10 to 30 V dc Node.
- Good applications for FlexPower devices operating from batteries include sensors that require no or very little power, including dry contacts, RTDs, and thermocouples.

The following FlexPower options are available:

- DX81-LITH, a single battery supply module;
- DX81P6, a 6-pack of lithium batteries;
- DX81H, a single battery supply module designed specifically to power the DX99 Intrinsically Safe devices with polycarbonate housings; and
- BWA-SOLAR PANEL 3W, 5W, or 20W, solar panel assemblies.



DX81-LITH: Single battery supply module

DX81H: Single battery supply module designed specifically to power the DX99 Intrinsically Safe devices with polycarbonate housings



DX81P6: Six-pack battery supply module



BWA-SOLAR PANEL 3W, BWA-SOLAR PANEL 5W, or BWA-SOLAR PANEL 20W: Includes 3 W, 5 W, or 20 W solar panel; order the controller separately when you are not using the solar panel with a DXM Wireless Controller

Switch Power

Efficient power management technology enables some FlexPower devices to include an internal power supply, called switch power (SP), that briefly steps up to power sensors requiring 5, 10, or 15 V power (e.g. 4 to 20 mA loop-powered sensors). When the switch power output cycles on, the voltage is stepped up to power the sensor for a specific time. The warmup time denotes how long the sensor must be powered before a reliable reading can be taken. After the warmup time has passed, the input reads the sensor, then the switch power shuts off to prolong battery life. The switch power voltage, warm-up time, and sample interval are configurable parameters.

- To reduce power consumption and extend battery life, use slower sample and reporting rates. Faster sample and report rates can be configured, but decrease battery life. For details, refer to the DIP switch configurable parameters for your device.
- The FlexPower switched power management system can operate a FlexPower Node and most sensing devices for up to five years on a single lithium D cell.

