BANNER®
*more sensors, more solutions*

## Sure Cross® Solar Power **Solutions**

Banner's solar supply panels can supply power to two radio devices, including any Node, Gateway, or data radio.

When used with a Sure Cross Node and sensors, the solar assembly supplies enough power to run most sensors at higher sample and report rates than a single battery can reasonably support. The solar panel recharges the battery pack that powers the devices.

Available models are: BWA-SOLAR PANEL 3W (supplies 12 V, 3 W), BWA-SOLAR PANEL 5W (supplies 12 V, 5 W), or BWA-SOLAR PANEL 20W (supplies 12 V, 20 W). When using a proper charge controller, the charge rate depends on the panel size and solar efficiencies.

When using the solar panels with Performance or MultiHop radios, a solar controller is required (ordered separately). When you power Performance or MultiHop radios, use solar controller BWA-SOLARCNTRL-12V. When you power a DXM Wireless Controller, the DXM acts as the solar controller.

For more information on dimensions and mounting these solar panels, refer to the *Accessories List*.

## Solar Power and the DXM Controller

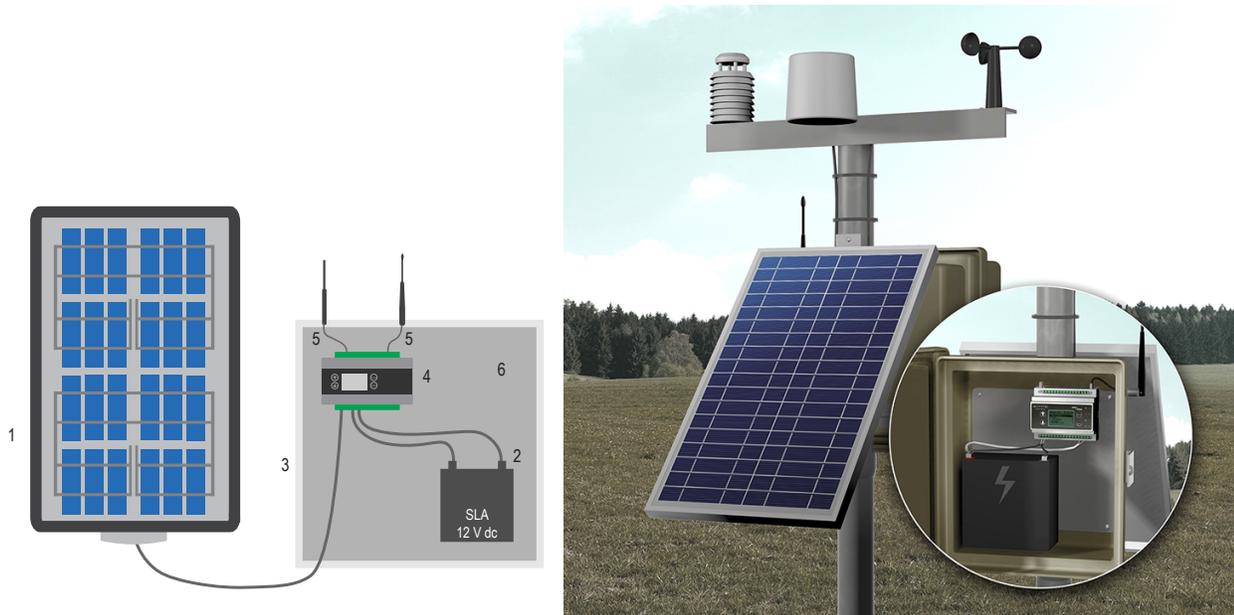The DXM150 Wireless Controller and DXM100 Modbus Slave models all include a solar controller board.



*Figure 1. Example solar-powered weather station application*

| Item | Model No. | Description |
|------|-----------|-------------|
| 1 | BWA-SOLAR PANEL 20W | Solar Panel, 12 V dc, 20 W, includes panel and mounting materials |
| 2 | (not supplied by Banner) | Sealed lead acid battery, 12 V |
| 3 | BWA-AH1084 | Enclosure, Polycarbonate, with Opaque Cover, 10 × 8 × 4 |
| 4 | DXM150 or DXM100 | DXM150 or DXM100 Wireless Controller or Modbus Slave (includes solar controller) |
| 5 | BWC-1MRSFRSB0.2 | RG58, RP-SMA Male to RP-SMA Female Bulkhead, 0.2 m |
| 6 | BWA-BP108A | Back Panel, Aluminum, 10 × 8 |

## Example Solar Powered System

Use the solar powered assembly to power data radios, Gateways, or Nodes connected to sensors that require more power than a single battery unit can supply.
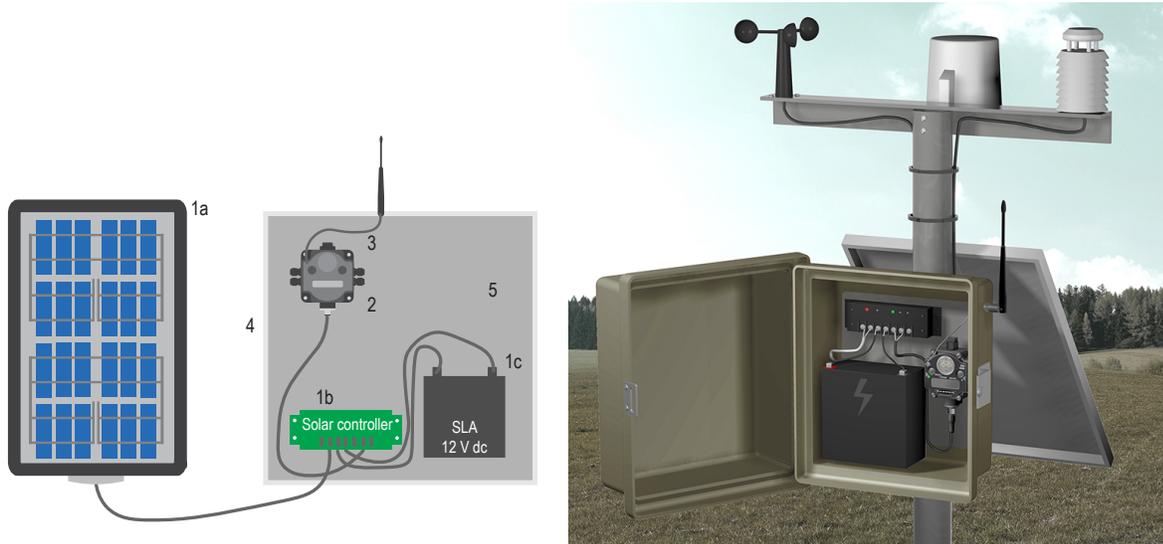


Figure 2. Example solar-powered weather station application

| Item | Model No. | Description |
|------|-----------|-------------|
| 1a | BWA-SOLAR PANEL 20W | Solar Panel, 12 V dc, 20 W, includes panel and mounting materials |
| 1b | BWA-SOLAR CNTRL-12V | Solar Controller, 6 A Load Current, 12 V |
| 1c | (not supplied by Banner) | Sealed Lead Acid Battery, 12 V |
| 2 | DX80DR*M-H | MultiHop Data Radio, 900 MHz or 2.4 GHz |
| 3 | BWC-1MRSFRSB1 | RG58, RP-SMA Male to RP-SMA Female Bulkhead, 1 m |
| 4 | BWA-AH12106 | Enclosure, Polycarbonate, with Opaque Cover, 12 × 10 × 6 |
| 5 | BWA-BP1210A | Back Panel, Aluminum, 12 × 10 |

## Cable Glands and Plugs

| Models | Description | |
|--------|-------------|---|
| BWA-HP.5-10 | Dummy Hole Plugs: 1/2-inch NPT, 10 pack | |
| BWA-HW-031 | Vent Plug, 1/2-inch NPT, IP67 | |
| BWA-HW-059 | Vent Plug, Plastic, 1/2-inch NPT, Strain-relief fitting, with o-ring, for 0.2 to 0.35 dia cable | |
| BWA-HW-053 | Plug Conduit, Plastic Hex, 1/2-14 NPT, for 1.2 to 2.5 mm dia | |
| BWA-HW-052 | Cable Gland Pack: 1/2-inch NPT gland, 1/2-inch NPT multi-cable gland, and 1/2-inch NPT vent plug | |
| BWA-CG.5-10 | Cable Glands: 1/2-inch NPT, Cordgrips for cable diameters 0.17 to 0.45 inch, 10 Pack | |
| BWA-CG.5-3X5.6-10 | Cable Glands: 1/2-inch NPT, Cordgrip for 3 holes of 2.8 to 5.6 mm diam, 10 Pack | |
| BWA-CG.5-2X2.5-10 | Cable Glands: 1/2-inch NPT, Cordgrip for 2 holes of 1.2 to 2.5 mm diam, 10 Pack | |
| BWA-CG.5-6X4.0-10 | Cable Glands: 1/2-inch NPT, Cordgrip for 6 holes of 2 to 4 mm diam, 10 Pack | |
| BWA-CG.5-6X3.0-10 | Cable Glands: 1/2-inch NPT, Cordgrip for 6 holes of 1.5 to 3 mm diam, 10 Pack | 1 |

1    Shown with PTFE tape wrapping