

## RPS Application Case Study

The RPS is a CSA approved, Class 2 power supply that provides safe, regulated power for general applications. The RPS supplies 13.6 VDC and 24 VAC power.

The RPS has a battery-backup option. The battery backup supplies enough power to maintain or slowly charge a 12 V gel cell battery (not included). If the incoming AC power fails, the battery provides power to the devices connected to the DC output terminal. For more information, see the RPS installation guide.

### Electrical Ratings

<b>Input</b>	115/230 VAC 50 VA 50/60 Hz	<b>Output</b>	24 VAC 13.6 VDC 15 W maximum ★	<b>Fuse</b>	250 V 1 A, fast-acting glass
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★ The combined AC and DC outputs must not exceed 15 W.

### Example

A site has a barn with eight Feed Level Sensors and an OMNI-Weather Station. These devices require 13.6 VDC. You can connect all these devices to one RPS as long as they do not consume more than 15 W of power.

To find out if you can connect eight Feed Level Sensors and an OMNI-Weather Station to one RPS, you need to calculate the total power consumption of all the devices. A Feed Level Sensor consumes 125 mA and an OMNI-Weather Station consumes 100 mA of power.

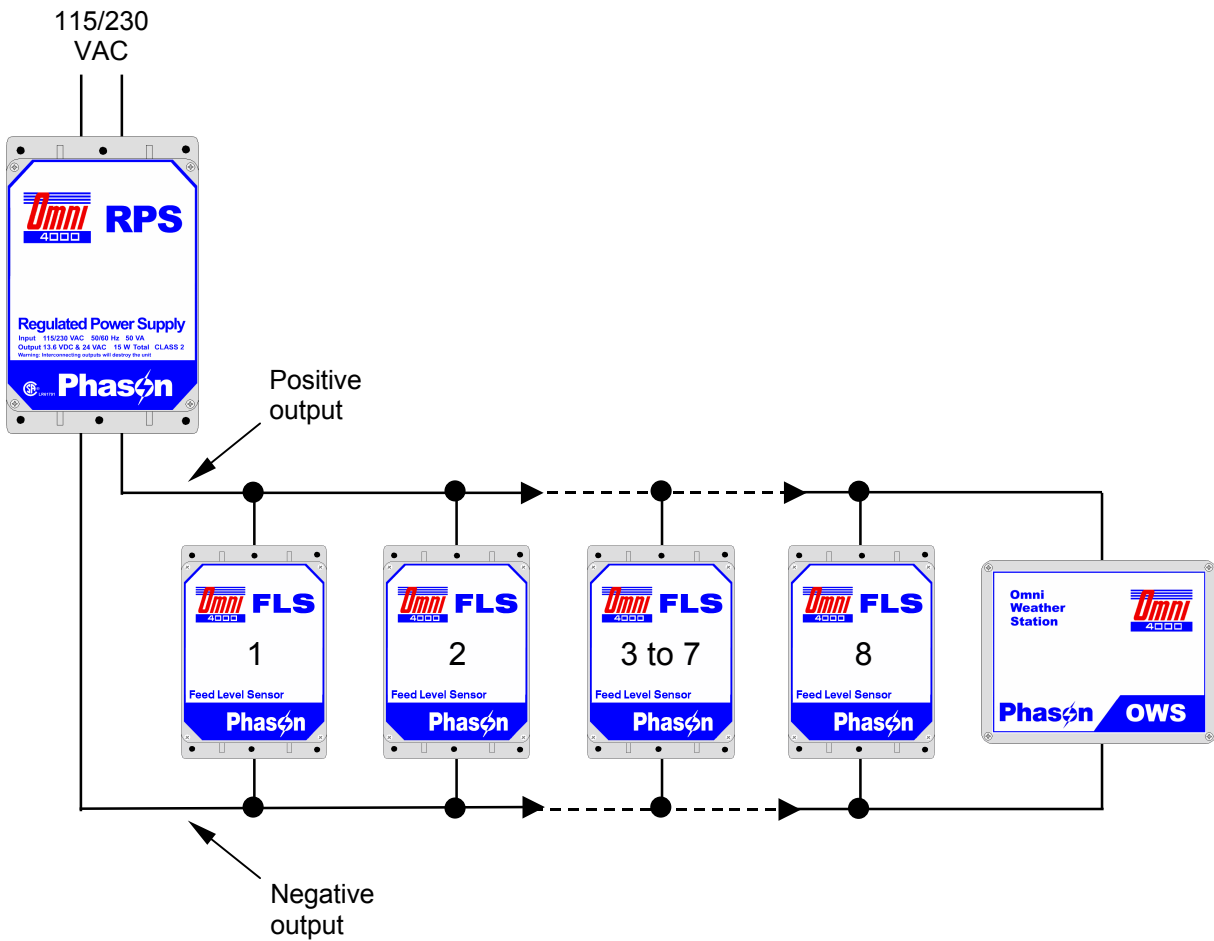
Using the formula  $W=V \times A$ , calculate the power consumption as follows.

<b>OMNI-Weather Station</b> $W=13.6 \text{ V} \times .100 \text{ A}$ $W=1.36$ An OMNI-Weather Station consumes 1.36 W of power.	<b>Feed Level Sensor</b> $W=13.6 \text{ V} \times .125 \text{ A}$ $W=1.70$ A Feed Level Sensor consumes 1.70 W of power.
Calculate the total power consumption.	<b>Feed Level Sensors</b> $8 \times 1.70 \text{ W} = 13.6 \text{ W}$ <b>OMNI-Weather Station</b> $1.36 \text{ W}$ <b>Total power consumption</b> $13.6 \text{ W} + 1.36 \text{ W} = \underline{14.96 \text{ W}}$

The total power consumption of eight Feed Level Sensors and one OMNI-Server is 14.96 W. Since the total power consumption is less than 15 W, you can connect all the devices to one RPS.

### Connection Diagram

This diagram shows one possible way to connect the Feed Level Sensors and OMNI-Weather Station to the RPS. For more information about connecting the RPS, Feed Level Sensors, and OMNI-Weather Station, see the installation guides for these products.



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