

Two Products, One Goal - Slash Your Electric Bill

Comparing Sensor Synergy's Power Monitoring Solutions - WA-118 & WA-122

Sensor Synergy has created a suite of complementary real-time, power-usage / power-tracking electricity monitoring tools. These products are complete solutions which include all the components needed to closely monitor electricity use. Our turn-key solutions include sensors, Sensor Synergy's data acquisition-microweb server, Sensor Synergy's "Dashboard" monitoring and data reviewing software, a pre-configured netbook computer, a wireless router, and all other necessary software.

Sensor Synergy's power monitoring solutions are divided into two categories:

- Power-usage measurement system (WA-122)
- Power-tracking monitoring system (WA-118)

The WA-122 and WA-118 systems are designed for use by different functions within an organization.

The WA-122 measurement solution precisely monitors electrical power consumption in real-time and also provides some key power quality metrics. This high-precision solution provides data that closely parallels the revenue grade, utility company electric power meter. Although the WA-122 may be best suited to measure the power used by an entire plant/manufacturing facility, this solution can also satisfy a broad range of power-use and power quality monitoring needs.

The WA-118 monitoring solution tracks power consumption so that an approximate rate of electrical power usage can be displayed in real-time. Changes in power consumption - increases or decreases - are accurately represented in the WA-118's output data stream and on the netbook's display screen. The WA-118 power tracking unit may be best suited for tracking the power used through a single power distribution panel or monitoring a portion of the total power used in a facility. The WA-118 is particularly well suited for tracking power usage by large electricity consuming devices such as air compressors, large electric motors, paint drying rooms, and other power hungry devices within your facility.

WA-122

- Precisely measures power usage and power quality, including power factor, reactive kW, real KW, frequency, and other power metrics
- May require a brief power outage to complete the installation
- Requires an included, metal NEMA-4 enclosure due to high voltage (120, 208, 277, 460, 480, or 600 volts) connections.

WA-118

- Tracks power usage - typically within 5% of billed power. Changes accurately reflect changes in billed power. A 10% reduction in WA-118 output will result in a 10% reduction in billed KW-Hrs.
- Installation typically does not require interruption of electric power to any part of your facility. Easy installation takes about 1-hour
- Uses only low-voltage (0 - 5 volts) sensors For indoor applications, can be installed without the need for a separate weather-tight metal enclosure

- Has an error of less than 1% when the results are compared to the revenue grade meters provided by the electric utility company.
- errors can range between 1% and 15%, depending on variations in the electrical load and the user's knowledge of the load. For example, if the user knows that he is monitoring a compressor with a certain power factor (often 0.85 for delta wired air compressor motors), an error of less than 1% can be achieved. If the unit is measuring an unknown load that combines computers, lights, motors, and other electronics, then the error can be as large a 15%.
- Both solutions will send data to the same software package across the same wireless router.
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- Costs \$1500 to \$2000 more than the WA-118
- Costs depend on the sensors needed for your particular application. Complete solutions costs range from \$3,000 to \$5,000.

For example, the Chief Financial Officer (CFO) at an enterprise may need to precisely monitor whole plant power consumption at several facilities simultaneously, but this CFO may not care about the details of a single energy consumer (like a compressor) at a single facility. From the corporate perspective, the WA-122 is the more appropriate selection especially since there may be concerns about financial surcharges (penalties) from the power company if a plant's power factor falls below 0.85. This and other concerns about power use/quality encourage a need to precisely monitor power costs and power quality using the WA-122.

In contrast to the CFO example, the Facility Manager in another application at a single facility may need to know the details of how one compressor compares to another, how long the paint room heaters runs during the week, and how power usage on an assembly line correlates with production throughput. The less expensive, easy to install WA-118 will provide valuable operational information to help reduce electricity consumption within a plant. This is a particularly useful tool since the acquisition costs, internal set-up costs, installation convenience, ease of software use, and no power outage features allow for rapid deployment with quick results in tracking and understanding power usage costs. As an added benefit, the user can identify important operational issues regarding the use of resource-intensive plant equipment and include power usage factors when scheduling the use of this equipment .