

SENSERT™

WHOLE-PLANT REMOTE PROCESS MONITORING AND ALERT SYSTEM FOR WATER/WASTEWATER TREATMENT

Administering public utilities like water departments and wastewater treatment comes with tight budgets and heightened accountability for use of public dollars. There is always a need to save money and reduce payroll/overtime without sacrificing the quality of operations. The treatment plant maintenance manager craves the ability to achieve these objectives while also developing a maintenance record that can be used to predict and plan future outages – creating further efficiencies.

Remote process monitoring allows plant stakeholders to read plant sensors — critical or seemingly mundane — to make assessment of the process and determine intervention as needed. These systems track real-time data and many of them provide alerts when fluctuations outside of a set tolerance are detected.

These systems can also cost a lot of money. From a maintenance perspective, doing more for less is needed.

ATC Diversified Electronics, a trusted name in plant automation, motor protection, and power quality, has introduced scalable technology, SENSERT™, that makes it possible to remotely monitor critical processes for a wide range of conditions using the sensors you already have in place. This gives plant operators and overseers total control over the kinds of sensors they use in the future. SENSERT's unique capabilities, ease of use, and low price point make it a ready solution for many of the maintenance and monitoring challenges confronting water and wastewater treatment plants.

What exactly is SENSERT?

SENSERT is a remote monitoring and alert system in which a variety of sensors, including temperature, pressure, flow, vibration, presence of voltage, and others, can be hardwired directly to the SENSERT Base Unit or wirelessly connected via the SENSERT Remote I/O. Sensor data is monitored in real-time and alerts are triggered based on customizable thresholds. SENSERT works with any commercially available 0-20 milliamp, 4-20 milliamp, 0-5 volt or 0-10 volt sensors.

SENSERT allows plant stakeholders to save time by monitoring assets in real time without the need for onsite readings, which eliminates travel time to remote operations. No more spending hours taking down readings or reports, either.

Eliminating the need to physically check sensors offers obvious labor savings, but pale in comparison to improved machine and process uptime, which eliminates emergency after-hours and weekend callouts and, of course, the related costs of operational downtime due to equipment failure.

Historical data collected from SENSERT can also help spot and track trends that precede failure, creating warning cues from common dataset. Far less expensive than traditional SCADA systems, SENSERT uses technology you already have and can connect to existing sensor technology.

Because SENSERT uses existing sensors and reads so many different condition types, it can be applied to a multitude of applications. But its strengths make it ideal for water and wastewater treatment and handling.

Pump operations are the heart of any water and wastewater treatment facility. Simply put, when a pump fails, it's catastrophic. If they stop, it brings new meaning to the term "dead in the water." Because SENSERT can read pressure, flow, and vibration (as well as many other conditions), it is uniquely suited for compatibility with pumps. Immediately and remotely, you'll know exactly how pumps are faring. Set thresholds for critical pump performance criteria, and you'll receive an alert when anything falls out of spec. This creates crucial time to address issues before they cause pump system failure.

Water level monitoring is made easy with SENSERT. Install probes at low- and high-water marks and always know where water collection stands. Programmed threshold alerts can warn when water level is getting too low – or too high.

Pump overheating can lead to expensive repairs and lost productivity. While devices already exist in the field to automate the alternating of pumps, SENSERT alerts you to problems that can be a precursor to overheating and eventual pump failure. You'll know if pumps are alternating too often, not enough, and how temperature is impacted by these anomalies.

Water flow is important to monitor throughout a plant because it is, of course, the lifeblood of the operation. Sensors at strategic locations can help pinpoint leaks when they occur. Temperature monitoring can also help prevent seal failure on submersible pumps.

In addition, SENSERT can work in other applications throughout plant operations including in booster stations, dams and levees, elevated tanks, reservoirs, lift stations, suction and discharge pressure readings, chlorine and other additive monitoring, valves, wells, and more.

Tested From Within

ATC Diversified Electronics, creator and manufacturer of SENSERT, put the system to a real-world test inside one of its very own sister companies. Parent company Marsh Bellofram operates a large industrial complex in Newell, West Virginia. SENSERT was installed on a boiler system in the complex used in the manufacture of elastomers.

The steam generated by the boiler is critical to manufacturing processes, and if the pressure falls below 100 psi, costly downtime is likely to soon follow. Prior to SENSERT, the facility maintenance manager needed to always have a person on site to regularly monitor the boiler gauges, including weekends.

Now, with SENSERT, he checks the boiler pressure whenever he wants, directly from the SENSERT mobile app on his phone. He can even check from his living room.

Maintenance teams at the plant are also using SENSERT as a counter on the plant's air compressors. To supply constant air pressure to the plant's testing facilities, several compressors fill reserve tanks and deliver air pressure. The SENSERT system allows maintenance to track air usage. This not only helps keep the air compressors operating at peak performance, it revealed an anomaly that led to the discovery of a leak. Without SENSERT's readings, the leak might have gone weeks, months, or even longer without being found.

SENSERT has also alerted plant maintenance to power outages caused by malfunctions with the local electrical utility. The SENSERT mobile app sends an alert when sensors stop reporting, providing early warning of the outage.

During the testing period, SENSERT saved the sister company tens of thousands of dollars by allowing maintenance to respond faster to issues and allowing for remote monitoring instead of on-site man hours.

How SENSERT Helps

- **SENSERT reduces overall maintenance costs.** It's now possible to affordably monitor virtually every aspect of water treatment, using non-proprietary sensors. Truly remote monitoring can be checked anywhere from a mobile device with the SENSERT mobile app. No more nights/weekends. Reduces or eliminates overtime.
- **SENSERT reduces emergency repairs.** Alerts for pre-set thresholds reduce surprises. Catch potential issues early, before downtime occurs. Manage small problems before they become major repairs.
- **SENSERT makes predictive maintenance a reality.** By data logging and aggregating diverse information, know operating trends at a glance. Make future maintenance decisions based on actual data.
- **SENSERT makes remote, whole-plant monitoring affordable.** Uses non-proprietary sensors, helping keep costs down. The system is also compatible with wide range of conditions and can monitor multiple conditions simultaneously, from multiple locations within a plant.

For more information, visit <https://www.sensertio.com/>.

About ATC Diversified Electronics

ATC Diversified Electronics offers a broad range of devices for automation, motor protection, electrical safety, and power quality. Made of the finest materials, by the finest engineering and manufacturing minds, to the exacting standards relied upon industry-wide, ATC in an application means accurate, repeatable results. Time and time again.

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