

TrueSense*

Online for Cooling

Value at a Glance

Cooling system performance for operational efficiency, asset preservation, water conservation, and environmental compliance is more critical than ever.

Production processes pushed to their limits, low tolerance for failure, limited manpower and budgetary pressures have collectively created an undeniable demand for treatment cost-performance of critical open recirculating cooling systems.

TrueSense* is a breakthrough technology for applying the right amount of product, at any point in time, such that system performance is protected, at the optimal economics.

How It Works

World-class cooling water treatment chemistry and applications expertise has been the unwavering trademark of GE Water & Process Technologies.

The GenGard* line of halogen-stable technology provides unparalleled corrosion and deposit control, as well as biological control protection, in the presence of halogens for longer runs times and more efficiency.

The polymeric dispersant is a key element of the cooling water treatment program.

TrueSense technology directly measures and controls the available polymer – that is, the polymer available to inhibit mineral scale formation and disperse suspended solids.



Your GE Professionals set the optimum target control point for the polymer concentration, based on the specific conditions of your cooling system.

The targeted polymer concentration is always maintained, despite fluctuations in polymer demand caused by system variations or upset conditions.

TrueSense's direct polymer measurement and control, combined with the most advanced suite of halogen-stable cooling water treatment technologies of GenGard...clearly the choice for superior cooling system performance.

TrueSense System

Each application includes a TrueSense monitor (Figures 1 and 2), a controller, and appropriately sized chemical feed pumps.

A range of controllers, from simple to complex, can be paired with the TrueSense monitor to meet the specific system needs, goals, and budget for any customer.

GE offers a world-class range of controllers, from simple to sophisticated, either freestanding or part



Figure 1: TrueSense Monitor

a product of
ecomagination™



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of preconfigured modules including sensors, including GE's PaceSetter*, Aquatrac, Walchem equipment.

(Aquatrac is a trademark of Aquatrac Instruments, Inc. Walchem is a registered trademark of Walchem Corporation.)

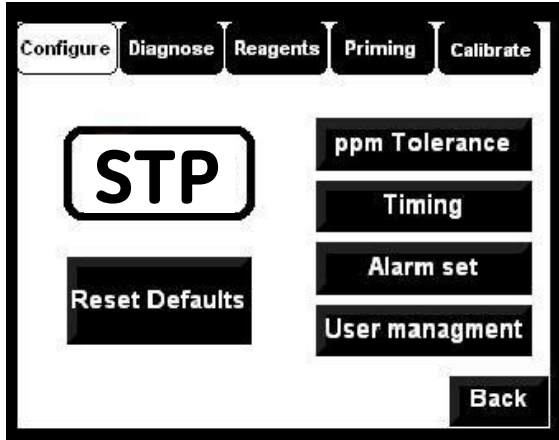


Figure 2: Simple touchpad interface of the TrueSense monitor enables quick and easy navigation through all functionality.

After surveying the cooling system, GE Professionals will configure a solution to meet the system complexity, specific needs, goals, and budget of any customer.

Many customers have made substantial investments in automation and control.. A goal is to fully utilize pre-existing equipment whenever possible, avoiding unnecessary expense.

Simplicity By Design

- Attention to user needs makes the sophisticated TrueSense technology easy to install, operate, and service
- Designed to perform to an industrial environment with a simple maintenance procedure performed once per month
- Alarming features and self-contained diagnostics make troubleshooting fast and effective

Installation

- GE professionals will always coordinate with plant personnel, and be present for a smooth, speedy installation.
- In most applications, a minor amount of customer preparation and support is required.
- In more complex situations, or where the customer chooses to outsource installation, GE professionals will support or contract for the installation services.

Ongoing Services

Skilled GE personnel perform simple and fast monthly maintenance. Should a problem develop, repairs are either conducted on site, or a replacement unit can be provided.

Specifications (monitor)

| | |
|-----------------------|---|
| Dimensions: | 34" H x 12" W x 9" D (85 cm x 30 cm x 22.5 cm) |
| Weight: | 55 lbs (25 Kg) |
| Ambient Temperature: | 41° to 122°F (5° to 50°C) |
| Measurement Frequency | Every 15 minutes to once/day |
| Outputs | 4-20 mA |
| Enclosure Rating | IP64/54 |

Required Utilities (monitor)

| | |
|-----------------------------------|---|
| Power: | 120 VAC, 50-60 Hz, 0.6A service |
| Sample Stream Flow: | Differential pressure between the monitor's inlet and outlet of 10 psid (0.7 bar), with a maximum inlet operating pressure of 50 psig (3.4 bar) |
| Electrical Safety Certifications: | N. America: UL/CSA 61010-1 Europe: CE Asia/Pacific Region: Current approvals include China, India, Korea, Japan, Taiwan, Malaysia, Vietnam, Singapore, Australia and New Zealand. |

Performance

TrueSense technology is the result of and extensive research and development effort by GE technologists around the globe.

Testing and validation in real-world industrial applications has resulted in a robust commercial design that meets the test of ruggedness and reliability. Figures 3 and 4 show two examples of TrueSense performance.

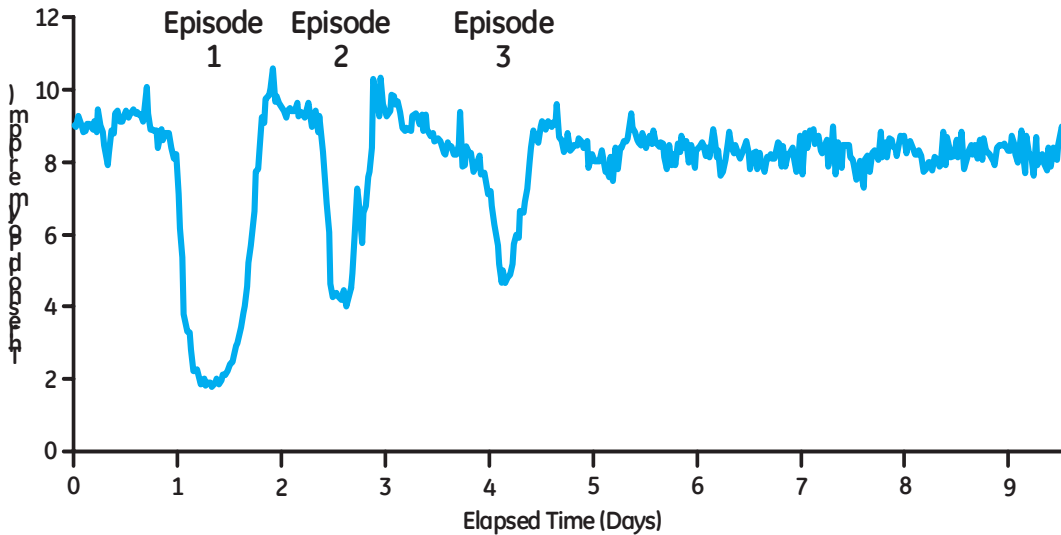


Figure 3: Re-establishment of target polymer concentration following each of three consecutive system upsets caused by rapid dilution and loss of cycles. East coast USA power plant.

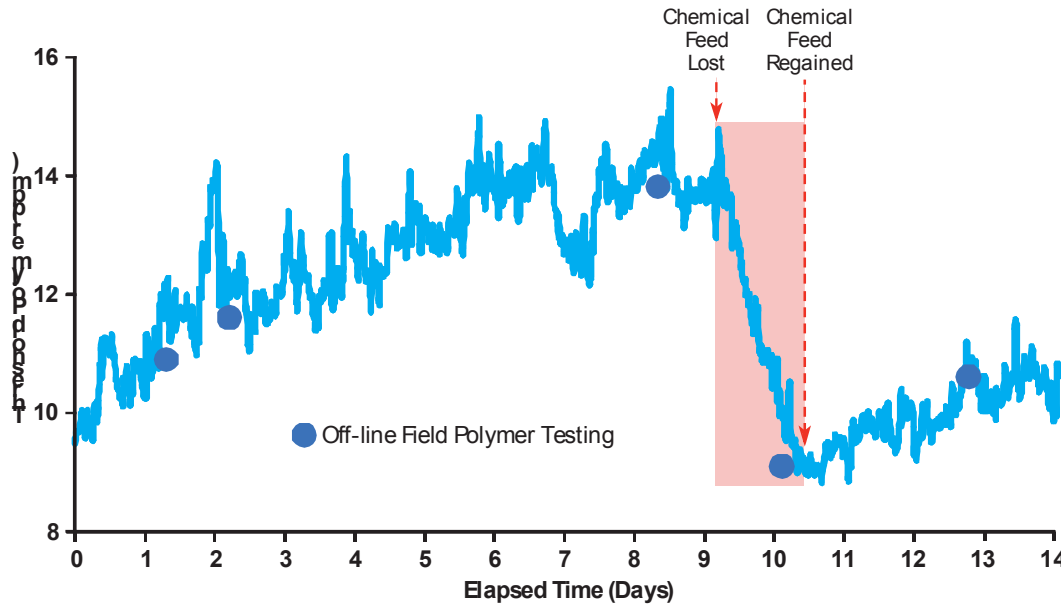


Figure 4: TrueSense detects failures that jeopardize system performance. in a monitoring mode only, a rapidly declining polymer concentration revealed a chemical pump failure until corrected and replenishment begins. Gulf coast USA refinery.