GE Power & Water
Water & Process Technologies

Fact Sheet

TrueSense* for Cooling

Ready, Set, Go

Whether serving manufacturing or comfort cooling processes, cooling tower system performance for operational efficiency, asset preservation, water conservation, and environmental compliance is more critical now than ever before. Production processes pushed to their limits, low tolerance for failure, limited manpower, and budgetary pressures collectively have created a demand for the reliability and cost-performance of critical open recirculating cooling systems.

Description and Use

TrueSense* for Cooling *Ready, Set, GO* is a fully integrated, plug and play control system for the management of corrosion, scale/ deposition, and microbiological activity in open evaporative recirculating cooling systems. The system includes connectivity with world-class remote data management, monitoring and diagnostic capabilities of GE's InSight* knowledge management platform.

TrueSense for Cooling Ready, Set, GO is a fully integrated cooling water control system.

Cooling water treatment chemistry and applications expertise are the cornerstone of GE customer commitment. GenGard* with Stress Tolerant Polymer provides unparalleled corrosion, scale/deposit control, and biological control protection in the presence of halogens. TrueSense for Cooling *Ready, Set, GO* is the perfect complement to world-class GE cooling water chemistries.

This cost-effective system simplifies installation and start up while providing the key features/functions of top-of-the-line cooling controllers. As a result, the management of your cooling systems with TrueSense for Cooling *Ready, Set, GO* will benefit by ...

- Minimizing the risk to valuable system assets from scale and corrosion
- Optimizing usage of expensive, municipal water sources while minimizing tower blowdown and sewer-related charges
- Simplifying reporting of critical system variables
- Maintaining your plant's cooling system at peak efficiency and performance

Features

Key features of the TrueSense for Cooling *Ready, Set, GO* include:

Plug and play

Integrated panel design that minimizes on-site installation time to typically less than an hour.

Advanced control functionality

A variety of chemical feed options and control methods are available using the frequency output modules. These include:

- Volumetric timer controls for known volume additions
- Variable frequency pump control allows for flow proportional feed based on either makeup or blowdown

Find a contact near you by visiting www.gewater.com and clicking on "Contact Us".

- Inhibitor ppm set point for precise feed control of your chemical products

Probes

- Industrial probe set with thermal flow switch for reliable and dependable pH, conductivity and ORP measurement with minimal intervention.
- Standard included probes for conductivity, ORP (oxidation-reduction potential) and sample stream flow
- Optional pH probe

Knowledge Management with InSight

InSight, GE's web-based knowledge management platform, provides the means to capture and translate data from your TrueSense for Cooling control system into valuable information. It provides the knowledge you need to get the most out of your cooling water applications that support production assets, at the lowest total cost of operation. InSight hosts data in a secure GE cloud that allows the information to reach the people who need it, when they need it and in a form they need it. InSight provides:

- Analytics: Seeing, at any point in time, the historical and current performance against success criteria, and the trajectory of future performance; where it's on track, and the weaknesses that need improvement.
- Proactive Detection: Detecting emerging problems, so that action can be taken now, before a failure is experienced in the future.
- Asset Reliability: Identifying opportunities to optimize the applications to which we are entrusted, that lower the total cost of operations, without sacrificing production performance.
- Safety: Acid leaks, chemical storage tank leaks or chemical overfeed are common occurrences that can be detected before a problem becomes serious.
- Productivity: Helping people get more done with tools that enhance their personal productivity, enabling them to see and do more.
- Collaboration: Communicating … recognizing that each customer is comprised of different groups of people with different roles, responsibilities and informational needs, and providing each of them with the right information in terms of its content, form and frequency so that it's meaningful and actionable. InSight enables customers to choose the way they manage information with a wide range of functionality.

Whether the "view" you need is a single application or asset, a cluster of assets, an entire plant, or all the plants in your company, InSight will enable you to "see it."

InSight distills extensive amounts of data from multiple Key Performance Indicators into a simple aggregate performance indicator tailored to the view of the user whether that by an individual system, collection of systems or an entire plant.

Graphics and reports functionalities enable users to simultaneously assess performance of key performance indicators that dictate overall asset health.

Drill down capabilities allow for selection, review and analysis of individual parameters.

Wireless Connectivity

With the on-board wireless gateway, the data from your TrueSense for Cooling system gets into InSight wirelessly. This avoids the excessive cost of running communication wires in industrial plants, gets customers connected fast, without hassles and plant network intrusion concerns, and at a low cost.

Systems Reliability Center

An extensive investment in the infrastructure, people and process comprise the *Systems Reliability Center (SRC*). Once a customer has the data from one or more cooling tower assets (boilers, cooling towers, etc.) active with InSight, the professionals of the SRC watch over those assets ... every day. They look for problems, and notify GE field teams when they see one before it results in a failure. It's an extension of the GE field team, complementing local efforts, providing a new level of assurance and reliability.

Every customer of InSight is automatically connected to and supported by the Systems Reliability Center.

Mobility

The functionality of InSight is complemented with mobile tools that enhance the productivity of your plant personnel. After connecting your data to InSight, you will immediately be able to utilize the mobile platform via your tablet or smart phone. GE has personalized the experience to get the right information, to the right people, at the right time. As a result, you will be able to make fast and conclusive decisions to optimize the water and process chemicals applications that enable your production assets.

The information provided is arranged with the device and user in mind, to make sure the experience is of great value and benefit. The mobile applications provide the user with the same abilities to see system health, current data, trends, reports and even enter operational data and notes.

These mobile tools can be used for both data entry as well as accessing all the historical data in the multitude of ways offered by InSight.

InSight mobile apps enable users to visualize and respond to system performance with the daily challenges of priorities and time management.

InSight users have access to "apps" for the Apple iPad and iPhone, making the power of this capability more mobile, more informing and more impactful. [1]

[1] *Apple and iPad are registered trademarks of Apple, Inc.*

Specifications

Control System

Dimensions (overall panel)	36" W x 20" H x 6.25" D (91 cm W x 51 cm H x 16 cm D)	
Enclosure (controller)	Non-metallic, NEMA 4X	
Power	120 or 230 VAC, 50/60 Hz	Line voltage selectable
Fusing for 5AC powered loads	5 Amps @ 120 VAC or 2.5 Amps @ 230 VAC	Alarm on open AC load fuse
Surge suppression	Relay 2-5 N.O. contract snubbed @ 0.1 uF, 150 ohm	Varistor on AC line input
Accessory power fused @ 50 50 mA	15 – 22 VDC, unregulated, thermally	Auto-recovery on fault cleared
Sample stream	2 – 7 gpm (7.6 – 26.5 lpm) 0 - 87 psig (0.0 – 6.0 bar)	

Certifications

CSA: pending		CSA tested to comply with UL (pending)

Communications User Interface

Keypad LCD	5 key tactile feedback, universal characters 2 line, backlit	Scan rate 100 mS nominal

Analog-Digital I/O

Conductivity Sensor	Tower and integral flow switch sensors	Default tower sensor includes 1 GPM integral flow switch
Fixed temperature sensor input	Thermal compensation for both pH and conductivity	Displayed as ^{o}F, ^{o}C or ^{o}K
Fixed 4-20 mA current loop input	Assignable to control any relay or variable frequency control	Single point calibration if 4 mA = 0
4 max. 4-20 mA current	DC isolated, manual & auto modes, interlocking, alarm	Each optional current output uses a dual sensor card slot
7 max. manual-inventory-inputs	Track drop counts, inventory, tank level, ppm	Alarmed delay prevents premature system ppm alarms

Wireless Gateway

Enclosure	NEMA 4X/IP66 rated	
Power Input Rating	100-240 VAC	
Power Consumption	Approximately 15 W	
Surge Protection	2 kV burst (EFT) (included power supply)	
Sensor Capacity	One gateway can collect data from up to 6 sensors	

Ordering

SAP Part Number	Description
3099453	Option #1 – flow switch, conductivity and ORP
3099454	Option #2 – flow switch, conductivity, pH and ORP
2088026	Conductivity/flow switch replacement sensor
2086748	ORP replacement sensor
2047831	pH replacement sensor
3099455	Replacement probe header for TSOL – RSG

Performance Tested

TrueSense technology is the result of extensive research and development efforts by GE technologists around the globe. Testing and validation in real-world industrial applications has resulted in a robust commercial design that meets expectations for performance and reliability.

Packaging

The TrueSense for Cooling *Ready, Set, GO* control system arrives on site in a single box. The pre-assembled panel, probe header and electrical components simplify installation and commissioning for a fast deployment.

Take Action

Your GE representative can assist you in defining the best application and utilization of TrueSense technology and take you to the next level of performance and value. TrueSense for Cooling *Ready, Set, GO* is a core element of a suite of complementary technologies and services from GE that represent world-class automation, process control and knowledge management capability. Your GE representative can help you realize the impact of a total solution for achieving extreme cost-performance and value from your water and process systems.