CHECKPOINT®

Wireless Monitoring System *by TempSys*

Basic Preventive Maintenance

& Troubleshooting Guide

Document No. D1552

Rev. A

July 12, 2011

TempSys, Inc. 5701 Hollis Street, Emeryville, CA 94608
support@tempsys.net • (510) 526-7624 • www.tempsys.net

Introduction & Overview. TempSys recommends performing regular basic preventive maintenance and system checks to keep the CheckPoint monitoring system in good working order and to maintain optimal system performance and reliability. Our Standard and Premium Support Plans include an Extended Equipment Warranty and 24/7 unmetered technical support to provide on-going service and support.

This overview is an introductory guide to preventive maintenance, user training and education, and basic troubleshooting. Please contact CheckPoint Customer Support at support@tempsys.net for additional reference documents and comprehensive system service and support.

Preventive Maintenance. Regular inspection of system devices and components is recommended as-needed and at regular intervals: monthly, quarterly, and annually. The procedures and protocols, along with the suggested inspection and test intervals summarized in Tables A and B, are recommendations only. Each organizer shall review and adopt standard operating procedures and protocols in accordance with its operating requirements and policies.

TempSys also offers annual on-site sensor calibration, battery replacement, alarm checks, and user training, as an optional on-site premium service.   Contact your sales representative or CheckPoint Customer Support for additional information.

User Training & Education. The CheckPoint electronic document library is available for download of user training and reference documentation. The following are core reference documents:

- D1551 - Quick Start Guide - How to Use the CheckPoint System (Rev. A)
- D1561 - CheckPoint User Manual & Training Guide V8.6.X
- D1562 -CheckPoint Thin Client User Manual V1.0.7

Online video tutorials are available at the following links:

http://www.tempsys.net/videos/user_tutorial/

http://www.tempsys.net/videos/admin_tutorial/

Contact CheckPoint Customer Support at support@tempsys.net for additional user training and reference documentation.

Contact your sales representative for further information about and a quote for on-site project management and/or support services that are outside of our Standard Support Plan.

Table A – Recommended System Checks & Preventive Maintenance

A/N	M	Q	A	Recommended System Check & Preventive Maintenance	Notes & Comments
√	√			**Inspect Each Sensor and Probe** - to verify there is no visible physical damage to the sensor or probe and the placement and location of the sensor meet monitoring requirements without interfering with day-to-day operations.	Some organizations elect to perform alarm checks on a select number of representative sensor types to ensure alert messages and escalations are functioning properly. Verify alert lamps function properly by triggering test alarms.
√	√			**Software & Data Integrity** - Verify: a. Regular database backups are being made b. SQL database file "Tempmonitor" does not exceed 2G and 4 GB for SQL 2000 (MSDE) and SQL2008, respectively. The file size limit is 8 GB for SQL 2008 R2. c. G2Log file size does not exceed 1 MB.	The G2Log.txt is in the \Windows\Temp directory. Perform this procedure: (1) Copy and rename this file to:G2Log MMDDYY.txt" (2) Delete G2Log.txt file so that a new log file is created with new entries and small file size.
		√		**Spare Parts Inventory Check** – Verify there is at least one spare of each of following devices and components on hand for immediate repairs: (a) Sensor for each unique sensor type (E15, D5, Thermocouple, etc.) in use at the facility (b) Probe (stainless steel, air, thermocouple, etc.) for each sensor type (c) 10 AA lithium (G3) or Alkaline (G4) Batteries (d) 2 Ounce PGX Probe Bottle with pierced cap (e) AC Adapter for Access Point (120 V/1.75 A) (f) AC Adapter for Repeater (120 V / 1.0 A) (g) Cable Ties and Mounting Bases (h) 2" Velcro Strips	Contact your sales representative to order a Standard Spare Parts kit and/or additional spare components and devices as required.

Legend: **A/N** – As-Needed, **M** – Monthly, **Q** – Quarterly, **A** –Annually (Yearly)

Table A - Recommended System Checks & Preventive Maintenance (Continued)

A/N	M	Q	A	Recommended System Check & Preventive Maintenance	Notes & Comments
		√		**Verify Probe Bottles** - have a minimum level of glycol / PGX or applicable buffer solution.	Do not submerge the probe wire junction, where the probe and probe wire meet, below the fluid level line. Verify junction is above fluid level line.
√		√		**Review Available Software Release Notes** - to determine if a software update to the application server and rich clients are necessary. Perform an optional incremental IQ/OQ validation alarm check as applicable.	Register for TempSys Newsletter communications to receive important news, product and service updates.
√			√	**Restart Application Server or System Host PC** – to ensure all applications and services are running normally.	Update applicable anti-virus software and operating system patches as required.
√			√	**Inspect and Replace Sensor AA Lithium (G3) or Alkaline (G4) Batteries** - as required if **G3 voltage** is below **3.0 V** and **G4 voltage** is below **2.0 V**.	Battery voltage levels are available in the G2 Log.
			√	**Swap Out of All Probes with NIST-traceable Calibrated Probes** - and update probe serial number in the CheckPoint application	NIST-traceable and A2LA calibrations are available with the Snap Calibration Probe Exchange Program.

Legend: **A/N** – As-Needed, **M** – Monthly, **Q** – Quarterly, **A** –Annually (Yearly)

Table A - Recommended System Checks & Preventive Maintenance (Continued)

A/N	M	Q	A	Recommended System Check & Preventive Maintenance	Notes & Comments
√			√	**Perform at Least One Alarm Check for Each Sensor Type** (one refrigerator, incubator, humidity, CO2, dry contact, etc.) – to verify a full alarm test thread from start to finish.	Verify alert message content is correct (HIGH or LOW alarm), is properly formatted, and all escalations are received as configured.
√			√	**Review System, Alert and User Account Settings** (account type, group membership, alert escalation profile) – to verify system meets operating requirements.	Verify min / max, alert threshold (time delay), and alert escalation protocols and recipients. Delete user accounts no longer in use.

Legend: **A/N** – As-Needed, **M** – Monthly, **Q** – Quarterly, **A** –Annually (Yearly)

Additional equipment setup and configuration information and tools are available at http://www.tempsys.net/instructions.

Basic System Troubleshooting – Simple system issues can usually be easily resolved by following the steps outlined in Table B. If additional information and/or issues persist after following the instructions in Table, please contact CheckPoint Customer Support by sending an email to support@tempsys.net or creating a support ticket at http://checkpoint.kayako.com.

Table B – Basic Troubleshooting & Repair

#	Issue Description	Recommended Action(s)	Notes & Comments
1	**Temperature (or other vital parameter) Reading Does Not Match a Reference Thermometer (Measure Device)** –and is outside its expected nominal value and acceptable tolerance.	(1) Inspect sensor and probe for physical damage. (2) Verify the probe connector is not loose and is properly firmly connected to and seated with the probe connector.	Also refer to D1502 - How to Reconcile Differences Between CheckPoint & Other Devices
2	**No Sensor Contact** – Indicates sensor has not been able to send its data to the Server for a duration the Alert Threshold period of time of defined by the Logging Interval and Alert Threshold. The minimum time for a No Sensor Contact alert is three times the Logging Interval (alert time delay). If the Alert Threshold, however, is greater than the Logging Interval, a No contact alert occurs after two times the Logging Interval plus the Alert Threshold.	(1) Verify each sensor's AA lithium (G3) or alkaline (G4) battery has a minimum voltage of 1.25 V. (2) Replace the batteries and verify the LED on the back of the circuit board blinks three times. (3) Check and verify there are readings from adjacent sensors are. If this is the case, contact CheckPoint Support. (4) If all sensors are not reporting, verify the Access Points and/or Repeaters are functioning properly.	An Access Point is connected to the network if it replies to a ping command and both green LEDs on the front of the device are solid green. Verify UDP port 1324 is not blocked by an antivirus software application or a network device (router, firewall, etc.). Also refer to D1501 - How to Troubleshoot a No Sensor Contact
3	**No Probe Alert -** Chart will display a series of black dots on the bottom of the chart, indicating the sensor has no probe attached to it. A No Probe Alert will occur if a probe is exposed to temperature outside its full scale range.	Verify the probe connector is not loose and is properly firmly connected to and seated with the probe connector. Verify the probe is not in an environment outside its rated full scale range.	Replace sensor batteries with two new AA lithium (G3) or alkaline (G4) batteries.

Table B – Basic Troubleshooting & Repair (Continued)

#	Issue Description	Recommended Action(s)	Notes & Comments
4	**Low Battery Alert**	Replace sensor batteries with two new AA lithium (G3) or alkaline (G4) batteries.	Do not use regular AA alkaline batteries, as these will cause corrosive data to the battery terminals and void the equipment warranty.
5	**Alert Lamp Does Not Flash**	Verify the following: (1) 120 V AC power is available and the alert lamp power cord is plugged in. (2) Ethernet cable is plugged into its assigned data jack. (3) Web switch replies when its IP address is pinged	Use a PC on the same IP gateway as the alert lamp for best troubleshooting results. Contact CheckPoint Customer Support for further assistance if the troubleshooting steps do not resolve the issue.
6	**User Account Locked Out** - Cannot log in because exceeded the maximum number of login attempts.	Contact your system administrator to unlock your account and reset your password.	Contact your system administrator to unlock your account and reset your password.

Additional documentation and resources are listed in Table C.

Table C – Additional Reference Documents

Document No.	Description
D1500	How To Contact Customer Support
D1501	How to Troubleshoot a No Sensor Contact
D1502	How to Reconcile Differences Between CheckPoint & Other Devices
D1515	How to Update CheckPoint Software
D1516	How to Set Up a New Application Server
D1519	How to Configure DST (Daylight Savings Time) Settings for CheckPoint
D1551	Quick Start Guide - How to Use the CheckPoint System (Rev. A)
D1561	CheckPoint User Manual & Training Guide V8.6.X
D1562	CheckPoint Thin Client User Manual V1.0.7

For Further Assistance

If you need further assistance, please contact CheckPoint Customer Support by submitting a service ticket contact at http://checkpoint.kayako.com or sending an Email message to support@tempsys.net with a short description of the issue in the subject line, your contact information, and a detailed description of the issue you are experiencing.