

# LCS85 Turnkey User's Guide

MS-LCS8520-0

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# LCS85 Turnkey Introduction

Welcome to your new LONWORKS® Control Server 85 (MS-LCS8520-0) Turnkey! Your turnkey has been pre-configured with all prerequisite and Johnson Controls® software installed. The LCS85 has been named, has many recommended performance settings enabled, and has been tested and verified for proper functionality prior to shipment.

**Important:** Keep all collateral materials shipped with your LCS85 in a safe and accessible place. Materials shipped with your LCS85 Turnkey are crucial when servicing and restoring the original LCS85 image.

Follow the instructions in the [Detailed Procedures](#) section before using your turnkey. If you should ever need to restore your LCS85 to the original factory condition, see [Appendix: Restoring an LCS85 Using a Recovery Image DVD](#).

For information on integrating your LCS85 Turnkey into the LONWORKS network, refer to the LONWORKS *Network Integration with NAE and LCS Technical Bulletin (LIT-1201668)*.

## Naming Conventions

Prior to shipment, all LCS85 Turnkeys are named **LCSxxxxxxxxxxxx**, where **xxxxxxxxxxxx** is the MAC address of the enabled Ethernet card without hyphens. For example, if the LCS85 MAC address is 00-80-66-05-0F-FC, the initial computer name is LCS008066050FFC.

If the name of your LCS85 does not meet your requirements, refer to the *LCS85 Commissioning Guide (LIT-12011568)* for procedures on changing the name of your LCS85.

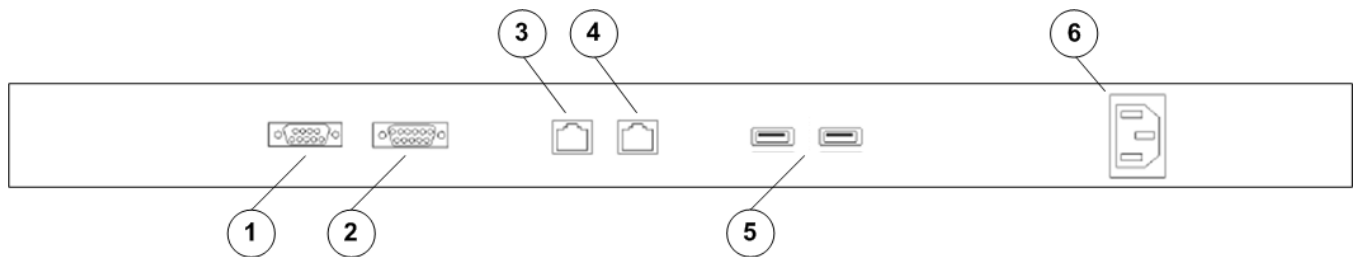
## LCS85 Hardware Platform

LCS85 engines ship as a 1U rack-mount server-class computer configuration ([Figure 1](#)).

See the [Technical Specifications](#) section for more information on the LCS85 hardware platform.

The 1U rack-mount chassis is designed to mount in standard 1U server rack applications. Rail and bracket mount accessories are available.

**Figure 1: Back of LCS85 1U Rack-Mount Server Chassis Physical Features, Connectors, and Ports**



**Table 1: Descriptions of LCS85 Connectors**

| Callout | Description                                                                      |
|---------|----------------------------------------------------------------------------------|
| 1       | Serial Port                                                                      |
| 2       | Video Port (An additional video port is located on the front of the server.)     |
| 3       | Ethernet Port 1 (1 Gbps)                                                         |
| 4       | Ethernet Port 2 (1 Gbps, disabled)                                               |
| 5       | Two USB Ports (Two additional USB ports are located on the front of the server.) |
| 6       | 120 VAC Power                                                                    |

## LCS85 Ethernet Ports

The LCS85 has two Ethernet ports. However, only one is used for network connections ([Figure 1](#)). The other port has been disabled.

Port 1 is a 1 GB Ethernet port and it is the only enabled network port on the LCS85 Turnkey. Use Port 1 only to connect to the Building Automation System (BAS) or LonWORKS network. Also use Port 1 to connect to Metasys® servers (Application and Data Servers/Extended Application and Data Servers [ADSs/ADXs]) and other Metasys supervisory devices.

## Browser Access to the LCS85 Turnkey

Starting at Release 6.0, you use the Launcher application instead of a web browser to access the LCS85 Turnkey. If the Launcher is not already installed on your machine, you are prompted to install it when you attempt to log in using a web browser. Refer to the *Launcher Installation Instructions (LIT-12011783)*.

The Launcher is a software application installed on each client computer that lets you access any Metasys server or supervisory engine on the building network, regardless of its software version. Its purpose is to remove the dependency on the public Java® Runtime Environment (JRE) for the Site Management Portal UI at Release 6.0 or later by placing a private edition of the JRE on the client computer. For details, refer to the *Launcher Help (LIT-12011742)*.

**Note:** We strongly advise that you do not browse to the Metasys Site Management Portal UI from a computer running a server-class operating system (OS). By default, Windows® Internet Explorer® Enhanced Security Configuration is enabled on server-class operating systems, and may block the Launcher download page from which you install the Launcher application for access to the Site Management Portal. Open the Site Management Portal UI from a computer that is not running a server-class OS.

## LCS85 Initial Configuration Values

The LCS85 ships with several factory-set initial attribute values ([Table 2](#)).

**Table 2: LCS85 Initial Configuration Values**

| Attribute/Field Name                            | LCS85 Initial Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Computer Name                                   | LCSxxxxxxxxxxx (where xxxxxxxxxxxx is the MAC address of the enabled Ethernet card without hyphens.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| DHCP Client                                     | <p>Enabled</p> <p><b>Note:</b> When commissioning an LCS85 for an Ethernet LAN that supports Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS), we recommend configuring DHCP to assign the same IP address to an LCS85 when the IP address lease expires and after the LCS85 device resets. If a different IP address is issued to the LCS85, address binding to the LCS85 from other devices breaks.</p> <p><b>Note:</b> If you are using a static IP address, make sure you disable DHCP in the Metasys UI. You may need to check the default gateway setting in the Registry Editor if you encounter communication problems. See the <a href="#">Checking the Default Gateway Settings</a> section for details.</p> |
| Site Director                                   | A new LCS85 is shipped as a Site Director. If an LCS85 is not going to be the Site Director, you must demote it by entering the computer name or IP address of the designated Site Director in the Site Director attribute field on the Advanced Focus tab of the LCS85.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Initial Metasys UI Login User Name              | MetasysSysAgent (not case sensitive)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Initial Metasys UI Login Password               | Contact your local Johnson Controls representative.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Initial Windows OS Login User Name <sup>1</sup> | MetasysSysAgent or Administrator (not case sensitive)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Initial Windows OS Login Password               | Contact your local Johnson Controls representative.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

<sup>1</sup> The Windows OS has two administrator-level user accounts. For security reasons, we strongly recommend changing the Windows login password for both accounts at commissioning. You can disable the Administrator account, but do not disable the MetasysSysAgent account.

## Detailed Procedures

### Starting the Computer for the First Time

Enter the 25-character Microsoft® license product key during the Microsoft Windows Setup for your LCS85 Turnkey. The key is located on a label affixed to the **top** of the LCS85 1U rack-mount model.

### Logging in for the First Time

**Important:** Do not rename the LCS85 Turnkey computer when prompted to do so by Microsoft software during startup. Refer to the *LCS85 Commissioning Guide (LIT-12011568)* for instructions on renaming the LCS85 Turnkey computer. If you do rename the LCS85 when prompted, the LCS85 does not function properly, the rename procedure in this document fails, and you must restore the LCS85. See [Appendix: Restoring an LCS85 Using a Recovery Image DVD](#).

All LCS85s ship with the same initial login user name and password. The initial Metasys UI user account login user name is **MetasysSysAgent** and is not case sensitive. For the MetasysSysAgent default password, contact your local Johnson Controls representative.

You must use the initial MetasysSysAgent user name and password to log in to any LCS85 the first time. For security reasons, you must change the password at the first login, before the LCS85 goes online in a Metasys network. You can also change your password at any time in the future.

When you change your account password for MetasysSysAgent user in the LCS85 Site Management Portal UI, your Windows account password does not automatically change to match. If you want your Site Management Portal UI and Windows passwords to match, you must change your Windows account password manually.

The Windows OS uses Windows Password Policy rules to establish criteria for the OS account password's complexity and duration. The MetasysSysAgent account login password must conform to the password policy rules established in the LCS85 OS. If the MetasysSysAgent account password does not conform to the password policy, any attempt to change the MetasysSysAgent password fails. Contact the Field Support Center if you cannot change the password.

The Windows OS has two administrator level user accounts: MetasysSysAgent and Administrator. For security reasons, we strongly recommend changing the Windows login password for both accounts. You can disable the Administrator account, but do not disable the MetasysSysAgent account. See [Table 2](#).

When using an LCS85 that is in a Windows domain or on a network where the password policy is controlled, consult the IT department to ensure that the MetasysSysAgent account password conforms to the network password policy and remains in sync with the OS login password.

Any **new** Metasys user accounts you create for the LCS85 are unaffected by the Windows Password Policy rules. Refer to the *Security Administrator System Technical Bulletin (LIT-1201528)* for information on creating new Metasys user accounts and changing Metasys login passwords.

**Note:** When you change or add a login user name or password, record the new user name and password and store them in a safe location. You cannot access the Site Management Portal UI without a valid user name and password.

### Setting the Time Zone, Date, and Time

The procedure you use to set the time zone, date, and time on an LCS85 depends on how the LCS85 fits into the Metasys site hierarchy. Refer to *Appendix: Time Zone, Date, and Time Management* in the *LCS85 Commissioning Guide (LIT-12011568)* for information and detailed procedures on setting time zone, date, and time on an LCS85 and on a Metasys network.

### Checking the Default Gateway Settings

**Important:** This procedure applies to turnkeys with Metasys releases prior to Release 6.0.

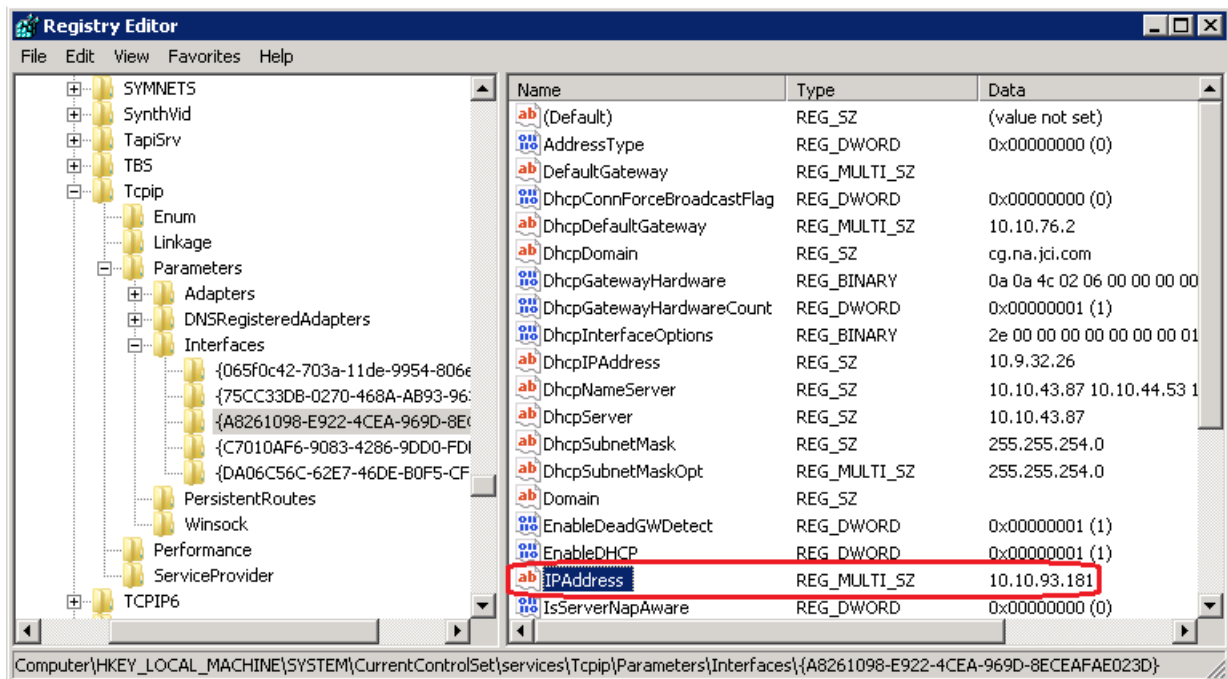
All turnkeys ship with DHCP enabled. When you set your static IP address, you also need to check that your default gateway settings remain in case of a power failure or when you restart your computer. If you lose your default gateway settings, you may encounter communication problems with devices outside your current subnet.

To prevent this issue, follow these steps to check your default gateway settings through the Registry Editor:

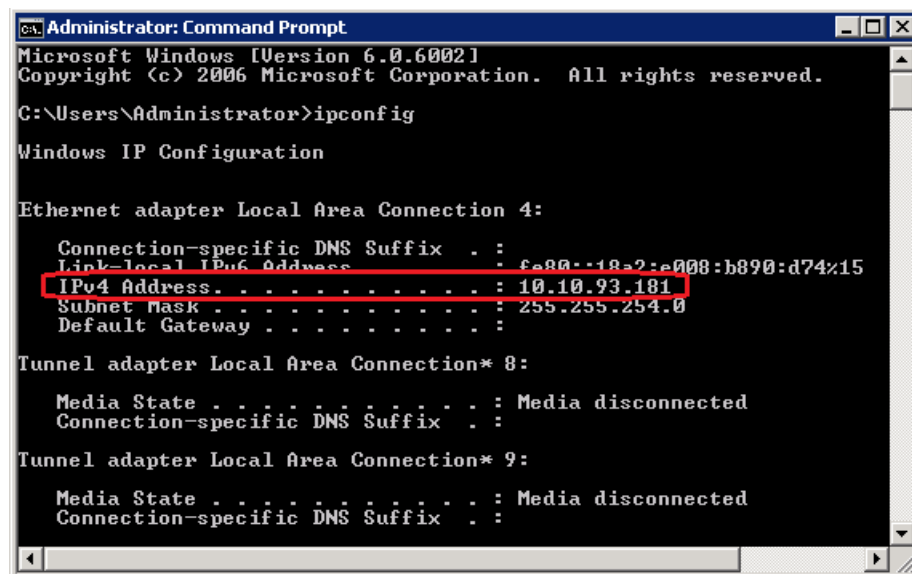
1. On the Start menu, type **regedit** in the Start Search field and press Enter. The Registry Editor appears.
2. Browse to the Interfaces folder using the following path: **HKEY\_LOCAL\_MACHINE > SYSTEM > CurrentControlSet > services > Tcpip > Parameters > Interfaces**.
3. Browse each interface and check the IPAddress entry to find the IP address that matches the static IP address of your turnkey ([Figure 2](#)).

**Note:** If you do not know your static IP address, you can find it by entering **ipconfig** at the command prompt ([Figure 3](#)).

**Figure 2: Matching Your Static IP Address in the Registry Editor**

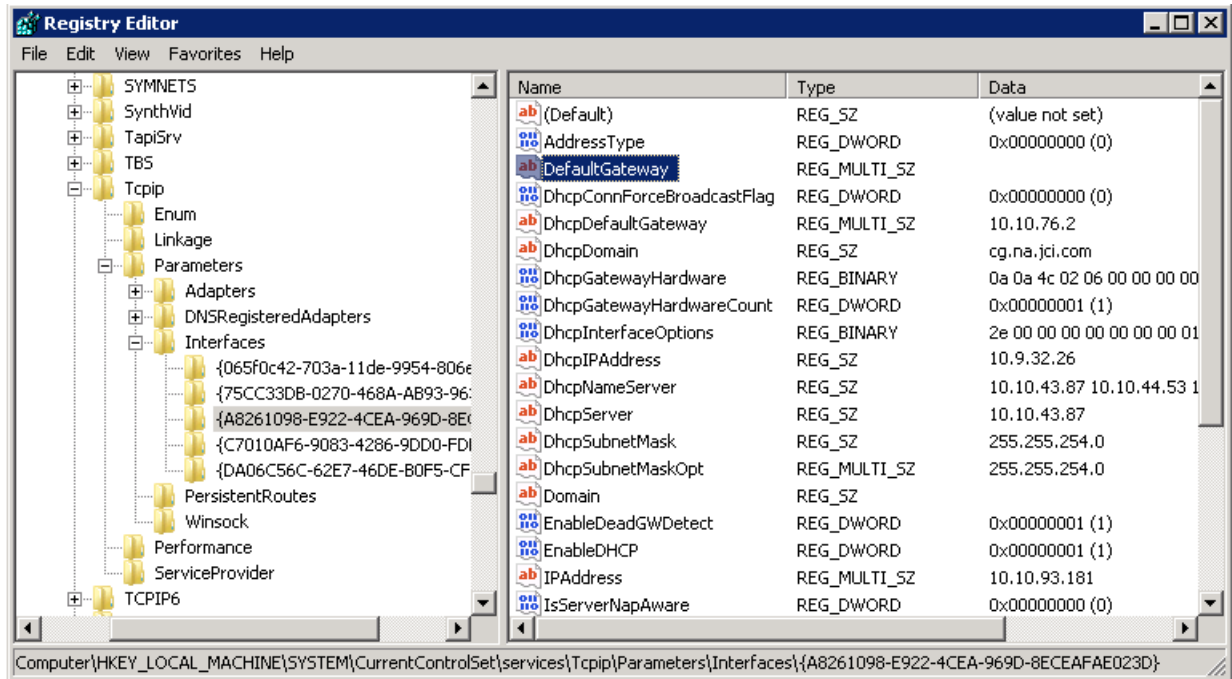


**Figure 3: Finding Your Static IP Address Using the Command Prompt**



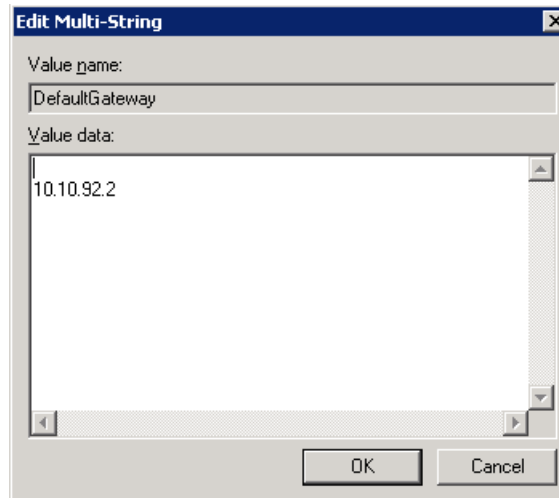
4. In the same window where your IP address appears, double-click **DefaultGateway** ([Figure 4](#)). The Edit Multi-String window appears.

Figure 4: Default Gateway in Registry Editor



5. If your default gateway address appears below a blank line ([Figure 5](#)), delete this blank line to ensure your default gateway settings are preserved.

Figure 5: Extra Space Above Default Gateway Address



## Modifying the OS Hosts File

You must modify the Microsoft Windows hosts file in order to access the Metasys Site Management Port UI. You must also perform this procedure when you purchase a new turnkey.

1. Go to Start > All Programs > Accessories. (If you are using Windows Server® 2012 R2 or Windows Server 2012, type Notepad from the Start screen.)
2. Right-click Notepad and select **Run as administrator**. Notepad opens.
3. On the File menu, click **Open**.
4. In the drop-down selection box in the lower-right corner of the Open dialog box, select **All Files (\*.\*)**.
5. Browse to C:\Windows\System32\drivers\etc.

6. Select the hosts file.
7. Click Open.
8. Locate the line that contains **127.0.0.1**.
9. Delete the # in front of 127.0.0.1.
10. On the File menu, click **Save**.

## Installing Metasys System Software Patches

Be sure to install any Metasys software patches that were released after the image for your LCS85 Turnkey was created. For example, a Release 6.5 LCS85 Turnkey solution does not have any Release 6.5 patches applied to it, regardless of when you order it.

To install Metasys system software patches:

1. Browse to one of the following locations:  
 Field Support Center (FSC) Product Quick Patches page at  
[http://publish.johnsoncontrols.com/content/controls/us/eng/fsc/hf/Metasys\\_Quick\\_Patches.html](http://publish.johnsoncontrols.com/content/controls/us/eng/fsc/hf/Metasys_Quick_Patches.html)  
 For North American Authorized Building Controls Specialists (ABCS) Partners, go to the ABCS Exchange site under Metasys > Technical Support > Software Patches.
2. Search for patches that apply to the LCS85 for the Metasys software release installed on your LCS85 Turnkey solution.
3. Follow patch installation instructions to install the patch.

## Technical Specifications

**Table 3: MS-LCS8520-0**

|                                                |                                                                                                                                                                                                       |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Computer Type</b>                           | Dell® PowerEdge® R420 or latest equivalent                                                                                                                                                            |
| <b>Power Requirement</b>                       | 100–240 VAC 50/60 Hz                                                                                                                                                                                  |
| <b>Power Supply</b>                            | 480 W                                                                                                                                                                                                 |
| <b>Ambient Operating Conditions</b>            | 10 to 35°C (50 to 95°F); 20 to 80% RH, noncondensing (twmax=29C)                                                                                                                                      |
| <b>Ambient Storage Conditions</b>              | -40 to 65°C (-40 to 149°F); 5 to 95% RH, noncondensing (twmax=38C)                                                                                                                                    |
| <b>Data Protection</b>                         | Recommended UPS: APC® Smart-UPS SC 450 VA, 280 W, 120 VAC input/output, NEMA 5-15R output connections, OEM Part No. SC450RM1U                                                                         |
| <b>Processor</b>                               | Intel® Xeon® E5506, 2+ GHz, 4 MB Cache2 or comparable (subject to availability)                                                                                                                       |
| <b>Memory</b>                                  | 2 GB or more, 1066 MHz or higher, 2 x 1 GB, single ranked UDIMMs for 1 processor                                                                                                                      |
| <b>Hard Disk</b>                               | 2 total (providing ample storage space, size subject to availability), 7.2k RPM SATA, 8.9 cm (3.5 in.) cabled<br><br>3 Gbps, RAID 1 configuration with add-in SAS6/iR (SATA/SAS Controller) or higher |
| <b>Internal Optical Drive</b>                  | DVD ROM, SATA                                                                                                                                                                                         |
| <b>Operating System</b>                        | Windows Server® 2012 R2 Standard                                                                                                                                                                      |
| <b>Antivirus Software</b>                      | Symantec® Endpoint Protection, Small Business Edition (latest version)                                                                                                                                |
| <b>Network and Serial Interfaces</b>           | 2 RJ45 1 Gbps Ethernet Ports, Port 2 is disabled<br><br>2 video ports; 1 front, 1 back<br><br>1 9-pin Serial port<br><br>4 USB ports (2 front, 2 back)                                                |
| <b>Dimensions<br/>(Height x Width x Depth)</b> | 4.3 x 43.4 x 62.7 cm (1.7 x 17.1 x 24.7 in.)                                                                                                                                                          |
| <b>Mounting</b>                                | Mount in an EIA-310D compatible server cabinet                                                                                                                                                        |

**Table 3: MS-LCS8520-0**

|                        |                                                                                                                                     |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Shipping Weight</b> | 15.9 kg (35 lb)                                                                                                                     |
| <b>Compliance</b>      | Europe: CE Mark (Record Holder: <a href="http://www.dell.com/regulatory_compliance">http://www.dell.com/regulatory_compliance</a> ) |

*The performance specifications are nominal and conform to acceptable industry standard. For application at conditions beyond these specifications, consult the local Johnson Controls® office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.*

## Appendix: Restoring an LCS85 Using a Recovery Image DVD

Use this procedure if you need to restore your LCS85 Turnkey to the condition in which you received it from the factory. This procedure may be required in the case of an LCS85 software failure that prevents you from accessing or operating the LCS85.

**Important:** Keep all collateral shipped with your LCS85 in a safe and accessible place. Materials shipped with your LCS85 Turnkey are crucial when servicing and restoring the original image.

**Important:** Restore the LCS85 only as a final course of action when you experience problems with the LCS85 Turnkey, after you troubleshoot the system, and contact the Field Support Center (FSC). You lose all database information and settings if you follow this procedure. This procedure returns the LCS85 to the factory-original condition in which you received it.

**Important:** Recovery media is to be used **only** with the LCS85 Turnkey computer you purchased. Do not use recovery media on a non-Turnkey computer or on a different Turnkey computer.

To restore an LCS85, you need the following:

- monitor, keyboard, and mouse
- the LCS85 recovery image disk that shipped with your LCS85

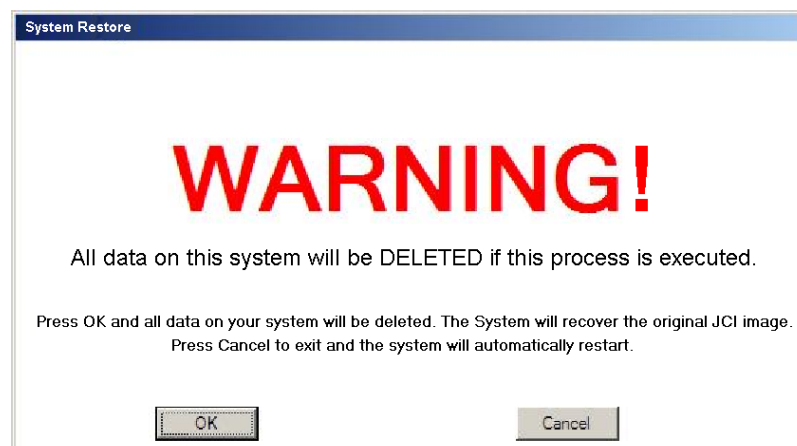
### Restoring an LCS85

1. Obtain the 25-character Windows product key for the LCS85. The product key is located on a label on the top of the 1U rack-mount chassis.
2. Connect the monitor, keyboard, and mouse to the LCS85, if not connected already.
3. Disconnect the network cable from the LCS85, if it is connected.
4. Place the recovery image DVD in the DVD drive.
5. Restart the LCS85 computer. As the computer restarts, the operating system detects the bootable disk in the drive and displays **Press any key to boot from CD or DVD**.
6. Press any key to begin the restoration process. If you did not press a key in time, restart the computer and try again.

After a few moments, a Progress window appears and indicates **Windows is loading files**.

Several minutes later, a warning message appears ([Figure 6](#)).

**Figure 6: Warning Message**



7. Click OK to begin the recovery process. After the system is reloaded and all files are restored, a Restore Complete message appears and the LCS85 computer restarts.

**Figure 7: Restore Complete Message**



8. When the computer begins to restart, eject the disk from the drive. If the message **Press any key to boot from CD or DVD** appears again, you did not remove the disk in time. In this case, do not press any key while this message is displayed, or the restore process begins again. If the message appears, restart the computer again and repeat this step.

When the restart completes, the LCS85 is in original factory condition.

9. Defragment the LCS85 hard drive to maximize server performance and protect your data. On the Start menu, click All Programs > Accessories > System Tools > Disk Defragmenter. (If you are using Windows Server 2012 R2 or Windows Server 2012, type Defragment and Optimize Drives from the Start screen, then click Defragment and Optimize Drives in the Apps results.)
10. Connect Ethernet Port 1 on the LCS85 to the building network. This connection allows access to the BACnet® and LonWorks networks.

**Important:** Before attempting to access the Site Management Portal UI for the first time, the LCS85 must be connected to an active network at Ethernet Port 1 and restarted. Failure to follow this sequence prevents the LCS85 object from appearing in the Metasys UI navigation panel.

11. Restart the computer.
12. Browse to and log in to the LCS85 Site Management Portal UI.

The initial login user name is **MetasysSysAgent** and is not case sensitive. For the MetasysSysAgent default password, contact your local Johnson Controls representative.

**Note:** You must change the login account password for your LCS85. In some network scenarios, we recommend creating a new Metasys user account for the LCS85.

13. Make sure the required **Computer Name** (host name) value appears on the **Network** tab. Set the **DHCP** value to **False** if DHCP is not required on the network. Refer to the *Establishing the LCS85 Network Parameters* section in the *LCS85 Commissioning Guide (LIT-12011568)* for detailed procedures.

**Note:** If you are using a static IP address, check your default gateway setting. See the [Checking the Default Gateway Settings](#) section for details.

14. Configure the time zone, date, and time settings in the LCS85 Metasys UI. Refer to the *LCS85 Commissioning Guide (LIT-12011568)* for detailed procedures for setting the time zone, time, and date on an LCS85.

**Note:** **Time Zone**, **Date**, and **Time** must be set in the Site Management Portal UI. Do not use the Windows time dialog box to set the time zone, date, or time on the LCS85.

15. Configure the Site Director and Object Name for the LCS85 on the Focus tab. Refer to the *Establishing Basic LCS85 Parameters in the Focus Screen* section of the *LCS85 Commissioning Guide (LIT-12011568)* for detailed procedures.

16. Access the System Configuration Tool (SCT) UI, and download the most recent archive database for the LCS85 from the SCT. For information on downloading an archive database, refer to *Database Uploading, Downloading, and Synchronization* in the Metasys system *Help (LIT-1201793)*.

**Note:** All data recorded on the LCS85 since the archive database was last backed up is lost.

The LCS85 is now restored and operational on the Metasys site.



**Building Efficiency**  
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