P2000 Security Management System

Comark Server Hardware Installation Instructions

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Refer to the QuickLIT Web site for the most up-to-date version of this document.

Introduction

This manual provides instructions for installing the P2000 Security Management System (SMS) server (product code TBD). A typical P2000 system consists of a Comark server computer loaded with the required operating system, database server, prerequisites, and P2000 software. Additional system hardware and software are purchased separately.

Qualification for Installation

While these instructions are intended to guide you completely through the installation process, the technician installing these machines should possess a reasonable level of experience with server hardware and software, which should include networks and networking principles, network communication, cabling, and computer component installation.

This level of experience is necessary to determine if steps are mistakenly omitted, completed incorrectly, or in situations where requirements of a particular site call for system configuration other than what is described in this manual.

Technical Support

Technical assistance is provided to Johnson Controls authorized dealer representatives from 5 a.m. PT to 5 p.m. PT Monday through Friday. System users can get answers to operator questions by calling the local Johnson Controls Inc. sales/service office.

The authorized dealer representatives can also provide you with information on the maintenance contracts and the on-site field service.

Package Contents and Warranty Information

Inspect the shipping containers as soon as they are received. If any damage is observed, have the delivery agent note the damage on the shipping document. Some shippers may wish to be present when a damaged container is opened.

Closely examine the equipment. If the equipment is damaged in any way, notify the carrier and a Johnson Controls® representative immediately. Check the purchase order against the equipment received to ensure that the order is complete. Retain all packaging materials for possible reshipment.

Johnson Controls-labeled products are sold with a three year parts and shop labor warranty. Liability is limited to repair or replacement at the discretion of Johnson Controls, Inc.

Hardware Installation

This section describes how to install the Comark server. All boards and devices are factory installed. (Computer configuration may differ slightly, at the manufacturer's discretion. Adjust any installation steps or settings, as necessary).

To install the Comark server:

1. Unpack the equipment and check for damage. See *Package Contents and Warranty Information* on page 1.
2. If mounting the server in a rack, install the rails with the hardware provided. Then, mount the server in an appropriately sized mounting rack. See Figure 1 for dimensions.

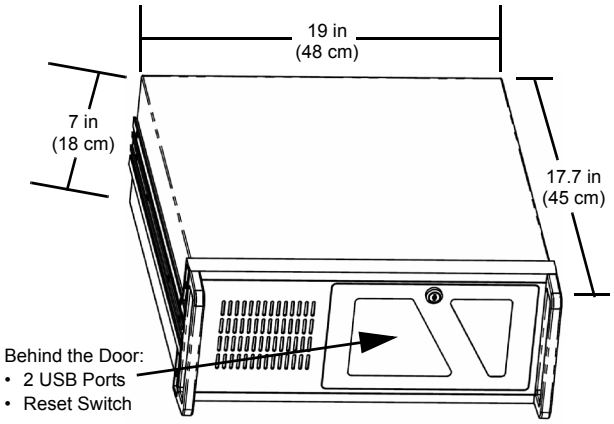

Figure 1: Dimensions and Front Panel Components

3. Connect the server to the LCD monitor using the VGA or DVI cable provided. See Figure 2 for component connections on the server.

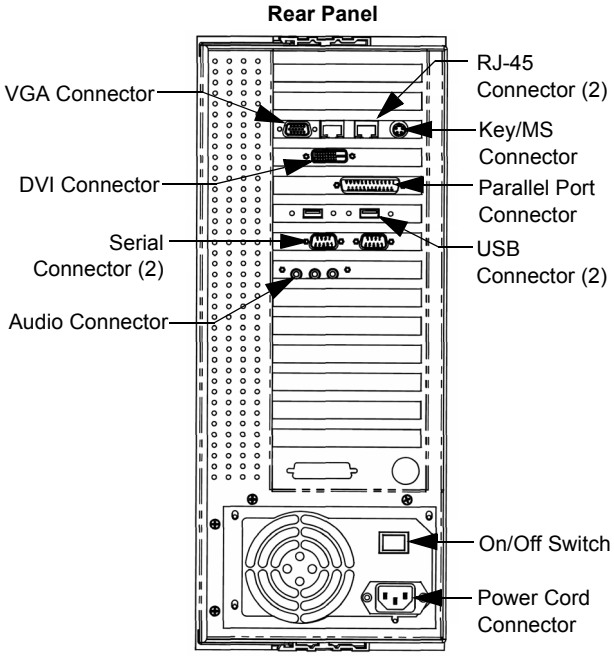

Figure 2: Server Rear Panel Components

4. Connect the LCD monitor power cable. See *Line Power Requirements* on page 2.

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5. Connect the mouse to an available USB port. See Figure 2.
6. Connect the keyboard to the Key/MS connector. See Figure 2.
7. Connect the server to the local network using one of the RJ-45 connectors on the back of the server. See Figure 2. See also *Networking* and *Network Cabling Requirements* on page 3.
8. Connect any supported serial controllers to the server. Refer to application note.
9. Connect the server's power cable. See Figure 2. See also *Line Power Requirements* on page 2.
10. Turn on the main power switch on the back of the server. See Figure 2.
11. Press the Reset switch on the front of the server. See Figure 1.
12. Verify you can log on to Microsoft® Windows® and the P2000 software.

Comark Default Login Values

- Username: Administrator
- Password: Comark123

P2000 Default Login Values

- Username: cardkey
- Password: master

Note: For logical security purposes, we strongly recommend changing the default passwords.

Supported Controllers

P2000 supports the network and serial controllers listed in Table 1.

Table 1: Supported Controllers

Network Controllers	Serial Controllers
• CK721-A • CK721 • CK720 • CK705 • S321-IP • Isonas RC-02 • HID® Edge • Stanley®/OSI OMNILOCK Wireless Reader/Controllers • ASSA ABLOY® SARGENT® and Corbin Russwin™ IP Door Locks • S321-DIN[1]	• D620 • D600-AP • D620-TIU • S320 • P900 • S321-DIN

1. Requires the Digi One SP serial-to-Ethernet converter.

Note: For hardware installation and specification information on Isonas RC-02, OSI OMNILOCK, HID Edge, and ASSA ABLOY controllers, refer to the Original Equipment Manufacturer (OEM) documentation.

Typical P2000 System Configuration with Network Controllers

Figure 3 shows a typical P2000 system configuration using network controllers.

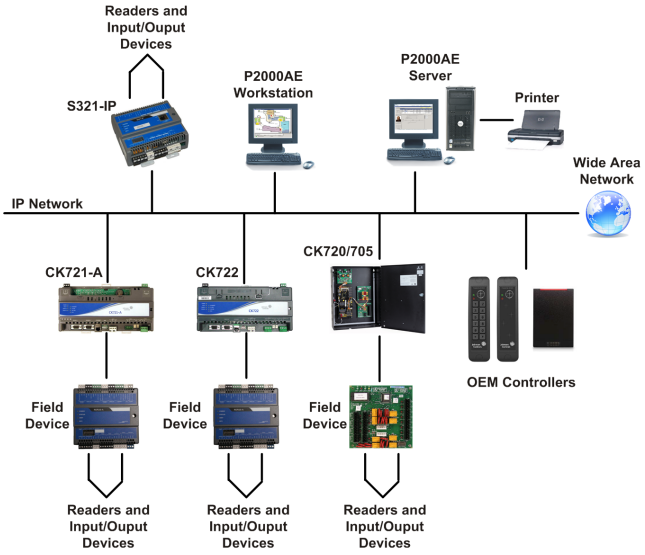

Figure 3: P2000 System with Network Controllers

To view a typical P2000 system configuration with serial controllers, refer to application note.

Line Power Requirements

The quality of line power supplied to the computer, and proper connection and grounding of power and data lines, must conform to local codes.

A dedicated AC power line originating directly from the building AC power distribution panel is recommended. If 3-phase power is used in the building, one phase should be dedicated to the computer and other access control equipment. Live, neutral, and ground wiring should be dedicated lines originating at the AC distribution panel. These precautions should provide satisfactorily clean power to the computer. If the power is not within specified tolerances, some form of line conditioning is required.

WARNING: Risk of Fire or Electric Shock.
Check the power supply cord for damage before using. If damaged, do not switch on the appliance. Replace the cord with the same type and ratings. Contact with components carrying hazardous voltage can cause electric shock and may result in severe personal injury or death.

CAUTION: Risk of Explosion.
Replace the battery with a lithium battery of the same type and voltage rating. Dispose of the used battery in accordance with local, national, and regional regulations. Failure to replace the battery with one of the same type and voltage rating may result in an explosion, causing personal injury and property damage.

Important: Do not connect access control equipment to an AC power source controlled by a switch.

Note: European installations require permanently connected equipment and incorporate a readily-accessible disconnect device in the fixed wiring.

If system AC power does not meet Johnson Controls specifications, install an isolation transformer, AC line conditioner, or Uninterruptible Power Supply (UPS) between the power source and the equipment. The type of device required depends on the basic condition of the line and the security requirements for the facility.

If the facility is located in an area where power lines are subject to frequent lightning strikes, verify with the electric company that the building transformer is equipped with surge protectors. These, as well as *crowbar* type protection circuits, can be installed at the main service entrance if the building transformer is not equipped with lightning protection.

System Specifications

Table 2: System Specifications

Hardware	Component	Notes
CPU	Intel® Core™2 Duo	
RAM	4 GB	5 user
Video Card	Intel 945GM(E) GMCH	Integrated
Video Memory	224 MB	Integrated
Video Monitor	19 inch	
Disk Controller	Intel ICH7-M Serial ATA	Integrated
Hard Disk Drive	320 GB Hot Swap	SATA
DVD Rewriter Drive	24x	SATA
Universal Serial Bus (USB) Ports	Four (2 front, 2 rear)	
Pointing Device	Three-button mouse	
Keyboard	104	
Ethernet Adapters	Dual embedded network interface controller	10/100/1000 (1Gb)
Rated Input Voltage	115 VAC	
Rated Input Frequency	50/60 Hz	
Rated Input Current	7 A	

Table 2: System Specifications

Hardware	Component	Notes
Operating Temperature	0 to 50° C (32 to 122° F)	
Storage Temperature	0 to 70° C (32 to 158° F)	
Relative Humidity Non-Condensing	5 to 95%	
Vibration	1.5 G, 3 Axis, 10 to 15 Hz, .75 cm	
Shock	10 G, 3 Axis, 11 ms	

Networking

The server's dual embedded network interface controller enables you to connect to the network for communications with the P2000 workstations (and supported controllers, if desired), and to provide an interface to a 10/100/1000Base-T hub to isolate controller and workstation network traffic on different networks, if needed.

Network Transient Suppression

P2000 systems and workstations that are UL 1076-listed systems must use transient suppression devices on the Local Area Network (LAN) interfaces at the computers. For a 10/100Base-T network, use a Black Box Model SP512A-R3 transient suppression device. Follow the manufacturer's instructions supplied with the transient suppression device for installation instructions.

Cabling

All cabling must be in conformance with the National Electric Code, NFPA 70*. Local codes should be observed for specific wiring and conduit requirements. Cabling should be constructed using good wiring practices and all cables should be long enough to allow for service loops at their terminations. This will allow the installer to conveniently wire the cable connectors and plug them into the mating connectors.

BSI Standard BS7671 (latest edition) must be followed for installations in Great Britain. Additional information is given in the Johnson Controls Installer's *Code of Practice*.

*For Canadian installations, refer to the Canadian Electric Code, C22.1.

Network Cabling Requirements

When planning a 10/100Base-T network:

- Use Listed Category 5 (Cat5) Unshielded Twisted Pair cable, 10/100 Megabits per second (Mbps) transfer rate
- Maximum segment length is 100 meters (328 feet)
- Wiring from computer (workstation and server) to hub, switch, or router is straight through
- Wiring between hubs, switches, or routers requires the following pins to be crossed, as shown in the following diagram (all other pins are wired straight through).

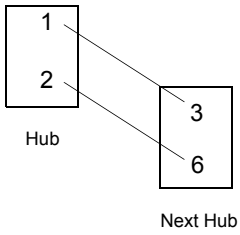

Figure 4: Wiring Between Hubs

Cable Routing

- Route power lines separately from data lines.
- Install all low-level input cables in grounded conduit or at least 2 feet (61 cm) from AC power, fluorescent lights, or other high-energy sources.

Connecting Workstations

P2000 workstations can be connected to a TCP/IP network via an Ethernet connection. For a list of supported operating systems, refer to the *P2000 Server/Workstation Software Installation Manual*.

Connecting Network Controllers

Network controllers are advanced, intelligent devices that connect to the network for communication with the P2000 server via standard network cabling and hubs. CK720 and CK705 controllers use 10Base-T cabling and hubs, whereas CK722, CK721-A, and CK721 controllers use 10/100Base-T cabling and hubs.

For detailed instructions on controller installation and configuration, refer to their respective documentation.

Connecting Serial Controllers

If you plan to include serial controllers in your configuration, install the following equipment, refer to application note.

Testing Communications

This test assumes that all hardware and software is installed (refer to the *P2000 Server/Workstation Software Installation Manual*) and the system is programmed for normal operation; that is, controllers, terminals, cards, alarms, and so on are defined in the system.

Use the **System Status** function from the P2000 server to verify at least one controller and one terminal are UP. (Refer to the *P2000 Software User Manual* for more information.)

To verify network controller communications:

1. From the P2000 Main menu, select **System>Real Time List**.
2. On the Real Time List window, select the **Access Grant** and **Access Deny** check boxes.
3. Present a valid card to a reader connected to a controller.
4. If the appropriate message was not displayed or access was denied, verify that system programming and system wiring are correct.
5. Repeat Step 1 through Step 3 until the expected indicators are received.

Note: See *Technical Support* on page 1 for field service information.

Routine Maintenance

Perform the specified tasks to maintain the server equipment.

Table 3: Routine Maintenance Tasks

Maintenance Task	Date Performed
Visually inspect all cable terminations.	
Check operating system for Stored Error Messages.	
Verify full system backups function properly. Load backups to archive directory. Run report on data from archive directory to ensure data integrity.	
Visually inspect unit for damage or contamination.	
Clean optical drive using proper drive cleaner.	
Inspect computer power supply vents for accumulation of dust and debris. Clean vents, if necessary.	
Remove cover and inspect processor, memory, system board, and hard drive for dust and debris. If present, remove using appropriate computer servicing tools.	
Restart system and ensure correct start-up and operation.	
Check hard disc for free space.	
Check password security.	
Check number of authorized users.	
Perform full system functional test.	
Check Uninterruptible Power Supply (UPS) for proper operation.	
Check operation of mouse and keyboard. Clean them, if necessary.	

Conditions of Impaired Performance

The conditions of impaired performance are listed in page 4.

Table 4: Impaired Performance Description

Condition	Described in . . .
Unit not kept dust free	*Routine Maintenance* on page 4
Unit environment not as specified	Table 2 on page 3
Unit power and grounding not as specified	*Line Power Requirements* on page 2
Cable, cable type, distance and/or electrical environment not as specified	*Cabling* on page 3
Conditions indicated by test failure	*Testing Communications* on page 4

Replacement Parts Information

There are no user serviceable parts. For hardware replacement parts for TBD, contact your authorized Johnson Controls representative.