

I/A Series® Hardware

PSS 21H-4U6 B4

Model P91 Workstation Server for Windows Server™ 2003 Operating System



The Model P91 Workstation Server is a server-class processor running the Microsoft Windows Server™ 2003 operating system.

FEATURES

The Model P91 Workstation Server for Windows Server 2003 operating system, with available I/A Series® software licenses features:

- ▶ A premium level system with high-end processor speed, up to 4 GB of memory, up to 3 optional internal hard drives or 7 optional internal Redundant Array of Independent Disks (RAID), and redundant hot-swap power supplies
- ▶ The ability to host control stations and/or support data acquisition and monitoring functions
- ▶ Serves as an I/A Series application platform and a human interface station
- ▶ The ability to support viewing I/A Series applications from remote client stations over local area networks (LANs).

OVERVIEW

As a multipurpose server running the Windows Server 2003 operating system with Service Pack 1, the Model P91 server supports hosting I/A Series control stations, data acquisition and processing related to a broad range of applications, file serving capabilities, and the display of graphics and text. It also interfaces with corporate communication networks.

The Model P91 server supports a USB mouse or optional USB trackball, an alphanumeric keyboard, up to two annunciator keyboards, annunciator/numeric keyboards, or annunciator panels, and up to four video monitors. The P91 server also supports multiple optional touchscreens.

The Model P91 server has an Intel Xeon® processor and can be configured with up to 500 GB of internal hard disk storage and up to 4 GB of ECC DDR-2 SDRAM. The Serial Attached SCSI (SAS) supports a system disk, expansion disks, or RAID1 or RAID5 hard drive arrays. For an optional external 80/208 GB SCSI tape drive, a SCSI PCI interface card must be installed. Client/server communications are accomplished using the TCP/IP networking protocol.

NOTE

Remote client workstations supported by Model P91 servers should not be used as replacements for dedicated multiple I/A Series workstations because of single-point-of-failure and performance considerations. When remote client stations are totally dependent on applications running in the Model 91 server, a failure or shutdown of the Model 91 server will affect all these remote stations as well. Also, due to the variability of demand that can be placed on the Model 91 server by remote client sessions, the performance of the applications running on the Model 91 server may not be as deterministic as on a dedicated single-user workstation.

Network Connections

The Model P91 server is connected to an I/A Series Mesh network and can be connected to a generic Ethernet-based information network. The Ethernet communications ports, integrated on the processor motherboard, can be used for connecting to standard Ethernet networks. Standard security practices should be followed when this is done.

Model P91 Base Configuration

The Model P91 server contains the following elements:

- ▶ Intel Xeon Processor
- ▶ 1 GB ECC DDR-2 SDRAM default
- ▶ One serial interface port supporting:
 - ▶ GCIO interface
 - ▶ Printer
- ▶ Internal SAS interface supporting 73 GB disk drives
- ▶ Internal EIDE CD-RW/DVD drive
- ▶ Internal 3.5-inch, 1.44 MB disk drive
- ▶ USB speakers
- ▶ Integrated video generator
- ▶ 2 Integrated 10/100/1000BaseT Ethernet ports
- ▶ Mouse or optional trackball
- ▶ Keyboard
- ▶ Redundant hot-swap power supplies.

Model P91 Additional Options

The Model P91 server offers the following additional options:

- ▶ Expandable to 4 GB ECC DDR-2 SDRAM
- ▶ Monitors with optional touchscreen⁽¹⁾
- ▶ Ethernet adapter cards (copper or fiber)
- ▶ Multi-port serial/parallel card
- ▶ Dual or quad monitor graphics card
- ▶ RAID1 or RAID5 internal hard drive arrays
- ▶ GCIO interface with one or two annunciator keyboards
- ▶ Printers
- ▶ SCSI card to interface with optional tape drive.

The Model P91 server also supports an external AIT 80/208 GB tape drive, purchased separately.

Mounting Options

The Model P91 server can be placed on a desktop or in commercially available enclosures that have provisions for adequate ventilation and cooling to ensure the ambient temperature inside the enclosure does not exceed 95° F. The Model P91 server also offers a rack mounting kit for mounting in deep enclosures.

NOTE

Enclosures must accommodate a depth of at least 39.4 in (1000 mm) to allow space for air flow at the front and back of the unit and cables at the back of the unit. Because of their depth, the P91 units cannot be mounted in the standard Invensys enclosures, such as the Industrial Enclosure 32, Metal Enclosure 32, and Modular Industrial Workstations.

With dual or quad video cards, the Model P91 server unit can be located at distances up to 100 ft from the monitor using cables available from Invensys. These cables or extenders include support for the video, audio, USB keyboard, and USB mouse signals, as well as the serial port connection for the GCIO devices (touchscreen and annunciator keyboards). Note that there is no support for remote diskettes or CD-ROM drives.

As symbolized by the CE logo, the Model P91 server conforms to the applicable European Union Directives.

(1) Model P91 server supports up to four monitors with optional touchscreen capability.

FUNCTIONAL SPECIFICATIONS

Processor Type

Intel Xeon

Memory

1 GB ECC DDR-2 SDRAM standard (2 GB, 3 GB, or 4 GB optional)

Devices Served

SAS PERIPHERALS

One internal system disk drive, up to 3 optional internal expansion disk drives, or 7 internal RAID1/5 hard drive arrays

CONTROLLER PERIPHERALS

One CD-RW/DVD drive and one internal 1.44 MB, 3.5-inch disk drive

VIDEO INTERFACE (UP TO 4 WITH DUAL/QUAD CARD)

Non-interlaced

- 19-inch LCD Monitor
- 20.1-inch LCD Monitor
- 20.1-inch LCD USB Touchscreen Monitor.

INTERFACES TO EXTERNAL DEVICES

- Mouse or Optional Trackball (USB)
- Alphanumeric Keyboard (USB)
- Annunciator and/or Annunciator/Numeric Keyboards (one or two) attached through a GCIO Interface
- Printers
- The Mesh control network
- Up to four optional touchscreens
- External SCSI port card for optional external AIT 50/208 GB tape drive.

Internal Diagnostics

Self-checking performed at power-up. Run-time checks can be performed during operation.

Screen Presentation

REFRESH RATE

Up to 85 Hz

COLORS

32K

RESOLUTION (PIXELS)

Up to 1600 x 1200

Video Output

TYPE

Analog RGB with Horizontal and Vertical Sync
DVI or VGA with dual or quad head video card

Serial Interface Port

TYPE

RS-232-C compatible

Ethernet Interface Communications

PCI Ethernet network interface cards providing connection to Ethernet data bus (10/100Base-TX or 100Base-FX)

Integrated Ethernet port (10/100/1000Base-T)

Power Supplies

Redundant hot-swap 2X930 W auto switching input power supplies with two separate power cords

Power Requirements

INPUT POWER

110-120, 200-240 V ac nominal, 50 to 60 Hz, auto select

POWER CONSUMPTION

100-120 V ac 13.32A maximum

200-240 V ac 6.65A maximum

Cooling

Hot swap/redundant I/O and processor fans

Each redundant power supply contains 2 fans

ENVIRONMENTAL SPECIFICATIONS

Processor Operating

TEMPERATURE

10 to 35 °C (50 to 95°F)

RELATIVE HUMIDITY

20% to 80%, noncondensing

OPERATING VIBRATION

0.26 G at 5 to 350 Hz for 2 min

Processor Storage

TEMPERATURE

-40 to + 65 °C (-40 to +149°F)

RELATIVE HUMIDITY

5% to 95%, noncondensing

Processor Environmental

LOCATION

The processor is UL/UL-C listed as suitable for use in ordinary locations and meets ordinary safety standards for fire and shock hazards.

CONTAMINATION

Class G1 (Mild) as defined in ISA Standard S71.04

REGULATORY COMPLIANCE

Safety Certifications

USA

UL® (UL Std 1950)

CANADA

CSA® (CSA C22.2 No. 60950-1)

EUROPE

TUV (CENELEC EN60950-1)

EMC

CANADA

ICES Class A

EUROPE

CE EN55022, EN55024, EN61000-3-2, EN61000-3-3

PHYSICAL SPECIFICATIONS

Dimensions and Mass

KEYBOARD

Height

35 mm (1.4 in)

Width

445 mm (17.5 in)

Depth

150 mm (5.9 in)

Mass

1.8 kg (4.0 lbs)

TOWER

Maximum outside dimensions with bezel and feet

Height

480 mm (18.9 in)

Width

226 mm (8.9 in)

Depth

698.5 mm (27.5 in)

Mass

49.9 kg (110 lbs) maximum

RACK MOUNT

Maximum outside dimensions with no feet or bezel

Height

229 mm (9.0 in)

Width

455 mm (17.9 in)

Depth

688 mm (27.1 in)



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