

I/A Series® Hardware

PSS 21H-4U7 B4

Model P81 Solaris™ Based Workstation



The P81 Solaris™ Based Workstation provides a high performance, robust platform for I/A series application and workstation functions

FEATURES

The Model P81 workstation, with available I/A Series model-coded station software licenses, provides the following features:

- ▶ 64-bit RISC® Processor
- ▶ RAM memory expandable to 4 GB
- ▶ Expandable ATA hard drives
- ▶ Great price/performance
- ▶ Support for SCSI devices

OVERVIEW

The I/A Series® Model P81 workstation is based on an UltraSPARC® IIIi processor with a Solaris™ operating system. The UNIX® based Model P81 workstation, in conjunction with I/A Series model-coded station software licenses and peripherals, performs both application functions and workstation functions. Although the P81 Workstation must be installed in an I/A Series installation as an Application Workstation, through the appropriate selection of Model P81 hardware and software model-coded license selections, the Model P81 Workstation can be deployed as an operator interface, an application station, or as a complete application workstation.

Application functions include:

- ▶ Execution of system application functions, such as those relating to:
 - Displays
 - Production control
 - User applications
 - Diagnostics
- ▶ Configuration, development and execution of a broad range of application functions (Invensys/Foxboro and third party) requiring extensive data processing and file serving capabilities
- ▶ Processing of bulk storage file requests from tasks either within the same application processor or from other stations.

Workstation functions include:

- ▶ Generation of video signals for graphic and textual displays on a video monitor
- ▶ User interface devices including a mouse or trackball, alphanumeric keyboard, an optional touchscreen, and up to four optional annunciator or annunciator/numeric keyboards.

The Model P81 workstation has a high-speed, ultra-wide Small Computer System Interface card (SCSI-3 per ANSI® Std. ANSC X3T9.2) pre-installed in the workstation, which provides an industry-standard bus to support peripherals having SCSI-compatible controllers. The SCSI devices that can be connected include tape drives, and RAID hard drives⁽¹⁾. The SCSI interface card also contains a 10/100 MB twisted pair Ethernet port.

As indicated by the CE logo on the workstation, the Model P81 workstation conforms to the applicable European Union directives.

Direct interfacing with the I/A Series Redundant Control Network is enabled via a Redundant Control Network Interface (RCNI) (refer to PSS 21H-7B6 B4).

Optional PCI cards supplying AUI Ethernet, and twisted-pair Ethernet communications ports provide connections to other networks such as TCP/IP.⁽²⁾

Electrical interfacing between the workstation with control software and I/O devices is attained with:

- ▶ A serial interface card for RS-232-C connectivity to Modicon® or Allen-Bradley® programmable controllers
- ▶ An Ethernet card for connectivity to Allen-Bradley programmable controllers and Foxboro SCADA.

The Model P81 workstation contains the following I/A Series system supported elements and options:

- ▶ One pre-installed XVR-100 graphics card for single (digital or analog) or dual (analog only) video interface
- ▶ Two serial interface ports: one is needed to interface the V7.0 Control Network, the second for printer or GCIO
- ▶ Parallel port for color PCL3 or PostScript® printer
- ▶ USB ports for the keyboard, mouse or trackball, and floppy disk drive.
- ▶ External USB 3.5-inch 1.44 MB disk drive
- ▶ Ultra wide SCSI-3 bus with 10/100 MB Ethernet port card pre-installed
- ▶ Internal DVD-ROM used for CD-ROM, or optional CD R/W drive
- ▶ Maximum of two internal hard drives:

(1) Maximum effective cable length is 3 meters (10 feet).

(2) A separate security router may be required in conjunction with these optional information network connections to isolate I/A Series systems from other unrelated network traffic. Invensys technical support can provide information network planning and recommendations.

- Internal system disk: 120 GB
- Optional internal expansion disk: 120 GB
- ▶ Optional RAID 1 external hard drives
- ▶ Optional RAID 5 external hard drives
- ▶ Optional external 4 mm digital tape drive
- ▶ Optional external AIT-2 tape drive
- ▶ Up to two optional PCI cards:
 - MII Interface plus 10/100 Mbps twisted-pair interface with or without AUI adapter
 - Serial controller card with 8-port external distribution box for printer, terminal, or GCIO.

FUNCTIONAL SPECIFICATIONS

Devices Served

SCSI PERIPHERALS

Up to two external devices per SCSI port: tape drives and/or RAID drives

DISK DRIVES

Removable

External 3.5-inch 1.44 MB USB floppy disk drive, DVD-ROM (or CD R/W)

System

One or two 120 GB ATA drives

VIDEO INTERFACE

Support for color video monitor (1 digital or up to 2 analog)

HUMAN INTERFACES⁽³⁾

USB alphanumeric keyboard, USB mouse or trackball, annunciator or annunciator/numeric keyboard (up to two per monitor), touchscreen (one per display), alarm printer, PostScript printer, color PCL3 printer

Processor Type

64-bit RISC[®] processor

RAM Memory

1 GB, expandable to 8 GB

XVR-100 Video PCI Card

TWO CONNECTORS

VGA ANALOG (EIA RS-170):

Red, Blue, Green, H&V Syncs

Maximum Analog Cable Length: 30 m (100 ft)

DIGITAL CONNECTOR:

DVI-I (supports digital or analog outputs)

Maximum Digital Cable Length: 15 ft

Internal Diagnostics

Self-checking performed at power-up. Run-time checks and watchdog timer function performed during operation.

Power Requirements (Processor Only)

INPUT VOLTAGE

100 to 120 V ac or 220 to 240 V ac at 47-63 Hz (auto-switching)

CONSUMPTION

350 W (maximum), 0.3 KVA (typical)

Regulatory Compliance

Safety: EN 60950

RFI/EMU: EN 61000-3-2

EN 61000-3-3

FCC Class B

Immunity: EN 55024

Screen Presentation

RESOLUTION (PIXELS)

1280 x 1024 (Default setting)

1152 horizontal, 900 vertical up to 1600

horizontal, 1200 vertical (LCD display)

(Other resolutions are supported; however, the resolutions listed above are used with the Model P81 workstation.)

REFRESH RATE

up to 80 frames/s

(3) One serial interface communication port provides for peripheral communications: a printer or a group of serially connected input/output devices; touchscreen and up to two annunciator or annunciator/numeric keyboards.

FUNCTIONAL SPECIFICATIONS (CONTINUED)

COLORS

32 for user displays, 8 for menu bar; selectable from a palette of over 16 million

MARKER SETS

4 sets, up to 255 markers in each set: 2 default sets supplied by Invensys Foxboro; 2 sets can be created by user.

CHARACTER SETS

4 default sets supplied by Invensys Foxboro; additional third-party sets also supplied

Serial Interface Communications

TYPE

RS-232

Maximum Distance (RCNI)

100 m (328 ft)

Maximum Distance (Printer)

15 m (50 ft)

Maximum Distance (GCIO)

30 m (100 ft)

Parallel Interface Communications

Centronics® parallel interface

Error Detection

COMMUNICATION ERRORS

Cyclic redundancy codes (CRC) and checksum codes

MEMORY ERRORS

Error checking and correcting (ECC)

DISK ERRORS

CRC and Reed-Solomon codes (used for error detection and correction)

SCSI ERRORS

Parity code

Standard PCI Card:

Twisted-Pair 10/100 Mbps Ethernet Interface Card with Ultra Wide SCSI Port⁽⁴⁾

Supports ultra-wide SCSI-3 used for both 10 or 100 Mbps Ethernet twisted-pair data bus communications port.

Optional PCI Cards:

Twisted-Pair 10/100 Mbps Ethernet Interface with MII Connector Card⁽⁴⁾

Supports AUI port for 10 Mbps Ethernet data bus when used in conjunction with MII-to-AUI Converter. Also contains a 10/100 Mbps Ethernet twisted-pair data bus communications port.

8-Port Serial Card

A PCI interface card with an external 8-port, 25 pin, serial connector box.

(4) A separate security router may be required in conjunction with these optional information network connections to isolate I/A Series systems from other unrelated network traffic. Invensys technical support can provide information network planning and recommendations.

ENVIRONMENTAL SPECIFICATIONS

Operating

TEMPERATURE

5 to 35° C (40 to 95° F)

RELATIVE HUMIDITY

10 to 93%, wet bulb of 27° C (81° F)

ALTITUDE

0 to 3000 m (0 to 10,000 ft)

Storage

TEMPERATURE

-32 to +65° C (-25 to +149° F)

RELATIVE HUMIDITY

up to 93%, noncondensing

ALTITUDE

-300 to +12,000 m (-1,000 to +40,000 ft)

Location

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

PHYSICAL SPECIFICATIONS

Mounting

Tabletop or I/A Series Metal Enclosure (800x800 mm)
or Modular Industrial Enclosure (MIC)

Mass (Maximum)

14.8 kg (33.0 lb)

Processor Dimensions

Height

460 mm (18.1 inches)

Width

175 mm (6.9 inches)

Depth

465 mm (18.3 inches)



33 Commercial Street
Foxboro, MA 02035-2099
United States of America
www.foxboro.com
Inside U.S.: 1-866-746-6477
Outside U.S.: 1-508-549-2424
or contact your local Foxboro
representative.
Facsimile: 1-508-549-4999

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Printed in U.S.A.

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