I/A Series A2™ Hardware
Model P80 Workstation
Solaris® 8 Operating System

The I/A Series® Model P80 workstation is based on an UltraSPARC® III processor with a Solaris® 8 operating system. The UNIX® based Model P80 workstation in conjunction with I/A Series model-coded station software licenses and peripherals performs both application functions and workstation functions.

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 touchscreen, mouse or trackball, alphanumeric keyboard, and up to two annunciator or annunciator/numeric keyboards.

ARCHITECTURE BY ARCHESTRA™

invensys™ FOXBORO®

The Model P80 workstation has a high-speed, ultra-wide Small Computer System Interface (SCSI-3 per ANSI® Std. ANSC X3T9.2) designed into 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).

As symbolized by the **CE** logo, the Model P80 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 (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 P80 workstation contains the following I/A Series system supported elements and options:

- MII interface
- One pre-installed PGX64 graphics card for video interface
- Two serial interface ports: one to interface the Redundant Control Network and another for printer or terminal
- Parallel port for color PCL3 or PostScript® printer
- USB ports for the keyboard and mouse or trackball
- 3.5-inch 1.44 MB disk drive
- Ultra wide SCSI-3 bus
- Internal DVD-ROM used for CD-ROM
- Maximum of two internal hard drives:
  - Internal system disk: 73 GB
  - Optional internal expansion disk: 73 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 three optional PCI cards:
  - MII Interface plus 10/100 Mbps twisted-pair interface
  - Ultra-wide SCSI-3 plus twisted-pair 10/100 Mbps Ethernet communications ports
  - Serial controller card with 8-port external distribution box for printer, terminal or GCIO
  - PGX64 graphics card for dual-head video interface.

(1) Maximum 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.

FUNCTIONAL SPECIFICATIONS

Devices Served
SCSI PERIPHERALS
Maximum of two internal hard drives and an internal DVD (CD-ROM) drive; up to two external devices per SCSI port: tape drives and/or RAID drives
DISK DRIVE
3.5-inch 1.44 MB internal disk drive
VIDEO INTERFACE
Color video monitor (up to two)
HUMAN INTERFACES(1)
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

Video Output
TYPE
Analog (EIA RS–170): Red, Blue, Green, Sync
Maximum Cable Length
30 m (100 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
875 VA (maximum), 390 VA (typical)

Regulatory Compliance
EUROPEAN DIRECTIVES
89/336/EEC Electromagnetic Compatibility
73/23/EEC Low Voltage
93/465/EEC CE Marking
FCC
FCC Part 15 Class B for radiated and conductive emissions

Screen Presentation
REFRESH RATE
up to 76 frames/s
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
RESOLUTION (PIXELS)
1152 horizontal, 900 vertical (default)
up to 1280 horizontal, 1024 vertical (LCD display)
(Other resolutions are supported; however, the resolutions listed above are used with the Model P80 workstation.)

Serial Interface Communications
TYPE
EIA RS-423 (RS-232-C compatible)
Maximum Distance (RCNI)
100 m (300 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

(1) 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 (Cont.)

Optional Twisted-Pair 10/100 Mbps Ethernet Interface with MII Connector Card[(a)]

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

Optional Twisted-Pair 10/100 Mbps Ethernet Interface Card with Ultra Wide SCSI Port[(a)]

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

(a) 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
20 to 80%, wet bulb of 27°C (81°F)
ALTITUDE
0 to 3000 m (0 to 10,000 ft)

Storage

TEMPERATURE
-40 to +60°C (-40 to +140°F)
RELATIVE HUMIDITY
up to 93%, noncondensing
ALTITUDE
-300 to +12,000 m (-1,000 to +40,000 ft)

PHYSICAL SPECIFICATIONS

Mounting

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

Mass (Maximum)

31.8 kg (70.0 lb)

Dimensions

PROCESSOR
Height
455 mm (17.9 inches)
Width
256 mm (10.1 inches)
Depth
610 mm (24 inches)

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