

## **I/A Series® Overview**

### **Personal Workstation Scalable Solutions**



Using a Personal Workstation with Nodebus (PW-NB) as a base, I/A Series Scalable Solutions include a variety of pre-packaged system configurations for small applications. These low cost Personal Workstation-based solutions include PC-based hardware and I/A Series software packages to provide a small distributed control system capability.

The PW-NB with a control processor or integrator station performs as an Engineering and Operator Interface providing full support for the control and monitoring of small applications.

The Personal Workstation Scalable Solutions include the following configurations:

- an optionally fault-tolerant Control Processor 30 (PWNB-CP30 or PWNB-CP30FT)
- an optionally fault-tolerant Integrator 30 for Allen-Bradley PLCs (PWNB-AB30 or PWNB-AB30FT)
- an Allen-Bradley Station (PWNB-ABSTATION)
- an optionally fault-tolerant Integrator 30 for Modicon Programmable Controllers (PWNB-MD30 or PWNB-MD30FT)
- a Device Integrator 30 (PWNB-DI30)

**Personal Workstation with a Control Processor**

The Personal Workstation Scalable Solution with an optionally fault-tolerant Control Processor supports a Fieldbus and Fieldbus Modules (FBMs) and/or Fieldbus Processor(s) supporting Fieldbus Cards (FBCs) to handle up to 300 I/O points.

**Personal Workstation with an Integrator 30 for Allen-Bradley Programmable Logic Controllers**

For the integration of data from Allen-Bradley Programmable Logic Controllers (PLCs) into I/A Series databases, the Personal Workstation Scalable Solution is offered with an optionally fault-tolerant Integrator 30 for Allen-Bradley PLCs. The integrator interfaces to an Allen-Bradley Data Highway using the Allen-Bradley Communication Adapter Module (CAM). It translates data received from the PLCs into an I/A Series database. It also provides an interface for application programs to communicate with the PLCs via the standard I/A Series interprocess communication connected services. The families supported are: PLC-2, PLC-3, and PLC-5.

**Personal Workstation with Allen-Bradley Station**

The Personal Workstation Scalable Solutions with an Allen-Bradley (A-B) Station provides the seamless integration of data from the Programmable Logic Controller Series (PLC-5) into the I/A Series architecture. The A-B Station Module, operating I/A Series software, mounts in the PLC chassis and physically bolts to the PLC-5 Series processor providing a shared memory access interface to the PLC data tables. The PLCs supported are:

- PLC 5/11, PLC 5/20, PLC 5/30, PLC 5/40,
- PLC 5/60 and PLC 5/80

The PLC data is then seamlessly incorporated into the I/A Series control scheme database for display application program use.

**Personal Workstation with Integrator 30 for Modicon Programmable Controllers**

With the optionally fault-tolerant Integrator 30 for Modicon Programmable Controllers, the Personal Workstation Scalable Solution provides the integration of data from the following Modicon controllers: 484, 584, 884, and 984. The integrator interfaces to the Modbus via direct connection to a programmable controller or via Modbus modems using an RS-232-C compatible port.

The integrator translates data from the programmable controllers into a database for incorporation into I/A Series based functions and displays. It also provides a control interface for application programs to communicate with controllers via standard I/A Series interprocess communication connected services.

**Personal Workstation with a Device Integrator 30**

The Personal Workstation Scalable Solution with a Device Integrator 30 provides interconnection and integration of remote computing devices. The integrator receives data from foreign devices, such as gas analyzers, turbines, sequence of events monitors, paper machine gauges on an exception or polled basis. The integrator translates the data for access by I/A Series software and conversely sends data to the foreign device on an exception or periodic basis. The integrator communicates using the device-specific protocol.

**NODEBUS INTERFACE**

The PW Nodebus interface card is required in the Personal Workstation. The card is connected by a Nodebus Extension cable (up to 45 m [150 ft]) which connects to a Nodebus Interface Module (ZNBI) in an I/A Series enclosure.

**SOFTWARE**

The software supplied with each personal workstation includes integrated control and supervisory software packages:

- Operating System (with Workstation Processor and Application Processor functions)
- System Monitor
- System Management Display Handler
- Display Builder, Display Configurator, and Display Utilities
- System Configurator
- Device Monitor
- Integrated Control Configurator
- Compound Summary Access
- Real-Time Relational Database
- Operator Message Interface
- Historian (500 points)
- Report Writer 50



## FUNCTIONAL SPECIFICATIONS

### Personal Workstation and Peripherals

#### FOXBORO PENTIUM

- Intel Pentium microprocessor, 100 MHz
- 8 MB RAM
- Main processor board interfaces: VGA, parallel printer, serial mouse/trackball, floppy disk, serial printer
- 504 MB hard disk: IDE interface
- 1.44 MB 3.5-inch floppy disk
- 14-inch, 15-inch, 17-inch, or 19-inch VGA monitor
- Windows 95 keyboard, English language
- Annunciator and touchscreen not available with PW systems
- Magnetic Tape Unit

#### POINTING DEVICE

Standard serial mouse

#### PRINTER

Standard dot matrix printer 80 column

### Nodebus

#### MAXIMUM LENGTH

Without Extenders

30 m (100 ft)

With Extenders

697 m (2300 ft)

#### MAXIMUM NODEBUS SEGMENT LENGTH

30 m (100 ft)

#### CONFIGURATION LIMITATIONS

Not more than two Nodebus extender pairs may exist between stations communicating over the same logical Nodebus path.

#### PERSONAL WORKSTATION TO ENCLOSURE

45 m (150 ft) maximum

- 3 m (10 ft) cable
- 15 m (50 ft) cable
- 45 m (150 ft) cable

### Power Requirements - Personal Workstation

#### MONITOR INPUT VOLTAGE

120 to 240 V ac, 47 to 63 Hz, auto-switching

#### MONITOR POWER CONSUMPTION

100 W maximum

#### DESKTOP UNIT INPUT VOLTAGE

120 to 240 V ac, 47 to 63 Hz, manual switching

#### DESKTOP UNIT POWER CONSUMPTION

150 W maximum

## SERVICES(a)

A Maintenance Agreement is provided during the Standard Warranty period. Included with this agreement are telephone services, bulletin board access, and software revisions, when issued.

(a) Details of services and/or training may vary depending on geographic location. Refer to your Sales/Service Representative for further information.

### **TRAINING(a)**

"Introduction to I/A Series Small Systems" is a self-study training package designed to train plant or mill personnel in the operation and configuration of I/A Series PW-FB and PW-NB Systems. It consists of a 4-1/2 hour video program, a training manual and software which runs on PW-FB or PW-NB Systems. The material is presented in 12 modules which can be used to train process operators, technicians, and engineering personnel. NOTE: PW-NB systems must include a control processor to perform the training.

- Exploring Personal Workstation Hardware
- I/A Series Software Terms and Concepts
- Operation of the I/A Personal Workstation
- Controlling a Process with the I/A Series Personal Workstation
- Exploring the Personal Workstation's Configuration Software
- Configuring the Process Control Subsystem
- Introduction to Group Display Configuration
- Introduction to File Utilities
- Introduction to Environment Configuration
- Introduction to Creating Process Displays
- Introduction to Historian Configuration and Report Writing
- Introduction to the I/A Series Spreadsheets

NOTE: The self-study training packages and additional training manuals must be purchased separately.

Part Numbers: B0193EW - Complete Package

B0193EY - Additional Manual

Refer to the following Product Specification Sheets for more information:

- PSS 21H-4P11 B4      Personal Workstation for Small Nodebus Control System (PW-NB)
- PSS 21H-1B2 B3      Control Processor 30
- PSS 21H-1B2 B4      Control Processor 30
- PSS 21H-2T1 B3      Fieldbus Cards I/O Subsystem
- PSS 21H-2B1 B3      Fieldbus Modules
- PSS 21H-7G1 B3      Integrator 30 for Allen-Bradley PLCs
- PSS 21H-7G4 B3      Integrator 30 for Modicon Programmable Controllers
- PSS 21H-7G3 B3      Device Integrator 30
- PSS 21H-1F1 B3      Allen-Bradley Station
- PSS 21H-7B2 B4      Dual Interface Nodebus and Extender

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