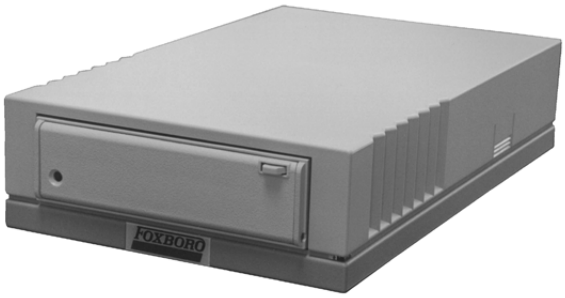
FOXBORO®

PSS 21H-3E1 B3

I/A Series® Hardware
50 Series Data Storage Devices

4/8 GB and 12/24 GB 4 mm TAPE DRIVE



2.5 GB QIC TAPE DRIVE

2.1 GB, 4.2 GB and 9.1 GB HARD DRIVE

644 MB CD-ROM DRIVE

The data storage devices, operating in conjunction with the 50 Series Application Processor (AP51), 50 Series Workstation Processor (WP51), and 50 Series Application Workstation (AW51) provide a means for storing and retrieving process control source programs and data. The devices include:

- 2.1 GB Hard Disk Drive
- 4.2 GB Hard Disk Drive(1)
- 9.1 GB Hard Disk Drive(1)
- 2.5 GB Streaming Tape Drive
- 4/8 GB 4 mm Digital Tape Drive
- 12/24 GB 4 mm Digital Tape Drive
- 644 MB CD-ROM Drive

These data storage devices conform to the applicable European Union directives (symbolized by the "**CE**" logo marking on the product).

The hard disk drives, tape drives, and CD-ROM are designed as compact system modules. These devices can be implemented singly or in combination to provide data storage configurations specifically tailored to your requirements. Multiple drive configurations provide the ability to create, expand, copy, or reorganize new or existing data.

Tape cartridges and CD-ROM optical disks containing various types of data, can be filed for later use.

(1) Model 51, Style E processors support these drives in I/A Series version 4.2.x; all processors support them in I/A Series version 6.x.

Hard Disk Drives

The hard disk drives are high-speed random access, read/write storage devices. The disk drives are used for nonvolatile, on-line storage of large quantities of data such as programs, database files, and display information.

The 2.1 GB, 4.2 GB(2), and 9.1 GB(2) hard disk drives use nonremovable, rigid disks as storage media; disks and read/write heads are sealed in a dust free enclosure to provide high reliability.

Tape Drives

The streaming tape drive is a bulk storage device that uses magnetic tape cartridges as a recording medium. They are used primarily for backup and the restoration of data stored on the hard disk. Periodic copying of hard disk contents onto the tapes provides added security for critical programs and data.

The 2.5 GB drive reads and writes data formatted according to the industry-standard QIC 0.25-inch cartridge; the 4/8 GB and 12/24 GB tape drives read and write to a 4 mm cartridge. Both these drives offer comparable performance in terms of reliability, speed, and shelf life of cartridges.

CD-ROM

The CD-ROM is a high capacity, read-only, bulk storage device using a removable 5.25-inch optical disk. It enables the processor to access large databases and load system software directly.

The CD-ROM utilizes the ISO 9660 recording format.

Data Storage Device Mounting and Usage

The data storage devices described in Table 1 are D-size modules which can be installed in I/A Series equipment in the following ways:

- In a modular mounting structure, internal to an I/A Series industrial enclosure or workstation bay.
- By single or multiple stacking of the devices on a tabletop surface or on a 50 Series workstation spacer.
- Inside the spacer of a Modular Industrial Console.
- On a slide-out shelf in a Modular Industrial Workstation.

Table 1 indicates which data storage devices are used with the various I/A Series Model 51 processors.

Table 1. External Data Storage Device Usage

Data Storage Device	AP51/AW51 Style B/B1	WP51 Style B/B1	AW51 Style C	AP51/AW51 Style D(a) and E	WP51 Style D(a) and E
System Disk 2.1 GB, 4.2 GB, or 9.1 GB	√	–	√	√	–
Optional Disk 2.1 GB, 4.2 GB, or 9.1 GB	√	–	√	√	–
644 MB CD-ROM, 2.5 GB QIC Tape, 4/8 GB 4 mm Tape, 12/24 GB 4 mm Tape	√	√	√	√	√

NOTE: √ = Standard Offering; – = Not Applicable

(a) The Model 51, Style D processor requires an optional SCSI-3 PCI card to support external data storage devices.

(2) Model 51, Style E processors support these drives in I/A Series version 4.2.x; all processors support them in I/A Series version 6.x.

2.1 GB, 4.2 GB, AND 9.1 GB HARD DISK FUNCTIONAL SPECIFICATIONS

Storage Medium
Nonremovable rigid disk

Formatted Capacity
FOR 2.1 GB HARD DRIVE
2.1 GB
FOR 4.2 GB HARD DRIVE
4.2 GB
FOR 9.1 GB HARD DRIVE
9.1 GB

Interface Type
Small Computer System Interface (SCSI), ANSI Standard ANSC X/3T9.2

Power Requirements(a)
INPUT VOLTAGE
Nominal Range
100 to 120 V ac or 200 to 240 V ac
FREQUENCY RANGE
47 to 63 Hz
NOMINAL CONSUMPTION
17 W

(a) Includes drive, power converter, and cooling fan.

Environmental Limits
OPERATING
Temperature
5 to 40°C (41 to 104°F)
Relative Humidity
20 to 80%, at 40°C (104°F) noncondensing
Shock
2 G peak (11 ms half sine wave shape)
Vibration
5 to 500 Hz, 0.2 G peak amplitude
Altitude
0 to 3,000 m (0 to 10,000 ft), 10 to 40°C
STORAGE
Temperature
–40 to +70°C (–40 to +158°F)
Relative Humidity
90% at 40°C (104°F)
Shock
15 G peak (11 ms half sine wave shape)
Vibration
5 to 500 Hz, 0.5 G peak amplitude
Altitude
0 to 12,000 m (0 to 40,000 ft)

2.1 GB, 4.2 GB, AND 9.1 GB HARD DISK PHYSICAL SPECIFICATIONS

Mounting
Devices are D-size modules mountable (1) on a tabletop, (2) in a modular mounting structure for use in an industrial enclosure, or (3) in a 19-inch modular mounting structure for use in a workstation bay.

Dimensions
HEIGHT
7.0 cm (2.8 in)
DEPTH
31.0 cm (12.2 in)
WIDTH
19.0 cm (7.5 in)

Indicators
A single LED on the hard disk drive illuminates to indicate unit is powered on. The LED blinks to show SCSI activity.

2.5 GB STREAMING TAPE FUNCTIONAL SPECIFICATIONS

Storage Medium
TYPE
Industry-standard 6 mm (0.25 in) magnetic tape cartridge
DIMENSIONS
100 mm (4 in) by 150 mm (6 in) by 17 mm (11/16 in)

Formatted Capacity
2.5 GB, with 182 m (600 ft) tape

Interface Type
Small Computer System Interface (SCSI), ANSI Standard ANSC X3T9.2

Power Requirements (Mounting Structure Configuration)(a)
INPUT VOLTAGE
Nominal Range
100 to 120 V ac or 200 to 240 V ac
FREQUENCY RANGE
47 to 63 Hz
CONSUMPTION
Idle
2.5 W
During Data Transfer
11 W (nominal); 24 W (maximum)

Power Requirements (Optional Integrally Mounted Configuration, MIW Only)(b)
INPUT VOLTAGE
5 and 12 V dc from power supply (Foxboro supplied)

Environmental Limits(c)
OPERATING
Temperature
5 to 45°C (41 to 113°F)
Relative Humidity
20 to 80%, noncondensing
Shock
2 G peak (11 ms half sine wave shape)
Vibration
5 to 500 Hz, 0.256 G peak amplitude
Altitude
0 to 3,000 m (0 to 10,000 ft), 10 to 40°C
STORAGE
Temperature
–20 to +60°C (–4 to +140°F)
Relative Humidity
90% at 40°C (104°F), noncondensing
Shock
15 G peak (11 ms half sine wave shape)
Vibration
5 to 500 Hz, 0.5 G peak amplitude
Altitude
0 to 12,000 m (0 to 40,000 ft), 0°C

(a) Includes drive, power converter, and cooling fan.
(b) Mounted in Modular Industrial Workstation spacer.
(c) The environmental limits of the storage medium (tape) may be more restrictive than those of the device itself.

2.5 GB STREAMING TAPE FUNCTIONAL SPECIFICATIONS

Mounting
Device is a D-size module mountable (1) on a tabletop, (2) in a modular mounting structure for use in an industrial enclosure, (3) in a 19-inch modular mounting structure for use in a workstation bay, (4) in the workstation spacer, or (5) on the 50 Series peripheral mounting platform located atop the workstation spacer.

Dimensions
HEIGHT
7.13 cm (2.8 in)
DEPTH
31.0 cm (12.2 in)
WIDTH
19.0 cm (7.5 in)

Indicators
A single LED illuminates to indicate unit is powered on.

4/8 GB AND 12/24 GB, 4 mm TAPE FUNCTIONAL SPECIFICATIONS

Storage Medium
TYPE
Industry-standard 4 mm (0.16 in) digital tape cartridge
4/8 GB: DSS-2
12/24 GB: DSS-3
DIMENSIONS
53 mm (2.09 in) by 72 mm (2.84 in) by 10 mm (0.39 in)

Formatted Capacity
FOR 4/8 GB TAPE DRIVE
8.0 GB (Compressed)
FOR 12/24 GB TAPE DRIVE
24.0 GB (Compressed)

Interface Type
Small Computer System Interface (SCSI), ANSI Standard ANSC X3T9.2

Power Requirements (Mounting Structure Configuration)(a)
INPUT VOLTAGE
Nominal Range
100 to 120 V ac or 200 to 240 V ac
FREQUENCY RANGE
50 or 60 Hz
CONSUMPTION
Idle
20 W
During Data Transfer
25 W

Power Requirements (Optional Integrally Mounted Configuration, MIW Only)(b)
INPUT VOLTAGE
5 and 12 V dc from power supply (Foxboro supplied)
CONSUMPTION
34.4 W

Environmental Limits(c)
OPERATING
Temperature
0 to 40°C (32 to 104°F)
Relative Humidity
20 to 80%, at 40°C (104°F) noncondensing
Shock
2 G peak (11 ms half sine wave shape)
Vibration
5 to 500 Hz, 0.1 G peak amplitude
Altitude
0 to 3,000 m (0 to 10,000 ft)
STORAGE
Temperature
–20 to +60°C (–4 to +140°F)
Relative Humidity
10 to 90%, at 40°C (104°F) noncondensing
Shock
15 G peak (11 ms half sine wave shape)
Vibration
5 to 500 Hz, 0.46 G peak amplitude
Altitude
0 to 12,000 m (0 to 40,000 ft)

(A) Includes drive, power converter, and cooling fan.
(B) Mounted in Modular Industrial Workstation spacer.
(C) The environmental limits of the tape may be more restrictive than those of the device itself.

4/8 GB AND 12/24, 4 mm TAPE PHYSICAL SPECIFICATIONS

Mounting
Device is a D-size Module mountable (1) on a tabletop, (2) in a modular mounting structure for use in an industrial enclosure, (3) in a 19-inch modular mounting structure for use in a workstation bay, (4) in the workstation spacer, or (5) atop the workstation spacer.

Dimensions
HEIGHT
7.0 cm (2.8 in)
DEPTH
31.0 cm (12.2 in)
WIDTH
19.0 cm (7.5 in)

Indicators
A green LED illuminates to indicate cartridge is loaded and the drive is ready. An amber LED illuminates to indicate data is transferring across the SCSI Bus.

644 MB CD-ROM FUNCTIONAL SPECIFICATIONS

Storage Medium
5.25-in removable compact disk

Formatted Capacity
644 MB

Interface Type
Small Computer System Interface (SCSI), ANSI Standard ANSC X3T9.2

Power Requirements (Mounting Structure Configuration)(a)
INPUT VOLTAGE
Nominal Range
100 to 120 V ac or 200 to 204 V ac
FREQUENCY RANGE
47 to 63 Hz
CONSUMPTION
9 W typical

Power Requirements (Optional Integrally Mounted Configuration, MIW Only)(b)
INPUT VOLTAGE
5 and 12 V dc from Foxboro supplied power supply

Environmental Limits
OPERATING
Temperature
5 to 40°C (41 to 104°F)
Relative Humidity
20 to 80%, at 40°C (104°F) noncondensing
Shock
2 G peak (11 ms half sine wave shape)
Vibration
5 to 500 Hz, 0.2 G peak amplitude
Altitude
0 to 3,000 m (0 to 10,000 ft)
STORAGE
Temperature
–40 to +60°C (–40 to +140°F)
Relative Humidity
95% at 40°C (104°F), noncondensing
Shock
15 G peak (11 ms half sine wave shape)
Vibration
5 to 500 Hz, 0.5 G peak amplitude
Altitude
0 to 12,000 (0 to 40,000 ft)

(A)Includes drive, power converter, and cooling fan.
(B)Mounted in Modular Industrial Workstation spacer.

644 MB CD-ROM PHYSICAL SPECIFICATIONS

Mounting
Device is a D-size module mountable (1) on a tabletop, (2) in a modular mounting structure for use in an industrial enclosure, (3) in a 19-inch modular mounting structure for use in a workstation bay, (4) in the workstation spacer, or (5) atop the workstation spacer.

Dimensions
HEIGHT
7.13 cm (2.8 in)
DEPTH
31.0 cm (12.2 in)
WIDTH
19.0 cm (7.5 in)

Indicators
LED indicator on the CD-ROM illuminates to indicate a data transfer is in progress.

The Foxboro Company
33 Commercial Street
Foxboro, Massachusetts 02035-2099
United States of America
http://www.foxboro.com
Inside U.S.: 1-508-543-8750 or 1-888-FOXBORO (1-888-369-2676)
Outside U.S.: Contact your local Foxboro Representative.

MB 021 Printed in U.S.A. 1098

An Invensys company