I/A Series® Hardware
Field Automation Subsystem
Micro-I/A™ Station 486DX4-75, 4 and 8 MB Processors

This version of the processor is used in remotely booted Micro-I/A applications, such as the Integrated Control software. It performs all the processing required to execute the applicable software and fully supports the following Micro-I/A interface cards:

- Single Cable Ethernet Interface
- I/A Series Fieldbus Interface
- Allen-Bradley™ Remote I/O Interface
- GE™ Fanuc™ Direct Connect I/O Interface
- PROFIBUS-DP™ Interface
- Modbus™ Interface
- Allen-Bradley PLC5™ Ethernet Interface.

PROCESSOR FEATURES

This processor card utilizes a 486DX CPU operating at a 75 MHz internal clock speed and includes 4 or 8 MB of expandable Random Access Memory (RAM), Read Only Memory (ROM), Basic Input/Output System (BIOS), math co-processor, and flash.

CARD CONSTRUCTION

The processor card is a sealed unit; in the event of a card failure, it is easily replaced with a new one.

CARD INSTALLATION/REPLACEMENT

Installation of the Micro-I/A 486DX4-75, 4 or 8 MB processor card involves removing the front cover of the Micro-I/A station and inserting the card into the dedicated connector on the head section. However, processor cards are customarily factory installed prior to shipment.

Removal and replacement of the processor card can be performed without disturbing any of the interface cards in the head section, expander section (when applicable) or associated external user terminations.

DESCRIPTION

The Micro-I/A 486DX4-75, 4 and 8 MB processors reside in the Micro-I/A station and incorporate all the functionality needed to execute operational instructions received from the supporting host (I/A Series workstation) for the Micro-I/A station.

PACKAGING

The processor card is packaged in the same case size as Personal Computer Memory Card Industry Association (PCMCIA) technology (sometimes referred to as PC card technology), but utilizes a full system bus connector. The packaging, therefore, is characterized by:

- Small size
- Minimal power consumption
- Easy installation and removal.

FUNCTIONAL SPECIFICATIONS

Electromagnetic Compatibility
The processor is tested for electromagnetic compatibility as a component of the Micro-I/A station. Refer to PSS 21H-6B4 B4.

Power
INPUT VOLTAGE
3.3 V dc; 5 V dc
INPUT CURRENT
390 mA; 140 mA
POWER CONSUMPTION
2.0 W (maximum)

Processor
TYPE
80486 with math coprocessor
CLOCK SPEED
75 MHz

Memory
RAM
4 or 8 MB (expandable)
ROM
256 KB Flash
BIOS
PC-AT compatible

ENVIRONMENTAL SPECIFICATIONS

Ambient Temperature
OPERATING
0 to 50°C (32 to 122°F)
STORAGE
-20 to +65°C (-4 to +149°F)

Relative Humidity
OPERATING
5 to 95% (noncondensing)
STORAGE
5 to 95% (noncondensing)

Mechanical
VIBRATION (OPERATING)
0.75 g (5 to 200 Hz)

Chemical
CORROSION AND CONTAMINATION
Per ISA Standard S71.04, Class G1

Circuit Board Flammability Effects
94V1

Transportation
ASTM D 999-75

PHYSICAL SPECIFICATIONS

Card Width
54 mm (2.126 in)

Card Length
85.6 mm (3.370 in)

Card Depth
550 mm (2.16 in)

Card Mass
65 grams (0.14 lb)

Card Type
Type II. Card is made to PCMCIA specifications.

PERFORMANCE SPECIFICATIONS

Memory Allocation for Blocks
(typical block size is 650 bytes)
650 KB (up to V6.2)
1240 KB (V6.2 and greater) with 4 MB RAM
2140 KB (V6.2 and greater) with 8 MB RAM

Number of FBMs Supported
64 (excluding expansion modules)

Minimum Block Processing Cycle (BPC)
100 ms

Configurable Block Periods
0.1, 0.2, 0.5, 0.6, 1, 2, 5, 6, 10, 30 seconds
1, 10, 60 minutes

Basic Processing Cycle
0.1, 0.2, 0.5, 1.0, or 2.0 seconds, selectable at
system configuration time

IPC Connections
51

Object Manager (OM) Lists (maximum)
60

Block Executions Per Second
3100 blocks/second, typical

Memory Allocation for OM Scanner Points
560 KB with 4 MB RAM
910 KB with 8 MB RAM

Maximum OM Scanner Database
12,000 points

Sequence Block Size
32 KB maximum for each block