



I/O Modules

Compact, fanless PC ♦ Intel Atom CPU ♦ Four plug-In I/O module slots ♦ Conduction-cooled chassis

Description

Acromag's Industrial I/O Server is a rugged industrial PC with truly integrated support for user I/O. A built-in carrier card interfaces up to four plug-in I/O modules to the CPU. The embedded computer supports video, audio, Ethernet, serial, and USB devices. A wide variety of I/O modules provides mix and match flexibility, high channel density, and a clean cable interface.

The I/O Server's fanless design employs advanced thermal technology and high-performance components to accommodate a wide operating temperature range -30 to 75°C. Conduction cooling plates and thermal pads wick internal heat away to the aluminum enclosure where external cooling fins dissipate the heat.

Units are shock/vibration resistant and sealed to IP40 standards to ensure long term reliability in a variety of applications.

This combination of an industrial PC with fully integrated I/O offers a compact, yet powerful monitoring and control solution. Unlike many box PC systems that offer few I/O connection options or limit you to a single PC104 card, Acromag's I/O Server brings I/O modules inside the chassis. A tight footprint is maintained, four plug-in I/O modules of any mix are supported, and high density connectors provide clean signal wiring.

Processor

Intel® Atom® N270 1.6GHz CPU

PC Interface

Video: VGA up to 2048 x 1536 display
 Audio: speaker out, microphone in
 Memory-DRAM: 1GB DDR533
 Memory-SSD: 2.5" 16GB solid-state drive option
 Memory-removable: CompactFlash card slot
 Serial ports: 1 x RS232, 1 x RS232/422/485
 Ethernet ports: 2 x 10/100 BaseT (switched)
 USB ports: 4 x USB 2.0 (2 with high retention)

I/O Module Carrier

Capacity: Holds four I/O modules, 200 I/O lines
 Connectors: 4 x 50 Pin SCSI-II

I/O Modules (sold separately)

Analog I/O: A/D, D/A
 Digital I/O: state, level, differential, counter, timer
 Serial I/O: RS232, RS422, RS485 communication
 FPGA: Altera® Cyclone®-II; TTL, LVDS, RS485 I/O

Environmental

Power: 9 to 32V DC
 Operating temperature: -30 to 75°C

Approvals

CE, UL/cUL pending

Key Features & Benefits

- Rugged, industrial PC with fanless design delivers high-reliability operation
- 4 plug-in I/O module slots provide easy, low cost interface to instrumentation
- High-density, interchangeable I/O modules enable mix and match flexibility
- 20+ I/O modules available for a wide variety of analog, digital, and serial I/O functions
- Thermally-controlled chassis meets extreme operating temperature requirements
- Compact, shock and vibration-resistant design

Applications

- Industrial machine control, factory automation
- Military and homeland security systems
- Aerospace, marine, and ground-based systems
- Transportation, mining, mobile servers
- Outdoor signage, kiosks, display systems
- Building management and control
- Test & measurement, data acquisition, SCADA
- Scientific research, simulation

IOS-7400 Industrial PC with I/O Module Carrier Card

Performance Specifications

Processor System

CPU
Embedded Intel® Atom® N270 1.6GHz.

System Memory
1GB installed. 200-pin SODIMM socket, DDR2 533MHz up to 2GB.

System Chipset
Intel® 945GSE / ICH7M chipset 533MHz FSB.

BIOS
AWARD™ 8Mbit Flash BIOS.

Ethernet Chipset
Intel® 82562GZ 10/100Mbps Ethernet chip.

Display Chipset
Intel® 945GSE.

Display VRAM
DVMT 3.0 support up to 224MB.

Display Resolution
Up to 2048 x 1536.

Operating System
Supports Windows® XP Embedded and Linux.

Interface Connections

Video
1 x VGA connector. Resolution CPU-dependent.

Audio
1 x speaker out. 1 x mic in. AC97 2.3 compliant.

Hard Disk Drive / Solid-State Drive
User-installed option, 2.5" HDD/SSD PATA.

Removable Memory
1 x CompactFlash slot.

Serial Ports
1 x RS232. 1 x RS232/422/485.

USB Ports
4 x USB 2.0 compliant ports.

Ethernet Ports
2 x 10/100 BaseT (unmanaged switch).

I/O Module Carrier

I/O Slots
Holds up to four Acromag IOS I/O Modules.

Thermal Control
Conduction-cooled I/O modules.

Connectors
SCSI-II 50-pin connector for each I/O module.

Physical & Environmental

Dimensions
Size: 11.8" x 3.0" x 7.3"
(299.7mm x 76.2mm x 182.9mm).
Weight: 5.95lbs (2.70kg).

Operation and Storage Temperature
Operation: -30 to 75°C (-22 to 167°F)
Storage: -40 to 85°C (-40 to 185°F).

Operating Humidity
0% - 90% relative humidity, non-condensing.

Shock Resistance
50g rms per IEC-68-2-27, half-sine, 11ms duration.

Vibration Resistance
5g rms per IEC-68-2-64, random, 5-500MHz,
1 oct/min, 1hr per axis.

Power Requirements
Supply Voltage: 9 - 32V DC ±10% @ 60W max.
Power Usage: Depends on configuration. 30W typical.

Approvals
CE, UL/cUL (pending).

FCC Compliance
FCC Part 15, Subpart B, Class A Digital Device (pending).

MTBF
Contact factory.

Ordering Information

Industrial PCs

Each unit holds four I/O modules, sold separately.

IOS-7400

Industrial PC with Intel® Atom® N270 1.6GHz

IOS-7400-WIN

Same as above plus licensed Windows Embedded Standard 2009 image installed on CompactFlash card

I/O Modules

20 models available, sold separately. See Bulletin 8400-529 or www.acromag.com for more information.

Software Support

See www.acromag.com for more information.

IOSSW-DEV-WIN

Windows® Win32 development package. Includes CD-ROM with API development software, example programs with source code, and Win32 DLL drivers

IOSSW-API-LINUX

Linux function libraries software for I/O Server

Accessories

See www.acromag.com for more information.

5028-378

Termination Panel, DIN rail-mount, 50 screw terminals, SCSI-2 connector

5028-438

Round cable, shielded, SCSI-2 50-pin connectors, 6 ft.

PSSR-SD24

60W power supply, 24V DC @ 2.5A

PSSR-SE24

90W power supply, 24V DC @ 3.75A

