



NEXCOM International Co., Ltd.

Network and Communication Solutions

Industrial Storage

iNAS 330

Hardware User Manual

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PREFACE

Copyright

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Disclaimer

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Acknowledgements

iNAS 330 is a trademark of NEXCOM International Co., Ltd. All other product names mentioned herein are registered trademarks of their respective owners.

Regulatory Compliance Statements

This section provides the FCC compliance statement for Class A devices and describes how to keep the system CE compliant.

Declaration of Conformity

FCC

This equipment has been tested and verified to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interference, in which case the user will be required to correct the interference (take adequate measures) at their own expense.

CE

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

RoHS Compliance



NEXCOM RoHS Environmental Policy and Status Update

NEXCOM is a global citizen for building the digital infrastructure. We are committed to providing green products and services, which are compliant with European Union RoHS (Restriction on Use of Hazardous Substance in Electronic Equipment) directive 2011/65/EU, to be your trusted green partner and to protect our environment.

RoHS restricts the use of Lead (Pb) < 0.1% or 1,000ppm, Mercury (Hg) < 0.1% or 1,000ppm, Cadmium (Cd) < 0.01% or 100ppm, Hexavalent Chromium (Cr6+) < 0.1% or 1,000ppm, Polybrominated biphenyls (PBB) < 0.1% or 1,000ppm, and Polybrominated diphenyl Ethers (PBDE) < 0.1% or 1,000ppm.

In order to meet the RoHS compliant directives, NEXCOM has established an engineering and manufacturing task force in to implement the introduction of green products. The task force will ensure that we follow the standard NEXCOM development procedure and that all the new RoHS components and new manufacturing processes maintain the highest industry quality levels for which NEXCOM are renowned.

The model selection criteria will be based on market demand. Vendors and suppliers will ensure that all designed components will be RoHS compliant.

How to recognize NEXCOM RoHS Products?

For existing products where there are non-RoHS and RoHS versions, the suffix "(LF)" will be added to the compliant product name.

All new product models launched after January 2013 will be RoHS compliant. They will use the usual NEXCOM naming convention.

Warranty and RMA

NEXCOM Warranty Period

NEXCOM manufactures products that are new or equivalent to new in accordance with industry standard. NEXCOM warrants that products will be free from defect in material and workmanship for 2 years, beginning on the date of invoice by NEXCOM. HCP series products (Blade Server) which are manufactured by NEXCOM are covered by a three year warranty period.

NEXCOM Return Merchandise Authorization (RMA)

- Customers shall enclose the “NEXCOM RMA Service Form” with the returned packages.
- Customers must collect all the information about the problems encountered and note anything abnormal or, print out any on-screen messages, and describe the problems on the “NEXCOM RMA Service Form” for the RMA number apply process.
- Customers can send back the faulty products with or without accessories (manuals, cable, etc.) and any components from the card, such as CPU and RAM. If the components were suspected as part of the problems, please note clearly which components are included. Otherwise, NEXCOM is not responsible for the devices/parts.
- Customers are responsible for the safe packaging of defective products, making sure it is durable enough to be resistant against further damage and deterioration during transportation. In case of damages occurred during transportation, the repair is treated as “Out of Warranty.”
- Any products returned by NEXCOM to other locations besides the customers’ site will bear an extra charge and will be billed to the customer.

Repair Service Charges for Out-of-Warranty Products

NEXCOM will charge for out-of-warranty products in two categories, one is basic diagnostic fee and another is component (product) fee.

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System Level

- Component fee: NEXCOM will only charge for main components such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistor, capacitor.
- Items will be replaced with NEXCOM products if the original one cannot be repaired. Ex: motherboard, power supply, etc.
- Replace with 3rd party products if needed.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Board Level

- Component fee: NEXCOM will only charge for main components, such as SMD chip, BGA chip, etc. Passive components will be repaired for free, ex: resistors, capacitors.
- If RMA goods can not be repaired, NEXCOM will return it to the customer without any charge.

Warnings

Read and adhere to all warnings, cautions, and notices in this guide and the documentation supplied with the chassis, power supply, and accessory modules. If the instructions for the chassis and power supply are inconsistent with these instructions or the instructions for accessory modules, contact the supplier to find out how you can ensure that your computer meets safety and regulatory requirements.

Cautions

Electrostatic discharge (ESD) can damage system components. Do the described procedures only at an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Safety Information

Before installing and using the device, note the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Follow all warnings and cautions in this manual.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a heating device.
- The load of the system unit does not solely rely for support from the rackmounts located on the sides. Firm support from the bottom is highly necessary in order to provide balance stability.
- The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Installation Recommendations

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- A Philips screwdriver
- A flat-tipped screwdriver
- A grounding strap
- An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nose pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

Safety Precautions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a stable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection to protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Place the power cord in a way so that people will not step on it. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the product and that it matches the voltage and current marked on the product's electrical range label. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
 - a. The power cord or plug is damaged.
 - b. Liquid has penetrated into the equipment.
 - c. The equipment has been exposed to moisture.
 - d. The equipment does not work well, or you cannot get it to work according to the user's manual.
 - e. The equipment has been dropped and damaged.
 - f. The equipment has obvious signs of breakage.
15. Do not place heavy objects on the equipment.
16. The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace your obsolete outlet.
17. **CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.**

Technical Support and Assistance

1. For the most updated information of NEXCOM products, visit NEXCOM's website at www.nexcom.com.
2. For technical issues that require contacting our technical support team or sales representative, please have the following information ready before calling:
 - Product name and serial number
 - Detailed information of the peripheral devices
 - Detailed information of the installed software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wordings of the error messages

Warning!

1. Handling the unit: carry the unit with both hands and handle it with care.
2. Maintenance: to keep the unit clean, use only approved cleaning products or clean with a dry cloth.

Conventions Used in this Manual



Warning:

Information about certain situations, which if not observed, can cause personal injury. This will prevent injury to yourself when performing a task.



Caution:

Information to avoid damaging components or losing data.



Note:

Provides additional information to complete a task easily.

Global Service Contact Information

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Package Contents

Before continuing, verify that the iNAS 330 package that you received is complete. Your package should have all the items listed in the following table.

Item	Description	Qty
1	iNAS 330	1
2	QIG x 1	1
3	CD x 1	1
4	Wall Mount Kit x 2	1
5	HDD Thermal Pad x 3	1



Ordering Information

The following below provides ordering information for iNAS 330.

iNAS 330 (P/N:101G0033000X0)

Rugged-design industry storage (3-year service & maintenance)

CHAPTER 1: PRODUCT INTRODUCTION

Overview



Key Features

- 2 Gigabit Ethernet ports for data/power redundancy with PoE+
- Data protection in harsh environments
- Fully compliant with EN50155 (railway applications), EN61373 (vibrations & shocks)
- Wide temperature range support, -40°C~70°C
- IP rating: IP 54 (NEMA)

Specifications

Hardware Features

- Computer
 - Processor: Dual Cortex®-A9 CPU
 - Storage: Up to 3x 2.5" HDD/SSD (optional)

Ethernet

- 2x Gigabit LAN ports for data redundancy (M12)
- 1x Gigabit LAN port for management (M12)

Button

- Reset button: Reset to factory default

LEDs

- Power LED: Power On/Off
- System LED: System status
- PoE/Temp LED: PoE/Temp status
- HDD LED: HDD1, HDD2, HDD3 (read/write/fail)
- LAN LED: 10/100/1000M x3 (link/activity)

Power Requirements

- Input: PoE (IEEE 802.3af), or PoE+ (IEEE 802.3at)
(Only supports standard PoE, "passive" mode is not supported.)
- Power redundancy

HS Control

- Smart heating system

Physical Characteristics

- Fanless
- Housing: Metal, IP 54 protection
- Mounting: Wall mount (optional)

Environmental Specification

- Operating temperature:
 - -40°C ~ +70°C (-40°F ~ +158°F) For SSD
 - -25°C ~ +55°C (-13°F ~ +131°F) For HDD
- Storage temperature: -40°C ~ 85°C (-40°F~176°F)
- Humidity: 5% - 95%, non-condensing

Certifications

- FCC/CE
- RoHS/WEEE

Compliance

- EN50155 (railway applications)
- IEC61373 (vibrations & shocks)
- EN60950 and EN61000 (immunity, emission)
- EN60068-2-30/IEC68-2-30 (environmental testing)

Package Content

- iNAS 330 unit x 1
- QIG x 1
- CD x 1
- Wall mount kit: 2 extra brackets and screws
- HDD thermal pad x 3

Optional Accessories

- M12 cables: Waterproof 8pin male M12 to RJ45 Gigabit Ethernet cable, rated IP67

System Dimensions

- 246mm (w) x 194mm (D) x 60mm (H) (9.69" x 7.64" x 2.36")

Software Features

- **OS: Atlas OS™**
 - Web-based GUI (based on HTML5 and CSS3)
 - Centralized navigation panel and dual-desktop system:
 - Navigation Panel: For system configurations, with some toolkits on the toolbar.
 - Home: For applications operations
 - Dashboard: For widgets exhibition
- **APPs**
 - Storage Manager
 - RAID Management (JBOD, RAID1, RAID 5)/Auto RAID rebuilding
 - Data Vault
 - Log Book
 - Software Center
- **Widgets**
 - System Guardian
 - Network Surveillance
- **Configurations**
 - Files and Permissions
 - Network and Connectivity
 - System and Devices
- **Toolkit**
 - Profile: Account Management
 - Real-time Notification
 - System Information
 - Network Status

Client O.S. Support

- Windows 7+, Windows Server 2003 R2, 2008, 2008 R2 & 2012 or later
- Linux & UNIX
- Mac OS X 10.7 or later

Web Browsers Support

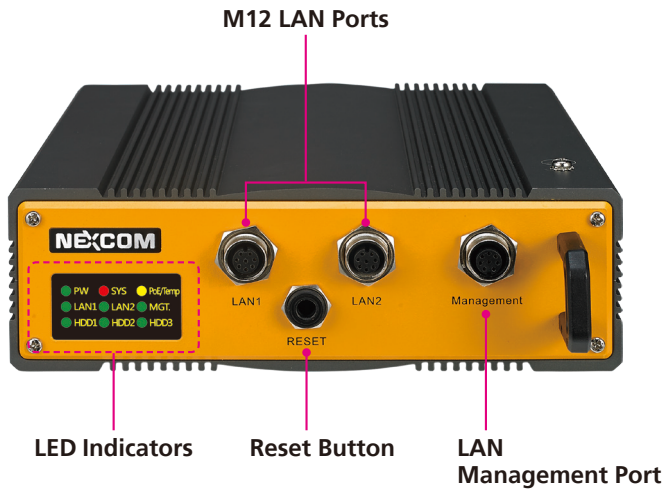
- Mozilla Firefox
- Mac Safari
- Google Chrome
- Opera

Protocol

- SAMBA 2 (CIFS), Open SSL (TLS), FTP / FTPS
- HTTP 1.1 / HTTPS
- IPv4, Link Aggregation, DHCP, NTP, HTTP Authentication
- RESTful API

Knowing Your iNAS 330

Front Panel



Reset Button (Restore to Default Settings)

Press and hold this button for 4 seconds to restore the system to factory default settings. This button can only be pressed when the PW status LED lights up steady green, indicating that the system is powered on and ready.

M12 LAN Ports

Two M12 PoE LAN ports used to connect network devices.

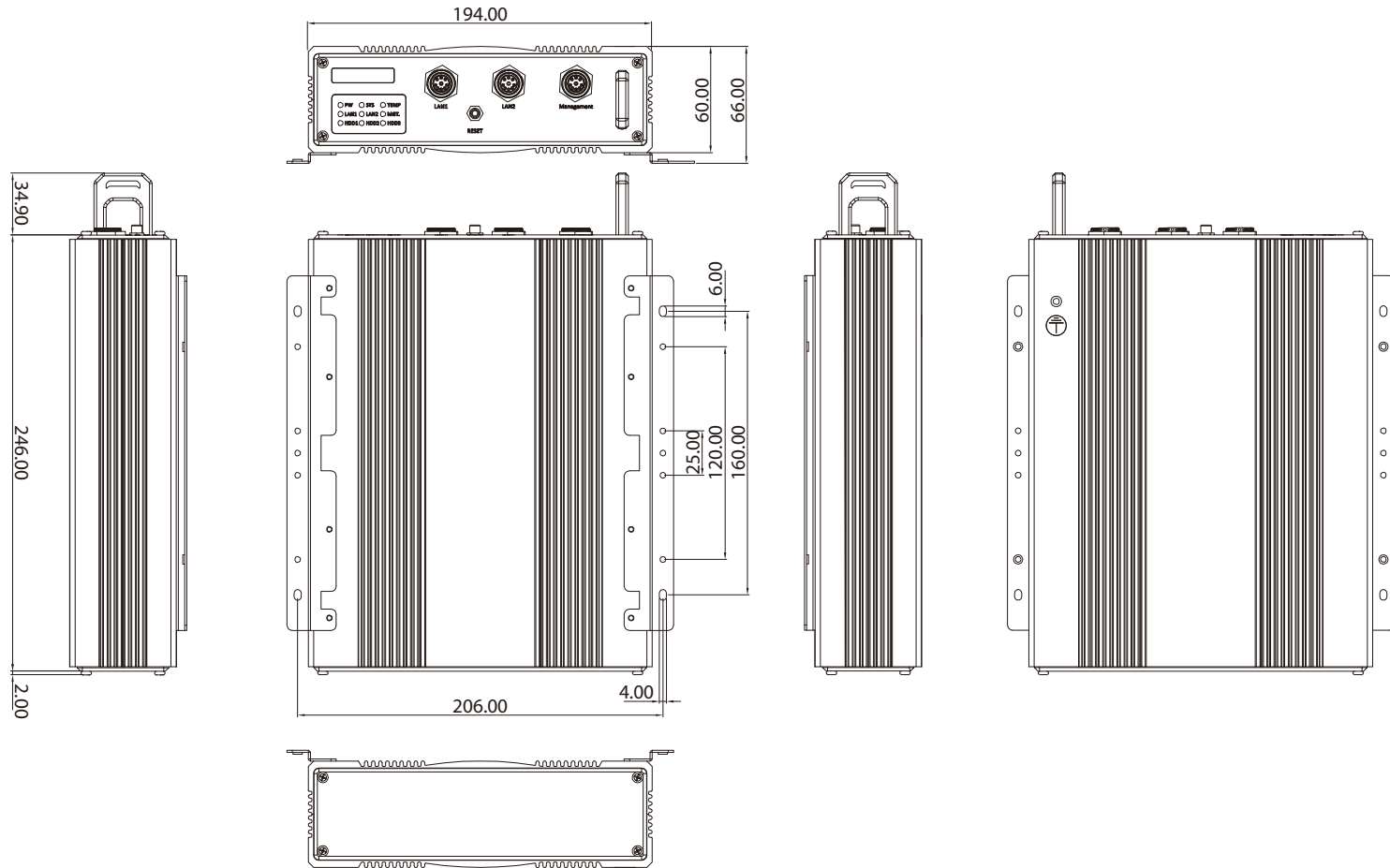
LAN Management Port

LAN management port used to access the NAS management interface. The default IP address is 192.168.100.1 with a subnet mask of 255.255.255.0.

LED Indicators

LED	Behavior	Description
PW	Steady Green ●	System power is on.
	Flashing Green ●	System boot in process.
	Steady Yellow ●	System is heating.
	Flashing Yellow ●	System is in idle state (Sleep mode).
SYS	Flashing Green ●	System is restoring to factory defaults.
	Steady Yellow ●	Volume is degraded.
	Flashing Green ●	Firmware upgrade in process.
	Steady Red ●	Volume is damaged.
	Flashing Yellow ●	Volume is recovering.
PoE/Temp	Flashing Green ●	Single PoE status is OK for 802.3at.
	Steady Green ●	Dual PoE status is OK for 802.3at.
	Flashing Yellow ●	Detecting voltage for single 802.3af. (Power insufficient to boot system with 3 disks.)
	Steady Yellow ●	Detecting voltage for dual 802.3af.
LAN1 LAN2	Flashing Red ●	System temperature is overheating. (Please shutdown to protect the system.)
	Steady Orange ●	100Mbps network link.
	Steady Green ●	1G network link.
MGT.	Flashing Green ●	Network activity on the LAN.
	Steady Orange ●	100Mbps network link.
	Steady Green ●	1G network link.
HDD1 HDD2 HDD3	Flashing Green ●	Network activity on the management port.
	Steady Green ●	HDD is ready.
	Flashing Green ●	Read and write activity on the HDD.
	Steady Red ●	HDD failure.

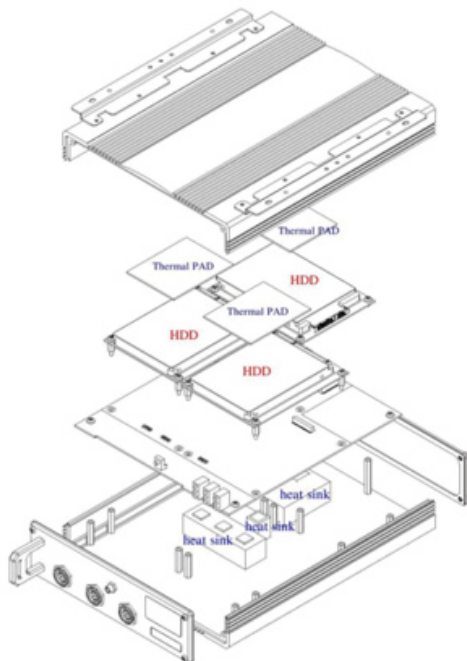
Mechanical Dimensions



CHAPTER 2: HARDWARE INSTALLATION

Installing Hard Disk Drives

The iNAS 330 comes with 3 SATA connectors that can be installed with 3 SATA hard disk drives. Users can manually install these storage drives. Refer to the following figure and descriptions on how to install or replace the hard disk drives.



Prior to removing the chassis cover, make sure the unit's power is off and disconnected from the power sources to prevent electric shock or system damage.

1. Remove the four screws on the front panel.
2. Remove the four screws on the rear panel.
3. Remove the top cover of iNAS 330.
4. Remove the four screws on the HDD board. (HDD1/HDD2/HDD3)
5. Install the new drive and secure the enclosure by reversing this procedure. The same procedure is used to install all drives.