



NANO300 User Manual

Issue 1.0

www.CoreIPC.com

Security Guidance

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- No part of this user manual may be reproduced, modified, reprinted, distributed, or published in any form without prior written permission from CoreIPC.
- To ensure proper and safe use of the CoreIPC NANO300, please read this user manual carefully before installation and operation.
- Please read all safety instructions and product specifications carefully before using the product.
- When contacting CoreIPC for technical support, please provide the product model, configuration, and other relevant product information for identification.

Basic Safety Tips

1. Before using this product, please read this manual carefully and keep it for future reference.
2. Make sure the power outlet is easily accessible when using the device.
3. Before connecting the device to a power outlet, verify that the power supply voltage meets the product requirements.
4. Route the power cord properly to avoid tripping hazards, and do not place any heavy objects on the power cord.
5. Before cleaning the device, disconnect the power cord from the power outlet. Do not use liquid cleaners or spray cleaners directly on the device. Use a dry or slightly damp cloth instead.
6. Before installation, make sure the device is placed on a stable and reliable surface to prevent accidental drops or damage.
7. If the device will not be used for an extended period, disconnect it from the power outlet to avoid possible damage caused by excessive voltage fluctuations.
8. Do not store the device outside the recommended temperature range. The system configuration table specifies a storage temperature of -30°C to 70°C. The source safety section separately states -20°C to 70°C; please confirm the applicable storage limit for the selected configuration before deployment.

9. Do not allow any liquid to enter the device, as this may cause a short circuit, electric shock, or fire.
10. Do not open or disassemble the device by yourself. For safety reasons, servicing should only be performed by qualified technical personnel or authorized engineers.
11. Before connecting or disconnecting external devices, cables, or optional modules, it is recommended to power off the system first.

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Ordering Information

Model	Processor	Memory	Storage	Wireless Options
NUC19D-N22-N2840	Intel® Celeron® N2840, 2 cores, 2.16 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC19D-N22-J1900	Intel® Celeron® J1900, 4 cores, 2.00 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC42D-N22-J4125	Intel® Celeron® J4125, 4 cores, 2.00 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC62D-N22-J6412	Intel® Celeron® J6412, 4 cores, 2.00 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC50D-N22-N5095	Intel® Celeron® N5095, 4 cores, 2.00 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC50D-N22-N5105	Intel® Celeron® N5105, 4 cores, 2.00 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC32D-N22-N100	Intel® Processor N100, 4 cores, up to 3.4 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC32D-N22-N97	Intel® Processor N97, 4 cores, up to 3.6 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC32D-N22-N150	Intel® Processor N150, 4 cores, up to 3.6 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC32D-N22-N300	Intel® Core™ i3-N300, 8 cores, up to 3.8 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC32D-N22-N305	Intel® Core™ i3-N305, 8 cores, up to 3.8 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC54D-N22-4200U	Intel® Core™ i5-4200U, 2 cores, 1.80 GHz - GPIO not supported	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC54D-N22-4300U	Intel® Core™ i5-4300U, 2 cores, 1.90 GHz - GPIO not supported	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC54D-N22-4600U	Intel® Core™ i7-4600U, 2 cores, 2.10 GHz - GPIO not supported	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC54D-N22-5005U	Intel® Core™ i3-5005U, 2 cores, 2.00 GHz - GPIO not supported	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC54D-N22-5200U	Intel® Core™ i5-5200U, 2 cores, 2.20 GHz - GPIO not supported	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC54D-N22-5300U	Intel® Core™ i5-5300U, 2 cores, 2.30 GHz - GPIO not supported	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC54D-N22-5600U	Intel® Core™ i7-5600U, 2 cores, 2.60 GHz - GPIO not supported	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC67D-N22-6200U	Intel® Core™ i5-6200U, 2 cores, 2.30 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC67D-N22-6300U	Intel® Core™ i5-6300U, 2 cores, 2.40 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC67D-N22-6500U	Intel® Core™ i7-6500U, 2 cores, 2.50 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC67D-N22-7100U	Intel® Core™ i3-7100U, 2 cores, 2.40 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC67D-N22-7200U	Intel® Core™ i5-7200U, 2 cores, 2.50 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC67D-N22-8130U	Intel® Core™ i3-8130U, 2 cores, 2.20 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC67D-N22-8250U	Intel® Core™ i5-8250U, 4 cores, 1.60 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC12D-N22-1215U	Intel® Core™ i3-1215U, 6 cores, up to 4.40 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC12D-N22-1235U	Intel® Core™ i5-1235U, 10 cores, up to 4.40 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC12D-N22-1335U	Intel® Core™ i5-1335U, 10 cores, up to 4.60 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC12D-N22-1255U	Intel® Core™ i7-1255U, 10 cores, up to 4.70 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC12D-N22-1355U	Intel® Core™ i7-1355U, 10 cores, up to 5.00 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC12D-N22-1240P	Intel® Core™ i5-1240P, 12 cores, up to 4.40 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC12D-N22-1340P	Intel® Core™ i5-1340P, 12 cores, up to 4.60 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS
NUC12D-N22-12450H	Intel® Core™ i5-12450H, 8 cores, up to 4.40 GHz	4/8/16/32/64GB*	64/128/256/512GB	Wi-Fi / BT / 4G / GPS

Note: This manual describes the NANO300 dual-LAN / four-COM configuration. The chassis supports multiple internal motherboard and processor configurations. Memory capacity, GPIO support, I/O population and power requirements may vary by selected platform. Please confirm the final configuration before ordering.

1. Product Description

The NANO300 is a fanless industrial PC designed for stable continuous operation in industrial and embedded applications. This configuration provides dual Gigabit Ethernet, four DB9 COM ports, six USB ports, optional DB15 GPIO/front-panel expansion, optional Wi-Fi / Bluetooth and 4G / GPS modules, and wall-mount installation.

The system supports 2 × Gigabit Ethernet, 4 × COM and 6 × USB ports including 4 × USB 3.0 and 2 × USB 2.0. COM1/COM2 support the RS485 definition provided in the source document, while COM1/COM2/COM3/COM4 support the RS232 definition. The optional DB15 SIO interface provides 8 GPIO channels and front-panel switch / power-LED signals.

The NANO300 supports a broad range of Intel® processor platforms from Celeron® N2840/J1900/J4125/J6412 and N5095/N5105 through Intel® N-series processors, 4th-8th Gen Core™ U-series processors, and selected 12th/13th Gen Core™ U/P-series processors.

With its 225.8 × 128.0 × 69.45 mm fanless chassis, optional 9-36 V wide-voltage input module, wireless expansion and wall-mount support, the NANO300 is suitable for industrial control, edge terminals, kiosk, networking and other embedded applications.

The main features of the NANO300 four-COM configuration are as follows:

- Fanless passive cooling chassis
- 2 × Gigabit Ethernet ports
- 4 × DB9 COM ports; COM1/COM2 support RS485 definition
- 6 × USB ports: 4 × USB 3.0 + 2 × USB 2.0
- Optional DB15 SIO expansion: 8-channel GPIO + front-panel switch / power LED
- Optional Wi-Fi / Bluetooth and 4G / GPS expansion
- Memory options: 4 GB / 8 GB / 16 GB / 32 GB / 64 GB, depending on platform
- Storage options: 64 GB / 128 GB / 256 GB / 512 GB
- Compact chassis: 225.8 × 128.0 × 69.45 mm
- Windows / Linux operating system support
- Power button startup by default; AC-recovery power-on and external front-panel switch supported
- Optional 9-36 V wide-voltage input module; source lists 12 V / 5 A and 19 V / 6.3 A adapter options

2. Product Images



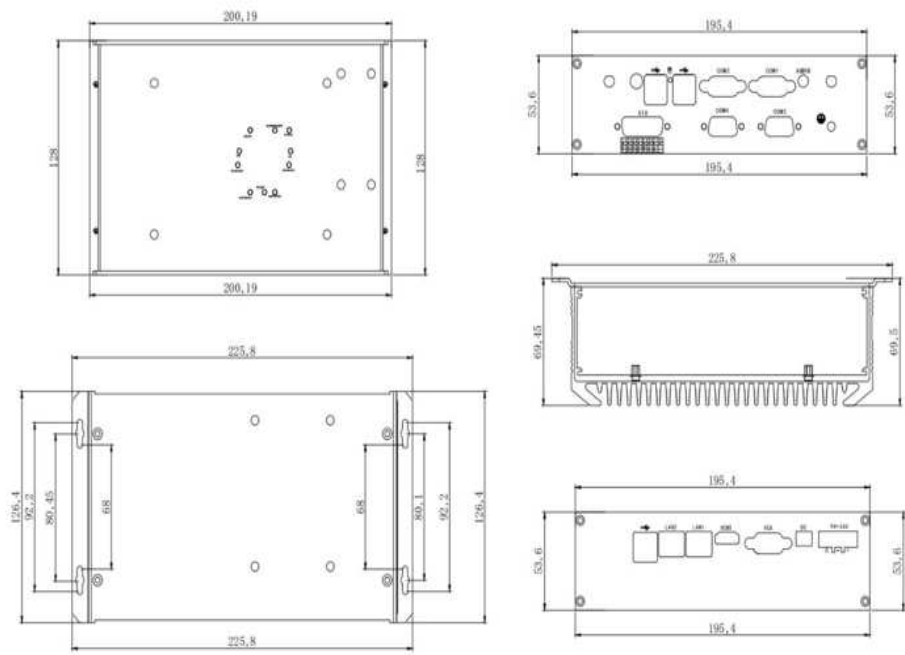
Front I/O View

2 × LAN, 2 × USB, HDMI, VGA and DC power input



Rear I/O View

4 × USB, 4 × COM, power button and audio interface



NANO300 Overall Dimensions

3. Chassis Specifications

Model	NANO300
Dimensions	225.8 × 128.0 × 69.45 mm
Standard Items	Chassis, packaging materials, Wi-Fi antenna-hole plugs, screws, thermal pads
Optional Items	Storage drive bracket, wide-voltage module, memory, storage drive, 4G / Wi-Fi, COM3/COM4 cable, SIO cable

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4. System Configuration

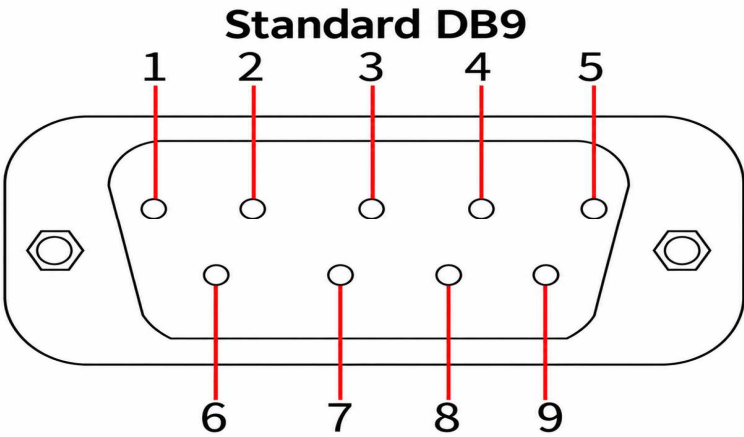
Configuration	Available Options
Processor / Motherboard	See Ordering Information for source-listed platform options, including NUC12D-N22-12450H.
Memory	4 GB / 8 GB / 16 GB / 32 GB / 64 GB, depending on platform
Storage	64 GB / 128 GB / 256 GB / 512 GB
Network	Dual Gigabit Ethernet
Operating System	Windows / Linux
I/O Ports	6 × USB; 4 × COM in this configuration
GPIO / SIO	Optional DB15: 8 GPIO channels + external front-panel switch / power LED signals
Wi-Fi	Optional; supports Wi-Fi / Bluetooth
4G	Optional; supports 4G; 4G / GPS also available
Power Input	Standard 12 V DC jack, 5.5 mm outer diameter / 2.5 mm inner diameter
Power Adapter	Source lists AC-DC 12 V / 5 A, 60 W and 19 V / 6.3 A, 120 W adapter options
Wide Voltage	Optional 9-36 V input module; output 12 V / 5 A
Power-on Mode	Power button by default; AC-recovery power-on configurable; external front-panel switch supported
Cooling	Passive chassis cooling
Operating Environment	-20°C to 50°C; 5%-95% RH, non-condensing
Storage Temperature	-30°C to 70°C
Package Contents	1 × chassis/system, 1 × power adapter, 1 × power cord, 1 × screw pack

Configuration Note:

The available motherboard and processor combinations are listed above. Memory capacity, GPIO support and power options depend on the selected configuration. The listed NUC54D configurations do not support GPIO. This manual covers the four-COM chassis configuration.

5. Port Definition

COM1/2/3/4 — RS232 Pin Definition



COM1/2 — RS232 Pin Definition

Pin	Definition	Pin	Definition
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

COM1/2 — RS485 Pin Definition

COM1/2 — RS485 Pin Definition

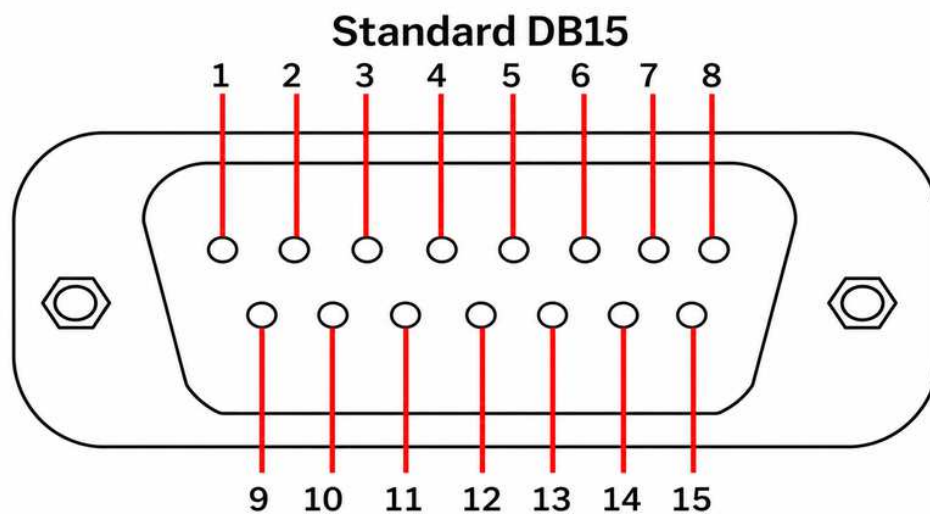
Pin	Definition	Pin	Definition
1	TXD-RS485_A	2	RXD_RS485-B
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

6. SIO / GPIO Interface

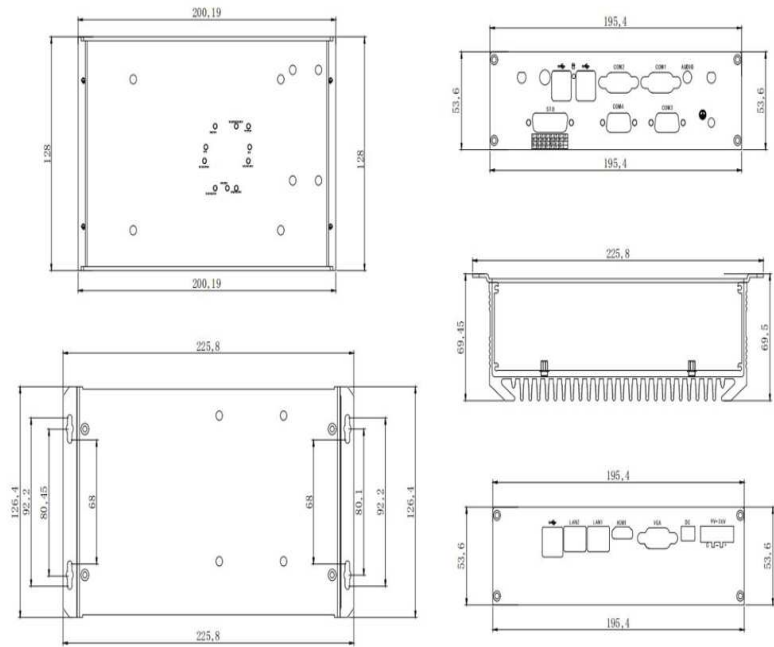
On supported configurations, the optional DB15 SIO interface provides eight GPIO channels and front-panel switch and power LED signals. The register map is shown below. GPIO is not supported on the NUC54D configurations listed under Ordering Information.

SIO Pin	Mainboard Pin	Default	Register	Bit	R/W	SIO / Note
1	GPIO_4Pin	Input High	0xA06	Bit0	Read-Only	GP70
2	GPIO_6Pin	Input High	0xA06	Bit1	Read-Only	GP71
3	GPIO_8Pin	Input High	0xA06	Bit2	Read-Only	GP72
4	GPIO_10Pin	Input High	0xA06	Bit3	Read-Only	GP73
5	GPIO_2Pin	VCC	-	-	-	-
6	FPANEL	GND	-	-	-	-
7	FPANEL	SW+	-	-	-	-
8	FPANEL	SW-	-	-	-	-
9	GPIO_3Pin	Output Low	0xA06	Bit7	Read-Write	GP77; BIOS default low
10	GPIO_5Pin	Output Low	0xA06	Bit6	Read-Write	GP76; BIOS default low
11	GPIO_7Pin	Output Low	0xA06	Bit5	Read-Write	GP75; BIOS default low
12	GPIO_9Pin	Output Low	0xA06	Bit4	Read-Write	GP74; BIOS default low
13	GPIO_1Pin	GND	-	-	-	-
14	FPANEL	PWR LED+	-	-	-	-
15	FPANEL	PWR LED-	-	-	-	-

DB15 SIO Pinout



7. Mechanical Dimension



8. Warranty

CoreIPC provides the original purchaser with a one-year limited warranty from the date of purchase.

During the warranty period, if the product is found to be defective under normal use, CoreIPC will provide repair or replacement service free of charge. The warranty does not cover products that have been repaired or modified by unauthorized personnel, or damage caused by improper use, accidents, disasters, or incorrect installation.

For products outside the warranty period, repair service may still be available, and material and labor charges may apply. Please contact your CoreIPC sales representative for detailed service information.

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