

# NBC-1360 Series

## Modular Industrial Computers

# User Manual



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## Warranty terms

The default product warranty period is 1 year. In case of special circumstances, the contract signed by both parties shall prevail.

## Safety guidance for installed and use

1. Please read carefully and keep this manual properly before use.
2. Keep the plate card dry and packed intact before installation, ensuring that the equipment is placed in a stable plane, and an accidental fall or flip may cause equipment failure or damage.
3. In order to avoid unnecessary damage caused by frequent turning to the product, wait at least 30 seconds before shutdown of the machine. If the equipment is not used for a long time, disconnect the power cord to avoid the equipment being damaged by instantaneous voltage.
4. The opening slot of the chassis is used for ventilation to avoid overheating of the parts in the chassis. Do not mask or block such openings.
5. Before connecting the product to the power supply, confirm the supply voltage and adjust the voltage to 220V.
6. Protect the power cord from trampling or other accidents that may cause sudden power failure, and do not stack anything on the power cord.
7. Unplug the power cord before unplugging any expansion card or module.
8. Note to all the notes and warnings mentioned in the manual.
9. Do not make any changes or modifications to this product. If there is any abnormal use of the equipment, please find a professional personnel for safety reasons.
10. Please do not place or store the product at an ambient temperature above 60 °C (140F) as it will cause harm to the product.
11. If the battery is not replaced properly, it can cause a danger. Be sure to use the same model or equivalent battery as recommended by the manufacturer.

## Packing list

Before installing the system, the user should confirm that the package contains the device and the items listed below:

- 1 x NBC-1360 device
- 1 x Certificate of qualification
- 1 x Warranty card
- 1 x adapter
- 1 x Power cable
- 2 x wall hanging strips

## Catalogue

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## 01 Product Overview

Industrial control machine (Industrial Personal Computer, IPC) is the industrial control computer, is a use of bus structure, the production process and electromechanical equipment, process equipment for detection and control of the tool general name.

Industrial control machine has important computer attributes and characteristics, such as computer CPU, hard disk, memory, peripherals and interfaces, and operating system, control network and protocols, computing power, friendly man-machine interface. The industrial control machine often operates in a harsh environment, and the safety requirements for data are higher. Therefore, the industrial control machine is usually reinforced, dust proof, moisture proof, corrosion proof, radiation prevention and other special designs.

### 1.1 Overview of the NBC-1360 function

NBC-1360 is an advanced industrial computer equipped with extensive I/O options, offering great flexibility and effortless Mini PCIe expansion capabilities. It boasts wide-input power ranges, wide temperature tolerances, and enhanced structural durability, making it an excellent choice for industrial applications.

Table 1.1-1 NBC-1360 Functional overview table

<b>Short Description</b>	Intel® Elkhart Lake Celeron® /Tiger Lake Core™ i5 Fanless Box Computer with 2x COM, 8x USB, 2x LAN
<b>Product Features</b>	<ul style="list-style-type: none"> <li>● Intel® Elkhart Lake Celeron® J6412</li> <li>● Intel® Tiger Lake Core™ i5-1155G7 processor</li> <li>● 2x COM (RS-232/485), 2x LAN, 8x USB, HDMI</li> <li>● 1x 2.5" SATA HDD/SSD, 1x M.2 2280 NVME</li> <li>● 1x Full length Mini PCIe</li> </ul>

## 02 Product presentation

### 2.1 Product appearance



Figure 2.1-1 Left top view of NBC-1360

### 2.2 Appearance size diagram

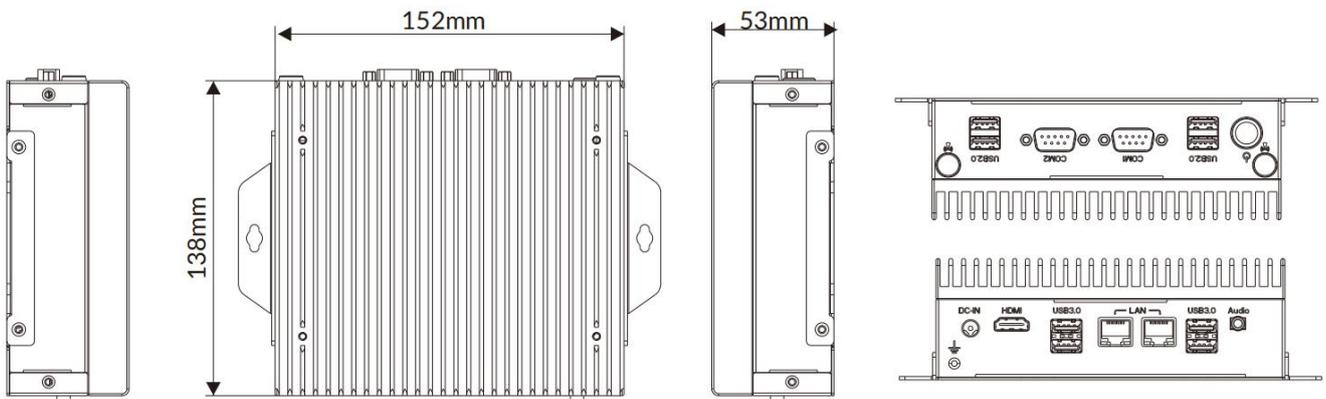


Figure 2.2-1 NBC-1360 dimensional drawing

## 2.3 Product specification introduction

System	NBC-1360-J6412	NBC-1360-1155G7
CPU	Intel Celeron" J6412 processor	Intel" CoreM i5-1155G7 processor
CPU TDP	10W	12W
Memory	1x DDR43200 MHz SO-DIMM up to 32GB	
Storage	1x 2.5" SATA HDD, 1x M.22280 NVME	
BIOS	AMI UEFI	
Watchdog Timer	Software Programmable. Supports 256 levels system reset	
<b>I/O Ports</b>		
USB	4x USB 2.0,4x USB 3.0	
Serial	2x COM(RS-232/485)	
Ethernet	2x RJ45 GbE IntelR I210AT	
Display	1x HDMI	
SIM Card Slot	1x SIM card slot(inside)	
Antenna	2x SMA antenna holes	
<b>Expansion Slot</b>		
Mini PCIe	1x Full length Mini PCIe	
M.2	1x M.22280 NVME	
<b>RF Communication</b>		
Wi-Fi	Mini PCIe expansion (optional)	
Cellular	Mini PCIe expansion (optional)	
Bluetooth	Mini PCIe expansion (optional)	
GNSS	Mini PCIe expansion (optional)	
<b>Audio</b>		
<b>Audio</b>	Mic in, line out	
<b>Power</b>		
Button	Yes	
DC Input	9-36VDC	12VDC
Power Mode	AT/ATX	
<b>Operating System</b>		
Windows	Windows 10	
Linux	Ubuntu	
<b>Mechanical</b>		
Dimensions(WxDxH)	152x138x 53mm(0.5x0.45 x0.17 inches)	
Weight (N.W.)	1.3 kg(2.87lbs)	
Mounting	Wall mount	
Material	Aluminum alloy	
<b>Environment</b>		
Operating Temperature	-10 to 60°C (14 to 140°F)	
Storage Temperature	-20 to 60°C (-4 to 140°F)	
Relative Humidity	10% to 95%@40°C (104°F),non-condensing	
<b>Certification</b>		
EMC	CE, FCC Class A	

## 03 IO panel description

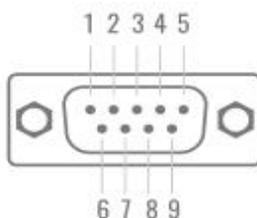
### 3.1 The NBC-1360 panel is shown below



Figure 3.1-1 NBC-1360 panel diagram

### Serial port RS-485 definition:

Equipped with 2 DP9 serial ports, COM1/COM2 can be switched to RS485, RS232.



serial port diagram of DP 9

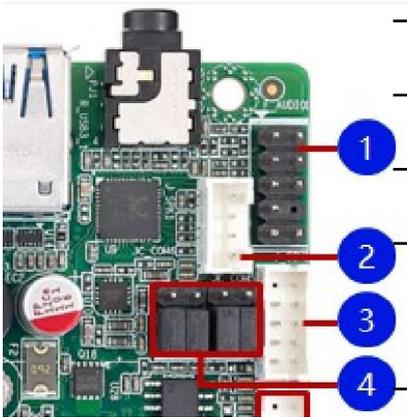
### RS232 COM1/2 Pin Headers (5\*2 Pin 2.00mm)

Pin	Definition	Pin	Definition
1	DCD <sup>[1]</sup>	2	RXD
3	TXD	4	DTR#
5	GND	6	DSR#
7	RTS#	8	CTS#
9	RI# <sup>[2]</sup>		

J\_COM1/2 support RS232 by default, RS485 is selectable by“COM1/2 RS232/RS485 Select Jumper”(JC\_COM1/2, Location 4).

[4] COM1/2 RS232/RS485 Select Jumpers (3\*2 Pin 2.54mm)

No.	Location	Settings	Function
4	J-COM1/2	1-3、 2-4(Default)	RS232
		3-5、 4-6	RS485



RS485 COM1/2 Pin Headers (5\*2 Pin 2.00mm)

J_COM1/2	1	DCD/RS485- <sup>[5]</sup>	2	RXD/RS485+ <sup>[5]</sup>
	3	TXD	4	DTR#
	5	GND	6	DSR#
	7	RTS#	8	CTS#
	9	RI#		

## 04 Troubleshooting Guide

### 6.1 Boot (boot settings) Q&A

#### 6.1.1 Q: After pressing the power button to start on, the power indicator is not on

answer a. Check whether the industrial computer is connected correctly, and whether the power socket is charged;

answer b. Check the industrial computer power adapter, plug and unplug the power cord, display data cable and keyboard mouse cable, confirm that the display and host connection is correct;

answer c. Check whether the positive and negative electrodes of the power plug are reversed.

#### 6.1.2Q: The power indicator is on and the display is not displayed

answer a. Check the display power supply and switch;

answer b. Check whether the display data line is in bad contact;

answer c. If using DisplayPort or VGA converter, replace other brand converters;

answer d. Observe the keyboard and mouse indicator, if the keyboard indicator, mouse indicator is on, replace the monitor screen.

#### 6.1.3 Q: After the boot of the motherboard can not self-check success

Press [Del], key to reset CMOS, or clear CMOS.

#### 6.1.4Q: The mouse and keyboard cannot be used after the boot

answer a. To see whether the keyboard lock is locked, remove the keyboard lock;

answer b. If not, check whether the connection with the main board and the keyboard and mouse are connected correctly;

answer c. Check whether there is a keyboard mouse one two turn joint, if there is the keyboard, mouse reverse use;

answer d. Replace one joint and two joints;

answer e. Replace the mouse and keyboard.

#### 6.1.4Q: Unable cannot boot the system from the hard drive after boot

answer a. Press the "Del" key to enter the CMOS hard disk parameter setting and boot order are correct;

answer b. After using the optical drive or floppy drive boot, check whether the hard disk has a boot system or the hard disk is normal partition and has activated the boot partition;

answer c. Press F8 at startup and select the last correct configuration to start the operating system;

answer d. Replace the new hard drive and reinstall the system.

### 6.2 Q: The system dies or has a blue screen during operation

Answer 1. Check whether the industrial computer temperature is too high;

Answer 2. Check whether the incorrect or expired drivers are installed;

Answer 3. Check whether the system is infected with the virus;

Answer 4. Whether the system file or application and disk are damaged.

**6.3 Q: Unable to install the device driver correctly**

1. Check whether the driver is correct and the latest;
2. Whether the driver needs the patch support of the operating system;
3. Whether the resources occupied by other equipment are in conflict with the resources occupied by the equipment that need to be driven;
4. If the peripheral equipment, change a slot and reinstall the drive;
5. Replace the equipment and reinstall the driver program.

**6.4 Q: BIOS Upgrade method**

1. Prepare a UEFI start U disk, if not, you need to make one;
2. Please copy the required refresh BIOS file and batch to the U disk root directory;
3. Press F7, select the made UEFI U disk, return, and enter the Shell;
4. Enter FS0: return (if no other storage devices, fs0:);
5. Run the flash. The nsh, brush BIOS, the middle of no power off;
6. After brushing the BIOS, power off, then power on, restart the industrial computer, enter the BIOS setting, F3 load the BIOS optimization value (Load optimized defaults return car selection Y).

**6.5 Q: Precautions**

The following conditions may lead to a refresh failure and no boot up.

1. Power interruption during the refresh process;
2. Virus exists in the U disk;
3. BIOS files;
4. Non-UEFI system.

If it cannot be started after refresh, you can empty the BIOS and try it. If the situation is still the same, please return to the factory for repair.

## 05 After-Sale Service

Please visit the official website of Darveen ([www.darveen.com](http://www.darveen.com)), Get the latest information on the product. If users need technical support, please contact the local distributor, seller or the customer service department. Before the technical consultation, please collect the following information:

1. Product model and production serial number (normally, bar code on the body)
2. Software used (operating system, version, application software, etc.)
3. Additional equipment situation of product docking (such as power supply situation, resistance and other basic information)
4. Complete description of the problem (video and photo)
5. Full content of each error message (video recording and photo taking)