

# **NcCloud Service User Manual**

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1	About NcCloud		
2	Introduction to NcCloud Service		
	2.1	Features	2
	2.2	Service Mode	3
	2.3	System Architecture	3
	2.4	How to Use	4
3	Insta	alling NcCloud Assistant	
	3.1	Read First	5
	3.2	System Requirements	5
	3.3	How-to	6
4	Device Networking		
	4.1	Connecting to Internet through Ethernet	7
	4.2	Connecting to Internet through USB Interface	7
5	Regis	stering NcCloud Account	8
	5.1	Registering on Web	8
	5.2	Registering in WeChat	9
	5.3	Adding Device	11
6	Clou	d Control Center (Web)	13
	6.1	Production Monitoring	14
	6.2	My Documents	15
	63	More	16



7	Mobi	le Monitoring (WeChat)17
	7.1	Production Monitoring
	7.2	Technology Center
	7.3	More
8	FAQs	23
	8.1	How do I know if NcCloud Assistant has been installed in the controller? 23
	8.2 on th	What should I do when QR code and verification code cannot be displayed ne homepage of NcCloud Assistant?23
	8.3	What should I do if NcCloud fails after restarting the computer?24
	8.4	What should I do if NcCloud local data service fails to work?24
	8.5 cont	Is a twice authorization required when the device ID is changed or the roller installs a new operating system?24
	8.6	Which features of NcCloud Assistant can be used without networking? 24
	8.7	Data was garbled when it is converted to .CSV file format25
	8.8	Can I visit NcCloud DNC with a domain name?25



## 1 About NcCloud

**NcCloud**, independently developed by **Shanghai Weihong Electronic Technology Co., Ltd** (hereinafter called **WEIHONG**), is an IIoT (Industrial Internet of Things) solution. Based on the monitoring of CNC devices, **NcCloud** offers a solution to production management, device management and business innovation.

**NcCloud** includes three parts:

#### **NcCloud Assistant**

A built-in application in CNC controller. It can provide data interface and communication protocols for the CNC device networking.

#### **NcCloud DNC**

A standard solution to CNC device networking in workshop. It includes following functions:

- Standard DNC functions
- Providing data interface for enterprise information system

### **NcCloud Service**

Based on public cloud, it provides remote monitoring of the CNC devices. In addition, it assists production management and equipment maintenance. It also can provide data interface for third-party cloud and applications.

For production monitoring in different scenarios, **NcCloud Service** runs on two scenarios: Web and WeChat.

You can register an account in either the official website or WeChat official account. The same account can be used on both Web and WeChat. And devices that has been monitored in either scenario can be shown in the other, in a real-time way.



## 2 Introduction to NcCloud Service

NcCloud Service is an important component of NcCloud. Based on public cloud, it provides remote monitoring of the CNC devices. NcCloud Service runs on two scenarios: Web and WeChat.

The online functions of NcCloud Service keep updating and upgrading. Some advanced functions are only open to paying users or privileged users. Please contact with WEIHONG sales for more details or cooperation.

### 2.1 Features

Main functions of NcCloud Service can be divided into following categories:

Device monitoring and production management

It can provide comprehensive and real-time device data and statistical analysis of device such as utilization. Device data include but are not limited to:

- Machining progress
- Running status
- Message alarm
- Usage status of tool and wearing part

The acquired data can not only provide scientific basis for production and device maintenance in workshop, but also build basic data and reports for enterprise resource planning.

Online help document and technical supports

Online document not only contains help documents of WEIHONG products, but also technical documents of suppliers. In other words, it serves as an open technical document platform for end users.

In addition, NcCloud Service covers other technical supports including time registration, logistics reminder, etc.

Professional service

It provides advanced functions like device leasing, remote maintenance, etc.

Data interface

NcCloud Service can provide the data interface for any legitimate third-party cloud service platform, to enhance the cloud service capabilities of our partners.



## 2.2 Service Mode

For production monitoring in different scenarios, **NcCloud Service** runs in two modes:

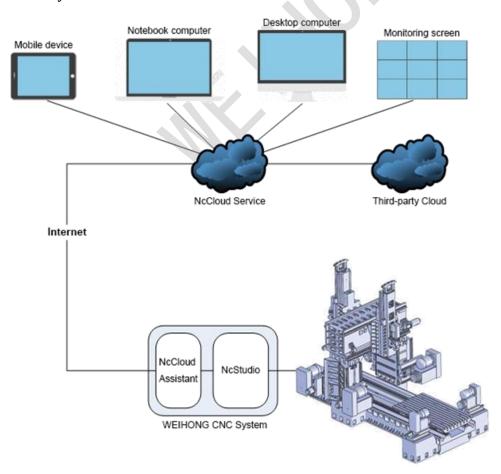
- Cloud control center (Web)
- Mobile monitoring (WeChat)

A NcCloud account that you registered in either mode can be used in the other. All information of devices that have been added to the account can be displayed in both platforms, in a real-time way.

# 2.3 System Architecture

See following figure for the architecture of **NcCloud Service**.

- The built-in NcCloud Assistant serves as a data interface, and transmit data to cloud server after the device has been connected to Internet.
- Open a browser on any online equipment and log in NcCloud official website (https://nccloud.weihong.com.cn). And do operations as desired.
- Use "NcCloud" WeChat official account to check the cloud service anytime and anywhere.





## 2.4 How to Use

To use NcCloud Service, do the following:

- 1. Connect the device to Internet.
- 2. Register an NcCloud account.
- 3. Add device.
- 4. Monitor the device in real time.





# 3 Installing NcCloud Assistant

Check operating system version and install NcCloud Assistant correctly.

## 3.1 Read First

- NcCloud Assistant has been embedded in NcStudio at factory. If you are not sure, please consult your sales or check the existence by yourself. Please refer to How do I know if NcCloud Assistant has been installed in the controller?
- If NcCloud Assistant is absent in your current NcStudio by default, it is recommended to upgrade NcStudio to the latest version.
- If NcCloud Assistant already exists in NcStudio, you can use directly, or download the latest version of NcCloud Assistant on NcCloud Official Website and upgrade, or directly install the latest version of NcStudio.

## 3.2 System Requirements

Before installing NcCloud Assistant, please confirm the following:

- NcStudio software has been installed.
  - If you are not sure or cannot install NcStudio, please turn to technical support.
- The version of operating system cannot be lower than the minimum version in the table below.

Operating system	Version
Windows 7	Service Pack 1
Windows 8	-
Windows 8.1	-
Windows 10	-
Windows Server 2003	Service Pack 2
Windows Server 2008	Sevice Pack 2
Windows Server 2008 R2	Service Pack 1
Windows Server 2012	-
Windows XP	Service Pack 3
Windows Vista	Service Pack 2



## 3.3 How-to

If NcCloud Assistant already exists in NcStudio, click **Start**  $\rightarrow$  **All Programs** to find **NcCloud** folder. You can skip the installation.

If NcCloud Assistant cannot be found in CNC controller, do the following to install one:

- Navigate to NcCloud official website (https://nccloud.weihong.com.cn), click **Download**, and type keyword **NcCloud Assistant**. Download the latest version of NcCloud Assistant installation package.
- 2. Open the installation package, install by following the instructions.

After successful installation, you can find **NcCloud** folder in the **Start** menu. Click **NcCloud Assistant** to open the following interface:



**Tip:** Same steps for upgrading the version of NcCloud Assistant.



# 4 Device Networking

To use cloud-based services, successful networking of the target device is the prerequisite. If a CNC controller that has installed **NcCloud Assistant** connects to Internet, the controller will automatically transmit data to **NcCloud Service** website.

WEIHONG CNC controllers can connect to Internet by following ways:

- Through Ethernet
- Through USB interface

# 4.1 Connecting to Internet through Ethernet

To connect to Internet, do the following:

- 1. Connect to enterprise networking through the built-in Ethernet interface of WEIHONG CNC controller.
- 2. Connect to Internet through router setting in enterprise networking.

This method is applicable to the following:

- WEIHONG CNC controllers of PC architecture
- NK260, NK280 series WEIHONG CNC controllers of ARM architecture

# 4.2 Connecting to Internet through USB Interface

To connect to Internet, do the following:

- 1. Insert a USB-Wi-Fi or USB-4G device to the USB interface in WEIHONG CNC controller.
- 2. Install the driver and configure the network, to make sure successful networking.

This method is applicable to the following:

Only WEIHONG CNC controllers of PC architecture



# 5 Registering NcCloud Account

To use NcCloud, a NcCloud account is required. You can register a NcCloud account either on web or in WeChat. Please note the differences of steps and interfaces.

## 5.1 Registering on Web

To register a NcCloud account on web, do the following:

- 1. Enter NcCloud Official Website, click **Register/Login** to enter login page.
- 2. Register/Login.
  - To users who already have accounts: Fill in the information to log in.
  - To users who have no account: Click **Sign up** to register. After filling in the information, click **Sign up**. Registration completes.

Name		
* Username		
* Telephone	+86 *	
Company		
Address		
* E-mail		
* Password		
* Confirm password		
* Code		Get code
		Sign up



# 5.2 Registering in WeChat

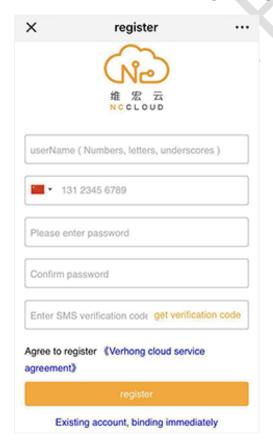
To register a NcCloud account in WeChat, do the following:

- 1. Do one of the following to follow NcCloud official account.
- Search "NcCloud" in WeChat.
- Scan the QR code below.



You can explore NcCloud official account now.

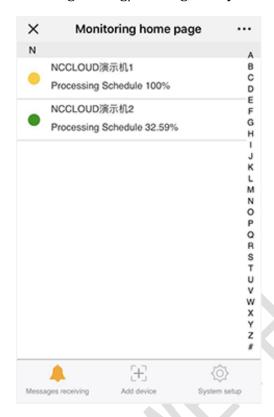
2. Click **Production Monitoring** to jump to **Sign up** page.





- To users who have not registered: Fill in the information to register.
- To users who have registered: Click **Existing user? Bind now** at the bottom of the page.

After registering/binding, the system will jump to **Monitoring Homepage**.





## 6 Adding Device

Add a device to the monitoring list of NcCloud. Running and production of the device can be shown to operators through NcCloud Service.

## **Prerequisites**

- Successful installation of NcCloud Assistant
- An available NcCloud account
- Successful networking of the device

## Steps

To add device, do the following:

- 1. Start the CNC system.
  - To control card: Right click on NcStudio and select Run as administrator.
  - To controllers including NK200, NK300, NK500 series: the control system starts the moment the controller is power on.

### 2. Start **NcCloud Assistant**.

 To control card: Click Start → All Programs → NcCloud Assistant, or double click NcCloud Assistant shortcut on desktop.

NcCloud Assistant interface pops up.

 To controllers including NK200, NK300, NK500 series: Press NcCloud button to activate NcCloud Assistant.





On the homapage of NcCloud Assistant, you can get the device QR code, device ID and verification code, which are required when you try to add a device to the monitoring list on NcCloud web or WeChat.

The QR code and verification code are valid in 30 minutes. The window will close in 30 minutes. Press **F5** every 2 seconds to refresh the QR code and verification code.

**Note:** If NcCloud Assistant homepage displays exceptionally, please refer to Unable to Display QR Code and Verification Code in NcCloud Assistant to solve the problem.

### 3. Add device.

- On web: Log in to NcCloud official website, and click System Setup →
   All Devices → Add Device. In the pop-up dialog box, type the device ID
   and verification code that are acquired from NcCloud Assistant. You can
   also set an alias for the device.
- On WeChat: Access NcCloud official account, and click Production
  Monitoring. Click Add Device on Monitoring Homepage.

Do one of the following to add the device:

- Scanning QR code of the device on NcCloud Assistant interface
- Inputting device ID and verification code directly

Press **F7**, **Esc** or **Enter** to exit NcCloud Assistant page. Once the device has been added successfully, closing NcCloud Assistant will not affect data transmission between device and cloud.



# 7 Cloud Control Center (Web)

It refers to web-based production monitoring service. In this scenario, more and detailed information can be displayed in one or serveral screens or projects. It is used in the environment like office, centralized control room, notebook computer, tablet computer, etc.

## **Prerequisites**

- Successful networking of the device
- An available NcCloud account
- Having added the target device to NcCloud account

Because functions of NcCloud keeps updating, following instructions are for reference only.

## **Steps**

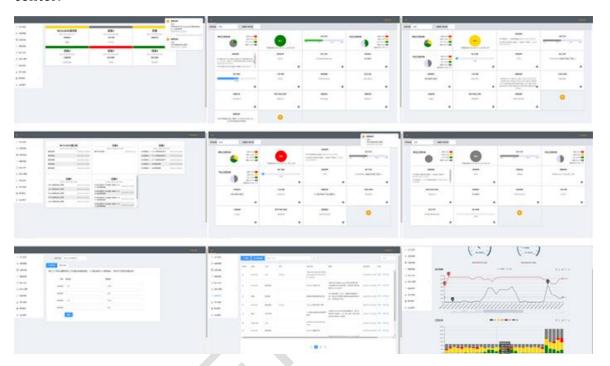
- 1. Open a browser, type URL https://nccloud.weihong.com.cn/, and enter NcCloud official website.
- 2. Click **Register/Login** to enter login page.
- 3. Log in with a NcCloud account.



# 7.1 Production Monitoring

Users can monitor the machine running status on the computer. A dialog box pops up when alarm occurs.

Different groups of information can be pinned on a larger screen, like a cloud control center.



See table below for menus items.

Menu item	Function
Production Monitoring	Monitor working hours of the followed devices of the day.
Device Monitoring	Display parameters of the devices that you followed.
Message & Alarm	Save the latest 5 alarm info of each device that you followed.
All Devices	View all the added devices and select one of them to follow or unfollow one of them.
Intelligent Alarm	Limit Alarm: Set threshold values for parameters. Once the threshold values are reached, the system gives prompt notice. Work Status: The system gives alarm info when the program starts or stops.
Statistics	Statistics of working hours of one device or all devices.
Custom Panel	Decide which panel will be displayed on the screen.



## 7.2 My Documents

Get help documents when you are in trouble. Or publish a document online.

### **Favorite**

You can collect a document in one of the following ways:

- Entering the document ID
- Entering the sharing code

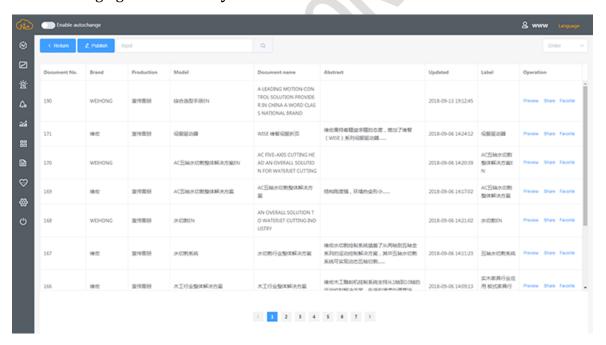
#### Browse a document

Click **View Library** to search a document by a keyword. And you can preview the document, share it and collect it to your personal library.

### Publish a document

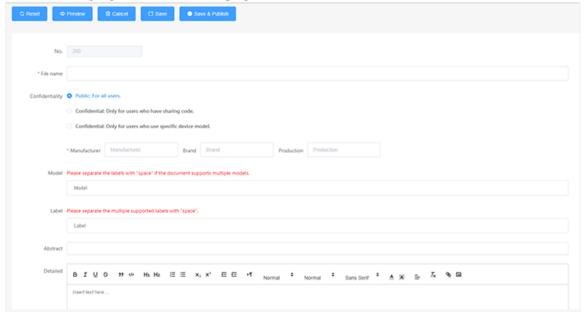
It requires privilege.

You can publish a document online, and share it to social platforms by a share link. See following figure for **Library**:

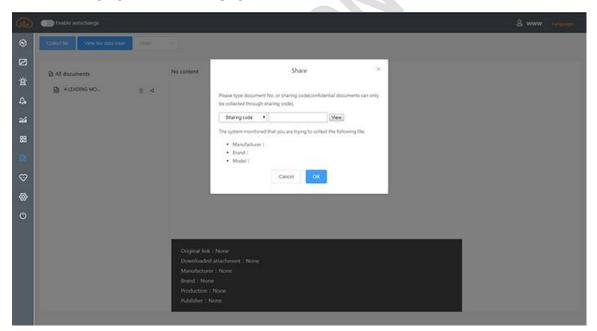




## See following figure for **Publish** page:



## See following figure for **Share** page:



## **7.3** More

It provides links to other technical supports of WEIHONG company, including:

- Product Registration
- Product Inquiry
- Feedback
- Contact Us



# 8 Mobile Monitoring (WeChat)

In **NcCloud** WeChat official account, you can find **Production Monitoring**, **Technology Center** and **More** in the menu bar, as follows:



# 8.1 Production Monitoring

In WeChat, you can check the production status anytime and anywhere. You can find notification and common functions.

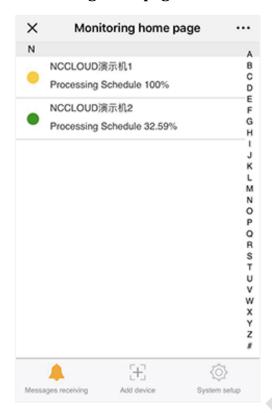
## **Prerequisites**

- Successful networking of the device
- An available NcCloud account
- Having bound the NcCloud account in NcCloud WeChat official account
- Having added the target device to NcCloud account

Click **Production Monitoring** to enter the monitoring homepage.



## **Monitoring Homepage**



# • Message Reception

Switch to **Mute notifications** to stop receiving device alarm prompt.

## Adding Device

Add more devices to your NcCloud account.

# • System Setup

## All devices

View all the added devices and select whether to follow one of them.



### **Device Details**

Click one device that in the followed list on the monitoring homepage. You can check all the details of the device.



The page contains the following menu items:

## Follow Device

To follow or unfollow a device. Information of the device that has been followed will be displayed on monitoring homepage and you will receive a WeChat notification prompt when it generates an alarm.

## • Parameter Configuration

Select the device parameters to be displayed on monitoring homepage and detail pages.



## Intelligent Alarm

Unfold "Wearing Part" to set wearing part life alarm.

Unfold "Event Identification" to set that the system gives alarm info when the program starts or stops.

Unfold "Work Status" to set the alarm value for parameters. Once the set value or threshold values are reached, the system gives prompt.

Parameters differ because of different device configuration.

More

You can choose to delete or rename the device.

## 8.2 Technology Center

In Technology Center, you can find solutions or suggestions for problems that you may encouter.

- **My Documents**: Add a document to you personal library, by one of the following ways:
  - Scanning the QR code of the document
  - Entering the document ID
  - Entering the sharing code
- **View Library**: Search a document by keyword. And you can preview the document, share it and collect it to your personal library.



## **My Documents:**





## Library:



## **8.3 More**

It provides links to other technical supports of WEIHONG company, as follows:





## 9 FAQs

This part mainly includes frequently asked questions that you may have about NcCloud.

# 9.1 How do I know if NcCloud Assistant has been installed in the controller?

To check whether NcCloud Assistant has been installed in current controller, do the following:

- For controllers: Check if there is a **NcCloud** button on the operation interface.
- For control cards: Click Start → All Programs, and check if there is a NcCloud folder.

# 9.2 What should I do when QR code and verification code cannot be displayed on the homepage of NcCloud Assistant?

#### Phenomenon

After **NcCloud Assistant** is started, QR code and verification code cannot be displayed successfully.

#### Cause

The controller has not been connected with Internet, or networking error.

### Solution

Check the networking condition and confirm that the device is connected to Internet properly.

#### Cause

Failed to run applications as administrator.

#### Solution

- Run NcStudio as administrator.
- Run NcCloud Assistant as administrator.
- If the problem remains, wait for 30 seconds and press **F5** to refresh.

If QR code and verification code still fail to display, possible cause is bad network condition. You can do the following:

- 1. Open task manager and stop NcCloudAdapter.exe process.
- 2. Click **Start** → **All Programs** → **NcCloud**, and run **NcCloud Adapter** as administrator.
- 3. Restart **NcCloud Assistant**.



# 9.3 What should I do if NcCloud fails after restarting the computer?

Cannot start NcCloud after restarting the computer.

You can do the following:

- Check if NcCloudAdapter.exe process exists in task manager.
- If NcCloudAdapter.exe does not exist, click Start → All Programs → NcCloud, and run NcCloud adapter as administrator.

To avoid such problem next time, please check if **NcCloudFirstRun** is prohibited from automatic startup when the computer is started.

 If NcCloudAdapter.exe exists, please refer to What should I do when QR code and verification code cannot be displayed on the homepage of NcCloud Assistant?.

## 9.4 What should I do if NcCloud local data service fails to work?

Unable to use NcCloud local data service.

You can do the following:

- 1. Click **Start** → **All Programs** → **NcCloud**, and run NcCloud local data service as administrator.
- 2. Run **NcCloud Assistant** as administrator, and press **F4** to import the authorization file again.

# 9.5 Is a twice authorization required when the device ID is changed or the controller installs a new operating system?

Yes.

An authorization file is exclusive to a device ID. Therefore, if the device ID is changed or the controller installs a new operating system, you need to ask for another authorization file and import it again.

# 9.6 Which features of NcCloud Assistant can be used without networking?

If the controller is offline, following functions of NcCloud Assistant can be used:

- Data authorization
- Data interface
- Data backup locally



To use cloud data interface of NcCloud, confirm that the device has connected to Internet, and network is well working.

## 9.7 Data was garbled when it is converted to .CSV file format.

Use **DB.Browser.for.SQLite** tool to export data from the database to a .CSV file. And unreadable characters appear in the .CSV file.

#### Cause

Database file of NcCloud is encoded in UTF-8. However, a .CSV file does not specify the encoding format. Therefore, if you open the file in Microsoft Excel in wrong encoding format, Chinese characters may be garbled.

#### Solution

Select the encoding format when you open the .CSV file.

## 9.8 Can I visit NcCloud DNC with a domain name?

Once NcCloud DNC system is deployed in working environment, users can access DNC by entering its IP address in any devices that are within the same network segment.

To simplify the IP address, you also can access DNC system with a domain name that corresponds to the IP address. Do one of the following:

Note: Assuming the IP address of NcCloud DNC is 192.168.12.79.

• Add a parsing rule to enterprise network DNS server, that is, make the domain name equivalent to the IP address of DNC system.

Parse dnc.weihong.com.cn to 192.168.12.79

- Modify hosts file.
  - In the computer that you need to access DNC through browser, open hosts file as administrator.
     Default path of the file is C:\Windows\System32\drivers\etc\hosts.
  - 2. Add the following line in hosts file:

192.168.12.79 dnc.weihong.com.cn

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