

# WK Data Logging INSTALLATION MANUAL



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**File version** : 1.0

**Software name** : WK Data Logging (IQC).

**Software version** : v1.0.10

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## DISCLAIMER

This software only provides the convenience of remote measurement, users and their managers should pay attention to the condition of instruments, fixtures and measured objects to avoid damage and disasters.

The author of the software and the company shall not be liable for any damage, disaster, legal liability or any other liability caused by the software, and if it is unacceptable, please do not use the software.

The use of pirated software or without the company's sale and authorization, the software author and the company do not provide any technical services.

※In order to avoid any risks, please note the following:

1. Before using this software, please carefully read the instrument and software installation manual, especially the safety principal section.
2. If pirated software is used and has not been sold and licensed by the Company, the software author and the Company do not provide technical services.
3. The software author and the company are not responsible for any damage (including but not limited to measuring bias current and bias voltage) caused directly or indirectly by the instrument due to improper disconnection of the test from the operating interface of this software.
4. The GPIB connection of this software adopts NI USB-488.2 GPIB card connection instrument, if the use of other brand products causes the connection to be unstable or unable to connect normally, all instruments directly or indirectly cause any damage (including but not limited to measuring bias current and bias voltage) The authors of the software and the company are not responsible for any technical support provided.

5. No reverse engineering, reverse assembly, decompilation and other modifications of this software, any other software derived from this software that is not authorized by APAC Co., Ltd. to develop and officially release is illegal, downloading, installing, using such software may lead to unpredictable risks, and all legal liabilities and disputes arising therefrom have nothing to do with the software author and the company, and the software author and the company do not provide customer service services for unofficial versions of the software.

# CHAPTER 1

## SECURITY PRINCIPLES

### 1.1 Introduction

This software must be used with Wayne Kerr instruments for measurement. The user or its manager should have sufficient electrical knowledge, carefully read the software operation manual and instrument instruction manual to ensure the safety of operation. Administrators shall establish security specifications that users are required to comply with to ensure personal and public safety.

### 1.2 Precautions

※When using the software, please pay attention to the following:

1. The GPIB connection of this software adopts NI USB-488.2 GPIB card connection instrument, please do not use other brands of GPIB card with this software.
2. Do not touch any conductors or use the buttons on the instrument directly while using the software. To interrupt communication between the instrument and the software, disconnect from the software's operator interface.
3. When using this software, you should always pay attention to the condition of the measured object and the instrument, and turn off the power of the instrument in a timely manner if necessary to avoid danger.
4. To ensure the quality of the measurement, calibration must be performed before measurement.
5. For your safety, please shut down the software and remove power to the instrument before starting the hardware installation.

## CHAPTER 2

### HARDWARE INSTALLATION

#### 2.1 Instrument Side

Please refer to the user manual of each Wayne Kerr instrument for hardware installation.

#### 2.2 Computer Terminal

##### 2.2.1 GPIB Interface Connects to The Instrument

To connect the instrument with the GPIB interface, you must use the GPIB-USB controller of NI (National Instruments), this software does not support other GPIB controllers.



**Figure1.** GPIB interface connects to the instrument

Figure1 shows that the computer-side connection uses the GPIB interface for connection, and the instrument side refers to the instrument manual for hardware installation.





**Figure 2. 2**([Note 1](#))

Figure 2. 2 shows the GPIB card, model GPIB-USB-HS, before using software for remote operation, you must first confirm the hardware connection between the GPIB card and the computer.



**Figure3. NI 488.2 Card** ([Note 2](#))

Figure3 shows a new GPIB card, model GPIB-USB-HS+, which must be checked to the hardware connection between the GPIB card and the computer before remote operation with software.

\*[Note 1](#) Image source <https://www.ni.com/zh-tw/shop/hardware/products/gpib-instrument-control-device.html>

\*[Note 2](#) Image source <https://www.ni.com/zh-tw/shop/hardware/products/gpib-instrument-control-device.html>

## 2.2.2 USB Interface to Connect the Instrument

To connect the instrument with a USB interface, a USB cable with USB Type-A at both ends must be used.

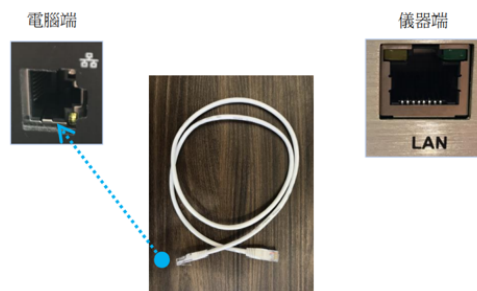


**Figure4.** USB interface connection instrument

Figure4 shows that the computer side connection uses the USB interface for connection, please refer to the instrument manual for hardware installation.

## 2.2.3 LAN Interface to Connect to The Instrument

To connect the instrument via LAN interface, RJ-45 cable must be used to connect directly from the instrument to the computer, without passing through other network devices.



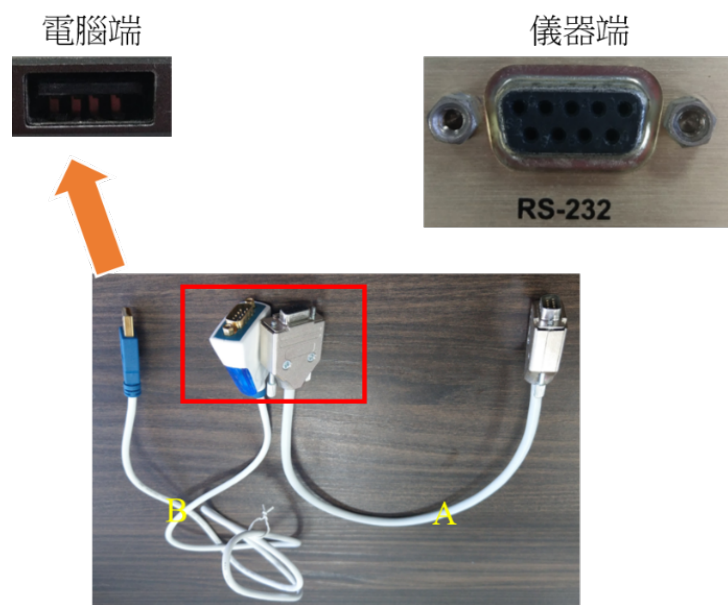
**Figure5** LAN interface connects to the instrument

Figure5 shows that the computer side connection uses the LAN interface for the connection, please refer to the instrument manual for hardware installation.

## 2.2.4 RS232 Interface Connects Instrument

※For customized items, only external instruments can be connected.

Connect the instrument with RS232 interface, the A side must use DB9 male to DB9 female, and the B side DB9 male to USB Type-A connector, The female of the DB9 on side A needs to be connected to the male of the DB9 head on side B (red box).



**Figure6.** RS232 interface connection instrument

Figure6 shows that the computer side connection uses the RS232 interface for connection, please refer to the instrument manual for hardware installation.

## 2.2.5 USB key

※ You must insert a USB key before starting this software.



**Figure7.** USB Key

Figure7 shows the USB key lock used by this software. If the USB key is not inserted when the software starts, some functions such as data saving and data reading cannot be used.

# CHAPTER 3

## SOFTWARE INSTALLATION

### 3.1 System Requirements

Project	Content
operating system	Windows 7 / Windows 8 / Windows 10
CPU	Intel Core 2 Duo 1.86 GHz or higher
memory	4GB RAM
Hard disk space	200 MB ( <a href="#">Note 3</a> )
driver	NI-488.2 Driver 17.6 or later ( <a href="#">Note 4</a> )
Operating environment	NI-DAQmx 18.1 or later ( <a href="#">Note 5</a> )

\*[Note 3](#) Hard disk space only counts the space used by the main program, excluding drivers and operating environment.

\*[Note 4](#) Installing NI-488.2 Driver 17.6 requires approximately 3.2GB of hard disk space.

\*[Note 5](#) Installing NI-DAQmx 18.1 requires approximately 1.8GB of hard disk space. The main program, drivers, and runtime environment together require about 5.2 GB of hard disk space.

## 3.2 Preposition Preparation

Before starting to install the software, please prepare the following files:

No.	File name	Illustrate
1	dotNetFx45_Full_setup.exe	.Net Framework 4.5
2	NI4882_1760f0.exe	NI-488.2 Driver (GPIB card)
3	NIDAQ1810f1Runtime.exe	NI-DAQmx 18.1 Operating Environment
4	NI_Uninstaller.exe	NI uninstall tool. When there is a problem with the GPIB card, you can use this tool to uninstall the NI GPIB card driver and then reinstall it.
5	WK Data Logging IQC v1.0.2 alpha 10. exe or WK Data Logging v1.0.2 alpha 10.exe	WK Data Logging main program

## 3.3 Installation Process and Uninstallation

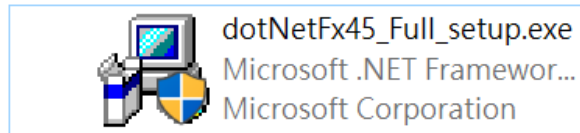
### 3.3.1 Installation Process

For WK Data Logging to run properly, the following installation items must be installed sequentially:

1. Installation. Detailed installation instructions for .Net Framework 4.5 are detailed in the section.
2. For detailed installation instructions on installing the NI-DAQmx operating environment, see the section.
3. Detailed installation instructions for installing the NI-488.2 driver are detailed in the section.
4. For detailed installation instructions of the installation of the main program, see the section.

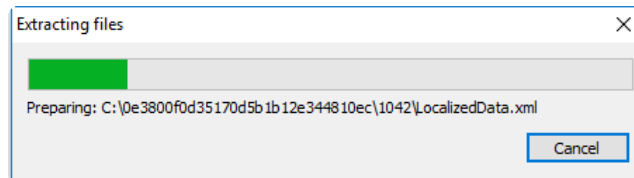
### 3.3.1.1 Installation. Net Framework 4.5

Before installation, please make sure that the computer has an Internet connection, and after confirming that there is an Internet connection.



**Figure8** .Net Framework 4.5 installation file

Figure8 shows the Net Framework 4.5 installation file, which performs dotNetFx45\_Full\_setup.exe installation of the .Net Framework 4.5.



**Figure9.** Unzip

Figure9 shows waiting for the .Net Framework installer to extract it.



**Figure10.** .Net Framework Authorization Agreement

Figure10.Net Framework License Form, check "I have read and accept the license terms" and click "Install". Disagree, press "Cancel".



Figure11Installed .Net Framework 4.5

Figure11if you have already installed the .Net Framework 4.5, you can skip this section.

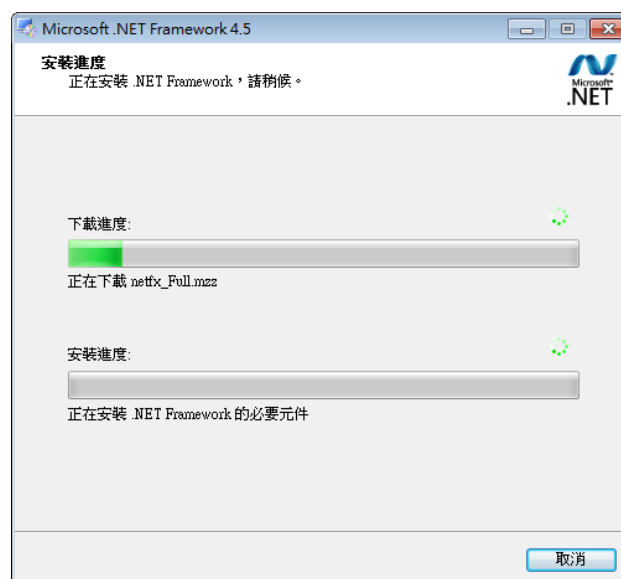


Figure12Installing the .Net Framework

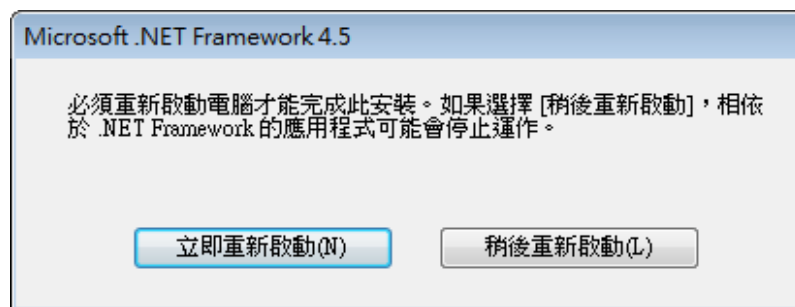


Figure12 shows that if it has not been installed, the installation of the .Net Framework will start and show the progress of the installation, please wait for the installation to complete.



**Figure13.** Installation of the .NET Framework 4.5 is complete

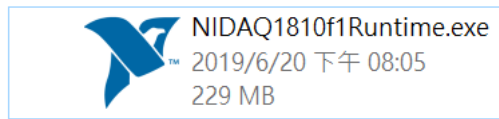
Figure13 shows that the installation is complete, press the "Finish" button to continue.



**Figure14.** The .Net Framework 4.5 restart prompt

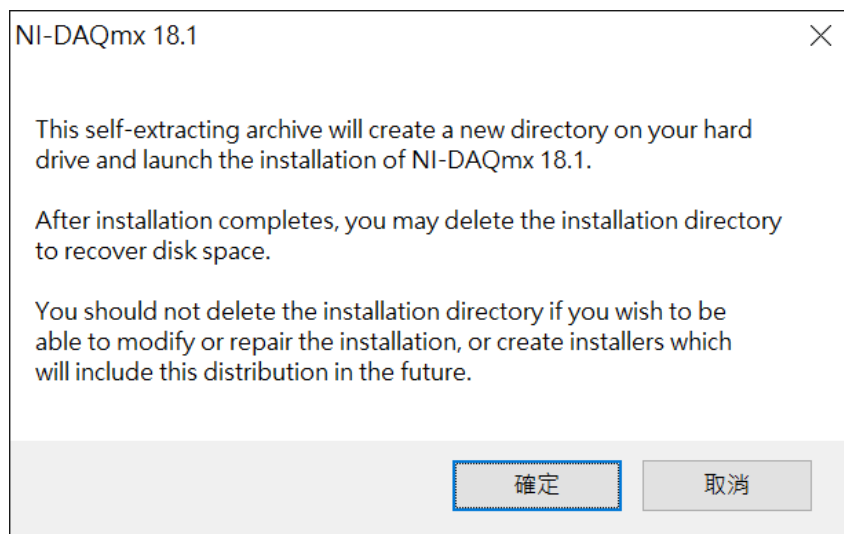
Figure14 shows that in order to ensure proper operation and installation, you must restart the computer once, please click "Restart Now".

### 3.3.1.2 Install NI-DAQmx



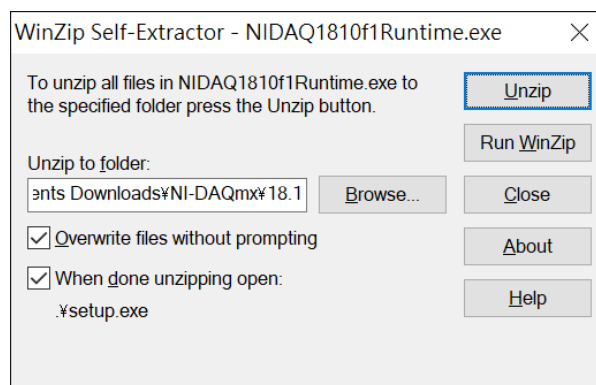
**Figure15.** NI-DAQmx installation file

Figure 15 shows the installation file for NI-DAQmx, execute NIDAQ1810Runtime.exe install NI-DAQmx 18.1.



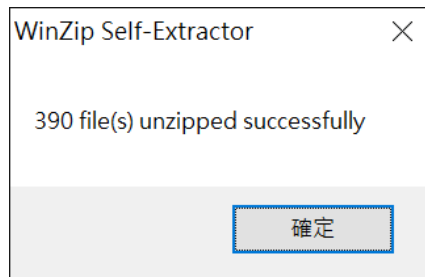
**Figure16**Prompts whether to decompress or not

Figure16after execution, you will be prompted to unzip first, press "OK".



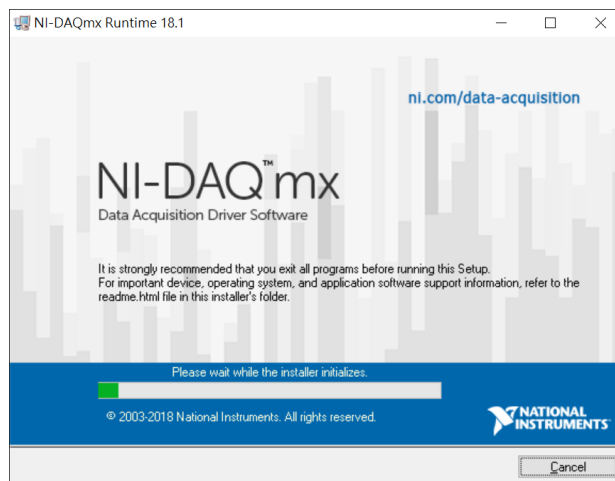
**Figure17**Selects the extracted directory

Figure17, click "Browse..." to select the extracted directory (use the default directory), and press "Unzip".



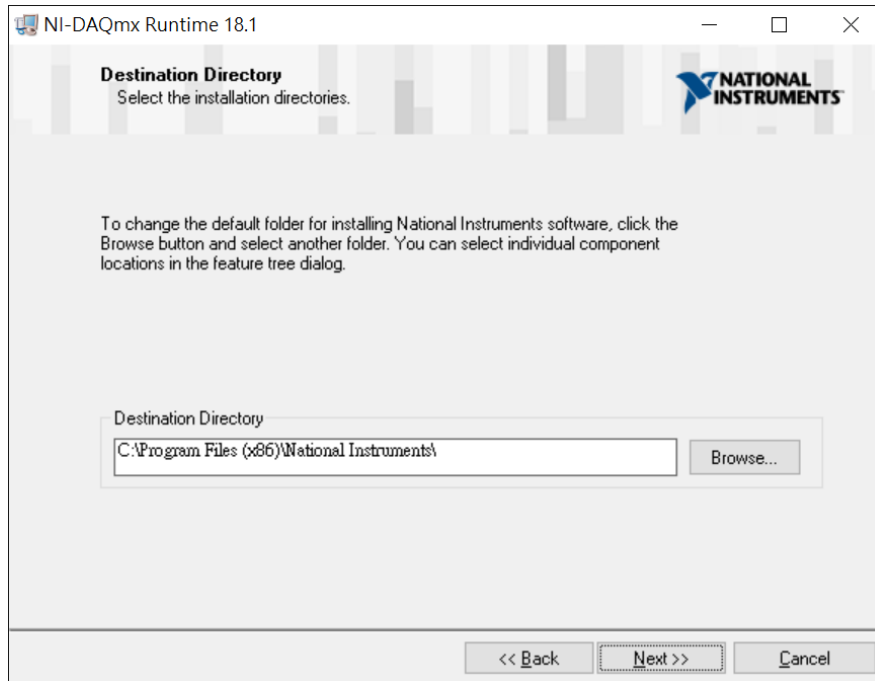
**Figure18** Successfully decompress the lift window

Figure18 shows that after successful extraction, press OK to start the installation.



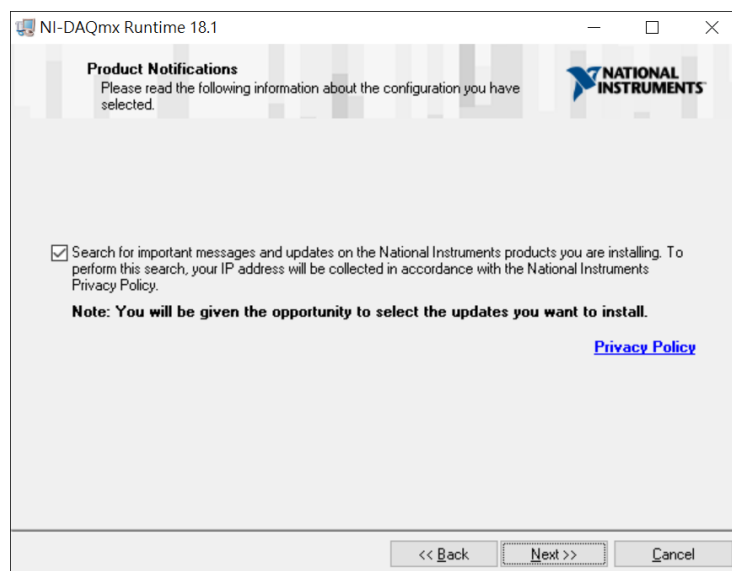
**Figure19** Load the installer

As shown in Figure 19, wait for the installer to load.



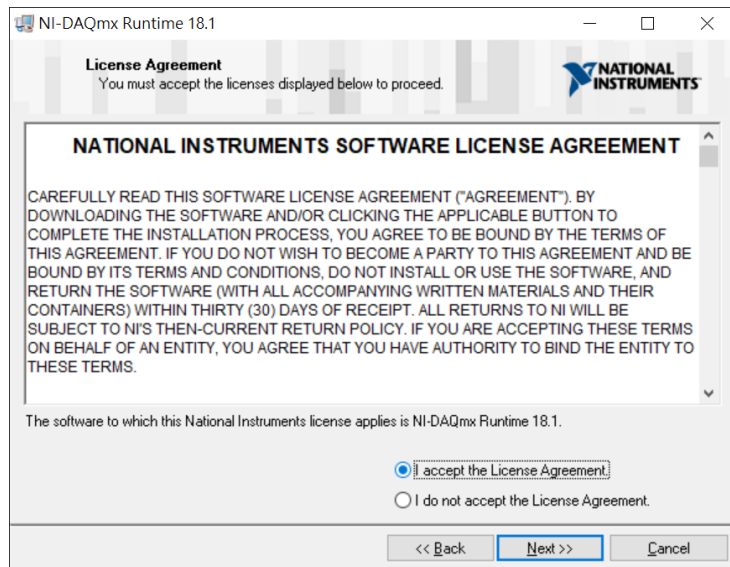
**Figure20** Selects the installation directory

Figure20 shows the selected installation directory (using the default directory), press "Next"



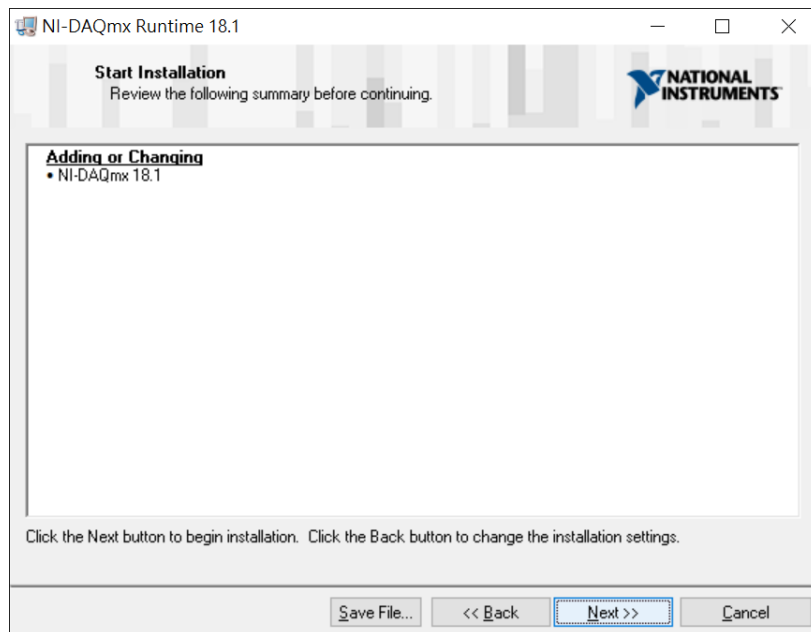
**Figure21** Check the Update window

Figure21 you can freely check whether to check for updates, and then press "Next" to continue the installation.



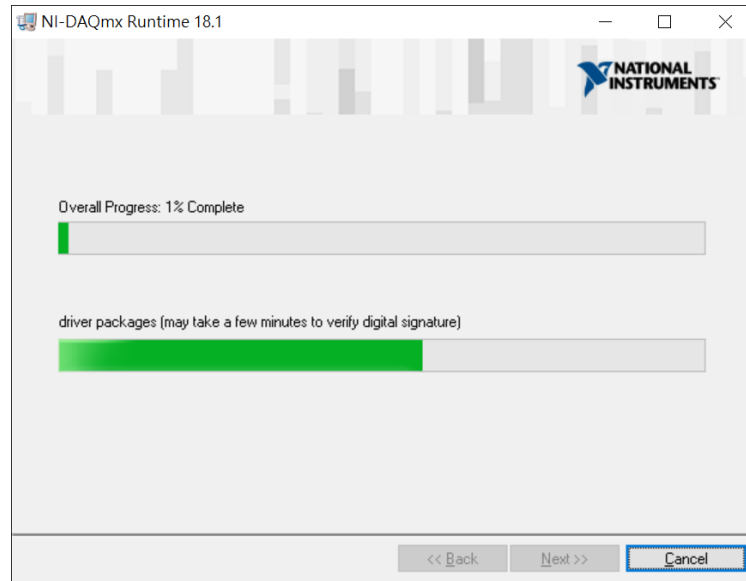
**Figure 22.** NI-DAQmx Authorization Form

Figure 22 shows reading the NI-DAQmx License Form, and if you agree, select "I accept the License Agreement" and click "Next".



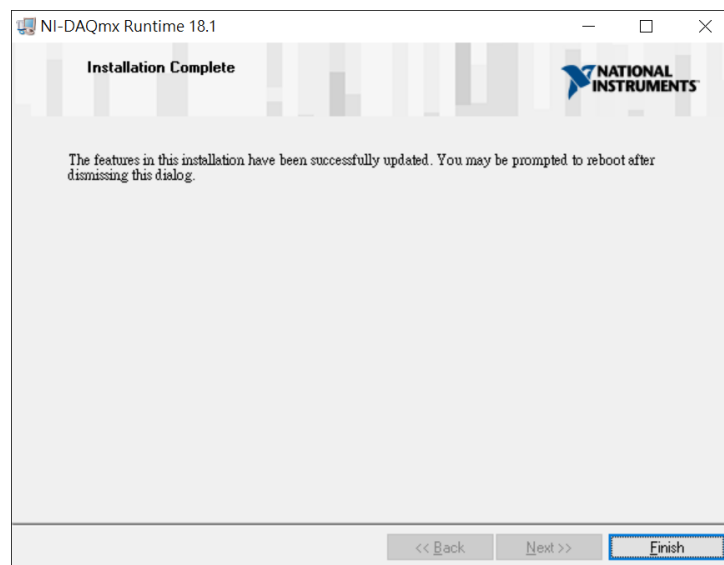
**Figure 22** Confirms the installation window

Figure 22, confirm the installation project NI-DAQmx 18.1 and press "Next".



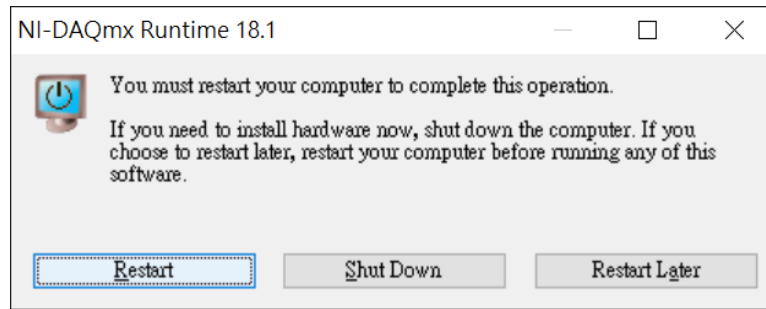
**Figure23**Waiting for installation

Figure23shows the wait for the installation to complete, which takes about 5 to 10 minutes depending on the speed of the computer.



**Figure24**Installation complete

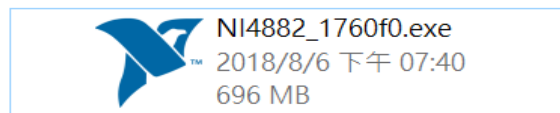
Figure24shows that the installation is complete, and then press "Finish" to end the installation.



**Figure25.** NI-DAQmx 18.1 Restart Prompt Window

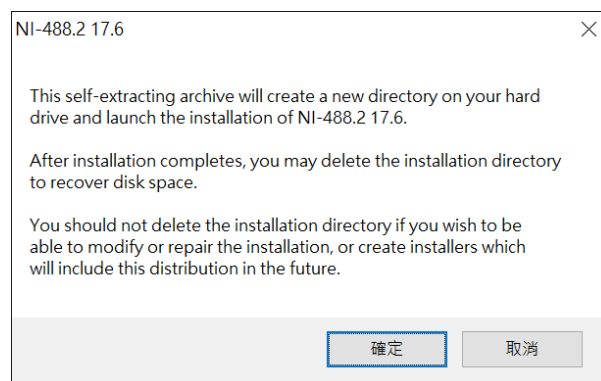
Figure25in order to ensure the correct operation of the operating environment, it is necessary to restart the computer and press "Restart" to restart.

### 3.3.1.3 Install NI-488.2



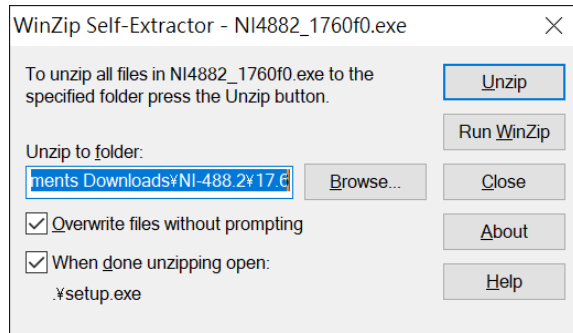
**Figure26.** NI-488.2 driver

Figure26shows the GPIB card driver, perform NI4882\_1760f0.exe installation of NI-488.2.



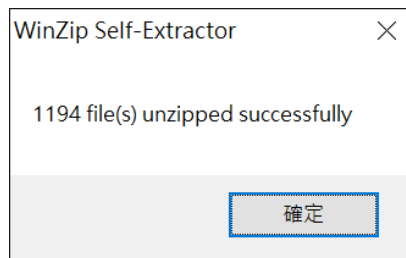
**Figure27.** Unzip popup window

Figure27after execution, you will be prompted to unzip first, press "OK".



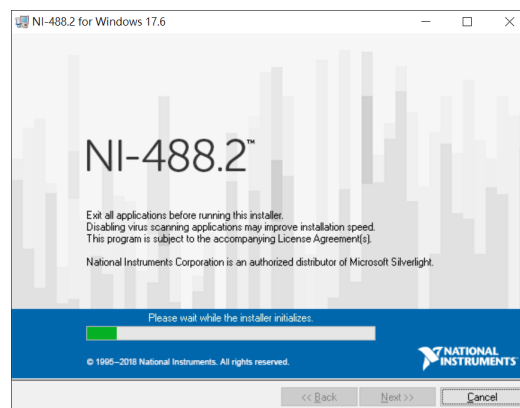
**Figure28**Select the unzipped directory

Figure28shows that pressing "Browse.... After selecting the unzipped directory (using the default directory), press "Unzip".



**Figure29**The unzipping successful window

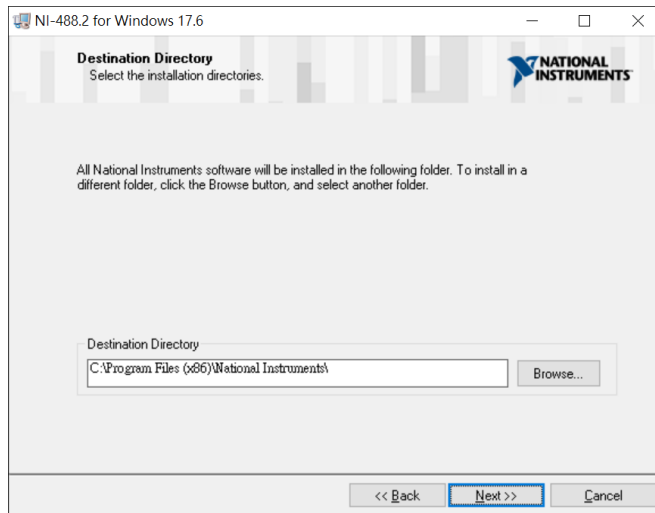
Figure29shows that the extraction is successful, press "OK" to start the installation.



**Figure30**Loading the NI-488.2 installer

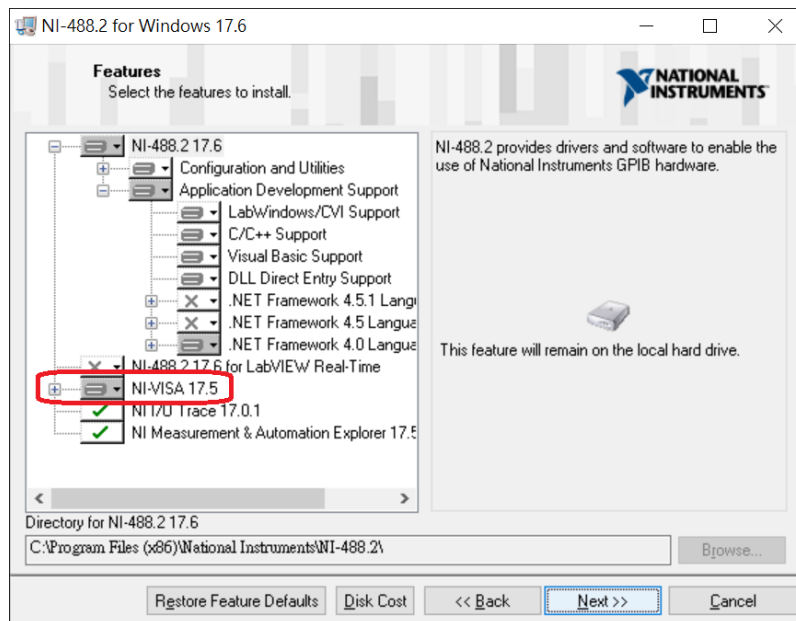
As shown in Figure 31, after waiting for the installation program to load, click "Next".





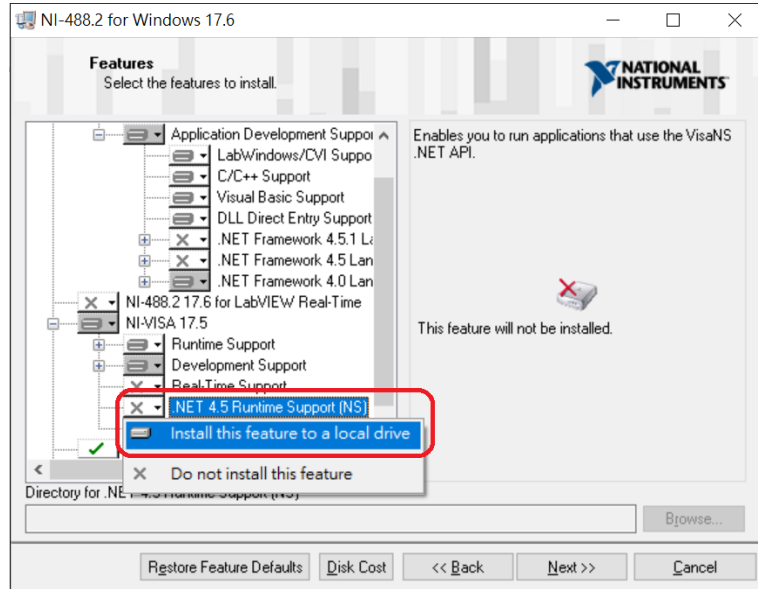
**Figure31** Select installation directory

Figure31, select the installation directory (use the default directory) and press “Next”.



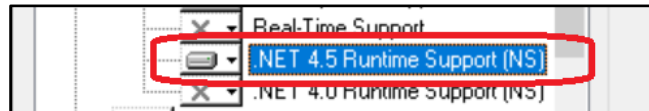
**Figure32** Installation Items

As shown in Figure 33, select the installation item and expand NI-VISA 17.5 (red box).



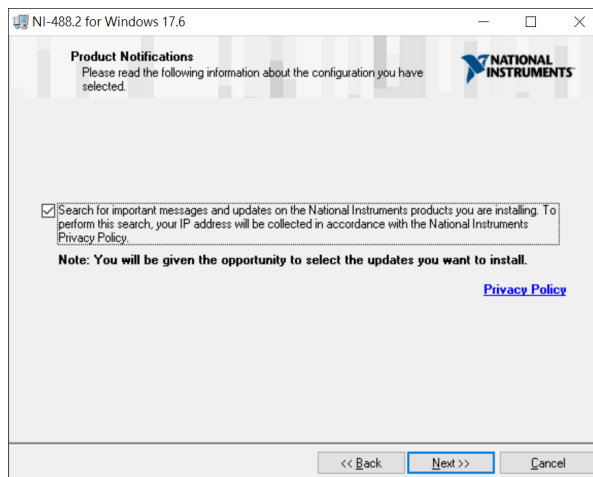
**Figure33**Select to install .NET 4.5 Runtime Support

Figure33shows the option to install .NET 4.5 Runtime Support (NS) (red box).



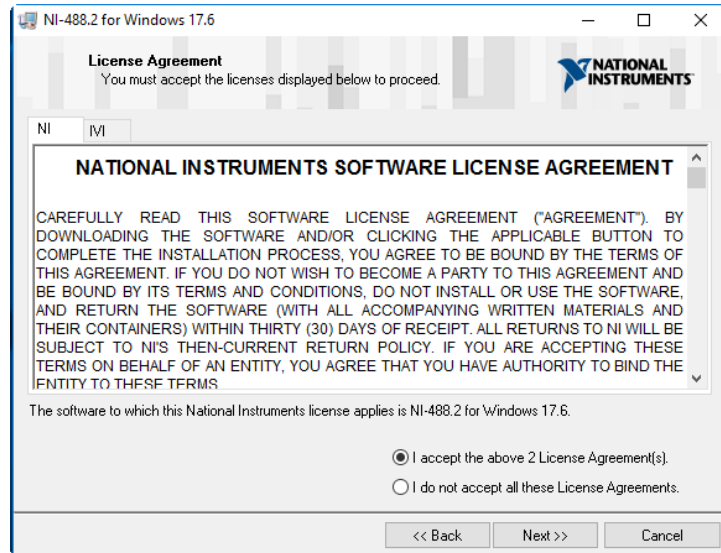
**Figure34**Confirm .NET 4.5 Runtime Support

Figure34, after confirming that .NET 4.5 Runtime Support (NS) displays the hard disk icon (red box), press “Next”.



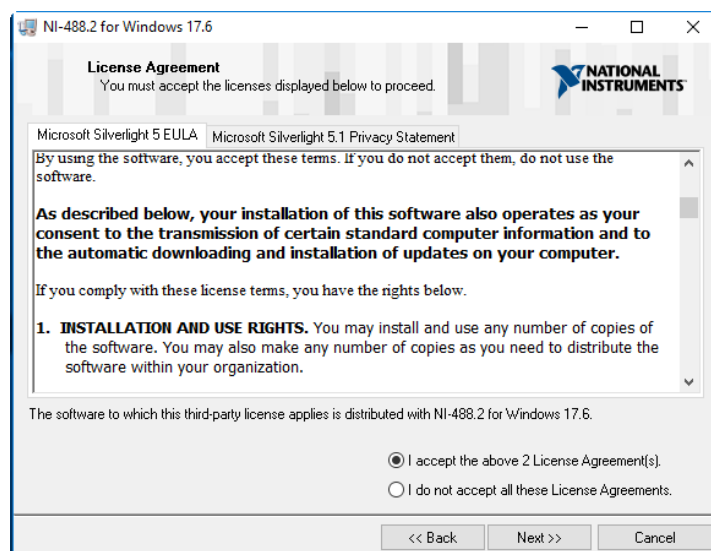
**Figure35**Check for NI-488.2 driver updates

Figure35 shows that to check for driver updates, you can freely check whether to check for updates, and then press "Next" to continue the installation.



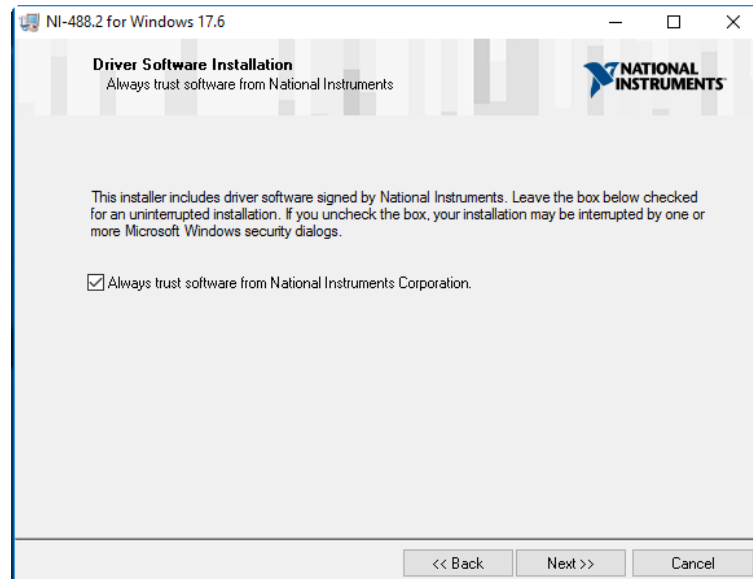
**Figure36.** NI-488.2 Authorization Form

Figure36, read the NI-488.2 License Agreement and select "I accept the above 2 License Agreement(s)" if you agree Press "Next" again.



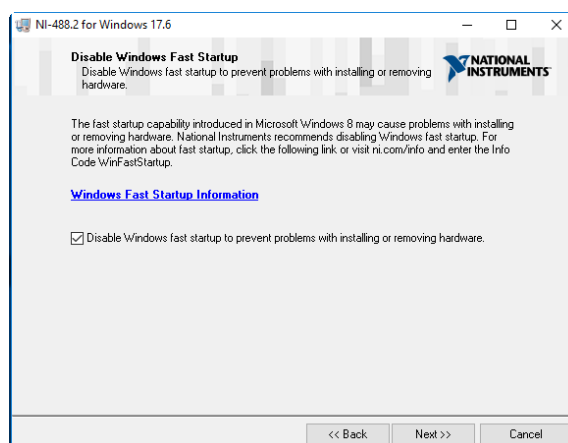
**Figure37.** Silverlight License Agreement

Figure37shows reading the Silverlight License Consent Form and, if you agree, please select "I accept the above 2 License Agreement(s)." and then press "Next" (this window will not appear if Silverlight is already installed).



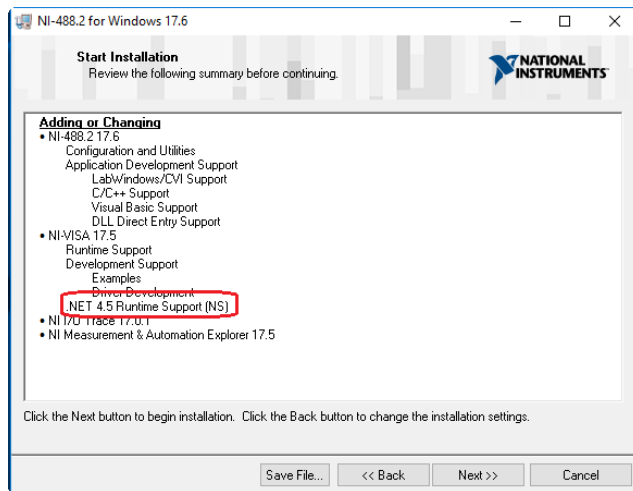
**Figure38**Security confirmation window

Figure38check Trust NI software to avoid multiple security confirmation windows during installation, and then press “Next”.



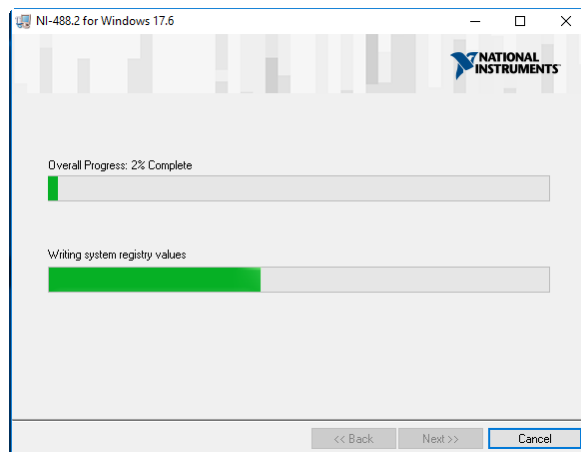
**Figure39**Close the Windows Quick Launch window

Figure39check "Turn off Windows Fast Startup" to avoid hardware problems, and then press "Next".



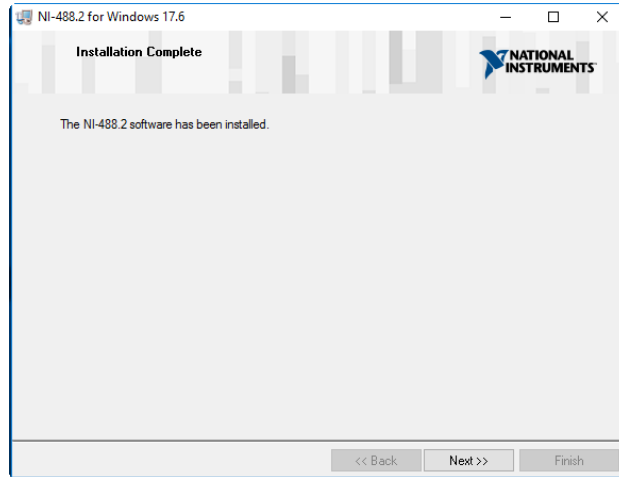
**Figure40**List of installation items

Figure40, confirm that the .NET 4.5 Runtime Support (NS) project within NI-VISA 17.5 is enabled (red box), and then press "Next" to start the installation.



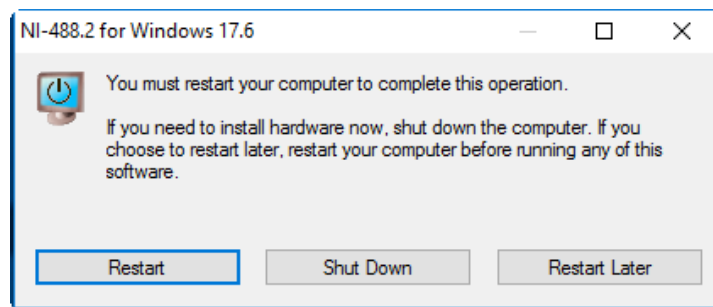
**Figure41**Installation in progress

Figure41shows, waiting for the installation to complete takes about 30 to 90 minutes, depending on the speed of your computer.



**Figure42.** NI-488.2 installation complete

Figure42the installation is complete, and then press “Next”.



**Figure43.** NI-488.2 Restart Prompt Window

Figure43 44, to ensure that the driver works correctly, you must restart the computer and press "Restart" to restart.

### 3.3.1.4 Install The Main Program



WK Data Logging v1.0.2 alpha 10.exe

**Figure44.** WK data Logging v1.0.2 alpha 10.exe installation file

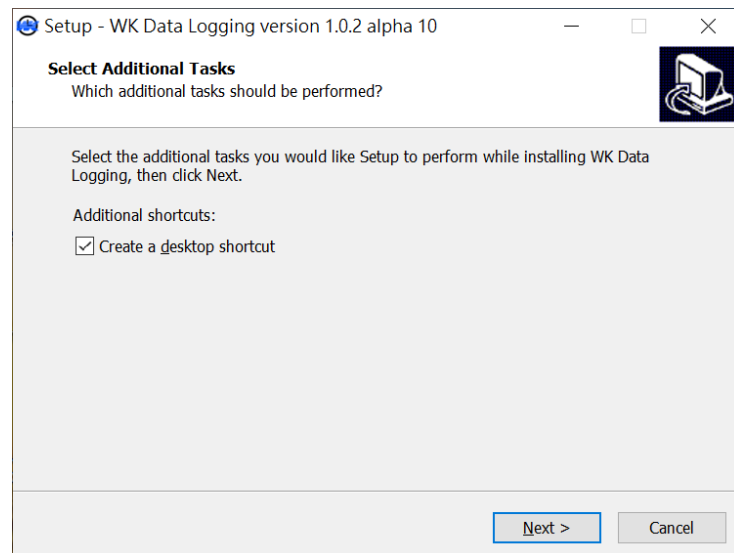


WK Data Logging IQC v1.0.2 alpha 10.exe

**Figure45.** WK data Logging IQC v1.0.2 alpha 10.exe installation file

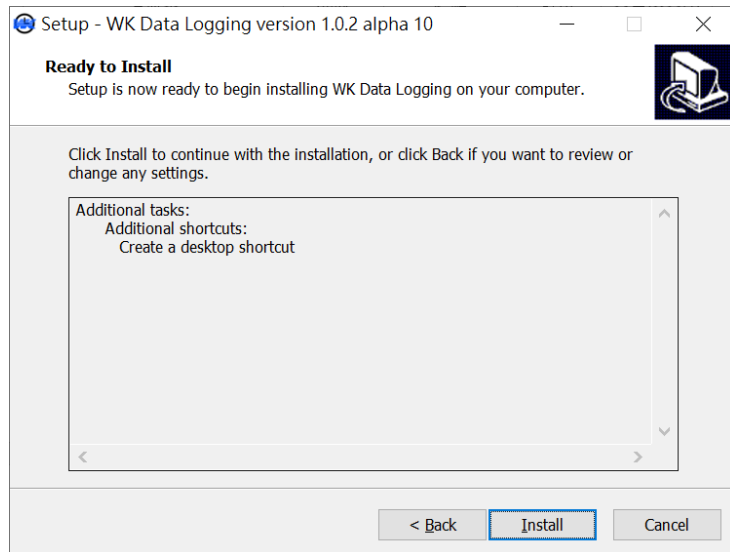
Figure44Figure45shows that the main program for installing WK Data Logging is performed depending on the version purchased by the user.

This example installs WK Data Logging v1.0.2 alpha 10 The steps for exe, IQC version installation are the same.



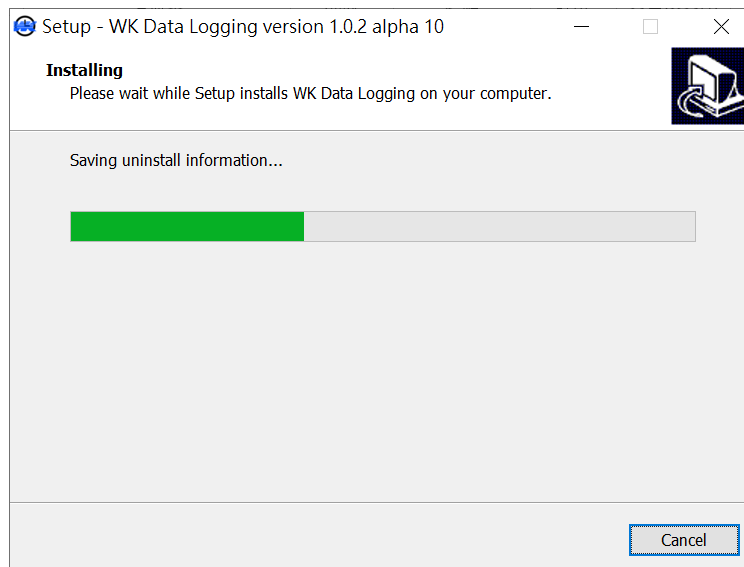
**Figure46.** WK Data Logging installation

Figure46shows that to install the main program in Figure Figure44Figure45eate a desktop shortcut" and then press "Next".



**Figure47**Preparing for installation

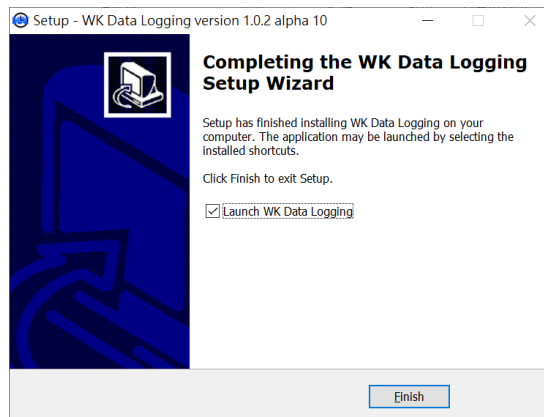
As shown in Figure 48, prepare to install the main program.



**Figure48**Wait for the installation to complete

Figure48shows waiting for the WK Data Logging installation to complete.





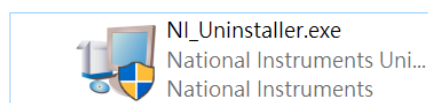
**Figure49.** The installation is complete

Figure49 shows that if "Launch WK Data Logging" is checked, and after pressing "Finish", WK data Logging will be executed.

### 3.3.2 Uninstall

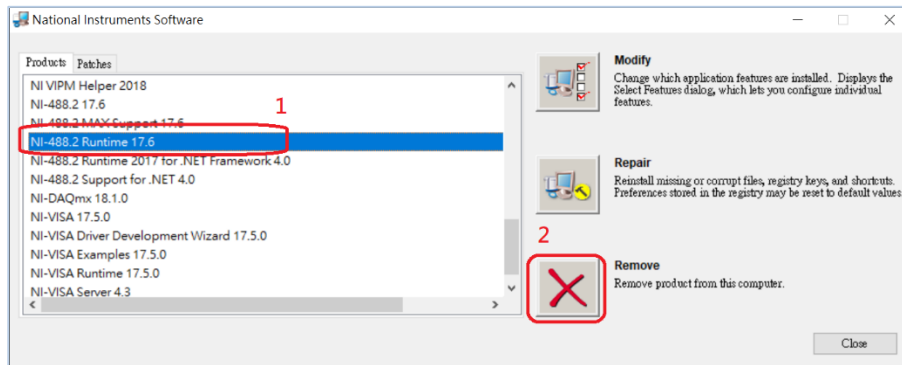
If there is a problem installing the NI-DAQmx operating environment, installing the NI-488.2 driver, or cannot connect the instrument with the GPIB interface after installation, remove the previous version, follow the installation process, and then reinstall, see Section 3.3.2.1 for details3.3.2.1

#### 3.3.2.1 NI Uninstall



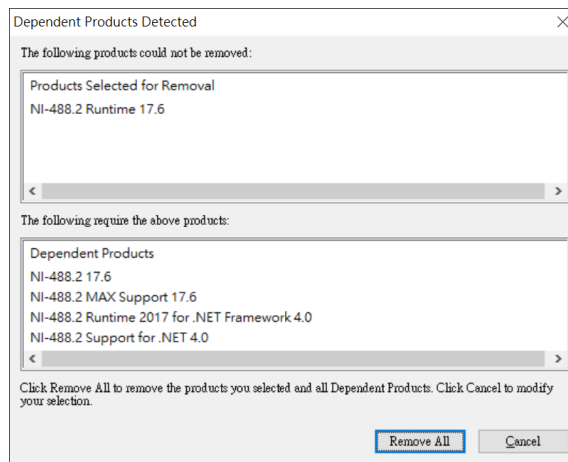
**Figure50.** NI\_Uninstaller.exe uninstall tool

Figure50 Figure 51, executing NI\_Uninstaller.exe boots the NI uninstall tool. When there is a problem with the GPIB card, you can use this tool to uninstall the NI GPIB card driver and then reinstall it.



**Figure51** NI components installed in this computer

Figure51, all NI components installed on this computer can be seen after execution. Select NI-488.2 Runtime 17.6 (red box 1) and press "Remove" (red box 2) to remove the NI GPIB card driver.



**Figure52** Confirm removal prompt window

Figure52 shows that because the associated NI components are removed together, you will be prompted again. Press Remove All to 3.3.1.3.

### 3.3.2.2 Uninstall The Main Program



Figure53. WK Data Logging Main Program

Figure53shows the WK Data Logging main program.



Figure54. Click the right mouse button

Figure54shows that right-click on FigureFigure53and press "Open File Location" (red box).

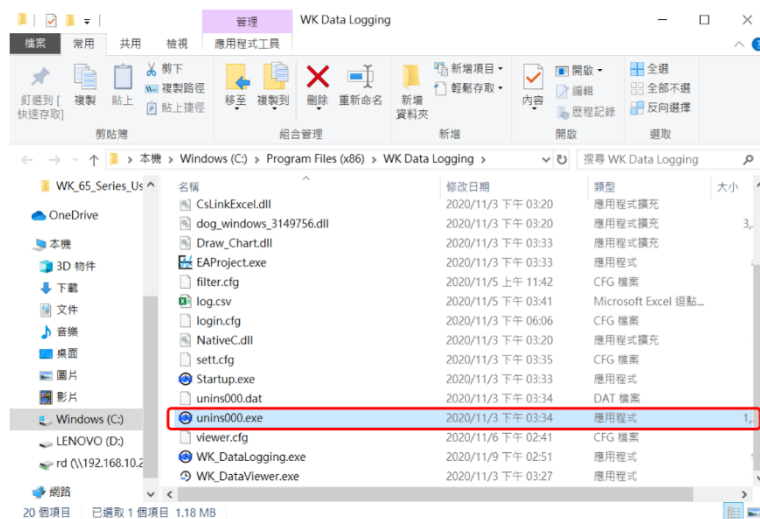
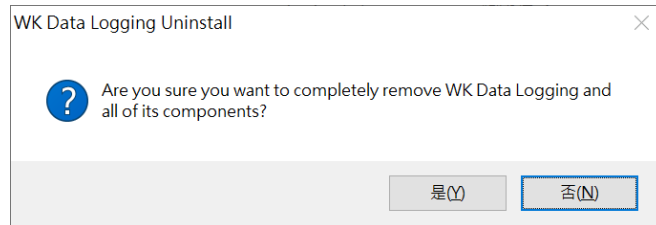


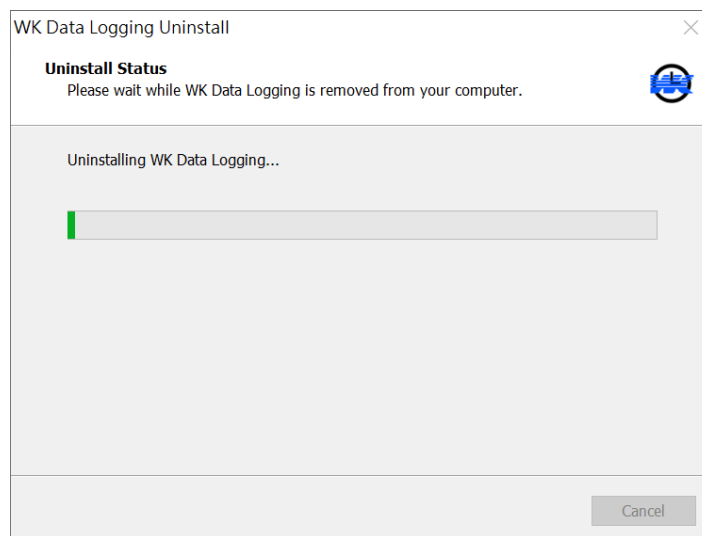
Figure55. WK Data Logging folder

Figure55shows that all the data of the main program is stored, including the uninstaller (red box), and the .exe of executing unins000 is ready to uninstall WK data Logging.



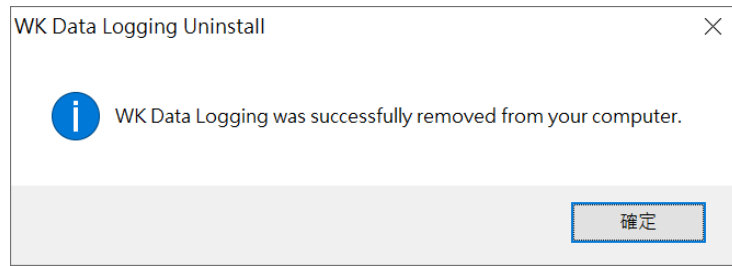
**Figure56.** Uninstall prompt window

Figure56shows whether to uninstall WK Data Logging, press “Yes”.



**Figure57.** Waiting for uninstallation

Figure57shows WK data Logging in offload.



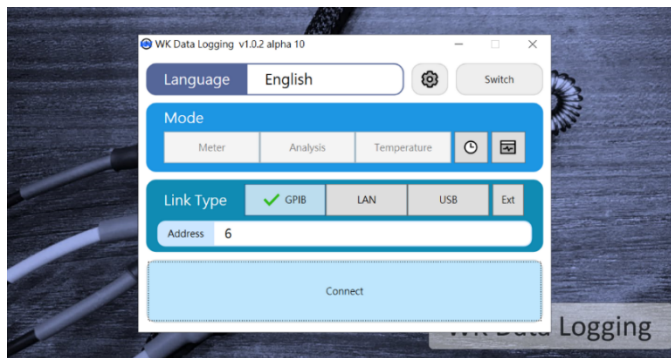
**Figure58**Uninstall complete prompt window

Figure58 59, the WK data Logging uninstallation is complete, press “OK”.

## CHAPTER 4

### LAUNCH THE SOFTWARE

After the installation is complete, the desktop shortcut starts "WK Data Logging".



**Figure59**Main program screen

Figure59shows that the main Figure53on Figure 54.