



Version: 202311EN

Nutech 2701 Sampling Timer User Manual



Nutech Instruments, Inc
www.nutechinst.com

Notice

Thanks for choosing our products. Please read this manual carefully before using the product.

To ensure the stable and reliable operation of the instrument, the user must use the original accessories and consumables provided by Nutech. Nutech will not provide service, warranty or be accountable for profit loss for problems caused by using non-original accessories and consumables.

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Table of contents

Notice	2
Technical Data	4
Introduction of Instrument Parts	4
Operation with Panel	5
Operation by Mobile App	8
Operation with PC Software	10
Trouble Shooting	12

Technical Data

Features

High level of automation, easy operation

- Utilizing PLC control and LCD display, the sampling program can be automatically initiated by setting a time, significantly reducing the labor intensity.

Strong adaptability

- Designed for waterproof and dustproof operation, optional filter kits and stainless steel protective housing are available to accommodate all-weather
- Compatibility with various Summa Canister on the market
- Powered by a rechargeable lithium battery for extended operational endurance.

Power supply

Electrical part: +3.6V, +/-5%

LCD part: +3.6V, +/-5%

Flow controller: $\pm 15V$, +/-5%

Battery capacity: 6500mAH lithium battery, can work continuously for more than 24 hours.

Working environment: -20~60°C

Product specifications

Inlet port: Reducing Union 1/4"-1/16"

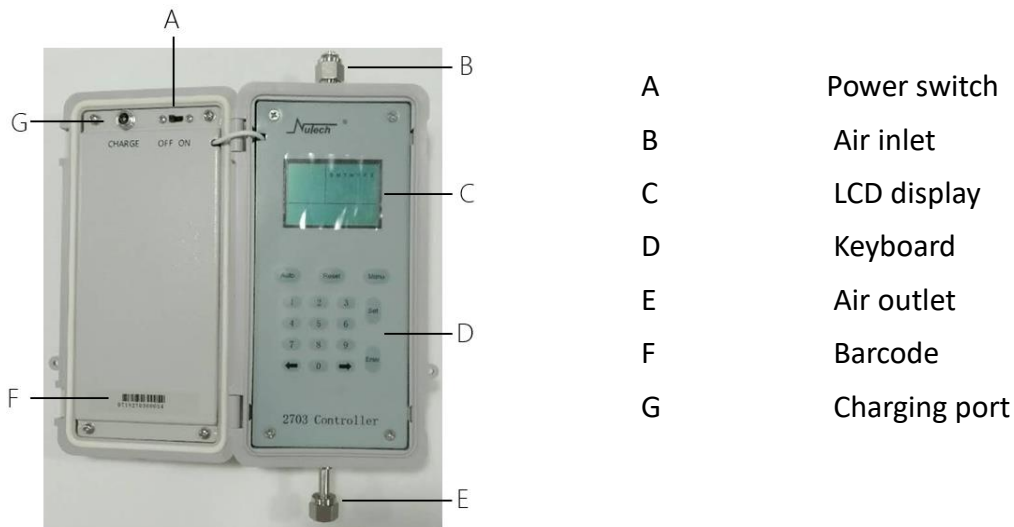
Outlet port: Reducing Union 1/16"-1/4"

Size: 200mm L; 100mm W; 70mmH

Total weight: 1600g

Introduction of Instrument Parts

The 2701 timer is used in conjunction with Summa canisters for the automatic collection of atmospheric air samples. Users can operate and configure the timer by using buttons on the panel or by the smartphone app or PC software.



Operation with Panel

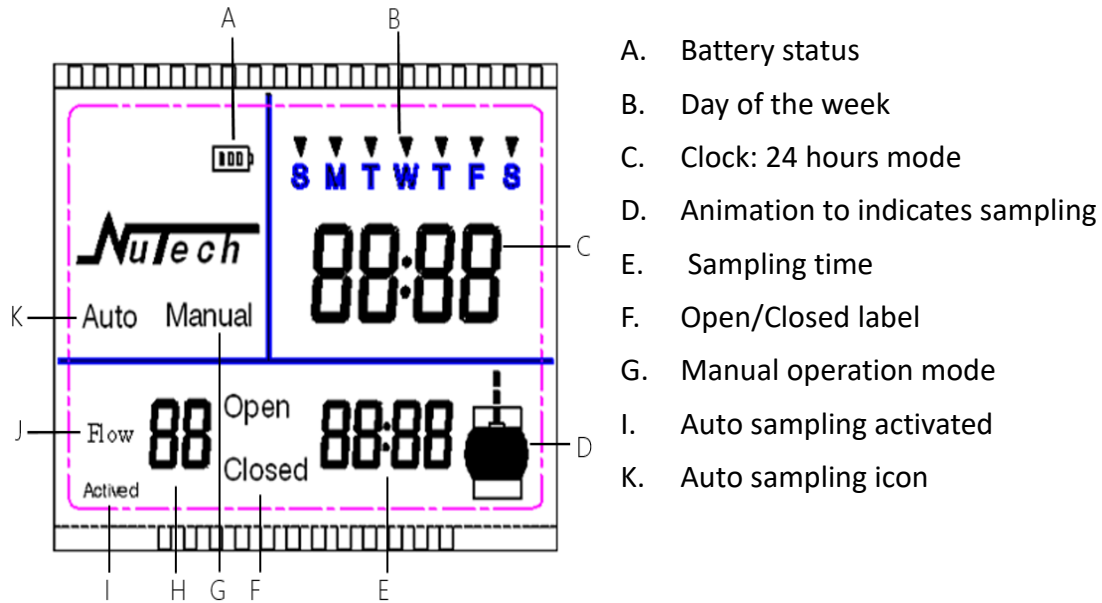
Batter Charging

When the battery level displayed on the controller screen is low, use the dedicated power adapter for charging. When the indicator light on the adapter changes from red to green, it indicates that the battery is fully charged. At this point, it is important to promptly unplug the power adapter, and avoid charging for more than 24 hours.

Note:

- The battery must be charged using the appropriate charger.
- Do not use modified or damaged chargers.
- Do not charge for more than 24 hours.
- The maximum operating temperature for the battery should not exceed 60°C.
- If the 2701 timer is not used for an extended period, charge the battery every two weeks to ensure there is a sufficient charge inside the battery. This prevents damage to the battery during prolonged periods of inactivity.

Screen Information Introduction



- A. Battery status
- B. Day of the week
- C. Clock: 24 hours mode
- D. Animation to indicates sampling
- E. Sampling time
- F. Open/Closed label
- G. Manual operation mode
- I. Auto sampling activated
- K. Auto sampling icon

Timer Operation Procedure

1. Setting the Real-Time Clock

Press **[Set]** key **twice** to enter the time setting mode. The LCD will start flashing. Using the digital keys set the clock. If necessary, the left or right arrow keys can be used to make a correction. Once the minutes are typed in, the day of the week will start flashing. Using the left or right arrow key, move the cursor to the desired day. Press the **[Enter]** key to complete the time and day settings.

2. Setting Start Time (OPEN)

Press the 'Set' button once to enter the sampling time setting mode. At this point, the Open icon will flash. Then, press the 'Enter' button, and the cursor will jump to the digital clock for setting the sampling start time. After completing the setting, the cursor will move to the date indicator to adjust the starting date using the up arrow. Press the 'Enter' button to exit the setting."

3. Setting End Time (CLOSED)

Similarly, press the 'Set' button once. Use the left arrow key to select the 'Closed' mode. The Close icon will flash. Then press the 'Enter' button. The cursor will move to the digital clock to set the sampling end time. After that, the cursor will move to the date indicator to adjust the ending date using the up arrow. Press the 'Enter' button to exit the setting.

Start or End the Auto Sampling

After completing the scheduled activation and scheduled shutdown settings, press the 'Auto' button to initiate the timed automatic sampling mode. The display screen will show 'Activated' and 'Auto' indicators. When the sampling start time is reached, the valve will open automatically, initiating the sampling process. If the timed automatic operation has already started, pressing the 'Auto' button will stop the timed automatic sampling mode, and the 'Activated' indicator on the display screen will disappear.

Example

You need to set 24-hour sampling on Monday. The time is to start at 9:00 on Monday and stop sampling at 9:00 on Tuesday. The operation steps are as follows.

Press the 'Set' button once to move the cursor to the 'Open' label, then press the 'Enter' button. The cursor will move to the digital clock. Set the sampling start time by entering the value '09:00'. The cursor will then move to the day indicator to set the day of the week. Use the left or right arrow keys to move the cursor to 'Monday' (M) and press the 'Enter' button to exit.

Press the 'Set' button again. This time, the 'Open' label will flash. Use the left arrow key to select the 'Closed' mode and press 'Enter'. The cursor will move to the digital clock. Set the sampling end time by entering '09:00'. Move the cursor to the day indicator and position it above 'Tuesday' (T). At this point, the 'Activated' indicator will be displayed on the screen, indicating that the 'Auto' mode has been activated."

Your operation has been successful.

Manual Sampling Mode Operation

Activate the solenoid valve

Observe the 'Open' and 'Closed' indicators on the LCD screen to determine the valve's status. When the valve is in the closed status, pressing the 'Manu' button will open the valve. The screen will show the 'Manual' mode, indicating an 'Open' status. Additionally, an animated sampling indication will appear above the canister icon, and the timer will start counting.

Close the solenoid valve

When the valve is in the open status, pressing the 'Manu' button will close the valve. The screen will indicate the 'Manual' mode with a 'Closed' status. The canister icon will display a stopped sampling indication, and the timer will stop counting.

Operation by Mobile App

App Installation

Android Version Installation: Go to the Google Play Store, search for "NT2701," and then install the software directly from the store.

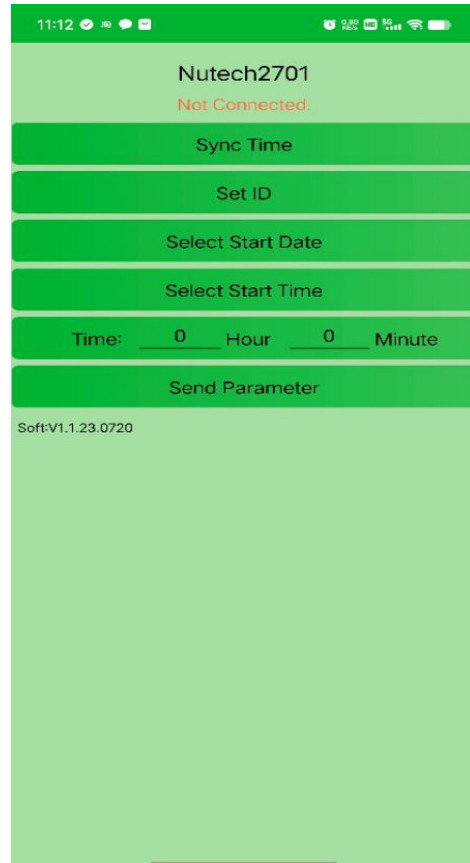
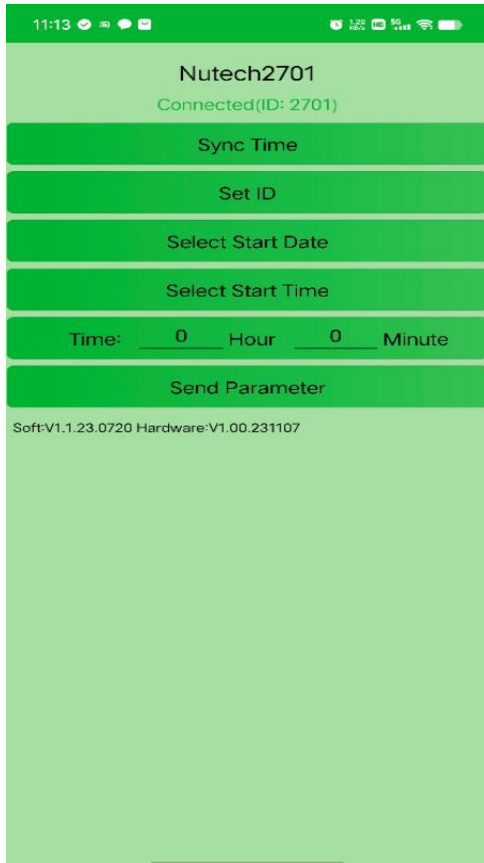
iOS Version Installation: In the Apple App Store, search for "NT2701," and then install the software directly from the store.

For an explanation of the app's functionality, let's use the Android version as an example. The iOS version is similar in functionality.

Wi-Fi Connection

Turn on the timer's power switch, connect your smartphone's WIFI with the timer. The default password is N2701888. Open the Nutech2701 software, and the main interface will display "Connected" as shown in below left figure.

During the setup process, ensure that the instrument's panel remains in a display state. If the device goes into sleep mode, the Wi-Fi connection will be disconnected, and the main interface will display "Not Connected".



Sync Time

Press the "Sync Time" button on the App interface to synchronize the phone's time with the 2701 timer.

Set ID

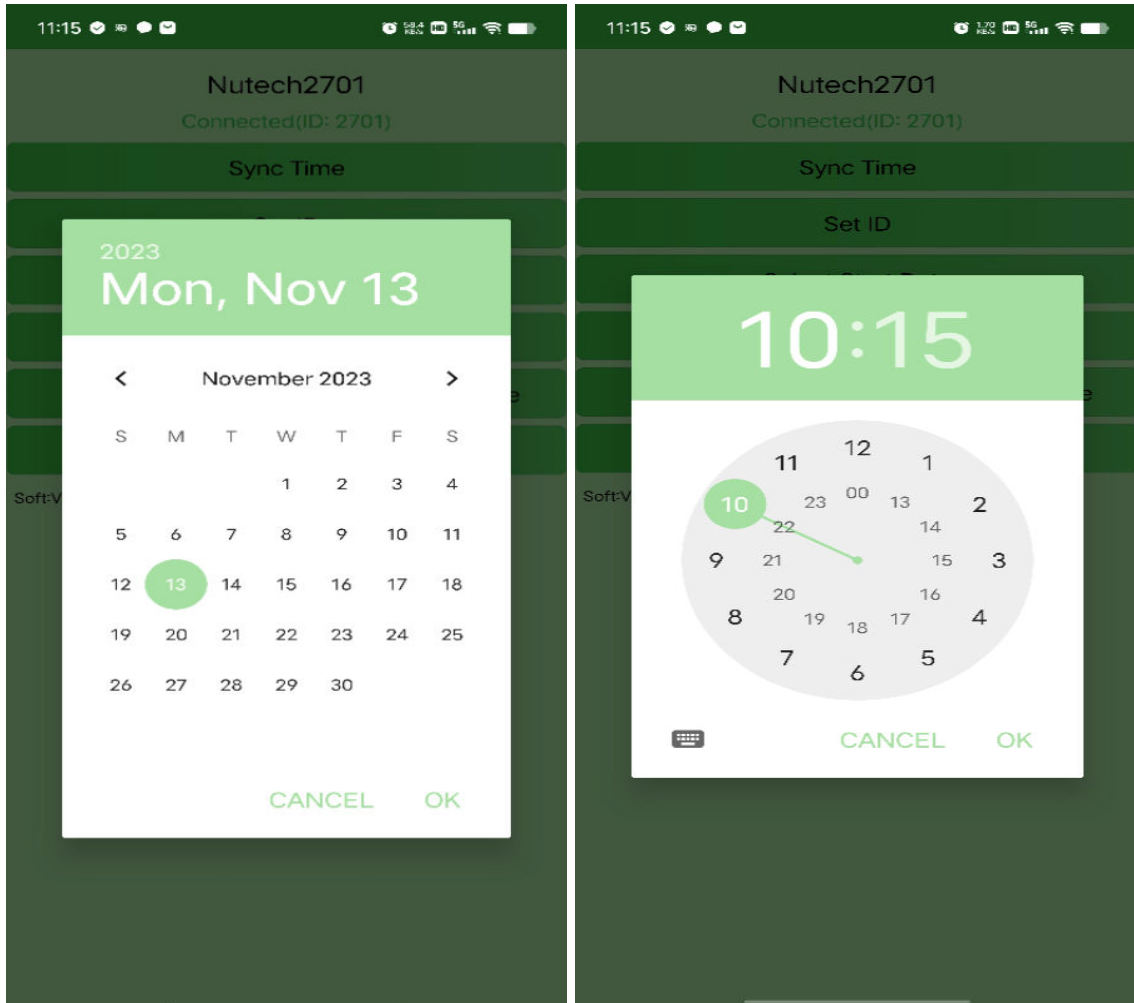
Use a 4-digit number, typically the last 4 digits of the Summa canister.

Set Start Date

Set the date to start sampling.

Set Start Time

Set the specific time to start sampling.



Set Run Time

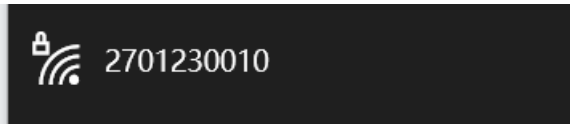
Set the sampling duration.

Send Parameters

Press the "Send Parameter" button to send the parameter information to the timer. At this point, the instrument enters a standby state, and after the set sampling time is reached, the timer's valve will open automatically.

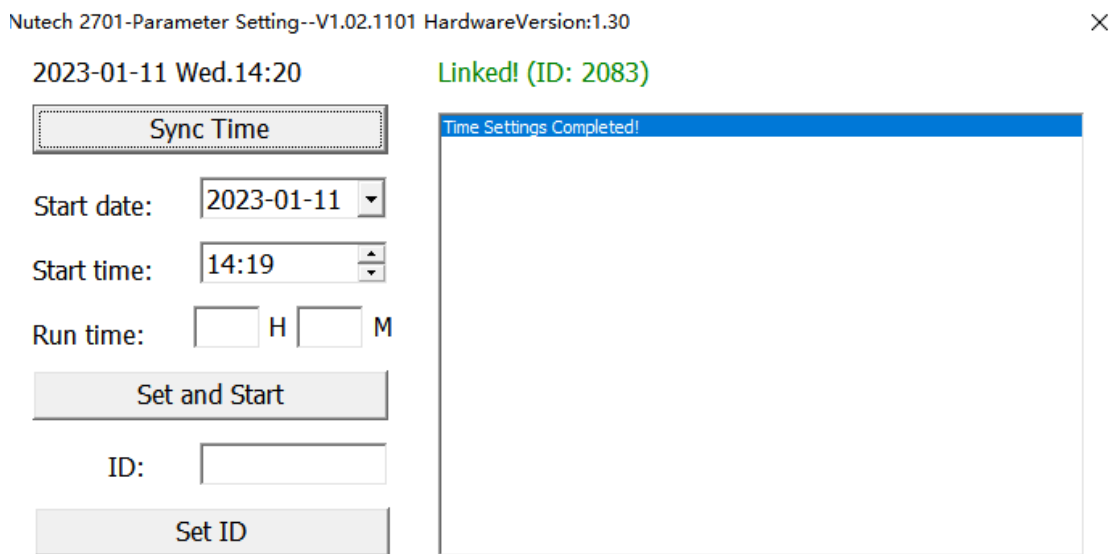
Operation with PC Software

Connect the timer to the PC Software via WIFI



Turn the power switch on the timer. In the Wi-Fi settings, select the name of the instrument and connect to it. The default password is "N2701888." Ensure that the timer's panel remains in a display state during the setup process, otherwise the Wi-Fi connection will be disrupted if it goes into sleep mode.

Double-click the NT2701 shortcut on your desktop to launch the software. Below picture is the software interface.



Sync Time

Press the "Sync Time" button on the software interface to synchronize the computer's time with the 2701 timer.

Set ID

Use a 4-digit number, typically the last 4 digits of the Summa canister.

Set Start Date

Set the date to start sampling.

Set Start Time

Set the specific time to start sampling.

Set Run Time

Set the sampling duration.

Set and Start

Click the "Set and Start" button to send the parameter information to the timer. At this point, the timer enters a standby state, and after the set sampling time is reached, the timer's valve will open automatically.

Trouble Shooting

If the 2701 timer freezes or there is no response to the keys or the clock on the display stops. You can press the Reset button to restart.

If the screen of the 2701 timer is entirely dark, it may be due to a lack of power in the battery. At this time, it needs to be charged.

If WIFI cannot be connected, restart the 2701 timer. If the connection still fails after restarting, the WIFI module may be damaged at this time. Please contact customer service for repair.

Nutech Instruments, Inc.

Technical Support

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