

conanair

# Operating manual

Ver.3.0.0

NSXe Co.LTD

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## Notes

### warning

- Use the lithium battery CR-2 for the battery .  
Do not charge, short, disassemble, deform, heat, or put batteries in the sun.
- **Do not use CR-2 compatible rechargeable batteries and, they will damage or break the device.**

### caution

- Handling  
If it gets dirty, do not wipe it with benzine, thinner, alcohol, etc. It may cause discoloration or deformation of this product.

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# 1 conanair operation mode

conanair has "manual" and "automatic" modes.

## 1.1 Manual mode

- conanair is acting as a WiFi access point and web server
- Operate by connecting directly to conanair with WiFi on a PC or tablet
  - Only one can be connected at a time

## 1.2 Automatic mode

- Normally, conanair operates as a WiFi station (client)
  - Connect to a WiFi access point (router) and communicate with the base station app
- Web settings will be enabled if you perform the specified operations immediately after inserting the batteries.
  - Web settings are operated by directly connecting to conanair via WiFi on a PC or tablet, just like in manual mode.

## 1.3 Credentials for WiFi connection to conanair

- SSID: conanair ID starting with cna\_xxxxxx
- PASS: 19920112

## 1.4 Operations to start web settings in automatic mode

- (1) If the battery is installed, remove it once.
- (2) Insert the battery (green LED lights continuously)
- (3) Double-tap the conanair case with your fingertip within 10 seconds (green and red LEDs blink at the same time)
- (4) Repeat double tap 3 times to start Web setting (short and slow blinking green LED = waiting for WiFi connection)

If the settings for automatic mode are not completed, conanair will start the web settings without waiting for the above operation.

## 2 Power operation

The conanair does not have a power switch. The power can be turned on by inserting the battery (operated with a magnet) or connecting the USB cable to the power supply. Also, turning off the power means shifting to a permanent deep sleep (ultra-low power consumption state).

### 2.1 Wake from deep sleep (or power on)

The surest way to return from deep sleep to normal operation is to remove the battery and then reinsert it. This is the way to do it when operating in automatic mode, but you need to open the case lid.

By operating the reed switch using a magnet, it is possible to return from deep sleep to the normal operating state without opening the case of conanair. This is a way to reactivate a conanair that has been "powered off" in manual mode. However, doing this for a conanair operating in automatic mode often only results in a slight advance in the timing of automatic measurements. This operation needs to be repeated many times (usually dozens of times) in order to configure the Web settings.

### 2.2 Transition to deep sleep (or power off)

conanair operating in manual mode goes to deep sleep in the following cases.

- "Power off" was selected from the menu
- No one is connected to the WiFi access point on the conanair for more than 2 minutes.

conanair operating in automatic mode does not go into a powered off state, that is, a permanent deep sleep. However, if you have set up the Web, if no one connects to the WiFi access point for 2 minutes or more, the power will be turned off.

## 3 Hidden menu

In the manual mode and automatic mode web settings, features that you don't use often are in a so-called "hidden menu" that don't have an icon to open them. In order to access them, you need to input a URL manually.

### 3.1 Mode switching

Open <http://192.168.5.1/mode>.

### 3.2 Creating an authentication key file for automatic mode

Open <http://192.168.5.1/key>.

If the authentication key file has never been created, the message "Because there is no authentication key file ..." is displayed. In this case, the message is a link to the above URL.

### 3.3 Firmware update

Open <http://192.168.5.1/update>. At that time, you will be asked to log in, so enter your user password.

Username: conanair Password: nsex

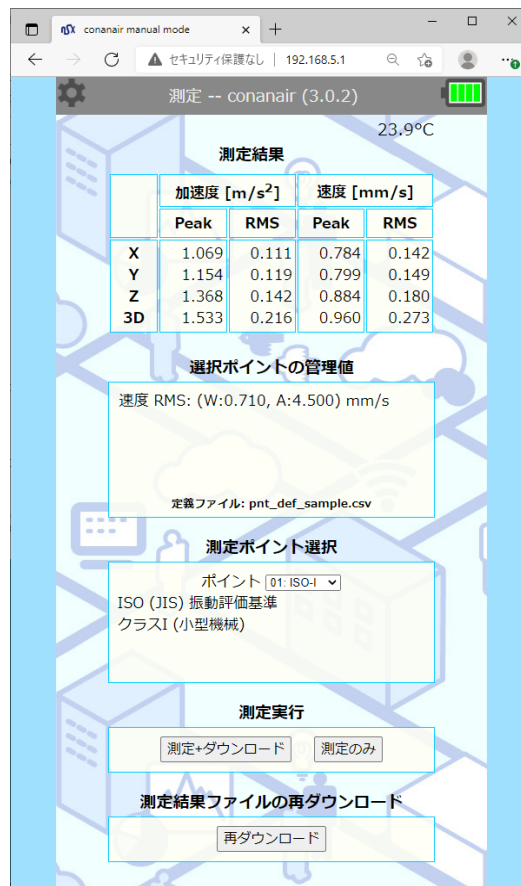
### 3.4 Factory setting

Delete the current configuration file.

Open <http://192.168.5.1/init>. You will be asked to log in and you will need your unique production line password, which you will need to request from us.



## 4 Manual mode / Main page operation



### 4.1 Menu icon (upper left gear)

- FFT: Opens the FFT page in a new tab
- Graph: Switch to the graph page
- Power off: Moves to the "power off" state
- Point definition file upload: Measurement point... Switch to the file selection page

### 4.2 Battery icon (upper right)

- The battery voltage is displayed numerically by hovering the mouse over the icon.
- If you cannot communicate with the conanair, it will change to a question mark icon.

#### 4.3 "Measurement only" button

- Cannot be clicked unless the "Point" dropdown is selected
- Measure vibration by clicking this button

#### 4.4 "Measure + Download" button

- Cannot be clicked unless the "Point" dropdown is selected
- Vibration measurement is performed and the measurement result file is automatically downloaded.
- A warning message is issued in the following cases:
  - The file download has been canceled (under the control of the web screen).
  - When an operation that may overwrite the current measurement result is performed
    - ✧ Change in measurement point
    - ✧ Click the "Measurement ..." button, etc.

#### 4.5 "Redownload" button

- Download the measurement result file of the last measurement.
- Valid for both "Measurement only" and "Measurement + download"

#### 4.6 "Points" dropdown menu

- Select a measurement point

## 5 Manual mode / Graph page operation



### 5.1 Menu icon (upper left gear)

- Measurement: Switch to the main page
- Power off: Moves to the "power off" state

### 5.2 Battery icon (upper right)

- The battery voltage is displayed numerically by hovering the mouse over the icon.
- If you cannot communicate with the conanair, it will change to a question mark icon.

### 5.3 "<" button

- Move the viewpoint to the farthest left

#### 5.4 "<<" button

- Move the viewpoint to the left by one screen

#### 5.5 "<" button

- Move the viewpoint to the left by one scale

#### 5.6 ">" button

- Move the viewpoint to the right by one scale

#### 5.7 ">>" button

- Move the viewpoint to the right by one screen

#### 5.8 ">|" button

- Move the viewpoint to the farthest right

#### 5.9 "+" button

- Enlarges in the horizontal axis direction
- The vertical axis is automatically adjusted

#### 5.10 "-" button

- Reduces in the horizontal axis direction
- The vertical axis is automatically adjusted

#### 5.11 "Velocity ..." dropdown menu (graph screen) "V" button

- Select the type of measured value to be displayed on the graph.

## 6 Manual mode / Measurement point... Page operation



### 6.1 "Select File" button

- Select the file to upload

### 6.2 "Upload" button

- Upload the selected file
- The previously uploaded measurement point definition is replaced.

### 6.3 "Cancel" button

- Return to the main page without uploading

## Appendix

### Appendix 1 LED display

conanair is designed to operate without a serial console except during development and when the first firmware was written. Therefore, the LED shows the status of conanair. The LED display and the state of conanair at that time are summarized below.

Continuous lighting			
LED	Timing	Lighting duration	Commentary
Green	Immediately after startup	1 [s]	Confirm it's started The red LED lights up only for a moment.
Green	↑ Following	10[s]	A waiting double taps Blinks 1-3 times when double tap is detected
Red	WPS	About 15[s]	Connecting to WiFi connection in WPS
Slow blinking (light-on/off time is almost the same)			
LED	State	Explanation	
Green	Connecting to AP	1)When SSID/PASS is specified from the web 2)After getting WiFi connection settings in WPS 3)When connecting to a base station after measuring in automatic mode	
Short, slow blinking (short lighting time)			
LED	State	Explanation	
Green	Waiting for STA WiFi connection	conanair is acting as a WiFi AP and the PC is still disconnected	
Alternating green-red	STA is connected to WiFi	conanair is running as a WiFi AP and connected to a PC, etc.	
Green Red Simultaneously	Measuring	conanair is measuring vibration	

Green Alternating Red Three times each.	Web Updates	Firmware web update status Fast when waiting for upload Slows down during uploading (depends on processing) Faster again at the end of upload
Fast flashing		
LED	State	Explanation
Green Alternating Red	Error	If you detect a critical error If it does not recover by removing the battery or operating the power supply (reset) with a magnet, there is a possibility of failure.

## Appendix 2 LED display pattern at normal

<p>Boot in manual mode</p> <ul style="list-style-type: none"> <li>● Lighting green 1 second (startup display)</li> <li>● Short and slow blinking green (waiting for WiFi connection) <ul style="list-style-type: none"> <li>➢ Power off after 2 minutes</li> </ul> </li> <li>● Short and slow blinking green-red alternately (during WiFi connection)</li> </ul>
<p>Measured in manual mode</p> <ul style="list-style-type: none"> <li>● Short and slow blinking green-red alternately (during WiFi connection) <ul style="list-style-type: none"> <li>➢ Waiting for input on the web screen</li> </ul> </li> <li>● Slow green-red simultaneous blinking Approximately 10 seconds (during measurement)</li> <li>● Short and slow blinking green-red alternately (during WiFi connection)</li> </ul>
<p>Start in automatic mode (when the power is turned on due to battery removal etc. and the setting is entered)</p> <ul style="list-style-type: none"> <li>● Lighting green 1 second (startup display)</li> <li>● Lighting green for 10 seconds (waiting for double tap) <ul style="list-style-type: none"> <li>➢ If it's not fully configured yet, it goes directly to waiting for WiFi connection</li> <li>➢ Double tapping during this time (green and red blink at the same time each time you tap, repeat 3 times)</li> </ul> </li> <li>● Short and slow green blinking (waiting for WiFi connection) <ul style="list-style-type: none"> <li>➢ Connect to WiFi with a PC etc.</li> </ul> </li> <li>● Short, slow, alternating green-red blinking (during WiFi connection) <ul style="list-style-type: none"> <li>➢ Open the web screen and perform the setting work.</li> </ul> </li> </ul>

Automatic mode manual WiFi connection settings

- Short, slow, alternating green-red flashes (during WiFi connection)
  - Enter SSID / PASS on the web screen and click the Send button.
- Slowly blinking green (connecting to AP)
  - If the connection cannot be established, fast green-red alternate blinking (error)  
Turn the power off and then on again, and re-input the settings.
  - If there are already other connection settings, those settings will remain even if an error occurs.
  - If no error occurs, the setting is completed



#### WiFi connection settings with WPS in automatic mode

- Short, slow, alternating green-red flashes (during WiFi connection)
  - Click the Send button without entering the SSID / PASS on the web screen
- Lights up in red (during WiFi setting by WPS)
  - If WiFi setting acquisition fails, fast green-red alternate blinking (error) Turn the power off and then on again and set again.
- Slowly blinking green (connecting to AP)
  - If the connection cannot be established, fast green-red alternate blinking (error) Turn the power off and then on again, and re-input settings.
  - If there are already other connection settings, those settings will remain even if an error occurs.
  - If no error occurs, the setting is completed

### Appendix 3 About the error state when the power is turned on again

The LED error display may occur when the power is turned on again due to the removal and installation of the battery, even though it has been operating normally. It is thought that this is because the power was repeatedly turned on and off in a short period of time, causing the device to enter an abnormal internal state.

In such a case, it may not recover even if the power is turned off again and on again, but in that case, it can be recovered by operating as follows.

- Remove the battery
- Operate the power on (reset) with a magnet and hold it in that state for about 20 seconds.
  - conanair does not respond because the power is off
  - Repeat 2-3 times to ensure implementation

It is presumed that this phenomenon occurs because it takes a long time for the power supply voltage to drop until the charge of the capacitor inside the conanair is completely discharged and the abnormal state of the device is resolved. It is thought that this is because conanair is designed to consume very little current when it is stopped so that it can operate on batteries for a long period of time.

When the power is turned on (reset), a circuit is created to release the charge from the capacitor, and the power supply voltage can be reduced to almost zero in a relatively short time.

However, it could indicate a real failure.

If it does not recover even after repeating the above operation, remove the battery, leave it for about 1 hour, and then try again. If it still doesn't recover, it may be out of order.

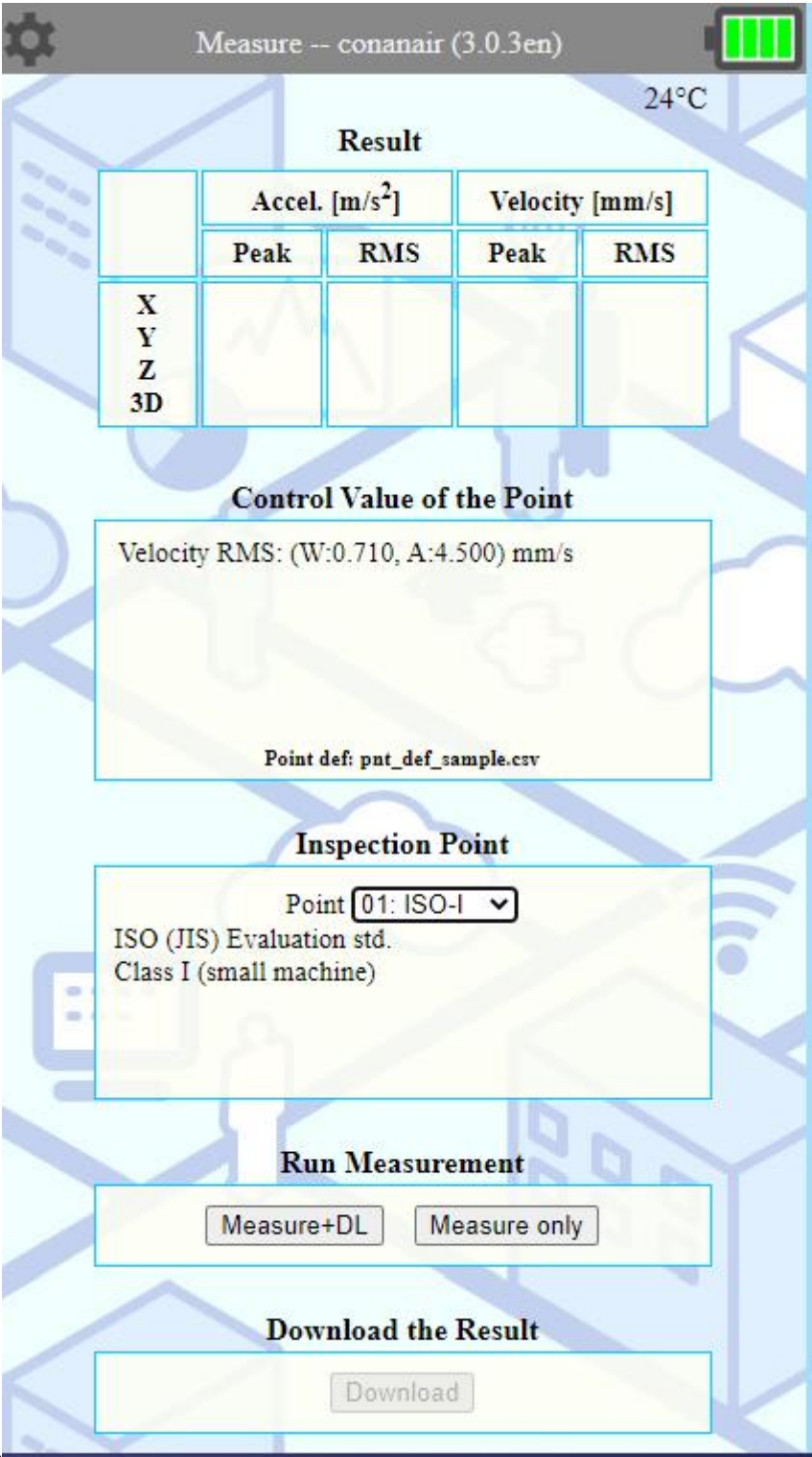
#### Appendix 4 If the firmware web update stops prematurely

In rare cases, the LED may stop blinking during a web update and the "Update Success!" Screen may not be displayed. In most cases, power on (reset) and try the web update again and it will complete without any problems.

If the web update stops even if you try again, it may be because the WiFi communication environment is not good due to interference. You may be able to finish the web update normally by trying different locations and times.

If the web update still stops, it may be out of order.

Even if the web update fails in the middle, the firmware used up to that point remains



unrewritten.