beevision

BeeVision272

Static Pallet Dimensioner

USER MANUAL

Version: **1.6.0**

CONTENTS

1. PREFACE

This document describes the usage of the BeeVision 272 dimensioning system. Permission must be obtained from **3DTİM Elektronik Corporation**. (3DTIM) to copy, reprint and translate this document in whole or in part. This manual may not be published, in whole or in part, or used without authorization for competitive purposes. 3DTIM reserves the right to make technical changes for improvement.

BeeVision 272 can only be used for dimensioning measurements of opaque pallets and objects with a maximum size of **2400 x 2400 x 2400 mm** (W x L x H). Any use other than this purpose is deemed illegal and constitutes a misuse of the machine. If it is used in this way, all responsibility will be on the user.

BeeVision 272 is under warranty for **1 (one) year**. Malfunctions resulting from user error or the use of the device not in accordance with the user manual are not covered by the warranty.

Figure 1.1

Figure 1.2

2.DESCRIPTION OF THE PRODUCT AND INTENDED USE

BeeVision 272 is an industrial product used for object dimensioning. It is designed for measuring the dimensions of opaque pallets and objects with a maximum size of **2400 x 2400 x 2400 mm (W x L x H)**. The total weight of BeeVision 272 is **27 kg**.

> ⚠️ BeeVision 272 will not function correctly in direct sunlight. It is designed for **indoor** usage.

2.1 Important Information

- The maximum object size is **2400 x 2400 x 2400 mm** (W x L x H).
- The minimum object size is **300 x 300 x 300 mm** (W x L x H).
- The device may not measure accurately outside the **-10°C** - **+50°C** temperature range.
- The fans in the units turn on and off depending on the ambient temperature.
- BeeVision 272 cannot measure transparent objects such as glass, plastic, or nylon.
- A monitor should be connected to BeeVision 272 for calibration and usage.

3.GENERAL INFORMATION

3.1 Overall Dimensions

The dimensions of the BeeVision 272 are **2745 x 375 x 405mm** (W x L x H). The specified dimensions are shown in **Figure 3.1** below (units are in mm).
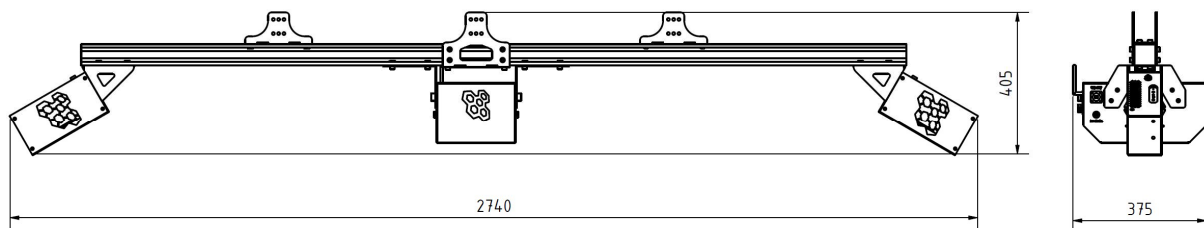

Figure 3.1

3.1 Main Parts

Camera Unit: There are 2 camera units located at both ends of the device. Cameras capture 2- and 3-dimensional images from both corners.

Mounting Brackets: Brackets allow the user to mount the device on walls or ceilings. The distance between the device and measurement surface is important, please refer to the installation manual for the correct installation.

Sigma Profiles: There are 2 sigma profiles on which Camera Units and Processor are mounted on.

Processor: Processor collects data from Camera Units and runs the measurement software.

Wireless Antenna: Antenna is used for Wi-Fi connection.

CONNECTORS

1. **POWER MAIN:** This is the main power connector of the device.
2. **ETHERNET:** You can use this port to connect an ethernet cable.
3. **FRONT USB 1:** Data input for the Camera Unit 1.
4. **FRONT USB 2:** Data input for the Camera Unit 2.
5. **HDMI:** Video output for the monitor.
6. **SERIAL PORT:** RS232 connection for the scale.
7. **BACK USB 1:** USB connection for the handheld barcode reader.
8. **BACK USB 2:** USB port for touch screen operation of the monitor.

⚠	If you are going to add a monitor to your system, you should use the **HDMI** port, and if the monitor is touchscreen, you should use the **Back USB 2 Port.**

⚠	The **+12V** input of the **POWER MAIN** connector is the left pin when viewed from the back of the processor head.

Figure 3.2

9. **POWER H1:** Power port for Camera Unit 1

10. **POWER H2:** Power port for Camera Unit 2

Figure 3.3

4.USING THE DEVICE

4.1 Turning On/Off

When the power cord is inserted into the power port and given mains voltage, the system will be ready for use. The input mains voltage BeeVision dimensioner must be at an interval between **100V-240V** and **50Hz-60Hz**.

To turn off the device, simply **unplug** the power cord.

The mouse cursor is by default hidden in Volumizer UI. If you would like to connect a mouse and a keyboard, you can enable/disable the mouse cursor with **Ctrl + Shift + M** combinations on your keyboard.

⚠	Please refer to the Software Guide for more details on how to integrate BeeVision into your system.

4.2 Measurement Area

There are two Camera Units at both ends of the device. The field of view of these cameras is shown in **Figure 1.1** For the device to measure an object, the object must be placed on a flat surface that was used for calibration.

Max Pallet Size
240 x 240 x 240 cm

Figure 4.1

⚠	For maximum measurement accuracy, you must mount the components in the positions shown in the installation manual.

> ⚠ Make sure that the dimensions of objects are less than 2400 x 2400 x 2400 (WxDxH) mm. Otherwise, the object will not fit in the field of view.

4.3 Volumizer

Volumizer is the software installed in the BeeVision dimensioners that enable users to control the device, perform calibration and measurements. It has a graphical user interface (GUI) that can be used when BeeVision is connected to a monitor.

Figure 4.2

It also has a web-based user interface (Web UI) that can be accessed from a browser with the following address: http://IP_address_of_device. The officially supported browser is Google Chrome.
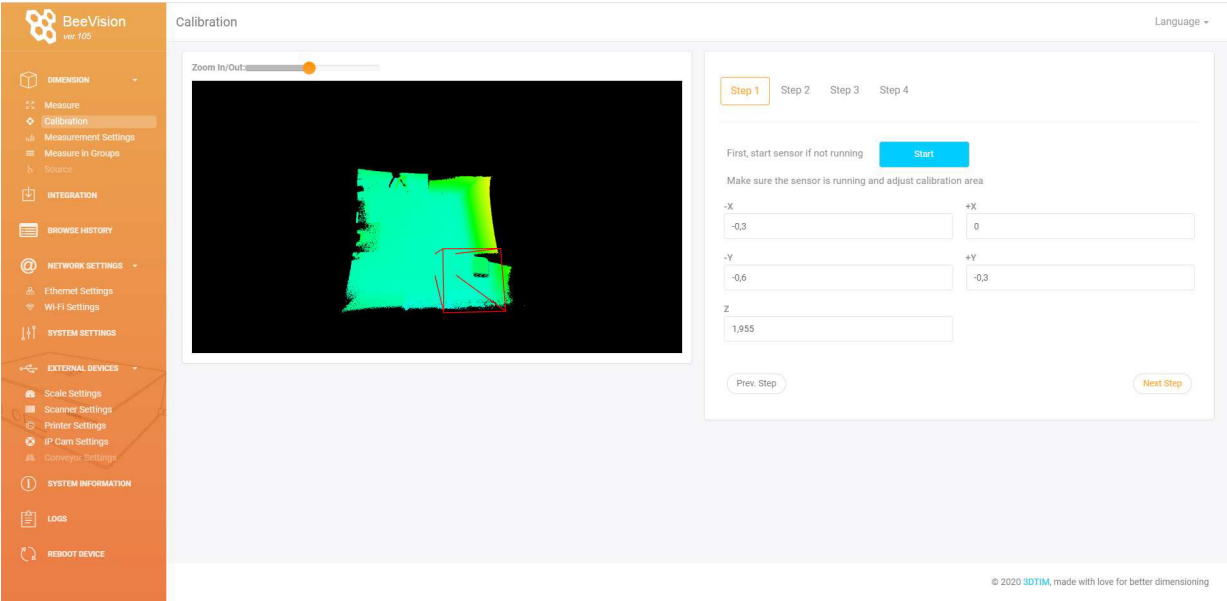
Figure 4.3

⚠️	If you use a different browser than Google Chrome, some functions may not work as expected.
ⓘ	Users can navigate to the pages from the main menu as shown in Figure 4.2 and Figure 4.3.

Following pages are included in Volumizer GUI and Web UI:

	Dimension	Brings up dimensioning submenu
	Measure	Trigger measurement and display results
	Calibration	Perform calibration and view 3D, 2D, and model data
	Measurement Settings	Change measurement settings
	Measurement in Groups	Perform measurements in groups and save results to a remote address as an XML file per group
	Source	Merge outputs of multiple cameras

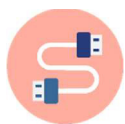|		
	Decode	Brings up the barcode decoding submenu (might be disabled depending on the model)
	Integration	Change result sharing options
	Network Settings	Change Ethernet and Wi-Fi settings
	System Settings	Change system settings such as language, time, date, and device operation mode
	External Devices	Brings up the external devices submenu

	Scale Settings	Change scale connection settings
	Scanner Settings	Change handheld and fixed-mount barcode scanner connection settings
	Printer Settings	Change label printer settings
	Conveyor Settings	Change conveyor and PLC connection settings (might be disabled based on the model)
	IP Cam Settings	Change IP camera settings (might be disabled based on the model)
	Browse History	Browse previous measurement results

	System Information	View information about the system such as model name, certification status, SW checksum, etc.
	Reboot	Restarts the device
	Logs	View system log and parameter changelog

GUI Navigation Icons:

Opens up the previous upper menu page.

Opens up the main menu page.

4.4 Calibration

BeeVision 272 dimensioning system is **not** delivered as pre- calibrated. The calibration process should be done after the device is installed at its final location. For calibration, a cube with a size of 300 x 300 x 300 mm are provided. Follow the instructions below to perform the calibration:

Step 1: In the main menu, navigate to the "**Dimension**" submenu, and press the "**Calibration**" button. Crudely select the measurement area using (**+**) and (**-**) buttons. If there is a scale, you should select the scale and not include the floor. Make sure the selected area is clearly smaller than the measurement surface area (scale surface). Go to Step 2.
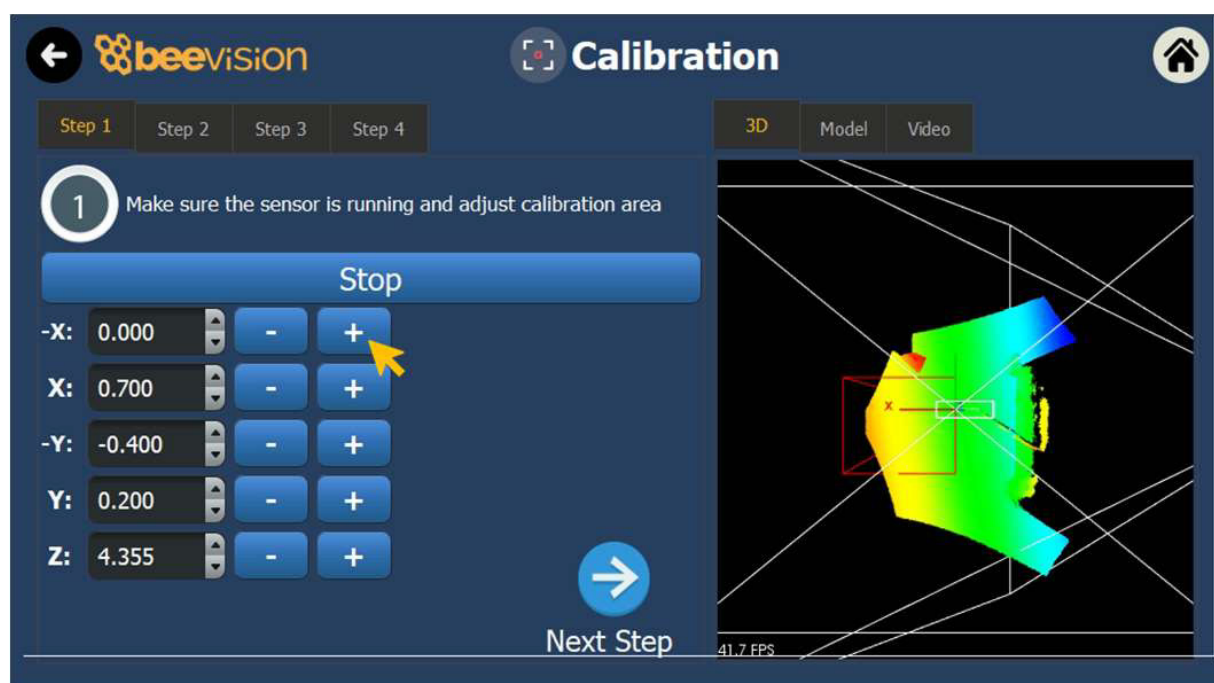

Figure 4.4

Step 2: Remove any objects from the calibration area defined in the previous step and press the '**Calibrate**' button. Measurement surface is detected and indicated in white color. Then, go to the next step.
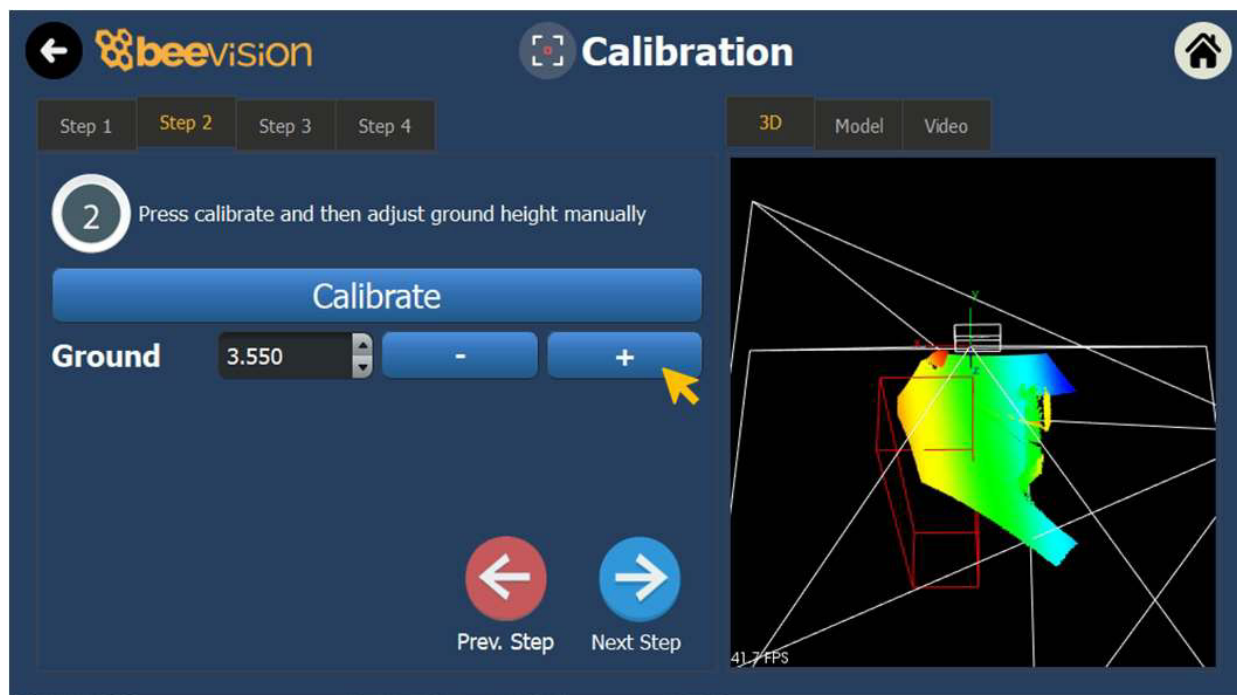

Figure 4.5

Step 3: Define the measurement area finely using (+) and (-) buttons. Make sure the measurement area exceeds the scale surface from all dimensions and go to next step.
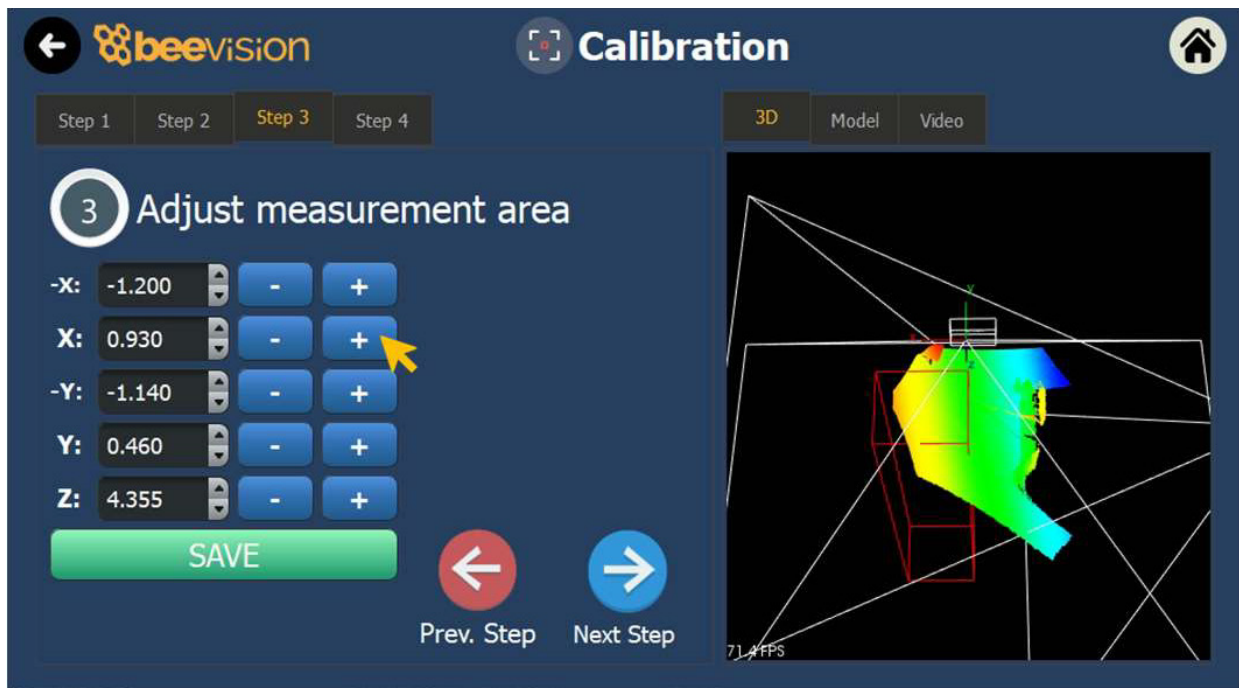
Figure 4.6

Step 4: Place the calibration cube of 300 x 300 x 300 mm dimensions in the middle of the measurement area. Click the 'Refine Calibration' button. When the process is completed, press "Measure" button to measure the cube and check the results to be within ±0.5cm tolerance. If the height is not within tolerance, please go back to Step 2 and refine the distance to the measurement surface manually and come back to this step and re-measure. Do not forget to click on "Save Calibration" button when done.
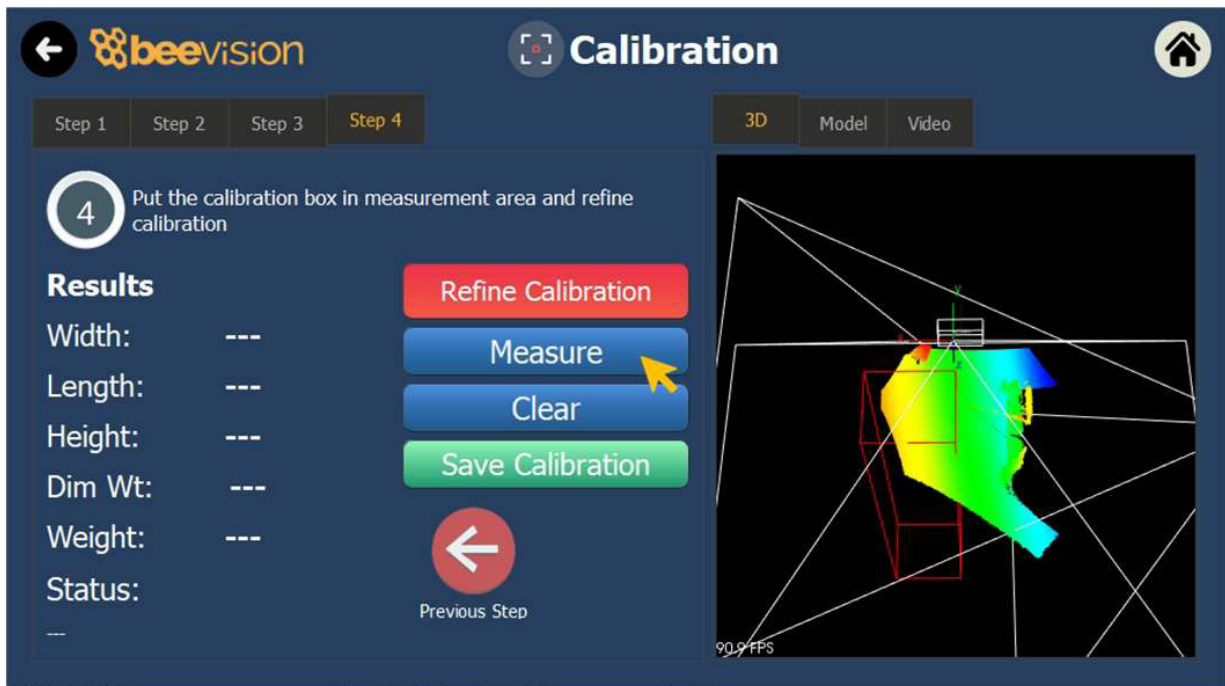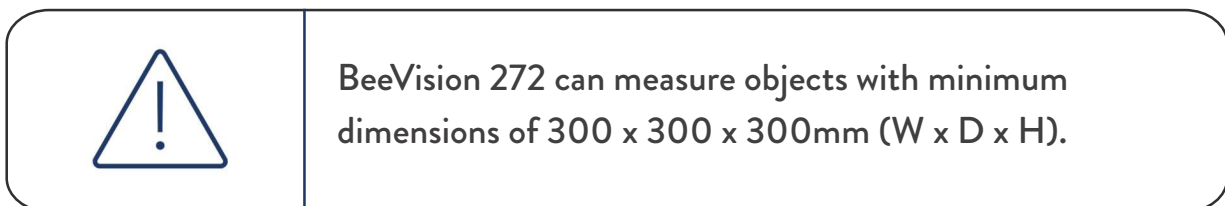
Figure 4.7

4.5 Operation

Before starting measurements, make sure that the BeeVision 272 is calibrated as described in the '**Calibration**' section.

> ⚠️ BeeVision 272 can measure objects with minimum dimensions of 300 x 300 x 300mm (W x D x H).

Steps of Measurement

- To perform a measurement, an object must be placed into the measurement area and measurement and weighing should be triggered either automatically or manually depending on the selected

trigger mode. To manually trigger a measurement, press on "**Measure**" button in the Measure submenu.

⚠	Trigger settings can be changed in the Measurement Settings page of GUI or WebUI.

- If the dimensions of the object are out of the measurement area, then an error message may be displayed if the corresponding check is activated in Measurement Settings.

⚠	During the measurement, there must be only one object in the measurement area.
ⓘ	Objects can be placed with any orientation to any location in the defined measurement area.

- If the measurement is successful, the user can view the results on the touch monitor at this stage.

- The user can remove the object and move on to measure the next one.

⚠	BeeVision 272 cannot measure transparent objects such as glass plastic, or nylon.

For more information, please contact us.

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