



BeeVision 170

User Manual

Version 1.3.7





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# 1

## Overview

This document describes the installation, calibration, and usage of BeeVision™ 170 dimensioner.

BeeVision dimensioners are provided with Volumizer™ software that enables users to easily self-calibrate the device, perform measurements and share results. Users can use the BeeVision Dimensioners with Volumizer-GUI available on an attached monitor or with Volumizer-WebUI from their browser on their PC, tablet or smart-phone.

With Volumizer-API, users can control their dimensioner remotely and integrate it into their software infrastructure.

BeeVision dimensioners are designed as stand-alone devices. There is no need to have a PC to get the results from BeeVision devices.

## 2

# Installation

BeeVision 170 can be mounted over a stationary platform to measure static objects as depicted in FIGURE 1.

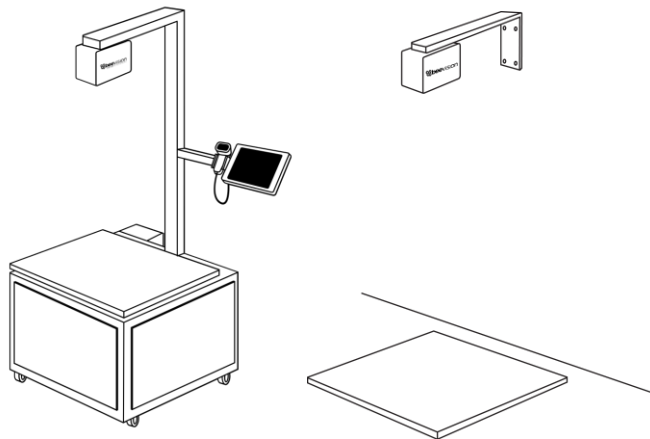


FIGURE 1: BEEVISION 170 IN STATIC SYSTEMS

BeeVision 170 can be attached to any platform with 5mm screws depicted in FIGURE 2. BeeVision 170 is also delivered with a mounting-bracket that is screwed to the device and can be used to easily mount the device to sigma-shaped profiles as shown in FIGURE 3.

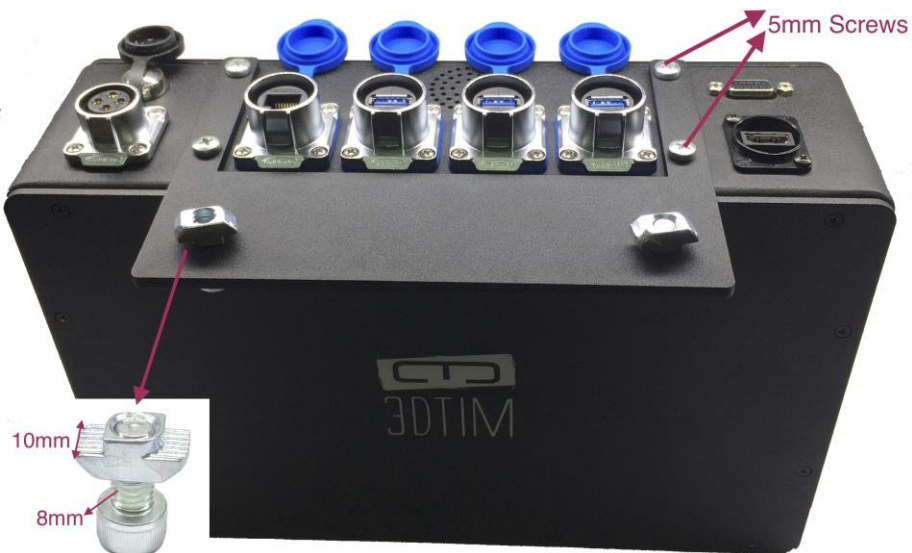


FIGURE 2: BEEVISION MOUNT BRACKET

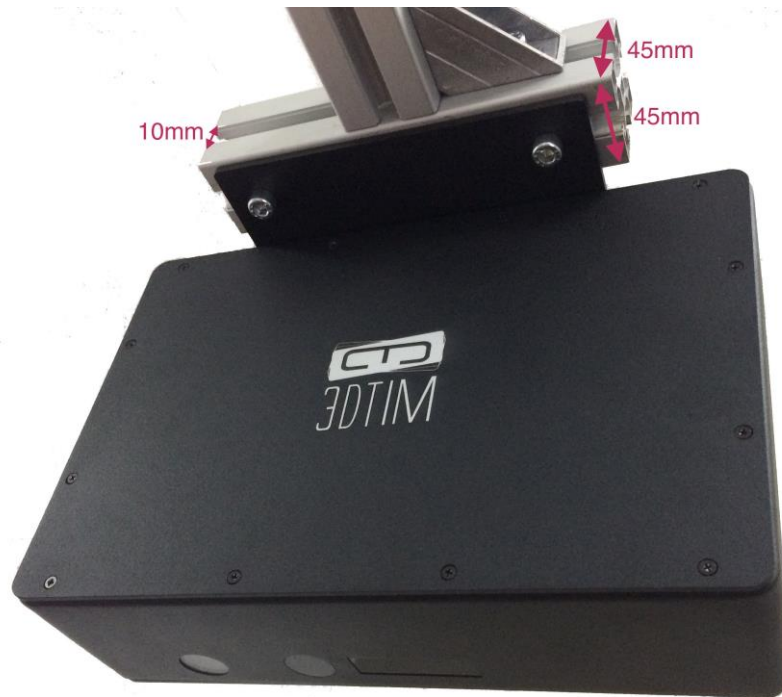


FIGURE 3: BEEVISION 170 MOUNTED ON SIGMA PROFILES

### 3

## Connection Ports

FIGURE 4 below shows the connection ports that are located on the backside of the device.



FIGURE 4: BACK SIDE OF BEEVISION 170

**HDMI port:** To connect to an external monitor to view the Volumizer user interface (UI).



Even though it may work, it is not recommended to use a USB monitor with the device.

**Serial port (RS232):** Typically used for establishing a connection with scales or weighing instruments.

**USB 3.0 port:** There are three USB 3.0 ports one of which is typically used for touch-screen connection. Zebra-brand barcode printers can be also connected to ports. Handheld barcode scanners can be connected to USB ports as well.

**Ethernet port:** To communicate with any computer or server system for the data transfer.

**Power port:** To supply 12V to the device. Please use the adapter provided with the BeeVision dimensioner.

**Wireless antenna:** Antenna performs data transfer by establishing wireless communication with a wireless modem device/PC.

**Reset button:** When pressed, the device is shut down gracefully. When pressed for 3 seconds, the device is forcefully shut down.

## 4

# Turning ON/OFF

When the power cord is inserted into the power port and given mains voltage, the device is automatically turned on and will be ready for use. The input mains voltage for the power adapter provided with BeeVision dimensioners must be at an interval between 100V-240V and 50Hz/60Hz.

To connect the BeeVision dimensioner to a computer or a local network for data transfer, simply use an Ethernet cable. The detailed explanation of connection settings is provided in the Software Guide documentation.

In order to view the results of measurements and device settings on a monitor, just connect one end of any standard HDMI male-to-male cable to the HDMI port

of the device and the other end to the monitor. If you use a touch-screen monitor, connect the USB cable to one of the USB 3.0 ports on the device for enabling touch operation. After connecting the cable for the first time, you may need to restart the device depending on the driver of the touch-screen monitor. If you have problems using the touch-screen, get in touch with the 3DTIM support team.



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 mouse cursor by pressing **Ctrl+Shift+M** combination on your keyboard.

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



BeeVision starts in headless mode when no monitor is attached and the device can only be controlled via Volumizer-WebUI or Volumizer API web services. To bring up Volumizer GUI, connect a monitor and reboot the device.

# 5

## Field of View

### Optical Center

The optical center of the device is shown in FIGURE 5 below. When mounting the device, align it according to the optical center and center the projection of this point on the measurement area.



FIGURE 5: OPTICAL CENTER OF THE BEEVISION 170

### Field of View

The field of view of BeeVision is  $70^{\circ} \times 60^{\circ}$  as illustrated in FIGURE 6. There should be at least 75 cm distance between the object and the device for proper measurement operation.

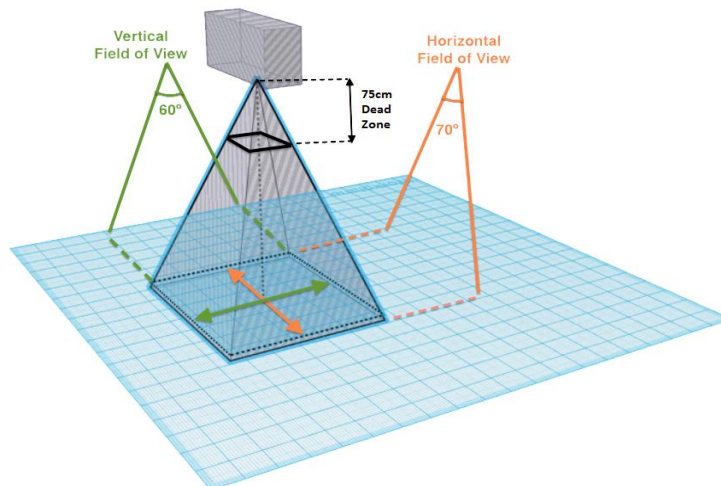


FIGURE 6: HORIZONTAL AND VERTICAL FIELD OF VIEW



The measurement area of the BeeVision 170 dimensioner is set in the calibration page. The measurement area should be in the field of view of the device. When using a single dimensioner, some parts of irregular objects may remain out of sight of the device as illustrated in FIGURE 7. Only the surfaces that are visible to the device are included in measurement calculations.

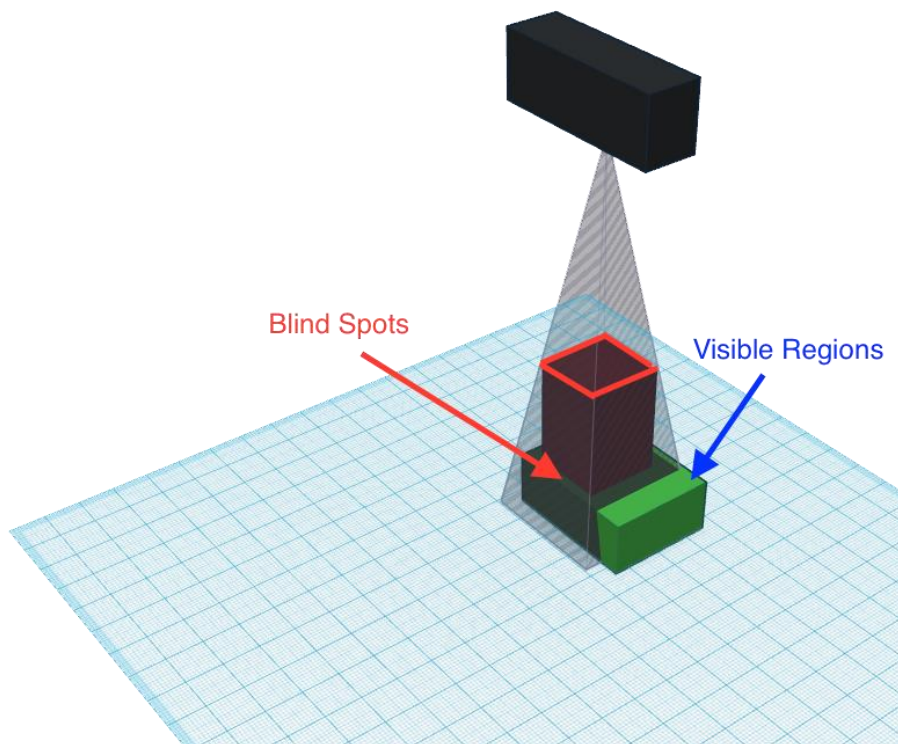


FIGURE 7: BLIND SPOT ILLUSTRATION

## 6

# Communication Interfaces

Following communication interfaces are supported by BeeVision devices.

- USB interface for connection of a printer, barcode scanner or similar
- Serial interface for connection of scale or data transfer to user computer
- Ethernet interface for communicating over the internet or local network to a central server of user

# 7

# Volumizer

Volumizer is the software installed in the BeeVision dimensioners that enables 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. It also has a web-based user interface (WebUI) that can be accessed from a browser with the following address: [http://IP\\_address\\_of\\_device](http://IP_address_of_device)

Users can navigate to pages from the main menu as shown in FIGURE 8 and FIGURE 9.



FIGURE 8: MAIN MENU OF VOLUMIZER GUI

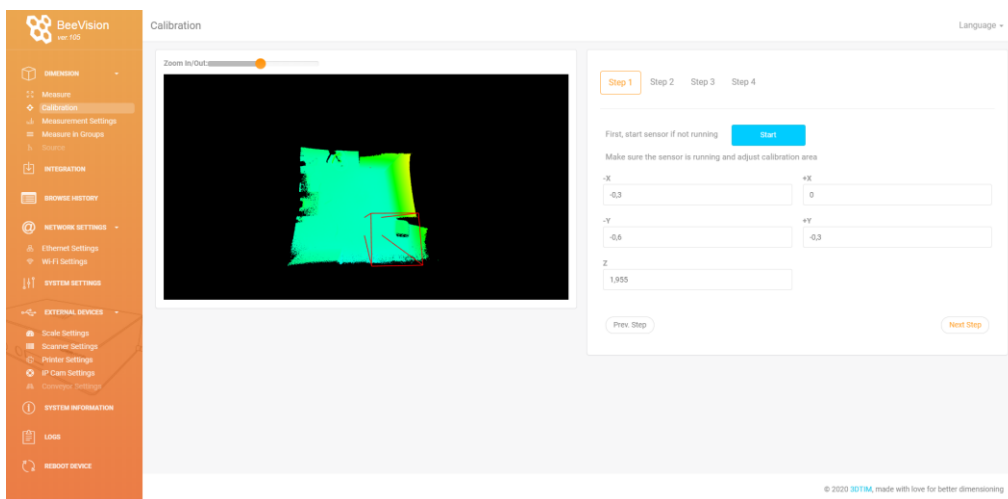










FIGURE 9: VOLUMIZER WEBUI

Following pages are included in Volumizer GUI and WebUI:

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	Brings up dimensioning submenu
Dimension	
	Trigger measurement and display results
Measure	
	Perform calibration and view 3D, 2D and model data
Calibration	
	Change measurement settings
Measurement Settings	
	Perform measurements in groups and save results to a remote address as an XML file per group
Measurement in Groups	
	Merge 3D data with a slave, remote BeeVision device
Source	
	Brings up barcode decoding submenu (is disabled in BeeVision 170)
Decode	
	Change result sharing options
Integration	

---



Change Ethernet and Wi-Fi settings

Network Settings

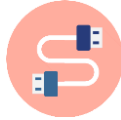
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Change system settings such as language, time, date and device operation mode

System Settings

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Brings up external devices submenu

External Devices

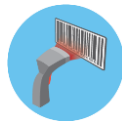
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Change scale connection settings

Scale  
Settings

---



Change handheld and fixed-mount barcode scanner connection settings

Scanner  
Settings

---



Change label printer settings

Printer  
Settings

---



Change conveyor and PLC connection settings (might be disabled based on the model)

Conveyor  
Settings

---



Change IP camera settings (might be disabled based on the model)

Ip Cam  
Settings

---



Browse previous measurement results

Browse History

---



View information about the system such as model name, certification status, SW checksum, etc.

System Information

---



Restarts the device

Reboot

---



View system log and parameter change log

Logs

---

GUI Navigation Icons:



Opens up the previous upper menu page



Opens up the main menu page

To find out more about Volumizer, please refer to the Software Guide document.

# 8

## Operation

Before starting measurements, the BeeVision dimensioners must be calibrated. Calibration is only required once after the sensor is mounted. If its height with respect to the measurement surface is not changed, there is no need to recalibrate the device. The measurement area is set during the calibration process. After the calibration, the device may be sealed for certification purposes.

To perform a measurement, an object must be placed into the measurement area and measurement should be triggered either automatically or manually depending on the selected trigger mode. During 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 there is a limitation, it is indicated on the screen. BeeVision dimensioners cannot measure transparent objects such as glass.

If the dimensions of the object are outside of the limits of devices range, then an error message may be displayed if the corresponding check is activated on the Measurement Settings page.

There are several trigger modes in BeeVision dimensioners that can be selected on the Measurement Settings page:

**Manual Triggering:** Manual operation mode. Users need to press the Measure button in GUI or WebUI to perform a measurement.

**Barcode Scanner Triggering:** Users need to scan a barcode with an attached barcode scanner to start a measurement. Measurement is triggered after the scan event. In addition to the dimensioning results, the barcode is also shown and sent to the customer software.

**Automatic Triggering:** Automatic operation mode. Whenever a package is placed into the measurement area, its dimensions are automatically measured and shown.

**Manual & Bar. Scanner Triggering:** Manual and Barcode Scanner triggering methods can be used at the same time.

**Scale Triggering:** When a package is placed into the measurement area, measurement is automatically triggered after a certain time of delay. The scale

should transmit a value larger than 0 to start the triggering and return to 0 when there is no object.

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

If scale connection is enabled on the Scale Settings page, the weight result is also indicated in the Measure page.

## Calibration

To calibrate the BeeVision dimensioner, navigate to the Calibration page of UI or WebUI and follow the steps explained below. You have to do the calibration just once after you mount the device.

**Step 1:** Crudely select the measurement area using (+) and (-) buttons. If there is a scale, you should select the scale and not include the floor. Go to the next step.

**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.

**Step 3:** Define the measurement area finely using (+) and (-) buttons and go to step-4.

**Step 4:** Make test measurements. If the height is a little off, go back to Step-2 and manually adjust the ground height for your convenience and retry measurement in Step-4. Finally, save the calibration. If not saved, calibration results are reset after a reboot.

After the calibration, you can go to the Measure page to start measuring.

For further details, please refer to the Software Guide documentation.

# 9

# Technical Drawings

