beevision

BeeVision 182 and 182S

User Manual

Version 1.4.0

3DTIM

C Contents

1 Overview

This document describes the calibration and usage of the BeeVision™ 182(S) dimensioner.

BeeVision dimensioners are installed 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.

2 | Installation

BeeVision 182 dimensioning system consists of a BeeVision 270 dimensioner head, 10″ touch screen, integrated scale, a body and a handheld barcode scanner.

FIGURE 1: BEEVISION 182

The shipping package also includes a screwdriver to be used during the installation. After mounting the parts together, there is no need to calibrate the device. BeeVision 182 system is delivered as pre-calibrated. For detailed information on the installation, please refer to the installation manual.

An external monitor is not needed, users can control all device features on the included touch-screen monitor.

FIGURE 2: SYSTEM COMPONENTS

The only difference between BeeVision 182 and 182S is the distance between dimensioner head and the scale surface. The distance in BeeVision 182 is 150 cm and in BeeVision 182S it is 100cm. Thus, BeeVision 182S can see finer details and measure small objects; on the other hand, BeeVision 182 can measure larger objects.

The default measurement area is the larger than the provided scale area indicated in Figure 2. The default measurement area is 100cm x 72cm. Users can freely increase or decrease the measurement area on Step-3 tab of the Calibration page.

3 Connection Ports

FIGURE 3 below shows the connection ports that are located on the backside of the device.

FIGURE 3: BACK SIDE OF BEEVISION 182

USB 3.0 port: There is one USB 3.0 port. A handheld barcode scanner came along with BeeVision 182 can be connected to the USB port.

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.

Serial port (RS232): Used for establishing a connection with the scale delivered with BeeVision 182. The connection is shown in Figure 4.
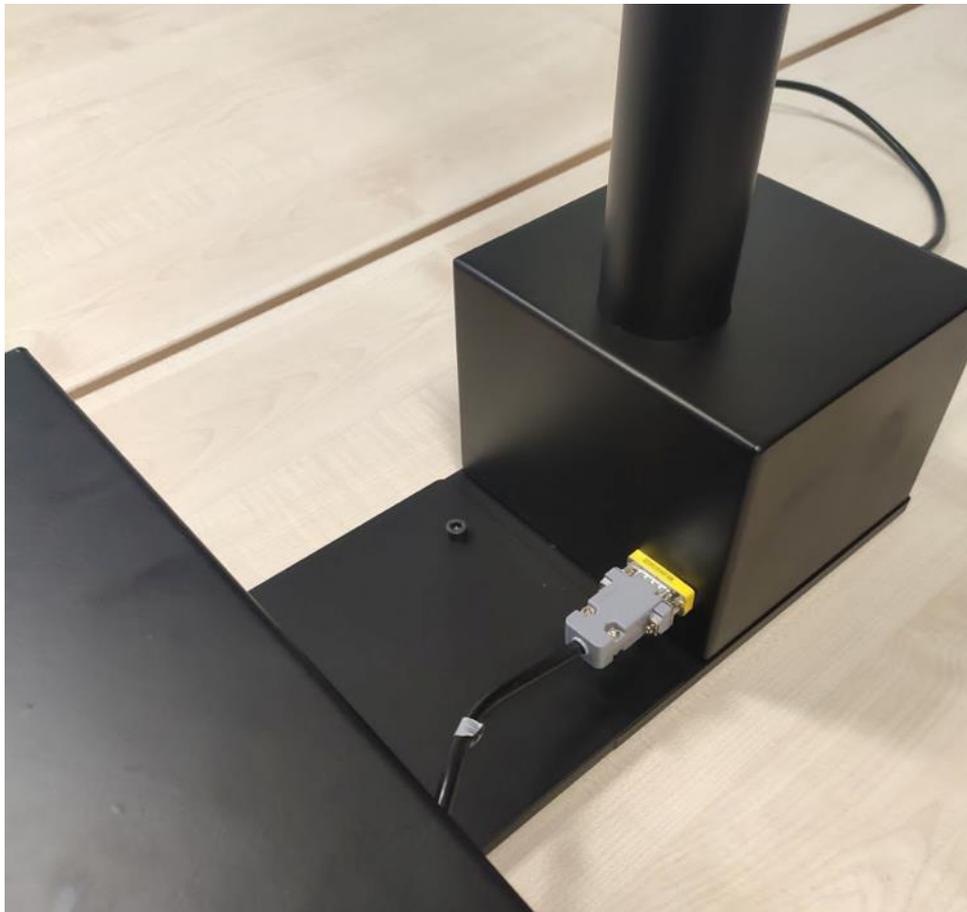

FIGURE 4: SCALE SERIAL CONNECTION

Connections on the dimensioner head are provided below:

Wireless antenna: Antenna is used to establish wireless communication with a wireless modem device/PC.

Power button: When pressed, the device is powered off gracefully. When pressed for 3 seconds, the device is forcefully powered off. There is no need to press the button to power on the system. When the power is provided, the device is powered on.

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.

Scale adapter must be plugged in and scale must be turned on to get weight data.

To connect the BeeVision dimensioner to a computer or a local network for data transfer, simply use an Ethernet cable or Wi-Fi. For further details, please refer to the Software Guide documentation.

⚠   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 with **Ctrl+Shift+M** combinations in 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

Field of View

The field of view of BeeVision is 64°x41° as illustrated in FIGURE 5. There should be at least a 45 cm distance between the object and the device for proper measurement operation.
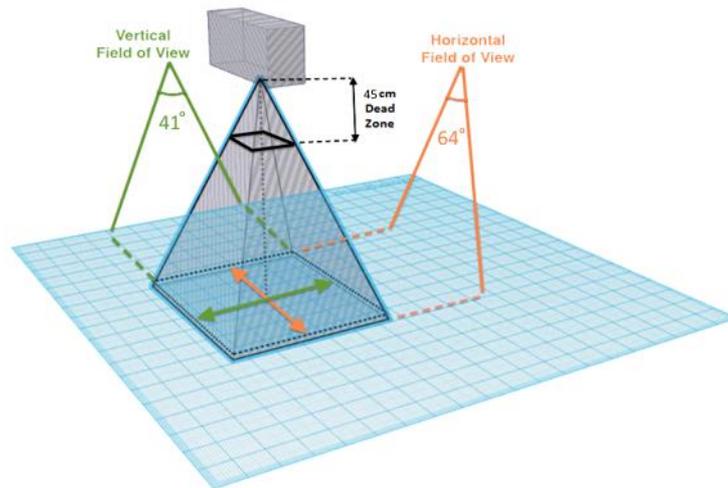

FIGURE 5: HORIZONTAL AND VERTICAL FIELD OF VIEW

The measurement area of the BeeVision 182 dimensioner is set in the Step-3 tab of the calibration page. The measurement area should be in the field of view of the device. Some parts of irregular objects may remain out of sight of the device as illustrated in FIGURE 6. Only the surfaces that are visible to the device are included in measurement calculations.
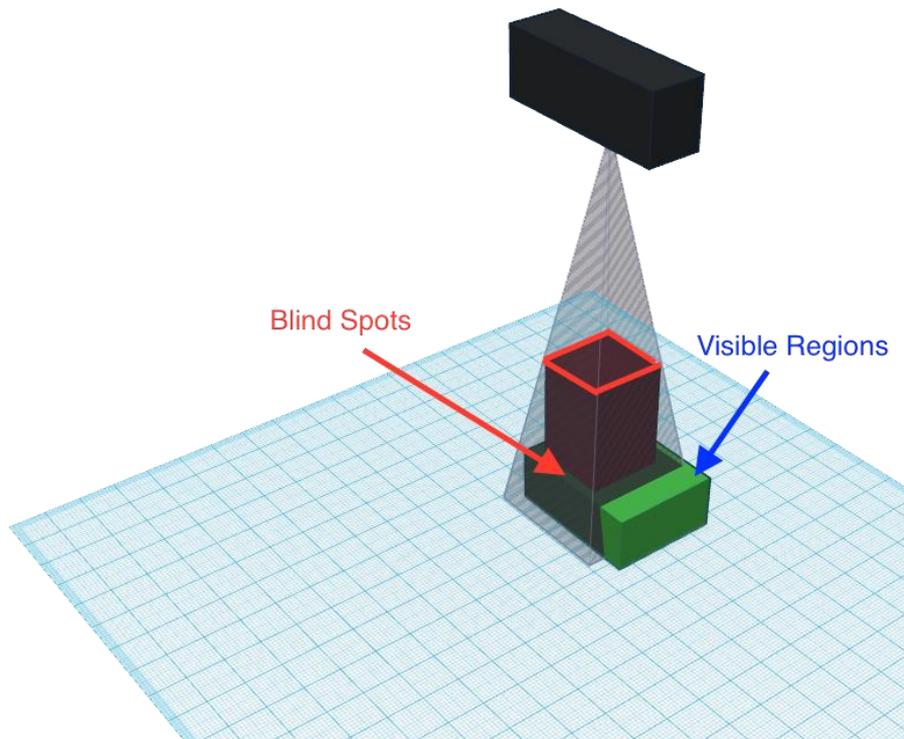
FIGURE 6: BLIND SPOT ILLUSTRATION

6   Communication Interfaces

Following communication interfaces are supported by BeeVision devices.

- **USB interface** for connection of barcode scanner, printer or similar

- **Serial interface** for connection of scale or data transfer to user computer. There is only one serial port on BeeVision 182.

- **Ethernet interface** for communicating over the internet or local network to a central server of user

<table>
<tr><td>**7**</td><td># Volumizer</td></tr>
</table>

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* .Google Chrome browser is officially supported.

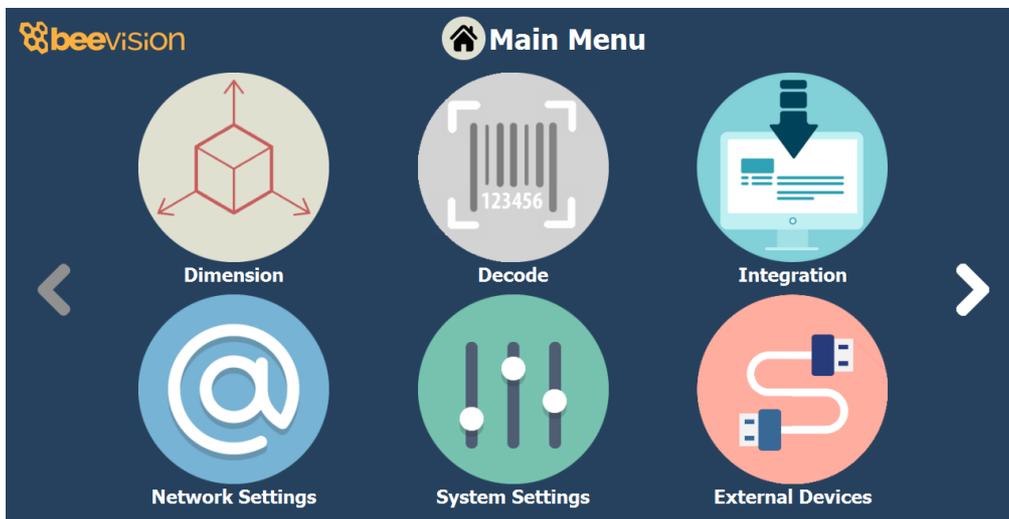Users can navigate to pages from the main menu as shown in FIGURE 7 and FIGURE 8.

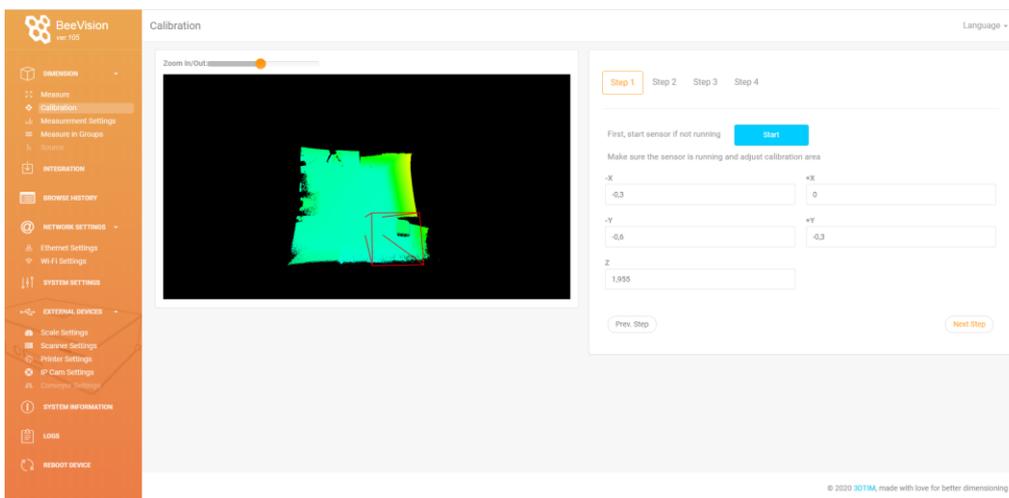

FIGURE 7: MAIN MENU OF VOLUMIZER GUI

FIGURE 8: VOLUMIZER WEBUI

Following pages are included in Volumizer GUI and WebUI:

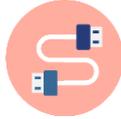|	
Dimension	Brings up dimensioning submenu
Measure	Trigger measurement and display results
Calibration	Perform calibration and view 3D, 2D and model data
Measurement Settings	Change measurement settings
Measurement in Groups	Perform measurements in groups and save results to a remote address as an XML file per group
Source	Merge 3D data with a slave, remote BeeVision device (Disabled in BeeVision 182)
Decode	Brings up 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 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 change log

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

BeeVision 182 static dimensioning system is delivered as pre-calibrated. If the distance between the dimensioner and the measurement surface is not altered, there is no need to recalibrate the device. The measurement area is by default adjusted to include the largest box that can be measured with the BeeVision 182. Users can freely decrease or increase the size of the measurement area in Step-3 on the Calibration page.

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 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 there is a limitation on the placement area based on the objects shape or size, user is asked to move the object to the designated area.

BeeVision dimensioners cannot measure transparent objects such as glass.

If the dimensions of the object are outside of the limits of devices range, an error message is displayed only when 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. The user needs to press the Measure button in GUI or WebUI to perform the measurement.

Barcode Scanner Triggering: The user needs 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.

Automatic Triggering: Automatic operation mode. Whenever a package is placed into the measurement area, its dimensions are 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 on the scale, measurement is automatically triggered after a certain time of delay.

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

For further information about API, network settings, integration settings, etc., please refer to the Software Manual.

9	Calibration

If the device is sealed for certification purposes, calibration can only be performed by authorized personnel.
If you need to re-calibrate the dimensioner in BeeVision 182, navigate to the Calibration page of UI or WebUI and follow the steps explained below.
You do not need to repeat the calibration process unless the dimensioners position relative to the measurement surface is changed.

Step 1: Crudely select the calibration area using (+) and (-) buttons. The selected area must on the measurement surface (scale). 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 in UI. Then, go to the next step.

Step 3: Define the measurement area finely using (+) and (-) buttons, press Save button 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.

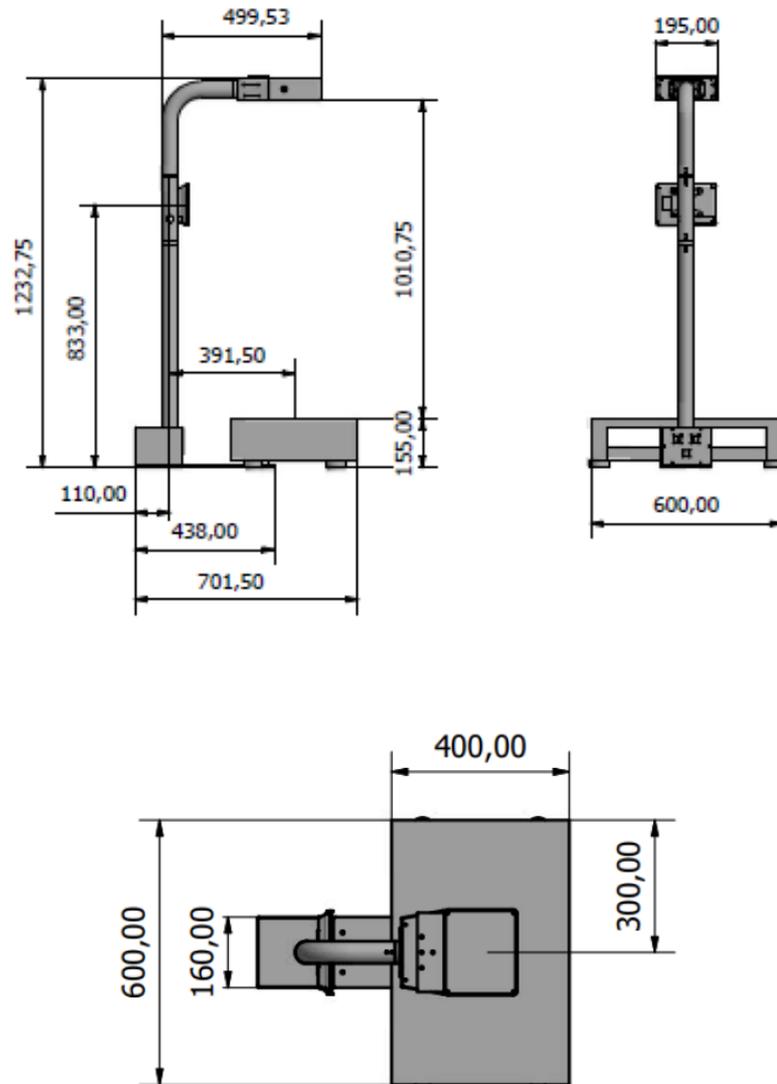After the calibration, you can go to the Measure page to start measuring.

10 Technical Drawings

BeeVision 182 Technical Drawings
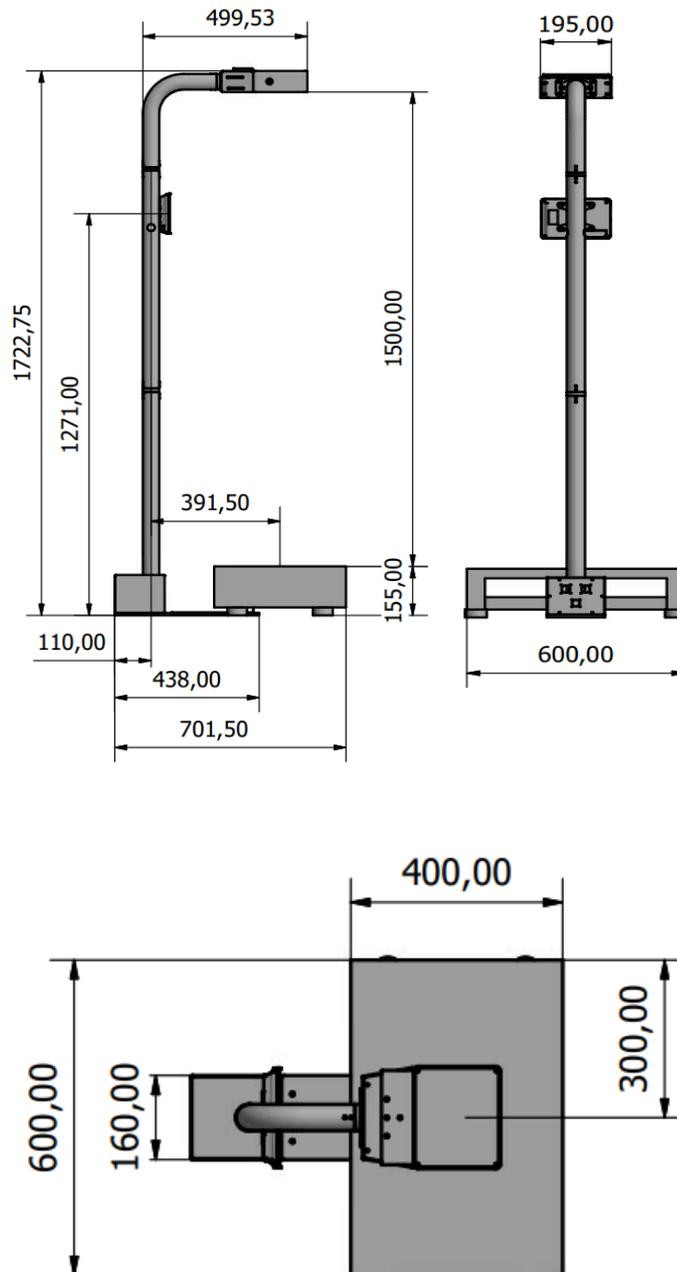
BeeVision 182S Technical Drawings

Notes