Weighfly Portable Aircraft Weighing Scale

User Manual

ESİT

WEIGHFLY Portable Aircraft Weighing Scale

User Manual

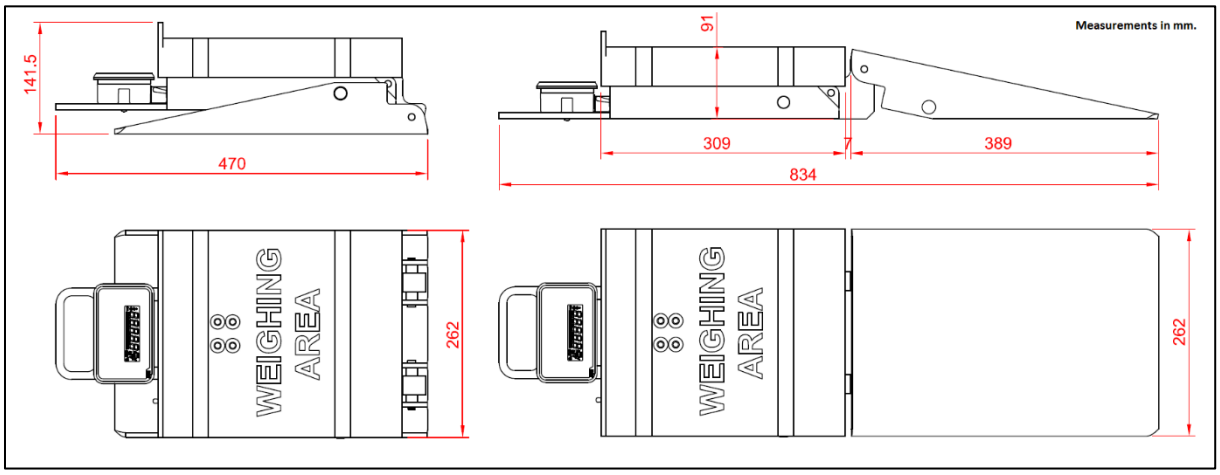
INDEX

1. Weighing Platforms

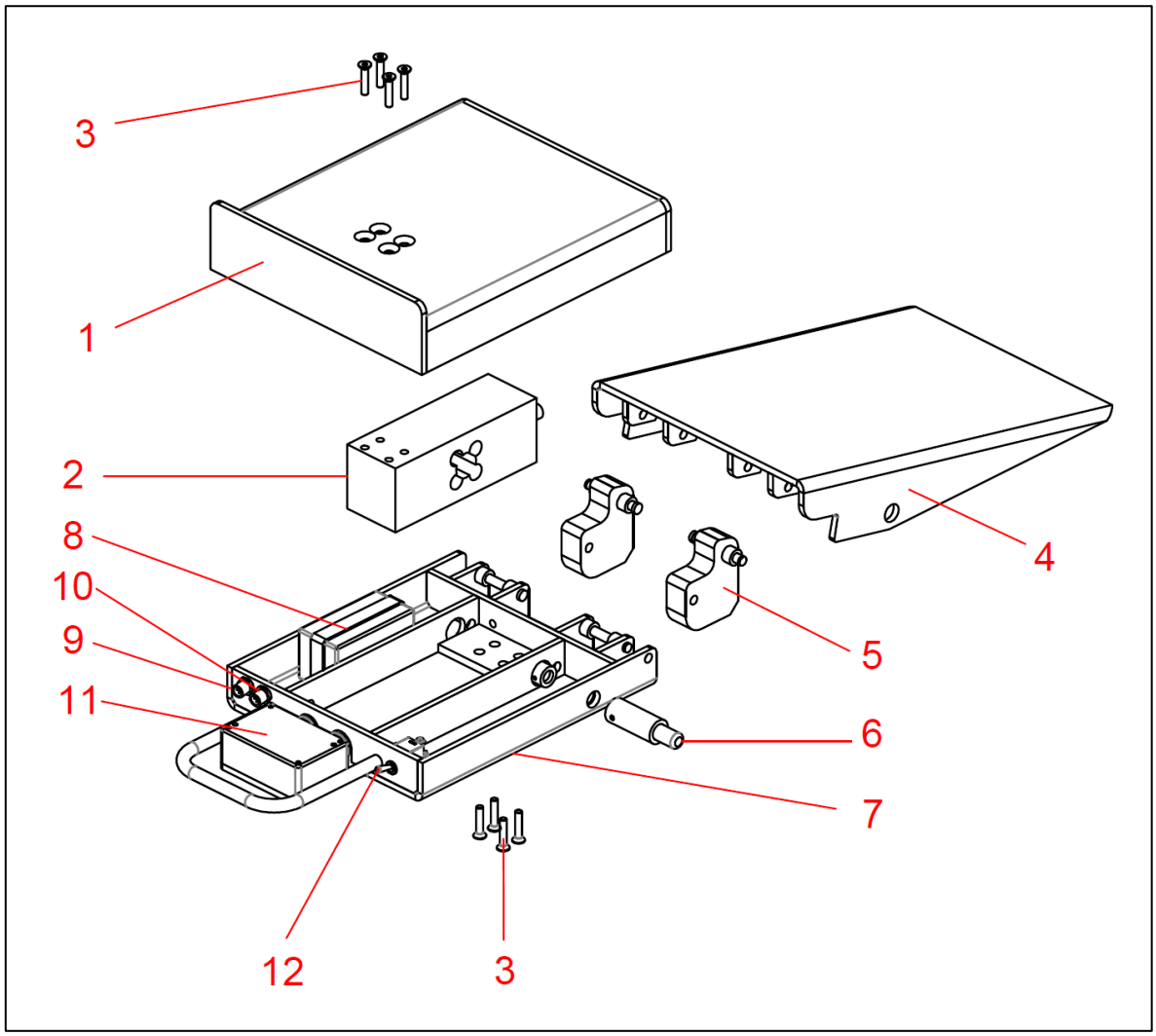
A. Technical Properties

Maximum Capacity:	600 kg
Indicator:	Smart2
Platform Material:	Aluminum
Platform Size:	310x265
Load cell Number:	1
Load cell Model:	SPA 600
Voltage Input:	12-14 VDC
Working Temperature:	-10 / +40 °C
Communication:	RS485 and Wi-Fi

B. Technical Drawing

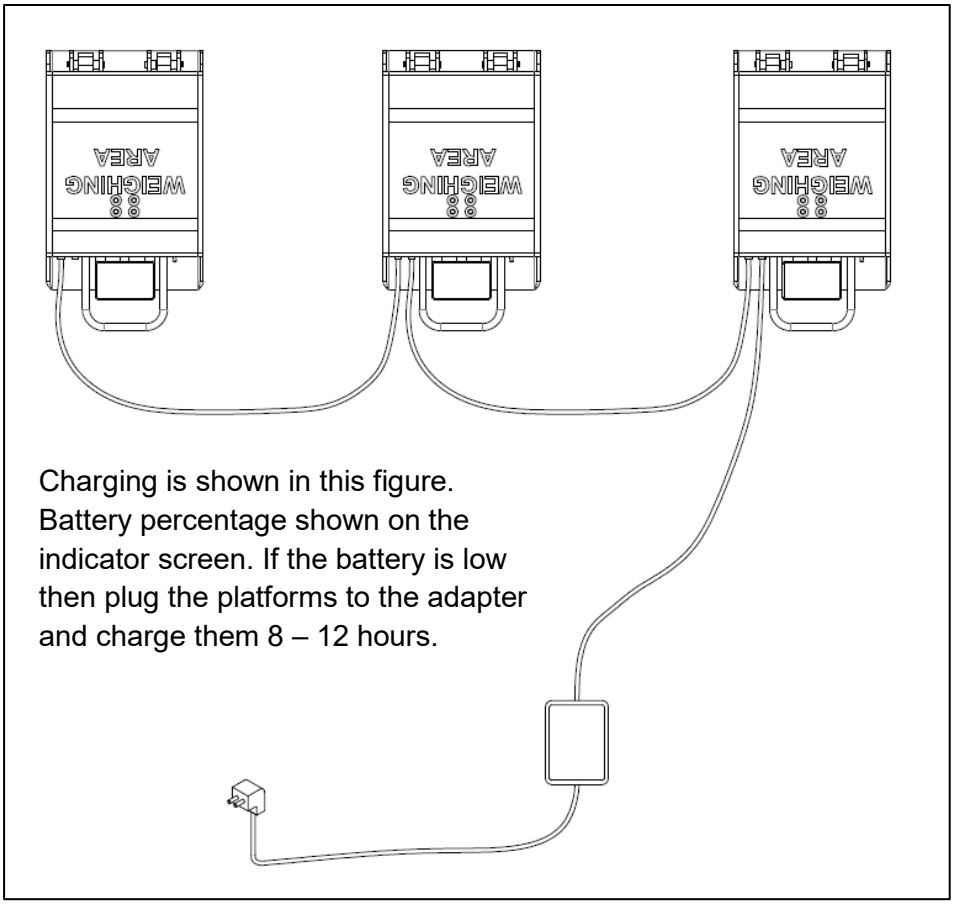


C. Exploded View

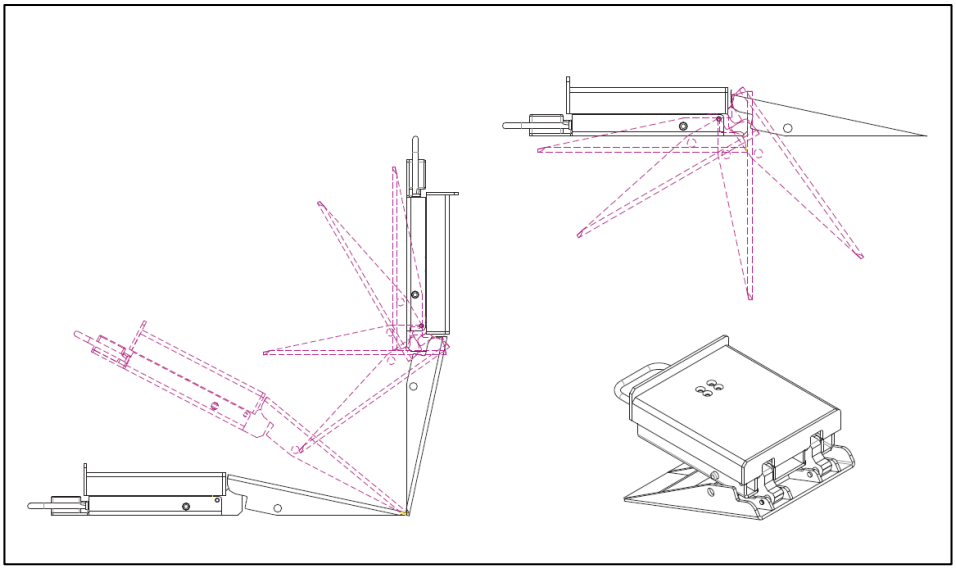


Item No	Quantity	Description
1	1	Upper Platform
2	1	SPA 600kg Load cell
3	8	M6x35 Hex Socket Head Bolt
4	1	Ramp
5	2	Ramp Hinge Parts
6	1	Ramp Lock Pin
7	1	Lower Platform
8	1	Battery
9	1	Charger/Communication Jack
10	1	Charger/Communication Jack
11	1	Smart2 Indicator
12	1	On/Off Button

D. Charging the Platforms



E. Folding the Platform



F. Indicator Keys

Switch on / off the device

Going one level up in the menu and resetting while in the weight display

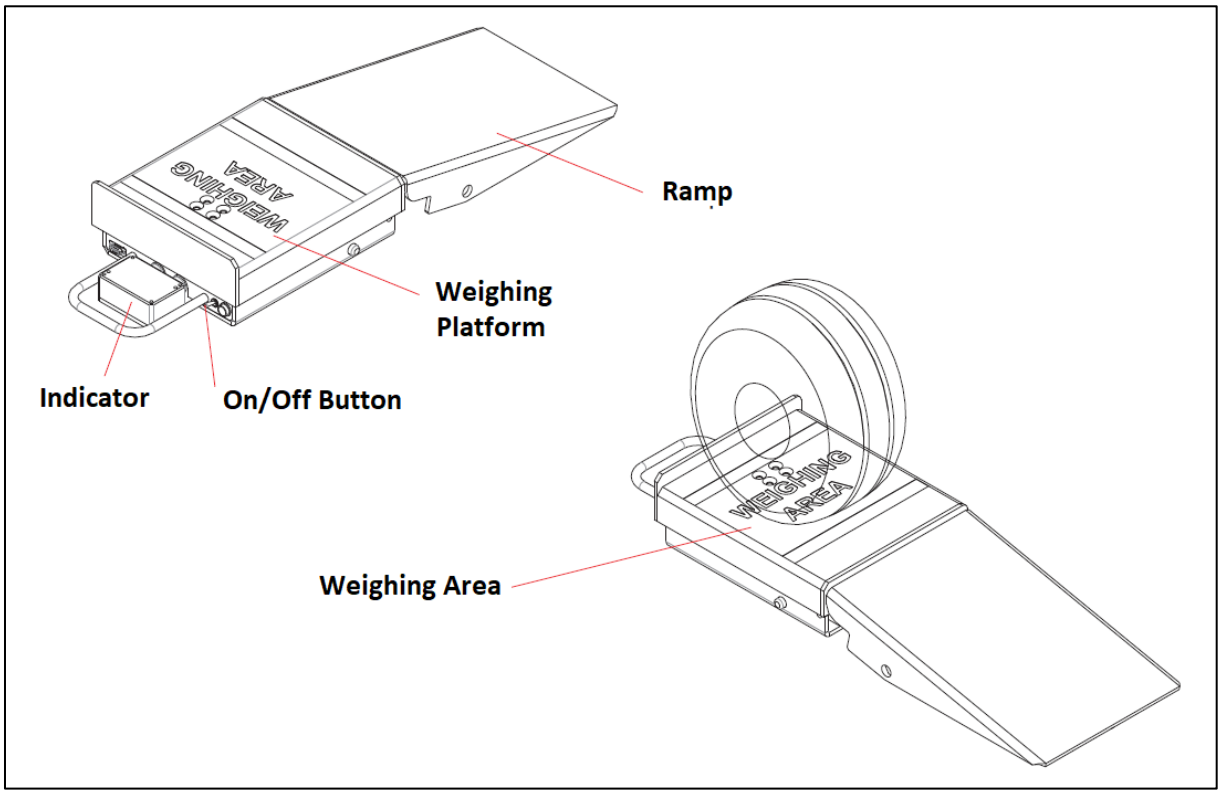
Access to menu

Menu selection, confirmation and taring while in the weight display

G. Weighing in the Platform

Before Start Weighing;

- Turn on the platforms.
- See 0 kg on the indicator, when platform is empty.
- If the reading is above 0 kg, click on the zeroing button on the indicator.
- Wait for the platforms readings to be shown on the software. If weight values don't show on the software after 30sn, please turn off and then turn on all the platforms again.
- Put the plane on the platforms and click the "Calculate Center of Gravity" button on the software.



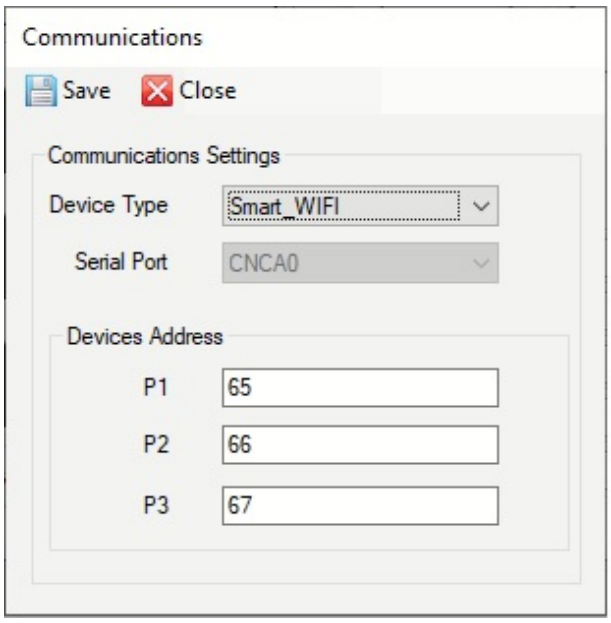
Note: Please check the software sections for using the software.

2. About Software

Esit Weighfly Software is a software package used to find the airplanes' Center of Gravity and report this information to operator. It is used with ESIT Weighing Platform, calculations are done according to the dimensions that is defined by the operator.

3. Communication Settings

Weighing Platform is connected to the software over Wifi or cable. Communication settings is under "Settings" menu. "Device Type" and "Device Addresses" are selected from menu. The addresses of the platforms can be seen from the indicator as shown in the Indicator Name Settings on the manual. The menu panel is shown below.



Communications Settings

Device Type : Communication protocol of the platforms are selected.

Serial Port : If the platforms are connected with cable, this menu is activated and related serial port should be selected.

Device Addresses

P1 : Address of the platform 1.

P2 : Address of the platform 2.

P3 : Address of the platform 3.

Platform addresses are changed from the indicator menu as shown below.

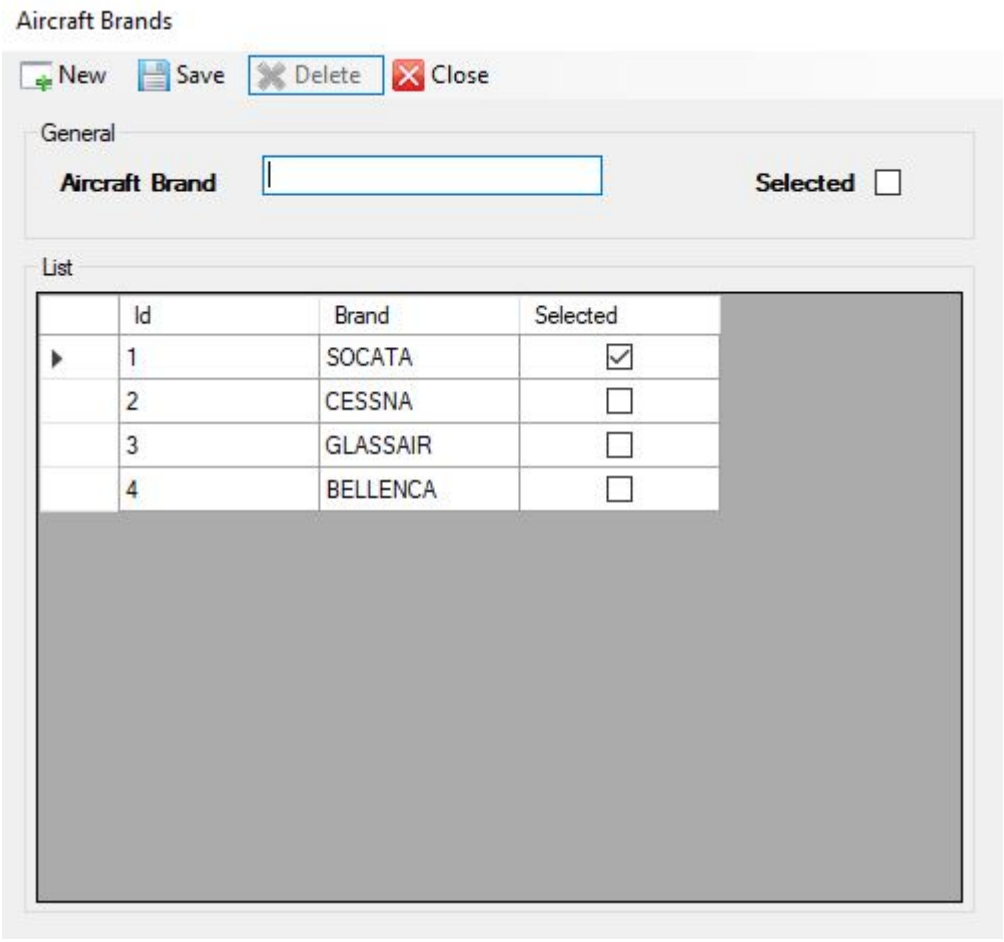
Save : Saves the settings.

Close : Closes the settings window.

4. Airplane Definition Settings

A. Airplane Brand

In this menu, airplane brands are added for further use.



New : To add a new airplane brand.

Save : Saves the newly created airplane brand. It is possible to change already added brand by double clicking, after that it should be saved by clicking save button.

Delete : Airplane brand is deleted. The brand is selected by double clicking and then “Delete” button is activated. When the brand is deleted, the models that are belong to that brand is also deleted.

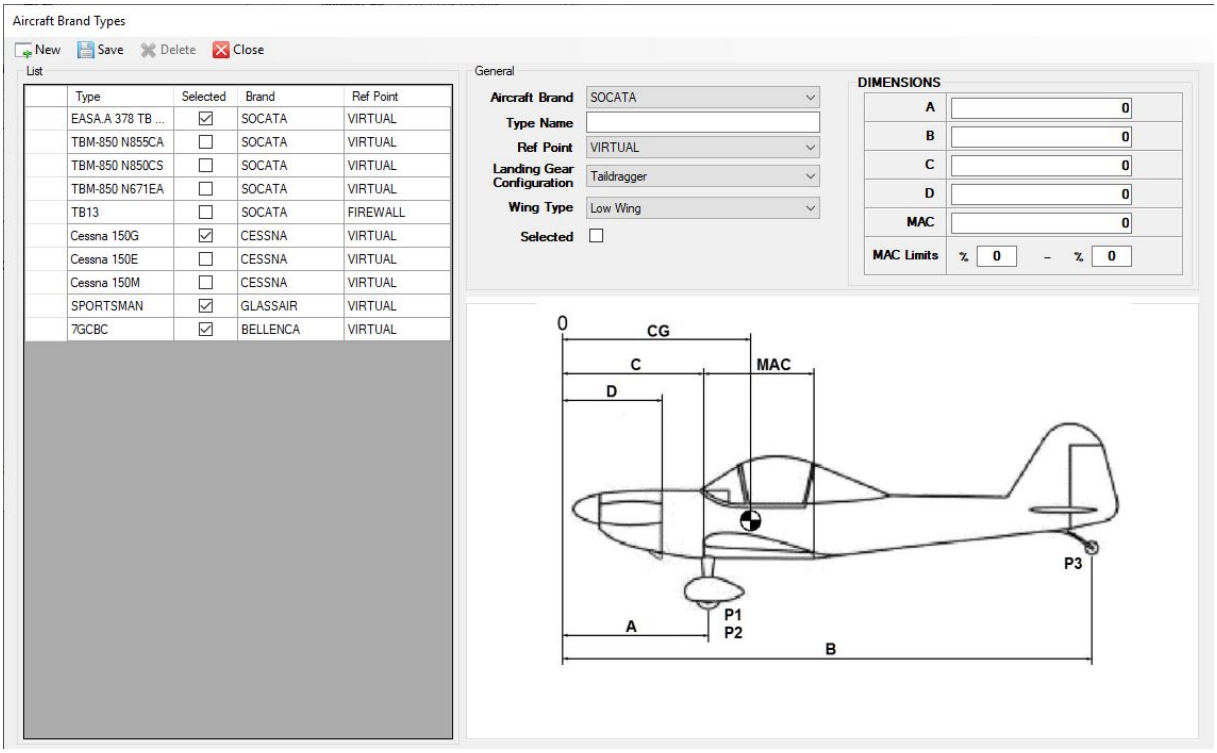
Close : Menu panel is closed by clicking “Close” button.

Aircraft Brand : Airplane brand name is written in this column.

Selected : It is used to define the default airplane brand.

B. Airplane Type

Airplane models are defined under this menu. Brands that are added from the previous menu are shown in here.



New : Clears the selections to add a new type.

Save : Saves the newly added type. Double clicked and edited type should also be saved.

Delete : Airplane type is deleted. The type is selected by double clicking and then “Delete” button is activated.

Close : Menu panel is closed by clicking “Close” button.

General

Aircraft Brand : Brands that are added from the previous menu.

Type Name : Airplane type is written here to be added on the list.

Ref Point : The reference point of the added airplane type.

Landing Gear Configuration : Landing gear configuration of the airplane type.

Wing Type : Wing configuration of the airplane type.

Landing gear configuration, reference point and wing type are used for deciding the C.G. equation and reference pictures. Reference pictures are refreshed when these selections are changed.

Dimensions

A,B,C,D are the dimensions that is shown in the figure. They all should be added. In some configurations D dimension is not needed so it is disabled.

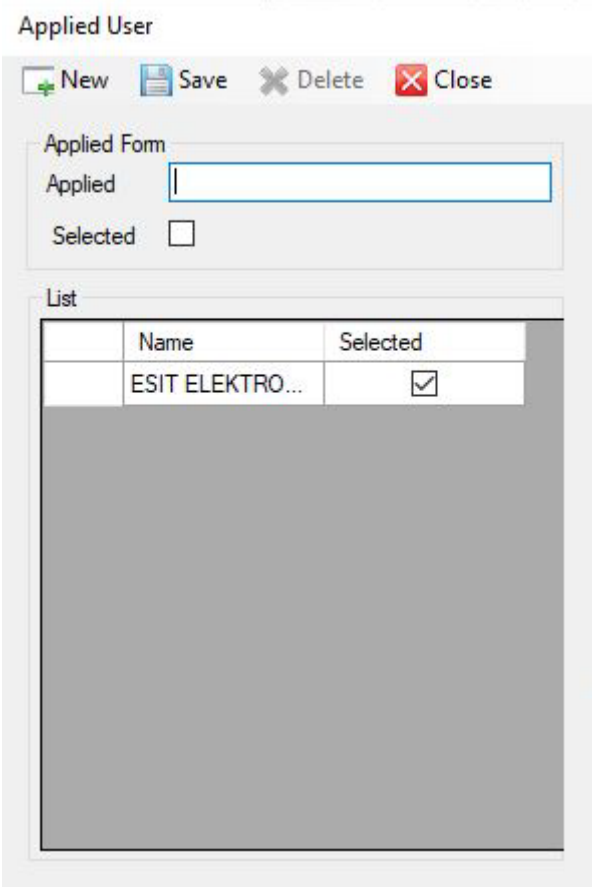
MAC : Mean Aerodynamic Chord is used to show the %C.G. Mac value. This calculated value should stay between MAC limits.

Mac Limits : MAC limits that is given by the airplane manufacturer.

Selected : It is used to mark the default type that will be shown when a brand is selected.

C. User Defining Screen

It is used to add and delete an operator.



New : Clears the values to add a new user.

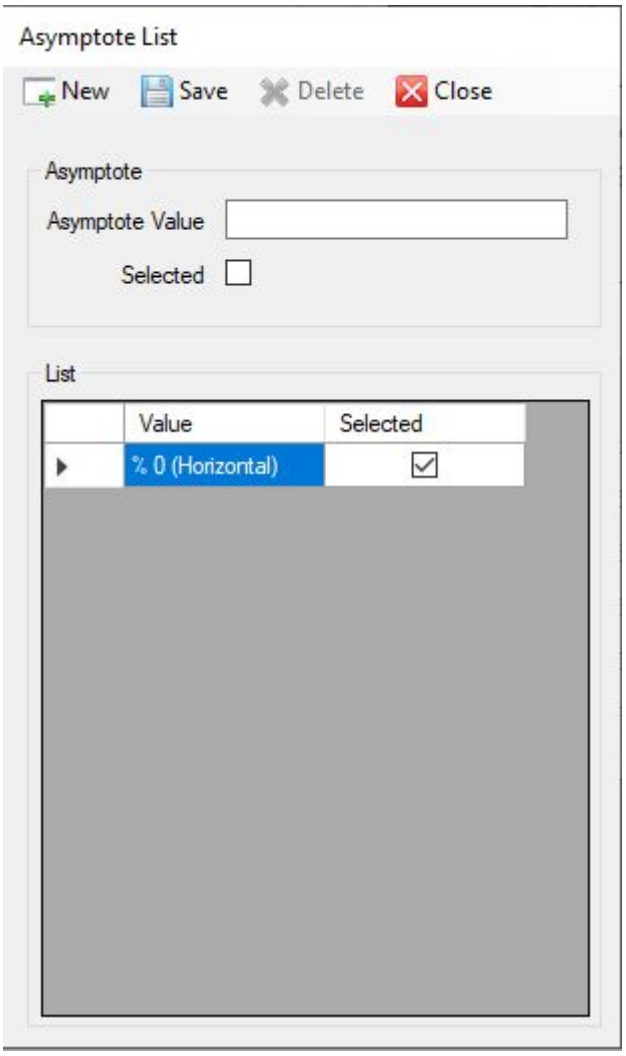
Save : Saves the newly created user.

Delete : Selected user is deleted. User is selected by double clicking.

Close : Menu panel is closed by clicking “Close” button.

D. Asymptote Defining

Asymptote is defined in this menu.



New : Clears the values to add a new Asymptote.

Save : Saves the newly added Asymptote.

Delete : Selected Asymptote is deleted. Asymptote is selected by double clicking.

Close : Menu panel is closed by clicking “Close” button.

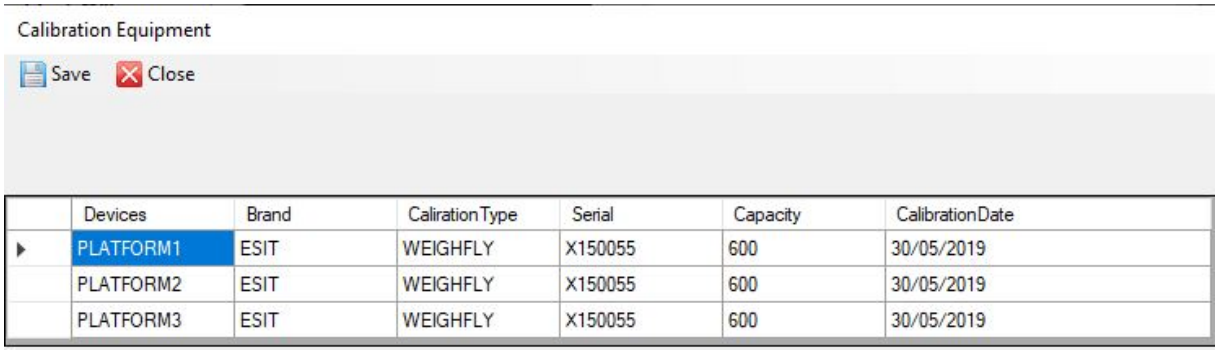
E. Weighing Platform Calibration Information

Weighing platforms calibrations information recorded in this menu. The platform that needs to be updated is selected by double clicking.

NOTE : You can only update the serial number, capacity and calibration date values.

Save : Saves the updated values.

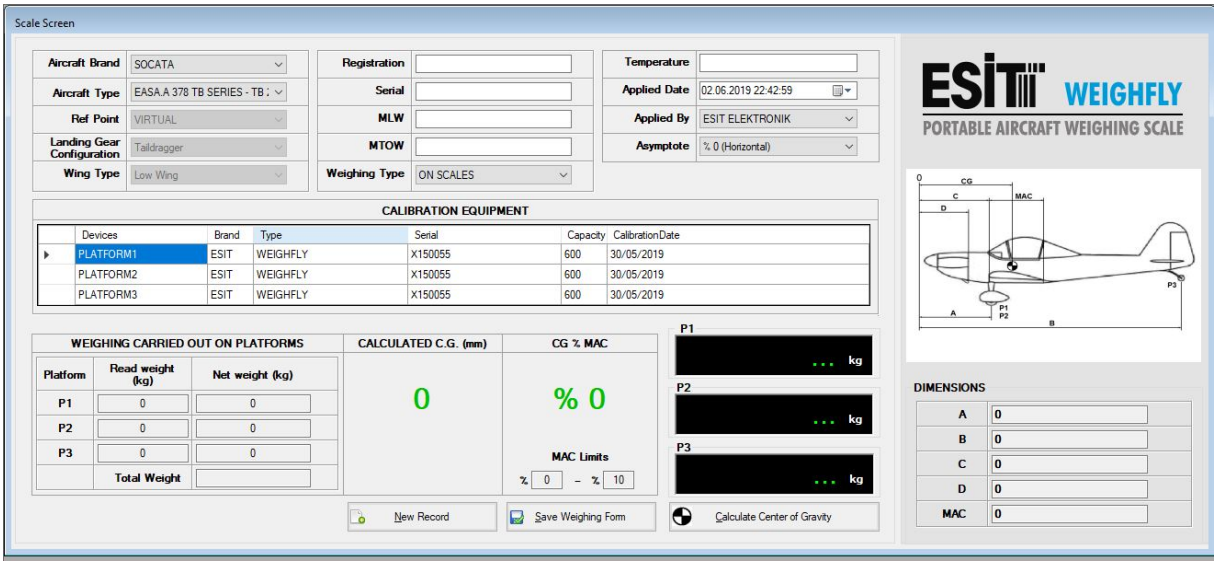
Close : Menu panel is closed by clicking “Close” button.



	Devices	Brand	CalirationType	Serial	Capacity	CalibrationDate
▶	PLATFORM1	ESIT	WEIGHFLY	X150055	600	30/05/2019
	PLATFORM2	ESIT	WEIGHFLY	X150055	600	30/05/2019
	PLATFORM3	ESIT	WEIGHFLY	X150055	600	30/05/2019

5. Software Main Window

The program is control by the main window.



Previously added airplane brand and type is selected. Airplanes Registration Number, Serial Number, MLW, MTOW and temperature values are entered to the defined boxes. Picture and dimensions called from the database and are shown on the right side of the window. P1, P2 and P3 values shown on the screen when the platforms are activated.

When “Calculate Center of gravity” button is pressed, C.G. and CG % MAC values are calculated according to the weighing values that is shown on the screen. “Save Weighing Form” button is clicked to save the form. To start a new form, “New Record” button is clicked.

NOTE1 : P1,P2 and P3 values should be numeric values. If “ … “ is seen on the screen, then there is a communication error between the platforms. Addresses of the platforms should be checked.

NOTE2 : To be able to save the weighing form, Microsoft Excel is required.

6. Indicator Settings

Indicators on the platforms are configured and these settings are configured at factory. One of the platform is configured as Access Point (AP) and the other 2 platforms are configured to connect to the first device that is set as AP. Following settings are required when a platform is changed or more than one set is using at the same location. If more than 1 set of platforms are used at the same location, then addresses of the one set should be changed for preventing conflicts.

Wi-Fi Status Setting

With this menu you can turn the device WiFi feature on or off.
The wifi module must be plugged in to the device in order to be active.
The communication distance is 40 meters. When changing a Wifi setting, first change the status to ‘OFF’ and make the changes before turning the Wifi on again.

(1) Press MENU key until you reach the 'WiFi settings' menu

(2) Press the ENTER key to confirm the menu

(3) The first option is the 'WIFI Status' menu.

(4) Press the ENTER key to confirm the menu

(5) Press MENU key until reaching 'ON' for activating and 'OFF' for deactivating the WIFI. When 'ON' is selected, the display will show "Wait" message for 1-2 sec.

(6) Press the ENTER key to save the WIFI status setting.

(7) Press the ESC key to go back to the measurement screen.

WIFI MODE SETTING

With this menu, you can change WiFi mode of the device as Access Point or Station. One of the devices in the same environment must be in the Access Point, and the others must be in Station mode. Since the station devices will be connected to the access point device, first the settings of the access point device must be made and WiFi feature must be turned on. Device that will be connected to the AP device will be set by the android app.

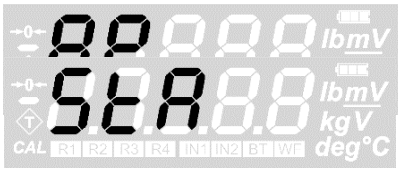
(1) Press MENU key until you reach the 'WiFi settings' menu

(2) Press the ENTER key to confirm the menu

(3) Press MENU key until you reach the 'WIFI mode' menu

(4) Press the ENTER key to confirm the menu

(5) Press MENU key until 'AP' is displayed for the Access Point mode and 'STA' for the Station mode. The "wait" appears on the display when either mode is selected.



(6) Press the ENTER key to save the WIFI mode setting.

(7) Press the ESC key to go back to the measurement screen.

WIFI Access Point ID SETTING

This menu is active only when device mode is AP.
With this menu, you can change the WIFI Access Point ID of the device. WIFI AP ID must be one of ASCII equivalents of 0-9, a-z, A-Z characters.

(1) Press MENU key until you reach the 'WiFi settings' menu

(2) Press the ENTER key to confirm the menu

(3) Press MENU key until you reach the 'Change WIFI AP ID' menu

(4) Press the ENTER key to confirm the menu

(5) The last recorded WIFI AP ID will be displayed on the screen and the hundreds digit blinks at the same time

0
65 = hex41= "A"

NOTE: **WIFI AP ID can be assigned between 0 and 255 and can be selected only between 0-9, a-z and A-Z character range**

(6) Numeric value of the blinking digit can be increased with ESC key. The place value can be changes with MENU key.

(7) Press the ENTER key to save the WIFI AP ID.

(8) Press the ESC key to go back to the measurement screen.

WIFI Name SETTING

With this menu you can change WiFi Name of the device. Each device on the same network should be given a different name since the WiFi name will appear as a device name in the application. WIFI Name must be one of ASCII equivalents of 0-9, a-z, A-Z characters.

(1) Press MENU key until you reach the 'WiFi settings' menu

(2) Press the ENTER key to confirm the menu

(3) Press MENU key until you reach the 'Change WIFI Name' menu

(4) Press the ENTER key to confirm the menu

(5) The last recorded WIFI Name will be displayed on the screen and the hundreds digit blinks at the same time

0
65 = hex41= "A"

NOTE: **WIFI Name can be assigned between 0 and 255 and can be selected only between 0-9, a-z and A-Z character range**

(6) Numeric value of the blinking digit can be increased with ESC key. The place value can be changes with MENU key.

(7) Press the ENTER key to save the WiFi name.

(8) Press the ESC key to go back to the measurement screen.

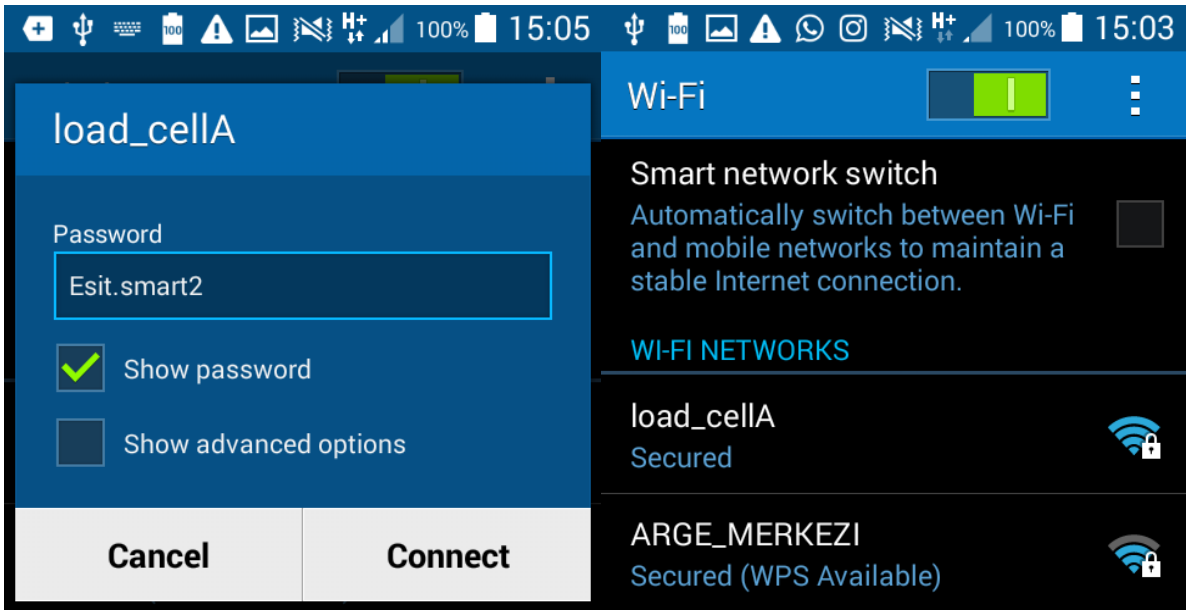
ANDROID APPLICATION SETTINGS

Settings that can be made via Smart can also be done via the android application. Device settings can be made via following application is wireless connection Bluetooth/WiFi is used.

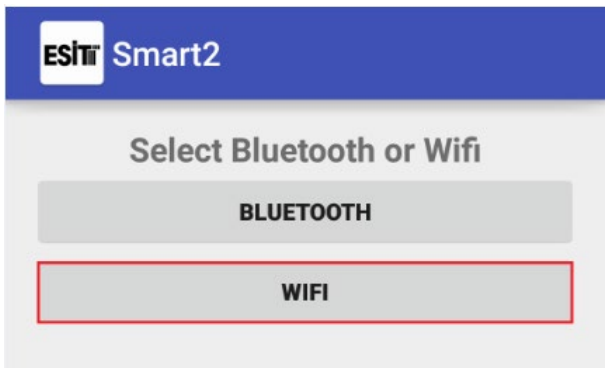
CONNECTION WITH WIFI MODULE

First, open the Smart's WiFi by following the "WIFI STATUS SETTING" section. Make sure that "WIFI MODE SETTING" is "AP" (see "WIFI TYPE SETTING" section for this).

Scan your WIFI networks from your Android phone and connect to the "load_cellx" network by typing "Esit.smart2" to password field. Name of the SSID is previously set from the WIFI Access Point ID SETTING menu. 065 is the ASCII code for “A”. Prefix “load_cell” is fixed and the label is set by user.

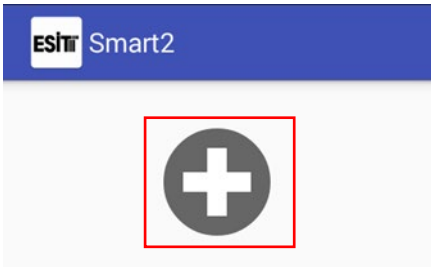


Once connected, open the "Smart2" android application and click the "WIFI" button.

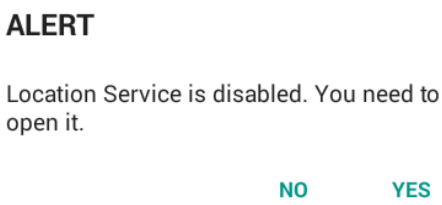


”ALERT You are already connected to loadcellA. Do you want to use that loadcell” , “No” , “Yes” appears on the screen. Please perform operation step 4 when proceeded with “Yes” and step 1 when proceeded with “No”

1-Click on the "+" shown in the figure

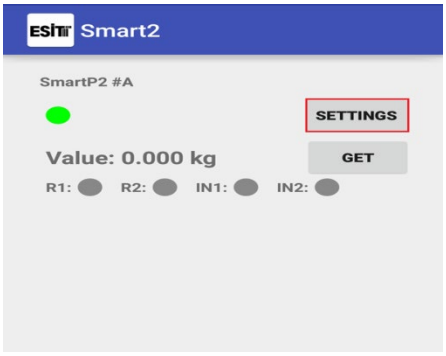


2-The location service must be turned on after proceed with "Yes" to message displayed.



3-Select the smart you want to connect to in the opened page.

4-You can see the instant weight information on the smart screen by clicking on the "GET" button on the pop-up screen. By clicking on the "SETTINGS" button, you can make the settings you need.



Communication Settings

Make the desired communication settings and press "SAVE" button.

Wifi Connection Setting

If Wifi connection modules are used and it is intended to read weight data from many smart devices through one AP Smart device, the following procedure should be followed for each smart device that is set to STA mode.
NOTE: This setting only applies to smart devices with the WIFI module installed. Not suitable for use with BLUETOOTH devices. Before setting the devices, close all of the others.

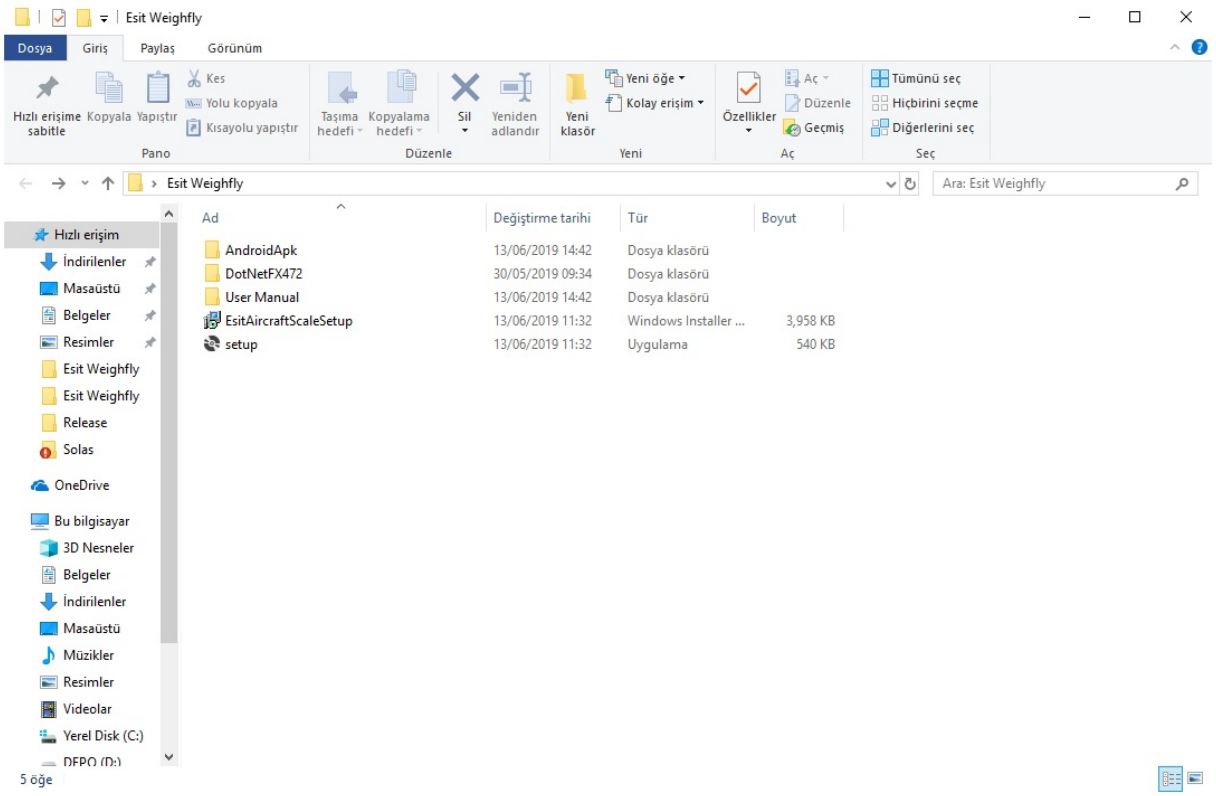
(1) First make sure that the "Wifi Mode Setting" of the smart is AP.

(2) Click the "WIFI" button in the WiFi settings section of the Android application.

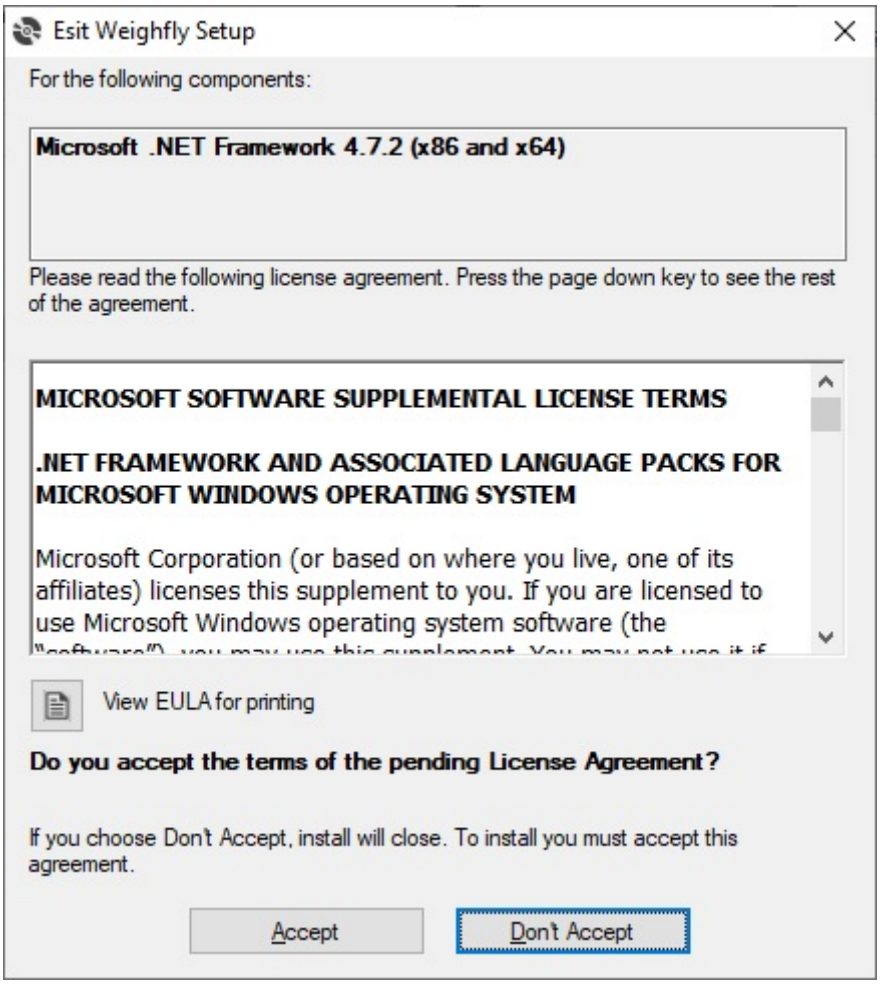
(3) Write the "SSID" and "Pass" in the figure to SSID and password fields of the network from which you would like to get weight data and click "SAVE" button. SSID name is the AP Device's "WIFI Access Point ID SETTING" that we set previously. If we set that to 65 then the SSID will be "load_cellA".
Password is "Esit.smart2" for AP devices,it is fixed and can not be changed.

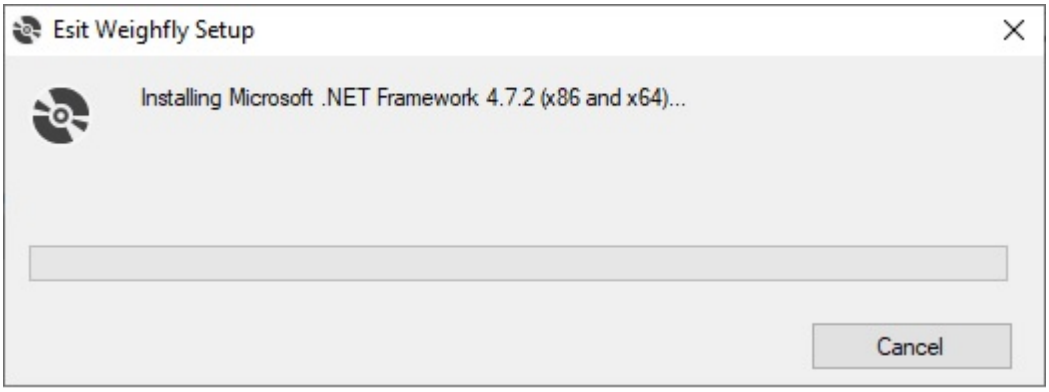
(4) Start the AP device first and wait for device to start. Check that the Wifi is active.
(5) Change Smart "wifi mode setting" to "STA".
(6) When the "WAIT" message disappears from the Smart screen, connection to the AP device is done.
(7) If you cannot connect to AP device, an error ERR.09 will be displayed on the smart screen. In this case check the necessary connections and repeat the procedure.
(8) When the Smart is taken to "STA" mode, the "IP" submenu will appear under the WIFI menu. You can check your smart's IP address from this section.

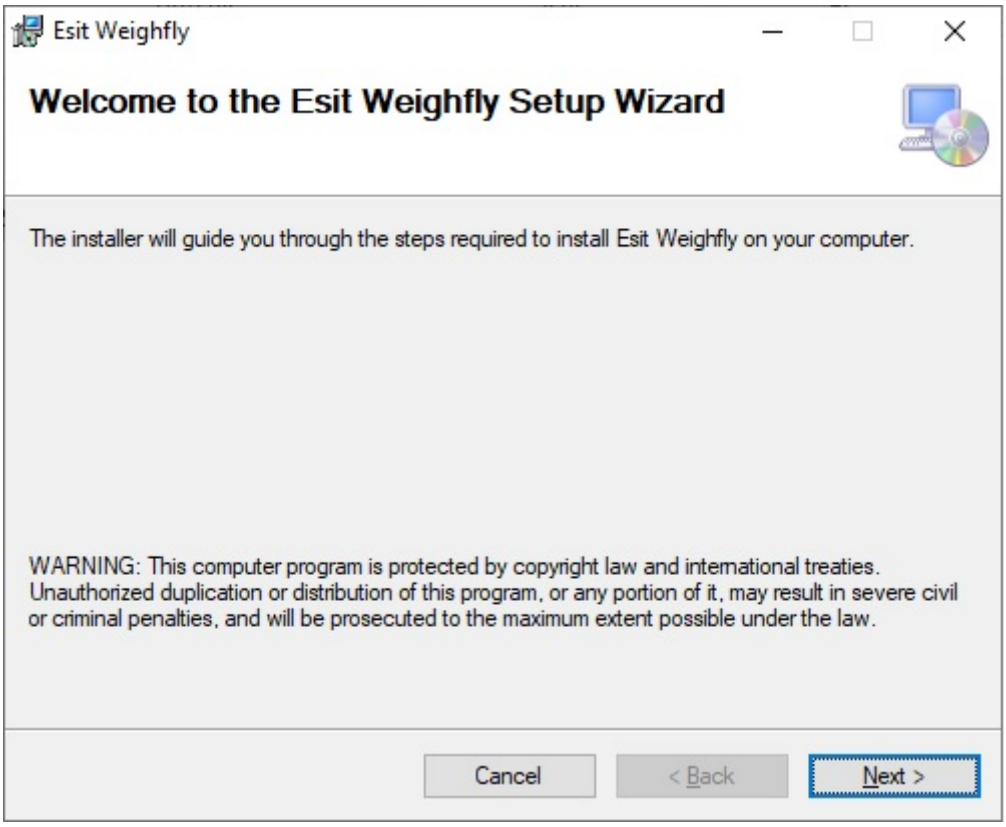
7. Installing the Software

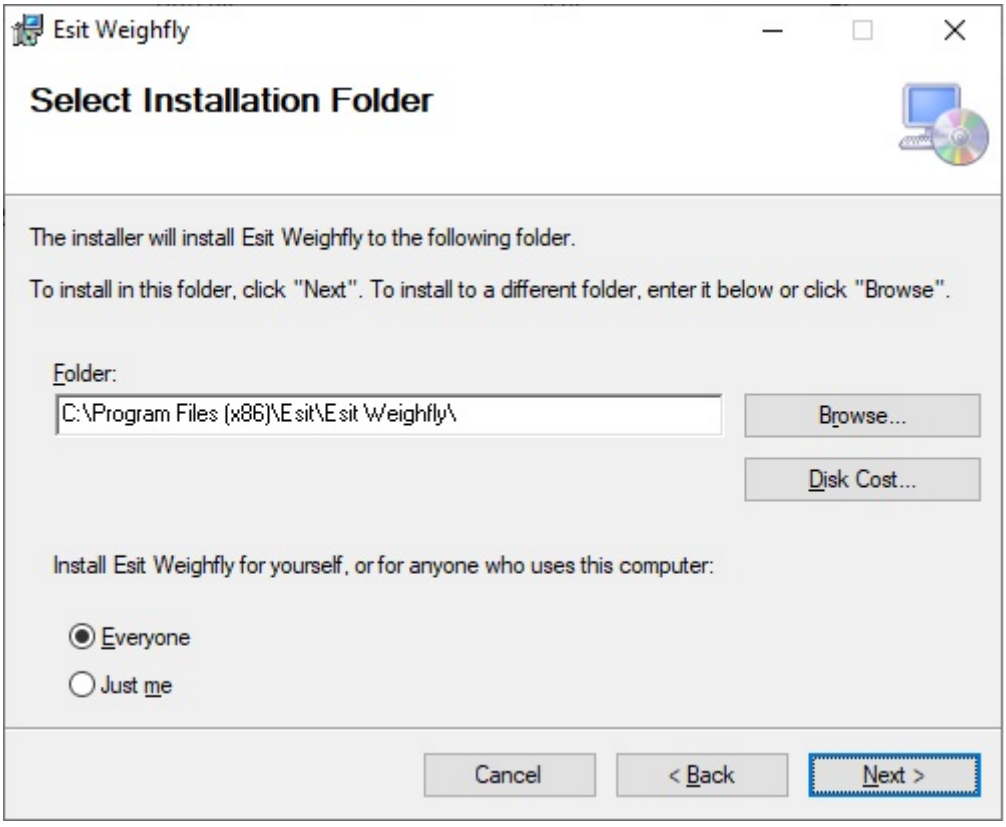


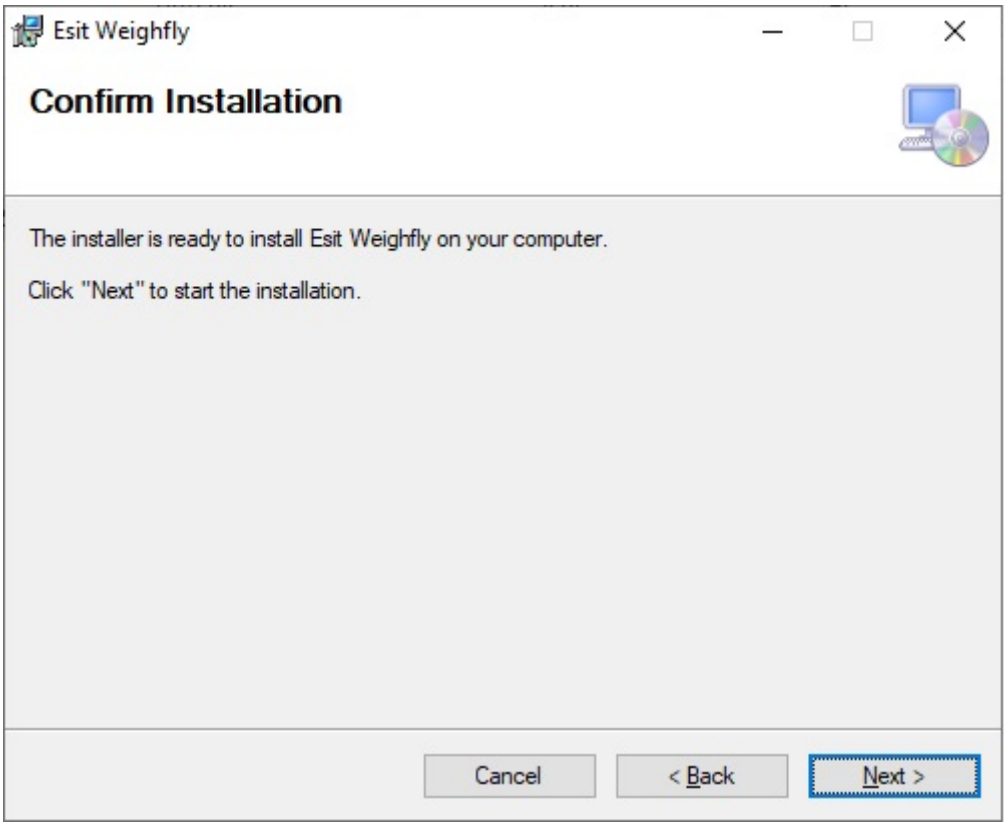
If you have not installed Net Framework version 4.7.2 on your computer before, you should run setup. If it is available, run EsitAircraftScaleSetup and go to page 25.

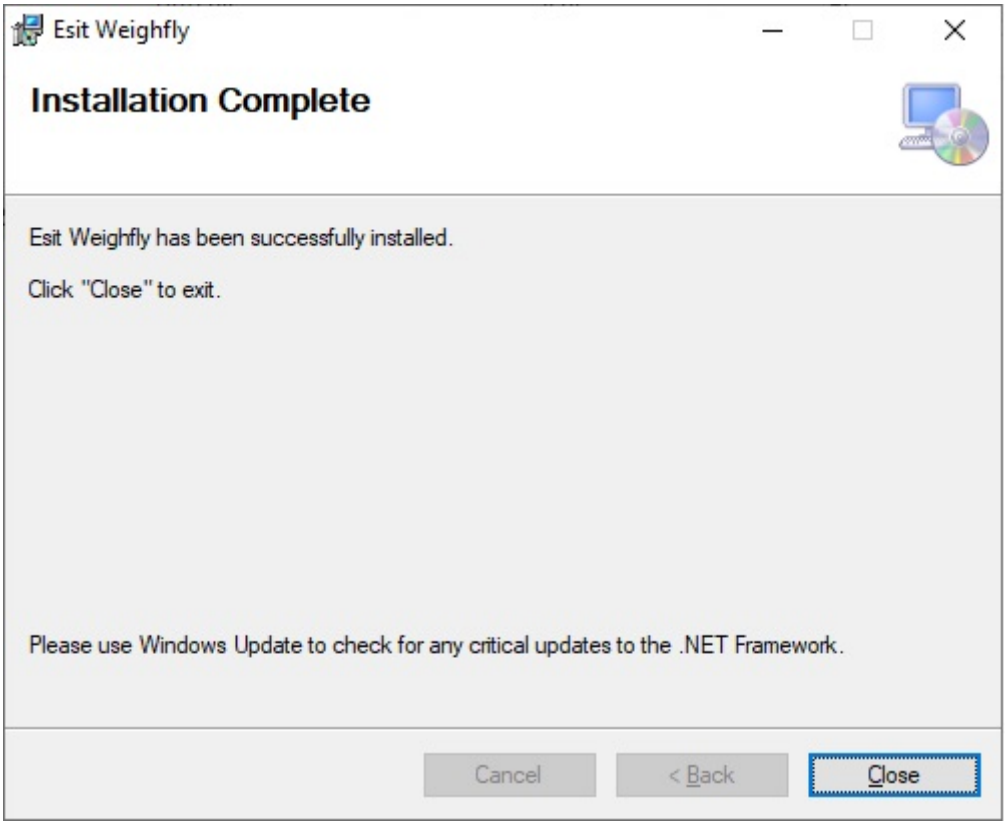

Esit Weighfly Setup
For the following components:
Microsoft .NET Framework 4.7.2 (x86 and x64)
Please read the following license agreement. Press the page down key to see the rest of the agreement.
MICROSOFT SOFTWARE SUPPLEMENTAL LICENSE TERMS
.NET FRAMEWORK AND ASSOCIATED LANGUAGE PACKS FOR MICROSOFT WINDOWS OPERATING SYSTEM
Microsoft Corporation (or based on where you live, one of its affiliates) licenses this supplement to you. If you are licensed to use Microsoft Windows operating system software (the
View EULA for printing
Do you accept the terms of the pending License Agreement?
If you choose Don't Accept, install will close. To install you must accept this agreement.
Accept
Don't Accept


Esit Weighfly Setup
Installing Microsoft .NET Framework 4.7.2 (x86 and x64)...
Cancel

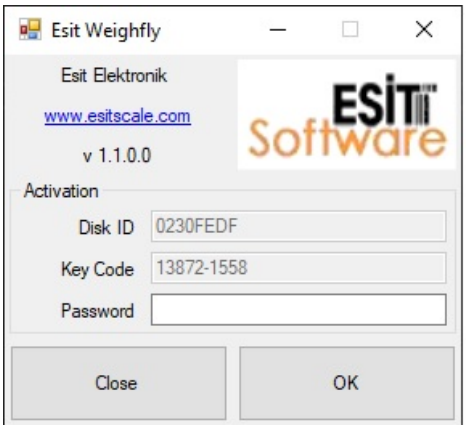

Esit Weighfly
Welcome to the Esit Weighfly Setup Wizard
The installer will guide you through the steps required to install Esit Weighfly on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >


Esit Weighfly
Select Installation Folder
The installer will install Esit Weighfly to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Folder:
C:\Program Files (x86)\Esit\Esit Weighfly\
Browse...
Disk Cost...
Install Esit Weighfly for yourself, or for anyone who uses this computer:
Everyone
Just me
Cancel
< Back
Next >


Esit Weighfly
Confirm Installation
The installer is ready to install Esit Weighfly on your computer.
Click "Next" to start the installation.
Cancel
< Back
Next >


Esit Weighfly
Installation Complete
Esit Weighfly has been successfully installed.
Click "Close" to exit.
Please use Windows Update to check for any critical updates to the .NET Framework.
Cancel
< Back
Close

8. Licensing



At the first run, licensing window will open and requires a password for the installed PC. You should call ESIT and take your license password. If you close the licensing windows, the next time you open the program, the key code will be changed and the password you take from ESIT will not work so you should take the password and enter it before closing this licensing window. License will be specific to the PC so if you want to install the program to another PC, you will need a new license.

A Nisantepe Mh. Gelin Cicegi Sk. No:36 Cekmekoy 34794 İstanbul T (216) 585 1818 F (216) 585 1819 W www.esit.com.tr