

Essae Scale DLL

Ver 1.00

Software Interface:

The software DLL defines a standardized interface function using VB.net to interact with Essae-scale.

Developing Environment:

Operating System : Windows 7 32 bit Professional

Framework : Dot Net framework 3.5

IDE : Visual Studio 2010

Scale Version : DS Series (20.37,10.16,20.18), SI Series(31.11,70.01)

Ports : RS-232, Ethernet, Wi-fi.

Essae Scale Configuration:

RS-232 Port Settings:

Communication ->RS232

Data Bits & Parity: 8 Data Bits & NO Parity

Baud Rate (Stop bit =1): 9600

Data Transfer Mode : Command

Scale->Tare-> One Touch Tare from PC on Stable (T/t): Yes

Mapping Logical Device-> Weight Data ->RS232 #1

Menu->scale->Miscellaneous->minimum weight->No limit

Communication -> Weight Data->

Weight Output : All Weights

Transfer Mode : Command

Weight Data Length : Fixed Length

One Touch Tare : Yes

Weight Unit : Yes

Ethernet Port Settings:

Data Transfer Mode : Command

Scale->Tare-> One Touch Tare from PC on Stable (T/t): Yes

Mapping Logical Device-> Weight Data 1#->Ethernet

Menu->scale->Miscellaneous->minimum weight->No limit

Hardware Configuration->Ethernet-> yes

Communication -> Ethernet ->

Connection Type : Server

Communication -> Weight Data->

Weight Output : All Weights

Transfer Mode : Command

Weight Data Length : Fixed Length

One Touch Tare : Yes

Weight Unit : Yes

Supported Environment:

Operating System	Windows 7 32 bit Professional, Windows 7 64 bit Professional.	Windows 10 32 bit Professional, Windows 10 64 bit Professional.
Framework Environment.	Minimum : Dot Net framework 3.5 or Dot Net framework 4.0	

Functions:

- ❖ Scale Status,
- ❖ Re-Zero weight,
- ❖ Tare weight,
- ❖ Get Weight.

Basic weighing commands:

<u>Command</u>	<u>Short description</u>
1. SA_Scale_Status()	Get info about connected scales
2. SA_Scale_Rezero()	Sets scale to zero
3. SA_Scale_Tare()	Tares the scale
4. SA_Scale_GetWeight()	Get a single weight value
5. SA_Input_Variable_Assign()	Sending input parameter

SA_Scale_Status

To check scale is connected or not.

Syntax : SA_Scale_Status(Parameter1, Parameter2, Parameter3, Parameter4, out OutData)

Where as :

- ✓ Parameter1- it will accept **string** datatype, string values "**COM**" or "**NET**" these are connection type
- ✓ Parameter2- it will accept **string** datatype, if Connection type as COM then comport No. has to specify. Otherwise "NULL".
- ✓ Parameter3- it will accept **string** datatype, if Connection type as NET then specify Essae scale IP address. Other wise "NULL".
- ✓ Parameter4- it will accept **string** datatype, if Connection type as NET then specify Essae scale Port No. Other wise "NULL".

Values : OutData will contain two values.

0=>false => Not connected.

1=>True=> Connected.

ex:

Connection type:RS232 (Comport)

```
EssaeDLL.SA_Scale_Status("COM", txtComPortNo.Text, null, null, out status);  
lblComGetStatus.Text = status.ToString();
```

Connection Type: Ethernet (IPAddress)

```
EssaeDLL.SA_Scale_Status("Net", null, txtIPAddress.Text, txtPortNo.Text, out status);  
lblNetStatus.Text = status.ToString();
```

SA_Scale_Rezero .(Special Version)

Sets the Gross-, Net-, Tare- or all weights value of the actual scale to 0.

Syntax: SA_Scale_Rezero(Parameter1, Parameter2, Parameter3, Parameter4)

Where as :

- ✓ Parameter1- it will accept **string** datatype, string values "**COM**" or "**NET**" these are connection type
- ✓ Parameter2- it will accept **string** datatype, if Connection type as COM then comport No. has to specify. Otherwise "NULL".
- ✓ Parameter3- it will accept **string** datatype, if Connection type as NET then specify Essae scale IP address. Other wise "NULL".
- ✓ Parameter4- it will accept **string** datatype, if Connection type as NET then specify Essae scale Port No. Other wise "NULL".

ex:

Connection type:RS232 (Comport)

```
EssaeDLL.SA_Scale_Rezero("COM", txtComPortNo.Text, null, null);
```

Connection Type: Ethernet (IPAddress)

```
EssaeDLL.SA_Scale_Rezero("Net", null, txtIPAddress.Text, txtPortNo.Text);
```

SA_Scale_Tare

Tare with actual weight or with a user-specified value. Option: erase the actual tare value.

Syntax: SA_Scale_Tare(Parameter1, Parameter2, Parameter3, Parameter4)

Where as :

- ✓ Parameter1- it will accept **string** datatype, string values "**COM**" or "**NET**" these are connection type
- ✓ Parameter2- it will accept **string** datatype, if Connection type as COM then comport No. has to specify. Otherwise "NULL".
- ✓ Parameter3- it will accept **string** datatype, if Connection type as NET then specify Essae scale IP address. Other wise "NULL".

- ✓ Parameter4- it will accept **string** datatype, if Connection type as NET then specify Essae scale Port No. Other wise "NULL".

ex:

Connection type:RS232 (Comport)

```
EssaeDLL.SA_Scale_Tare("COM", txtComPortNo.Text, null, null);
```

Connection Type: Ethernet (IPAddress)

```
EssaeDLL.SA_Scale_Tare("Net", null, txtIPAddress.Text, txtPortNo.Text);
```

SA_Scale_GetWeight

The weight value is the actual value at the moment when the command has been called, and this command return string value.

Syntax : SA_Scale_GetWeight(Parameter1, Parameter2, Parameter3, Parameter4)

Where as :

- ✓ Parameter1- it will accept **string** datatype, string values "**COM**" or "**NET**" these are connection type
- ✓ Parameter2- it will accept **string** datatype, if Connection type as COM then comport No. has to specify. Otherwise "NULL".
- ✓ Parameter3- it will accept **string** datatype, if Connection type as NET then specify Essae scale IP address. Other wise "NULL".
- ✓ Parameter4- it will accept **string** datatype, if Connection type as NET then specify Essae scale Port No. Other wise "NULL".

Return : string

Values : Success Result -> All Weight

Fail Result -> 0 or NULL

ex:

Connection type:RS232 (Comport)

```
string Weight=EssaeDLL.SA_Scale_GetWeight("COM", txtComPortNo.Text, null, null);
```

Connection Type: Ethernet (IPAddress)

```
string Weight=EssaeDLL.SA_Scale_GetWeight("Net", null, txtIPAddress.Text, txtPortNo.Text);
```

SA_Input_Variable_Assign (only on COM connection)

Gets input from users. It's contains 5 parameter (BaudRate, DataBits,Parity, StopBits, Handshake). This parameter vales based on essae scale comport settings. If connection type "NET" then no need to assign it.

Syntax: SA_Input_Variable_Assign(Parameter1, Parameter2, Parameter3, Parameter4, Parameter5)

Where as :

- ✓ Parameter1- it will accept **string** datatype, string values refer to BaudRate.
- ✓ Parameter2- it will accept **string** datatype string values refer to DataBits.
- ✓ Parameter3- it will accept **string** datatype string values refer to Parity.
- ✓ Parameter4- it will accept **string** datatype, string values refer to StopBits.
- ✓ Parameter5- it will accept **string** datatype, string values refer to Handshake.

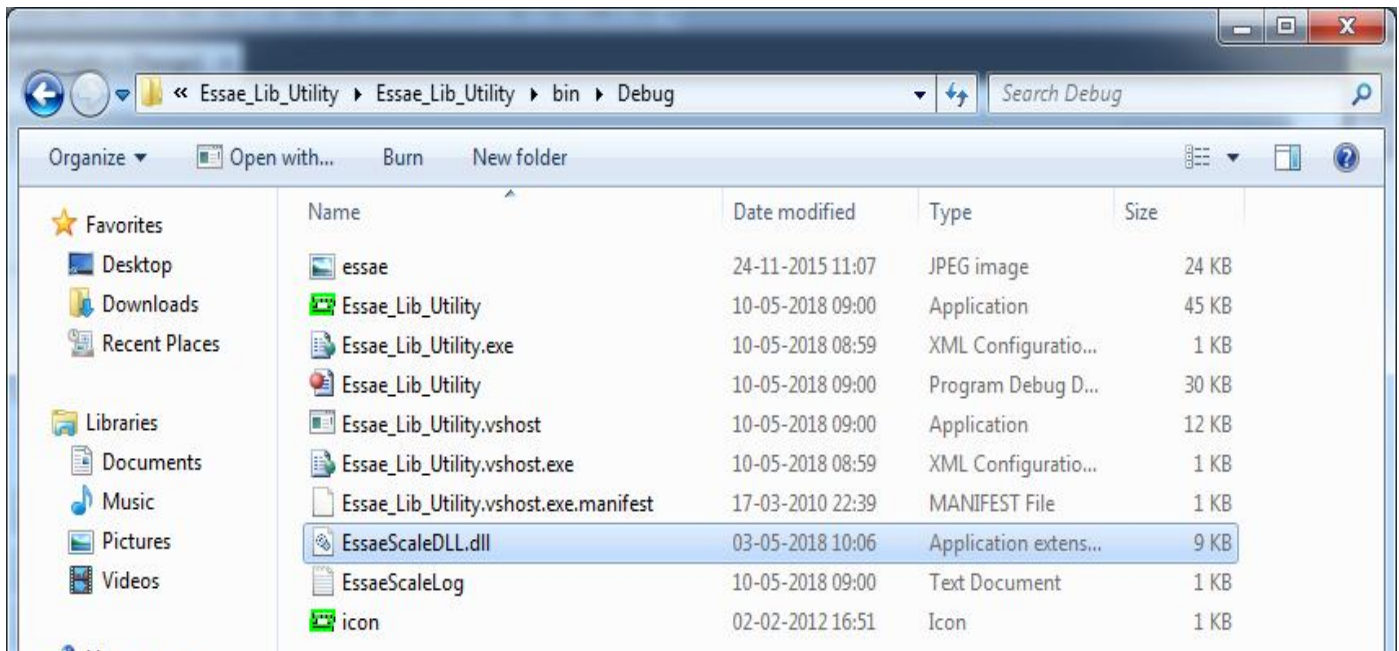
ex:

Connection type:RS232 (Comport)

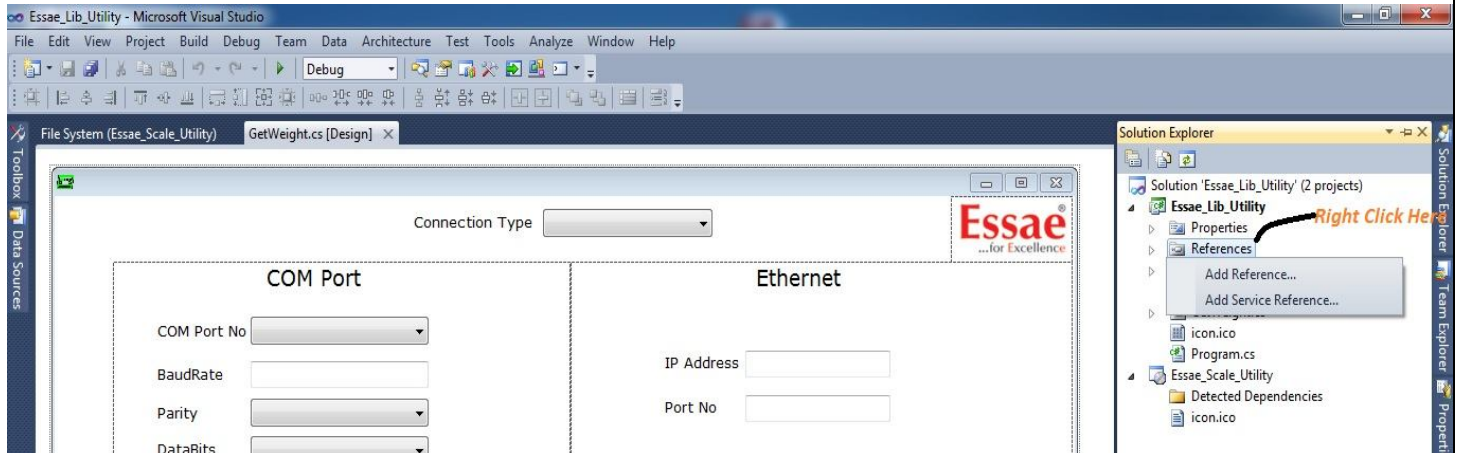
EssaeDLL. SA_Input_Variable_Assign(BaudRate, DataBits, Parity, StopBits, Handshake)

HOW TO INTEGRATE LIBRARY FILE IN TO PROJECT

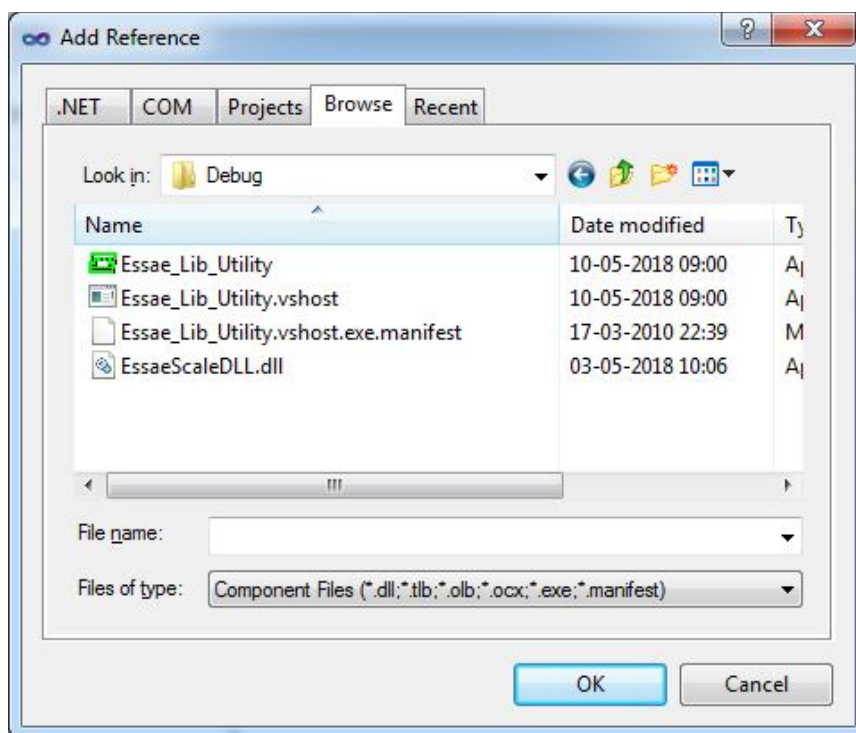
Step 1: Copy and then paste DLL file in project Debug folder as following figure. (Project Name Folder->bin->Debug)



Step 2: Go to menu **Project->Add Reference** then select **Reference** then window will appear or Right click on **References** and then select **Add Reference...** as following figure.



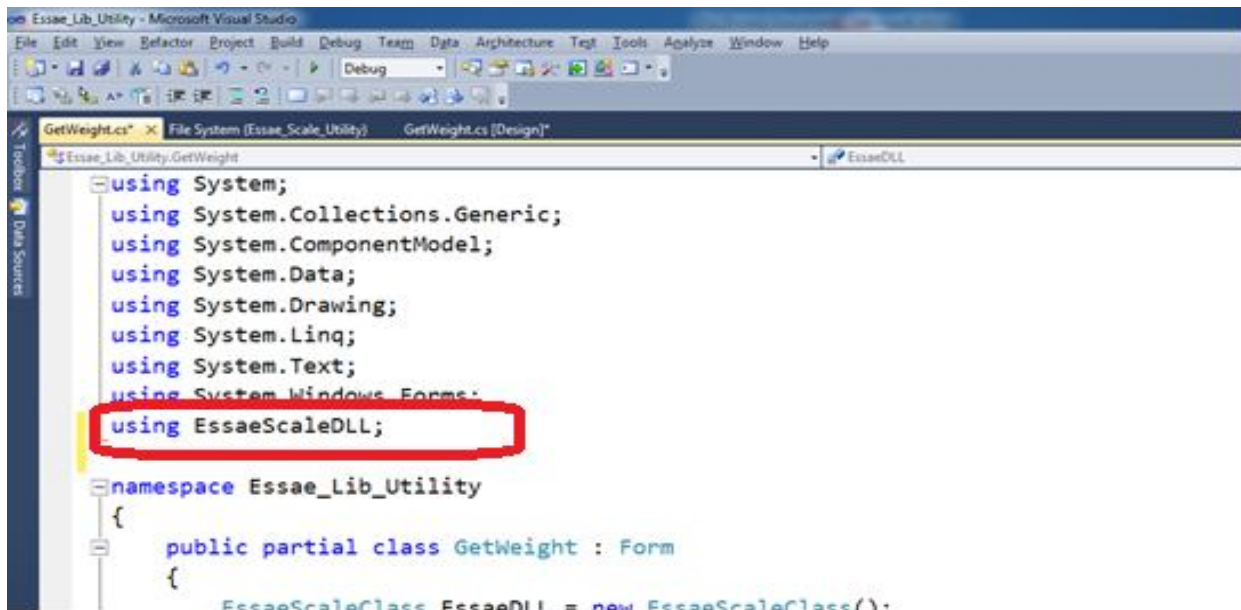
Step 3: After selecting **Add reference** following window will appear.



Step 4: Select **Browse** tab and go to project debug folder (i.e. DLL copied, local folder location) select **EssaeScaleDLL.dll** and click **ok** button. Finally DLL successfully added into the project.

HOW TO LINK LIBRARY FILE IN TO PROJECT

Step 1: Go to source code page and add new namespace “using EssaeScaleDLL” as following figure.

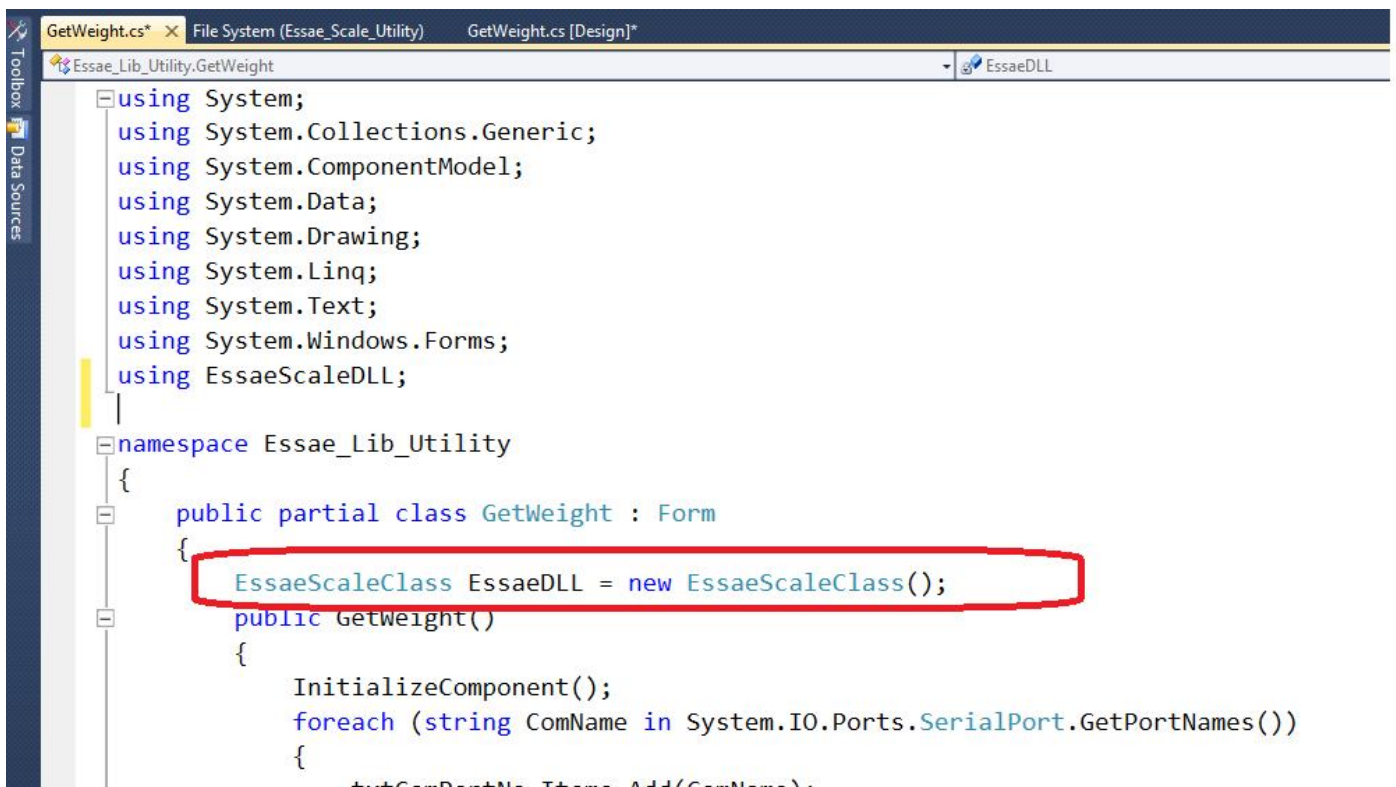


```

Essae_Lib_Utility - Microsoft Visual Studio
File Edit View Refactor Project Build Debug Team Data Architecture Test Tools Analyze Window Help
Debug
GetWeight.cs x File System (Essae_Scale_Utility) GetWeight.cs [Design]*
Essae_Lib_Utility.GetWeight EssaeDLL
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using EssaeScaleDLL;
namespace Essae_Lib_Utility
{
    public partial class GetWeight : Form
    {
        EssaeScaleClass EssaeDLL = new EssaeScaleClass();
    }
}

```

Step 2: After adding name space, add **EssaeScaleClass** in to current project class scope. As following figure.



```

GetWeight.cs x File System (Essae_Scale_Utility) GetWeight.cs [Design]*
Essae_Lib_Utility.GetWeight EssaeDLL
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using EssaeScaleDLL;
namespace Essae_Lib_Utility
{
    public partial class GetWeight : Form
    {
        EssaeScaleClass EssaeDLL = new EssaeScaleClass();
        public GetWeight()
        {
            InitializeComponent();
            foreach (string ComName in System.IO.Ports.SerialPort.GetPortNames())
            {
                txtComPortNo.Items.Add(ComName);
            }
        }
    }
}

```

Sample Utility Screen:

Using Comport (RS-232):

The screenshot shows a software window titled "Sample Utility Screen" with a blue header bar. The window contains the following elements:

- Connection Type:** A dropdown menu set to "COM".
- COM Port:** A section header above several configuration fields:
 - COM Port No:** A dropdown menu set to "COM3".
 - BaudRate:** A text input field containing "9600".
 - Parity:** A dropdown menu set to "None".
 - DataBits:** A dropdown menu set to "8".
 - StopBits:** A dropdown menu set to "1".
 - Handshake:** A dropdown menu set to "None".
- Control Buttons:** A vertical stack of buttons: "Get Status", "Tare", "Get Weight", and "Re-Zero".
- Data Output:** A list of values displayed to the right of the buttons:
 - Next to "Get Status": "1"
 - Next to "Tare": no value is shown.
 - Next to "Get Weight": "1.360 kg"
 - Next to "Re-Zero": "0.900 kg", "0.460 kg", "0.0 cm", "0.0 cm", "0.0 cm", and "0.0 kg" are listed vertically.
- Version:** A box in the bottom right corner containing the text "Ver 1.00".

Using Ethernet(IP & Port):

The screenshot shows a software window titled "Ethernet" with a blue header bar. In the top right corner of the window, there is a window control bar with minimize, maximize, and close buttons. Below the header, the "Essae ...for Excellence" logo is displayed. The main content area includes a "Connection Type" dropdown menu set to "NET". Below this, the "IP Address" is set to "192.168.2.192" and the "Port No" is set to "4321". A vertical column of buttons is present: "Get Status", "Tare", "Get Weight", and "Re-Zero". The "Get Weight" button is highlighted with a blue border. To the right of these buttons, a list of values is shown: "1", "0.400 kg", "0.400 kg", "0.000 kg", "0.0 cm", "0.0 cm", "0.0 cm", and "0.0 kg". In the bottom right corner of the window, there is a box containing the text "Ver 1.00".

Connection Type

Essae
...for Excellence

Ethernet

IP Address

Port No

1

1
0.400 kg
0.400 kg
0.000 kg
0.0 cm
0.0 cm
0.0 cm
0.0 kg

Ver 1.00