

# Essae Scale DLL

Ver 1.01

**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.

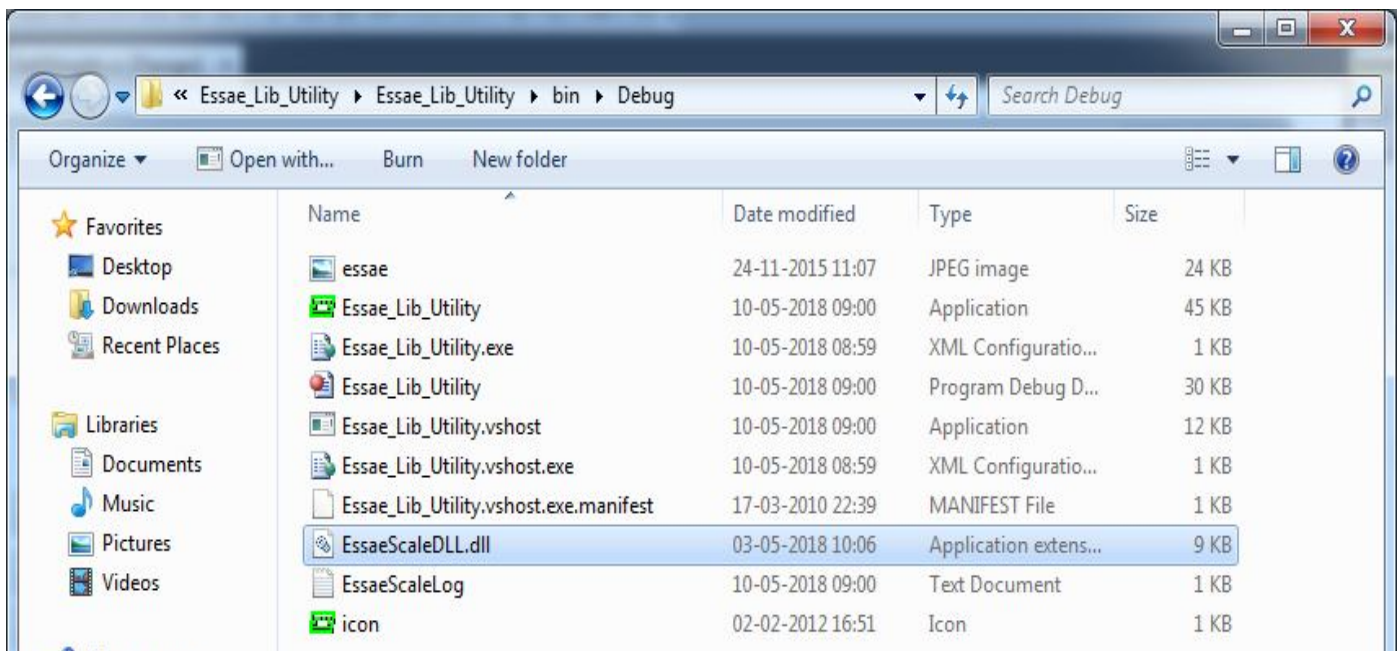
ex:

Connection type:RS232 (Comport)

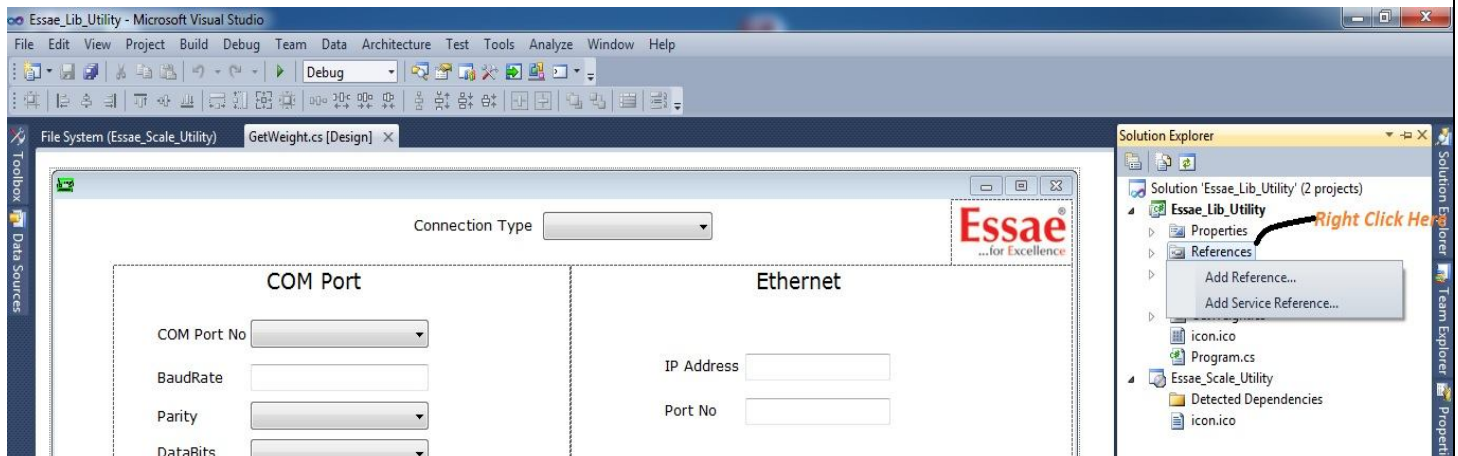
EssaeDLL. SA\_Input\_Variable\_Assign(BaudRate, DataBits, Parity, StopBits, Handshake)

### HOW TO INTEGRATE LIBRARY FILE IN TO PROJECT

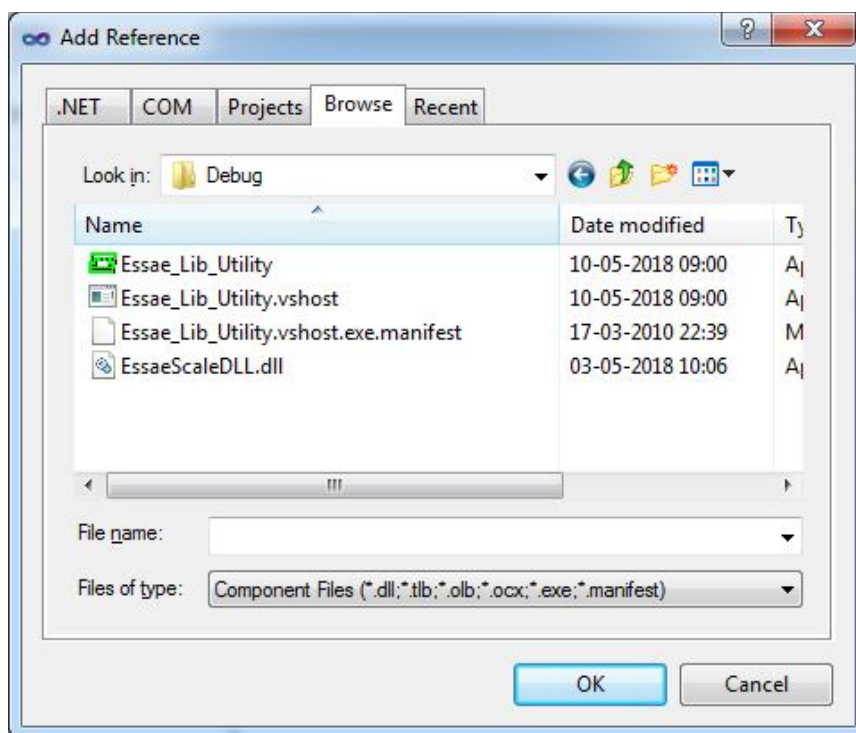
Step 1: Copy and then paste DLL file in project Debug folder as following figure. (Project Name Folder->bin->Debug)



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.

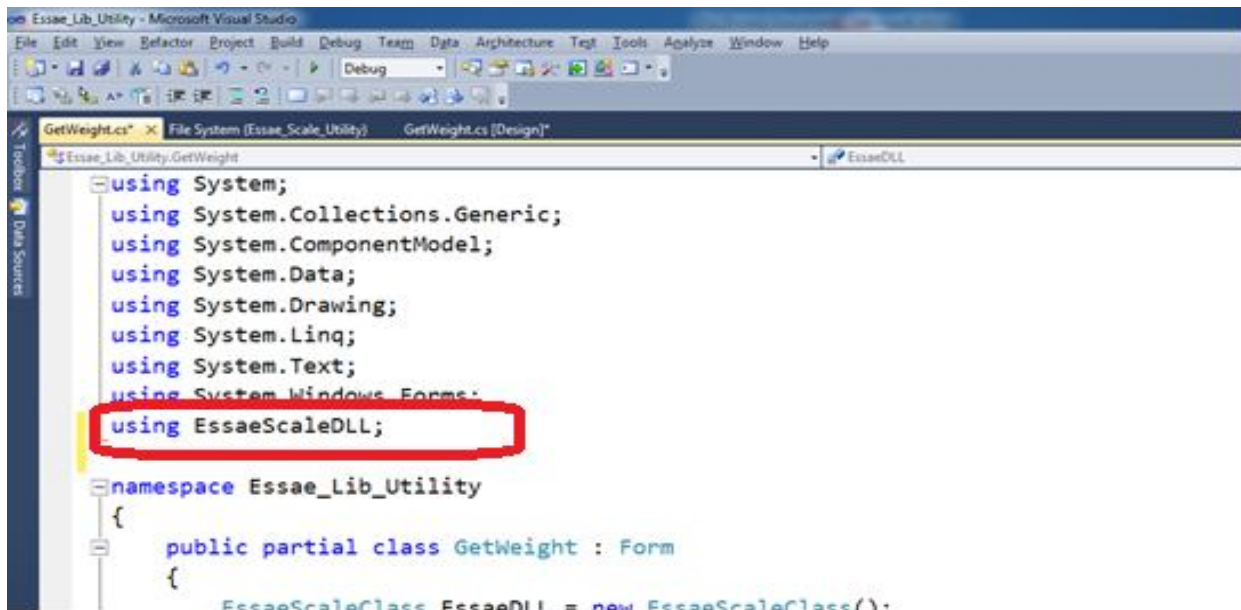


Step 4: Select **Browse** tab and go to project debug folder (i.e. DLL copied, local folder location) select **EssaeScaleDLL.dll** and click **ok** button. Finally DLL successfully added into the project.



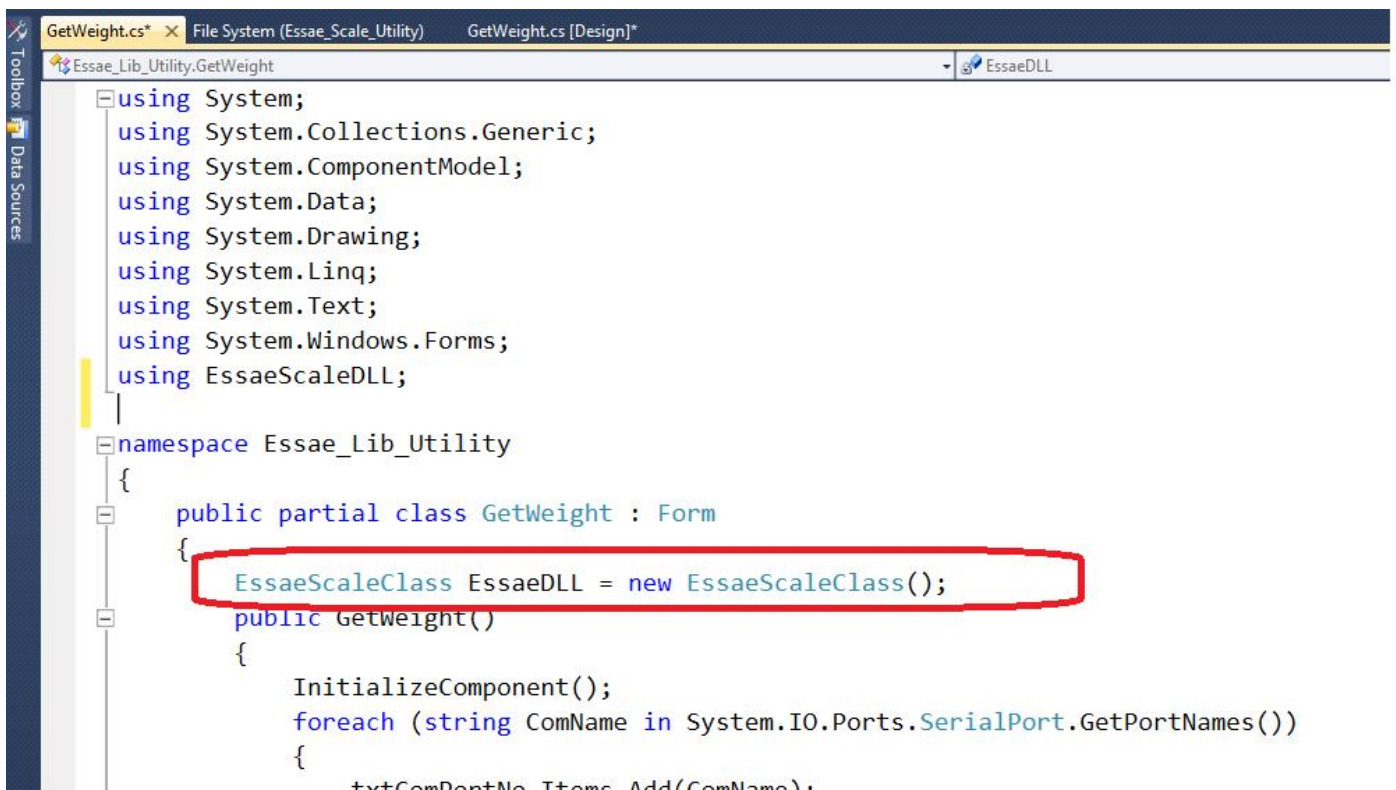
## HOW TO LINK LIBRARY FILE IN TO PROJECT

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 version indicator "Ver 1.01" and a connection type dropdown set to "COM". The "COM Port" section contains several configuration fields: "COM Port No" (COM3), "BaudRate" (9600), "Parity" (None), "DataBits" (8), "StopBits" (1), and "Handshake" (None). Below these are four buttons: "Get Status" (displaying "1"), "Tare", "Get Weight" (highlighted in blue), and "Re-Zero". To the right of the "Get Weight" button, a list of values is displayed: "1.360 kg", "0.900 kg", "0.460 kg", "0.0 cm", "0.0 cm", "0.0 cm", and "0.0 kg". The Essae logo is visible in the top right corner of the window.

Field	Value
Ver	1.01
Connection Type	COM
COM Port No	COM3
BaudRate	9600
Parity	None
DataBits	8
StopBits	1
Handshake	None
Get Status	1
Tare	
Get Weight	1.360 kg
Re-Zero	0.900 kg
	0.460 kg
	0.0 cm
	0.0 cm
	0.0 cm
	0.0 kg

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 is the Essae logo. Below the header, there is a "Connection Type" dropdown menu set to "NET". The main area contains two input fields: "IP Address" with the value "192.168.2.192" and "Port No" with the value "4321". Below these are four buttons: "Get Status", "Tare", "Get Weight", and "Re-Zero". The "Get Weight" button is highlighted with a blue border. To the right of the "Get Weight" button, there is a list of values: "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 1.01".

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 1.01**