Winconv version 3 user guide

This application converts measurements

The next generation of converting tool

Ralf Ballis

IT-Service & Softwareentwicklung

Ralf Ballis
Grafstrasse 6
82008 Unterhaching
Germany
Phone: +49 (0)089 / 611 00 137
Fax: +49 (0)089 / 611 00 138
E-Mail: Ralf.Ballis@mnet-mail.de

Introduction:

This application converts measurements. Ok, in this world exists a lot of tolls this kind but the special thing on this kind is that the user can make a configuration what and how to convert it. This can be done by modifying the XML file located at the application folder. It is also possible to set a XML equation file by start parameters of this application located local or remote.

Installation:

For a proper installation you get two files, the `setup.exe` and the `winconv.msi` for installation. Execute the file `setup.exe` with system permissions to install, now follow the instructions.

After a proper installation you get on your desktop a linked icon to the "Windows Converter" application and a new "Windows Converter" group at your Windows Start menu with a linkage to this user guide and another to the "Windows Converter" application.

Now execute this program and you will see what you get:
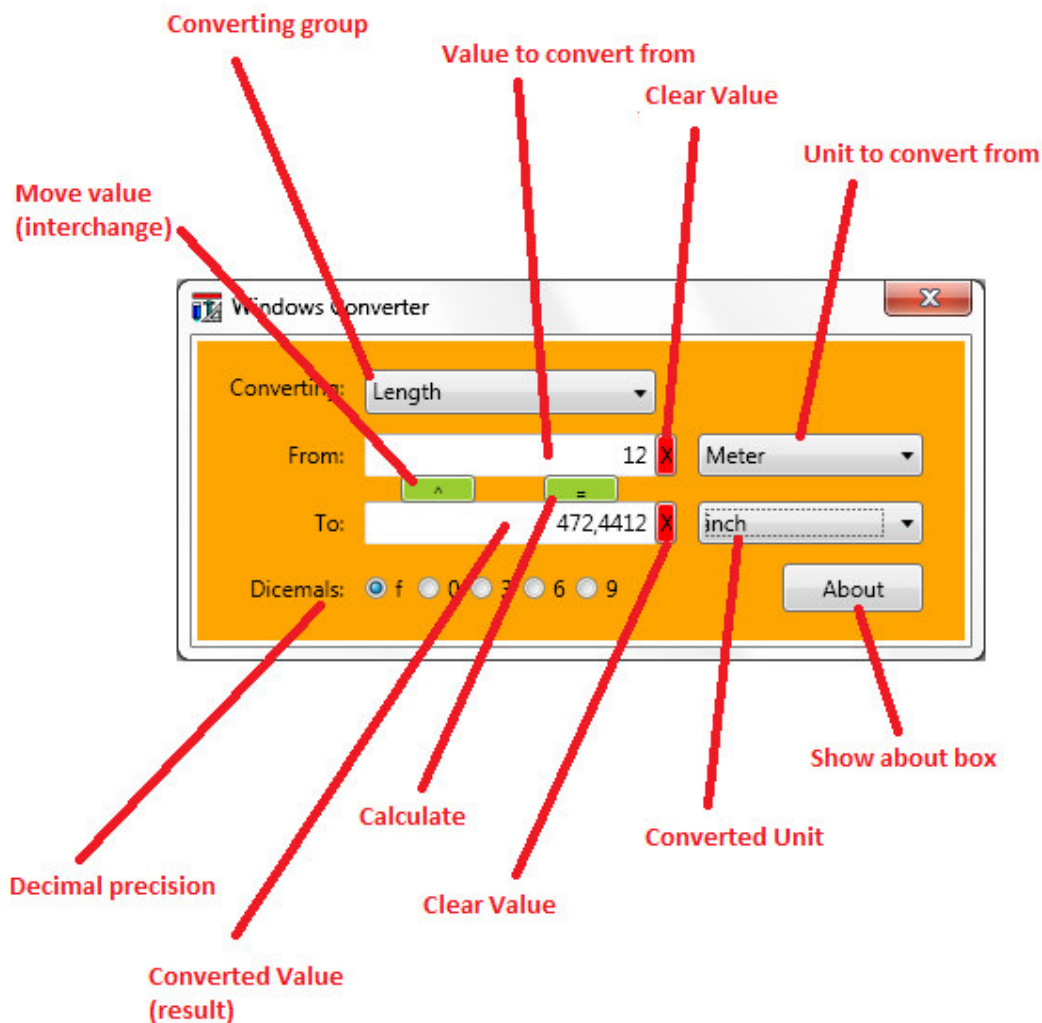
About box:
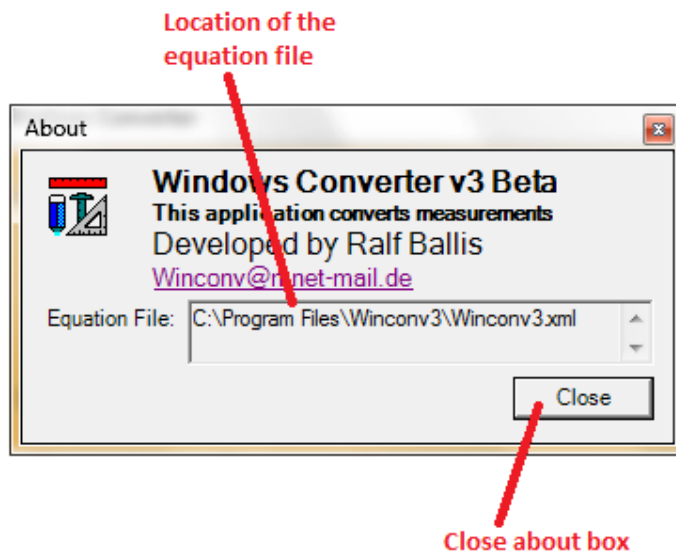
Start application:

```
Winconv3.exe
```

or:

```
Winconv3.exe –equationfile [equation file]
```

Application parameters:

The application could execute with an argument parameter:

`–equationfile`   a location from where the equation file should readed.

Without pasing this argument, the equation file is readed from the programm folder where the applcation is installed and located.

Examples:

Equation file shuld read from the default application folder where this application is installed:

```
Winconv3.exe
```

The equation file should read from the named "Users" folder:

```
Winconv3.exe –equationfile C:\Users\Winconv3.xml
```

The equation file should read remotely from a specified URL:

```
Winconv3.exe –equationfile http://rballis.dyndns.org/dl2mrb/Winconv3.xml
```

Equation file:

Check by using the "About" box where your equation file is located at your computer. With this Program comes a default equation file, which has included the most common measurements (units) to convert like:

- Length
- Area
- Volume
- Speed
- Mass
- Pressure
- Strength
- Performance
- Temperature

The equation file is a structured XML file. Open this file by using an edit or the notepad application:


```xml
<?xml version="1.0" encoding="utf-8" standalone="yes"?>
<convertings xmlns="C:\Users\rballis\Develop\Winconv3\Winconv3\bin\Debug\Winconv3.xml">
    <!--Confifuration file for Winconv3 application programm-->
    <converting name="Length">
        <from nameFrom="Meter">
            <to nameTo="inch">
                <equation>[i] * 39.3701</equation>
            </to>
        </to>
        </from>
    </converting>
</convertings>
```

All elements with a value have a starting and end tag. There is no need to explain the Converting group, Unit to convert from and the Converted Unit tag,

The Equation tag is more complex. It could contain variables, numbers, functions and complex open and close brackets.

Variables:

Variables stands between an open and close bracket like `[]`.

Variable:	Explication:
i	Reference to the "value to convert from" in the input field at the application GUI.

Example:

`[i]`

Mathematic Functions:

Function:	Explication:
+	Addition
–	Subtraction
*	Multiplication
/	Division
^	Projected result
acos	Angel Co sinus
asin	Angel Sinus
atan	Angel Tangential
atan2	Angel Tangential (Quotient)
cos	Co sinus
cosh	Hyperbolic Co sinus
exp	Exponential
flor	Human number
log	Logarithmic
log10	Logarithmic basic to 10
sin	Sinus
sinh	Hyperbolic sinus
sqrt	Square
tan	Tangential
tanh	Hyperbolic tangential

Examples of equation tags:

This converts meter to inch:

```
<equation>[i] * 39.3701</equation>
```

This one converts inch² to meter²:

```
<equation>[i] * ( 0.6452 / 1000 )</equation>
```

And this converts Watt to dBm:

```
<equation>10 * ( Log10 ( [i] / 0,001 ) )</equation>
```

Note: **It is very important to make a space between the tokens!**

Using the Winconv3 application:

Start this program from the desktop icon or the start menu group.
Now chose a converting group element.
Type a value to convert in the "value to convert from" field.
Select or chose the proper unit from the "unit to convert from" field.
By select or chose a unit from the "converted unit" the application starts to convert and displays the value at the "converted value (result)" field.
It is possible to move a result to the "value to convert from" field by depress the "move value (interchange)" button.
A proper decimal precision can be selected by depressing a radio button in the "decimal precision" button field.
Calculation cam by triggered by depressing the "calculate" button at any time.