

WEINTEK LABS., INC.

Use Macro Subroutine as Scaling Method

Demo Project

Nina Lu

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1. Overview and Operation

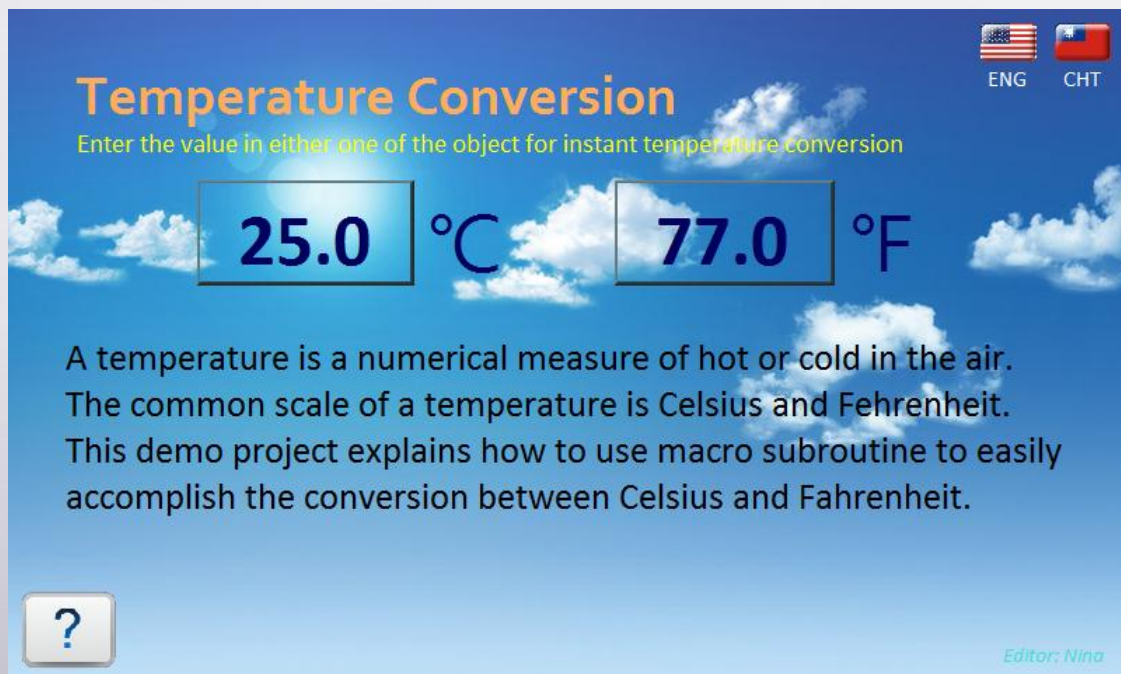
Overview

Scale conversion can be achieved by using macro subroutines. The macro subroutines should be built in Macro Function Library and selected when creating Numeric Input / Display object. The value read from or written to the register can be computed by macro subroutines selected in [Read conversion] and [Write conversion].

This demo project explains how to use macro subroutine to do conversion between the two common temperature scales: Celsius and Fahrenheit.

Operation

Enter a value in either object to dynamically convert the temperature scale.



2. Setting up the Screen

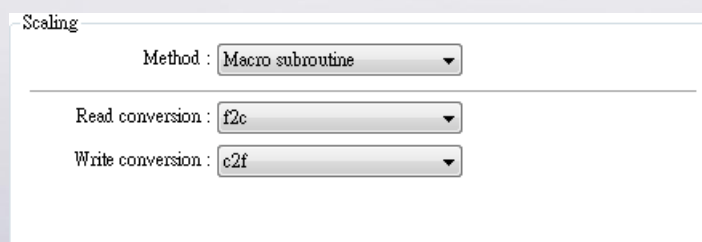
Step 1. In EasyBuilder Pro Click [Tools] on the toolbar, click [Macro] » [Library] and build the following two macro subroutines in the list.

Fahrenheit (°F) to Celsius (°C)	Celsius (°C) to Fahrenheit (°F)
<pre>sub float f2c(float f) float c c=(f-32)*5/9 return c end sub</pre>	<pre>sub float c2f(float c) float f f=c*9/5+32 return f end sub</pre>

Step 2. Create two Numeric Input objects, one for displaying the temperature in Celsius and the other in Fahrenheit. Set the address to LW-0, and data format to [32-bit Float] for both objects.

Step 3. For the object that displays Celsius temperature (°C), select [Macro subroutine] as scaling method, select [f2c] in [Read conversion] field, and [c2f] in [Write conversion] field.

Select [none] in the [Method] field of the object that displays Fahrenheit temperature (°F).



Scaling

Method : Macro subroutine

Read conversion : f2c

Write conversion : c2f

Step 4. Since the same register is designated for both objects, the value entered in “°C” object is computed by the macro subroutine “c2f” selected in [Write conversion], and the result is displayed by the “°F” object. On the contrary, the value entered in “°F” object is computed by the macro subroutine “f2c” selected in [Read conversion] of “°C” object and the result is displayed.

3. Addresses

The addresses of objects used in this demonstration are listed below. Please set based on actual usage.

Object	Address	Object ID	Description
Window 10			
Numeric Input	LW-0	NE_0	Executes [Read conversion] or [Write conversion] and displays temperature in Celsius.
Numeric Input	LW-0	NE_1	Displays temperature in Fahrenheit.