

WEINTEK LABS., INC.

# Solar Day Converter

Demo Project

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## 1. Overview and Operation

### Overview

This demo project introduces how to convert a Gregorian date to a solar day. The solar day is represented by 4 digits. The first digit represents the last digit of C.E., and the rest three digits represent the sequence number of the day counted from the first day of the year. For example, February 1<sup>st</sup>, 2014 C.E will be written as 4032 in solar day.

### Operation

Enter the year, month, day, and then click [Convert to Solar day] button to trigger the macro to do the conversion.



Gregorian calendar convert to Solar day

year	month	day
2014	2	1

Convert to Solar day

4032

Solar day

WEINTEK

## 2. Setting up the Screen

Step 1. Build Macro as shown below:

```
macro_command main()
```

```
short y, m, d, y1, m1, d1, solar
```

```
GetData(y, "Local HMI", LW, 9022, 1)
```

```
GetData(m, "Local HMI", LW, 9021, 1)
```

```
GetData(d, "Local HMI", LW, 9020, 1)
```

```
y1=y%10
```

```
if m==1 then
```

```
  m1=0
```

```
end if
```

```
if m==2 then
```

```
  m1=31
```

```
end if
```

```
if m==3 then
```

```
  m1=59
```

```
end if
```

```
if m==4 then
```

```
  m1=90
```

```
end if
```

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```
if m==5 then  
m1=120  
end if  
if m==6 then  
m1=151  
end if  
if m==7 then  
m1=181  
end if  
if m==8 then  
m1=212  
end if  
if m==9 then  
m1=243  
end if  
if m==10 then  
m1=273  
end if  
if m==11 then  
m1=304  
end if  
if m==12 then  
m1=334  
end if
```

solar = y1\*1000+m1+d

if y==2000 or y==2004 or y==2008 or y==2012 or y==2016 or y==2020 then

if m >= 3 then

solar = y1\*1000+m1+d+1

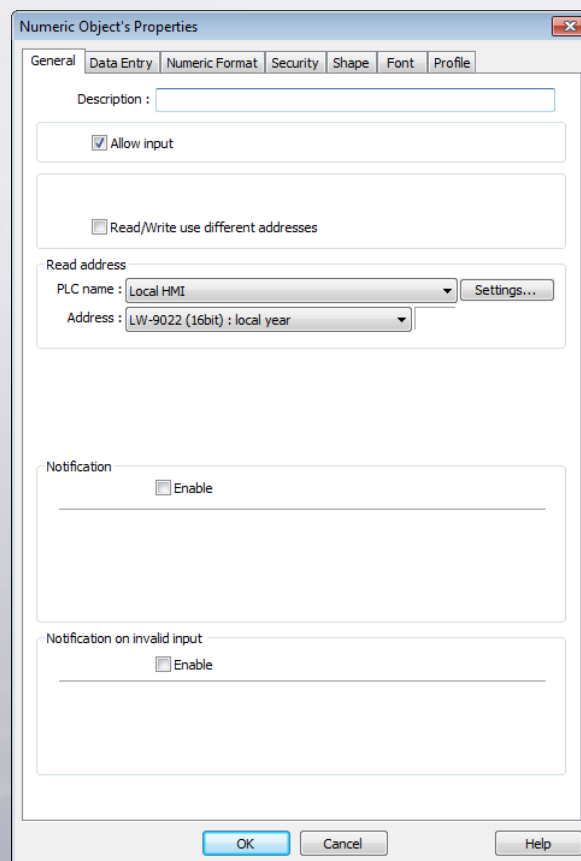
end if

end if

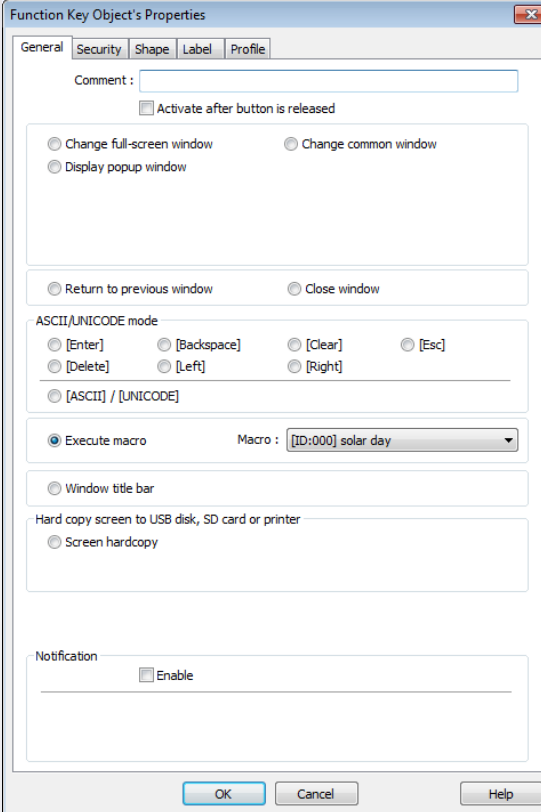
SetData(solar, "Local HMI", LW, 10, 1)

end macro\_command

**Step 2.** Create three Numeric objects, set address to LW-9022, LW-9021, LW-9020 respectively, to read/write year, month, day.



**Step 3.** Create a Function Key to trigger the Macro.

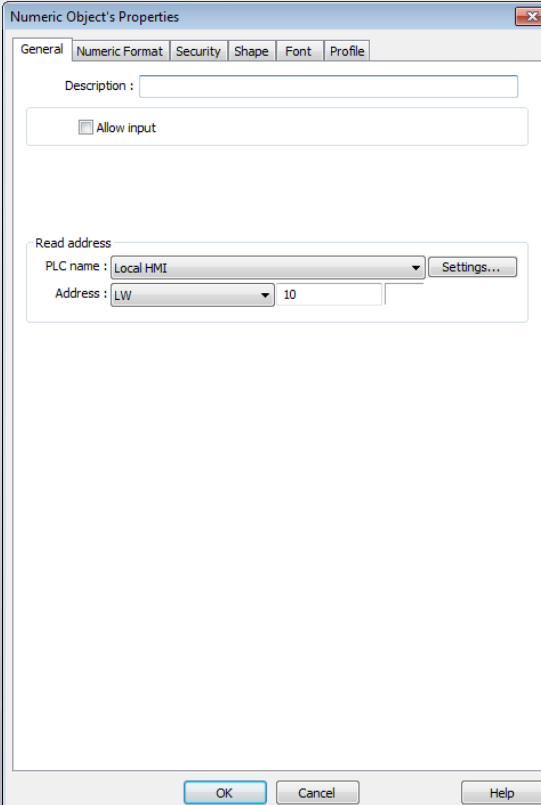


The 'Function Key Object's Properties' dialog box is shown with the 'General' tab selected. It contains the following fields and options:

- Comment:** A text input field.
- ☐ **Activate after button is released**
- Radio buttons for window actions:
  - ☐ Change full-screen window
  - ☐ Change common window
  - ☐ Display popup window
- Radio buttons for window management:
  - ☐ Return to previous window
  - ☐ Close window
- ASCII/UNICODE mode:**
  - ☐ [Enter]
  - ☐ [Backspace]
  - ☐ [Clear]
  - ☐ [Esc]
  - ☐ [Delete]
  - ☐ [Left]
  - ☐ [Right]
  - ☐ [ASCII] / [UNICODE]
- ☒ **Execute macro**
  - Macro:** A dropdown menu showing '[ID:000] solar day'.
- ☐ **Window title bar**
- Hard copy screen to USB disk, SD card or printer:**
  - ☐ Screen hardcopy
- Notification:**
  - ☐ Enable

Buttons at the bottom: OK, Cancel, Help.

**Step 4.** Create another Numeric object to display the result of conversion.



The 'Numeric Object's Properties' dialog box is shown with the 'General' tab selected. It contains the following fields and options:

- Description:** A text input field.
- ☐ **Allow input**
- Read address:**
  - PLC name:** A dropdown menu showing 'Local HMI'.
  - Address:** A dropdown menu showing 'LW' and a text input field showing '10'.
  - Settings...** button.

Buttons at the bottom: OK, Cancel, Help.