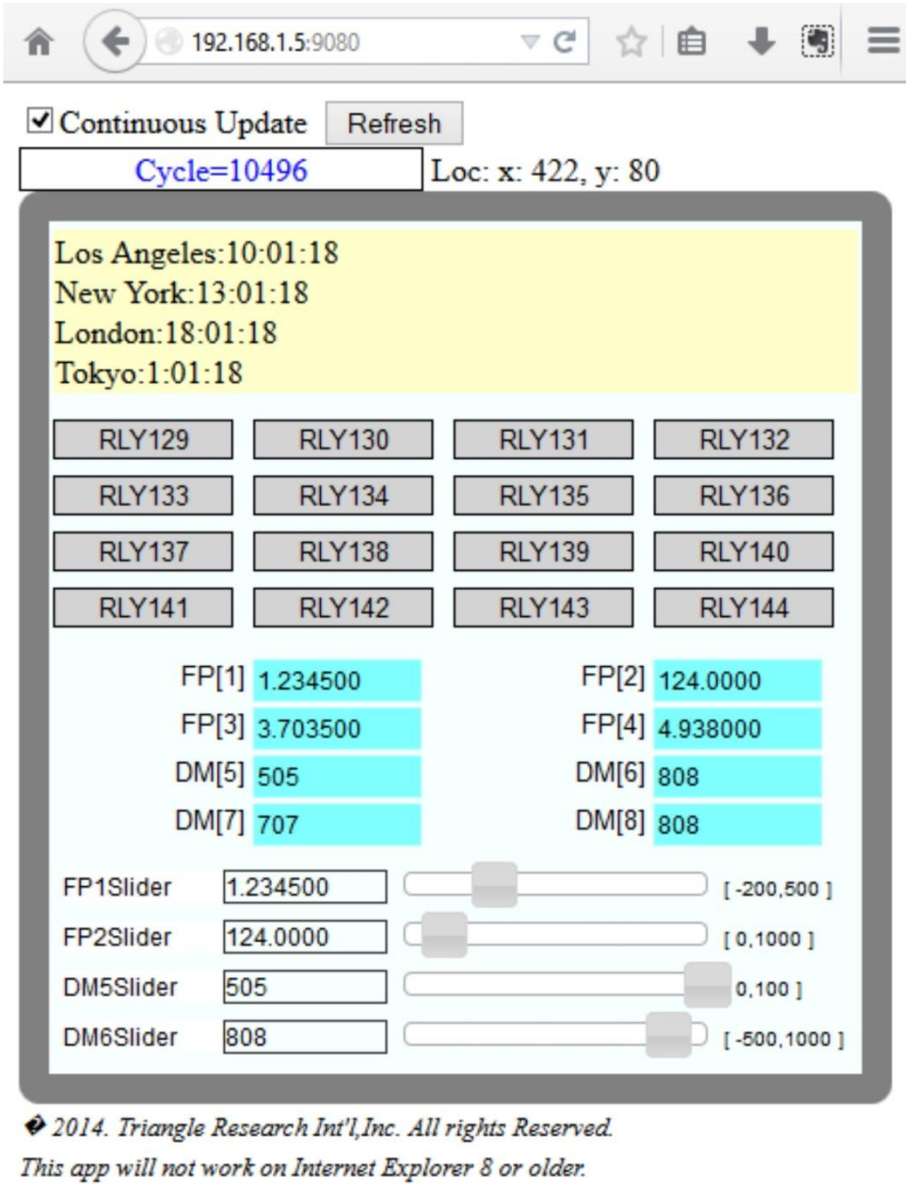
TRIANGLE RESEARCH INTERNATIONAL

Webpage Control: Quickstart Guide



0-C001-01.HTM Web Page Open in a Browser

1 INTRODUCTION

TRi Super PLCs with Ethernet have always been compatible with ready-to-use web pages that can be installed in the PLC web server. These web pages run on HTML and JavaScript/JQuery code, so they are only accessible from standard browsers that support AJAX technology.

The web pages have now been updated to include more data and I/O points, as well as display of the cursor position and slider control to modify DM[] registers within a defined range. There is no longer a JavaScript file installed in the webserver as it is now stored on the TRi server and called from the HTML file. The I/O and register data is now updated every 500ms via AJAX command calls. During initial testing standard browsers such as Firefox, Chrome, Safari, and IE 9+ could sustain a constant connection smoothly without becoming clunky or unresponsive. However, this could vary from platform to platform.

However, the HTML files are designed to be easily modified by anyone, even if you don't have any programming experience. The purpose is to be able to easily customize the web page layout for your specific application by defining some label names and a background image without having to worry about the programming required to interface to the PLC, which is already taken care of.

2 OPEN PLC WEB CONTROL PAGE FROM A BROWSER

In order to connect to the Nano-10 web pages you will need to:

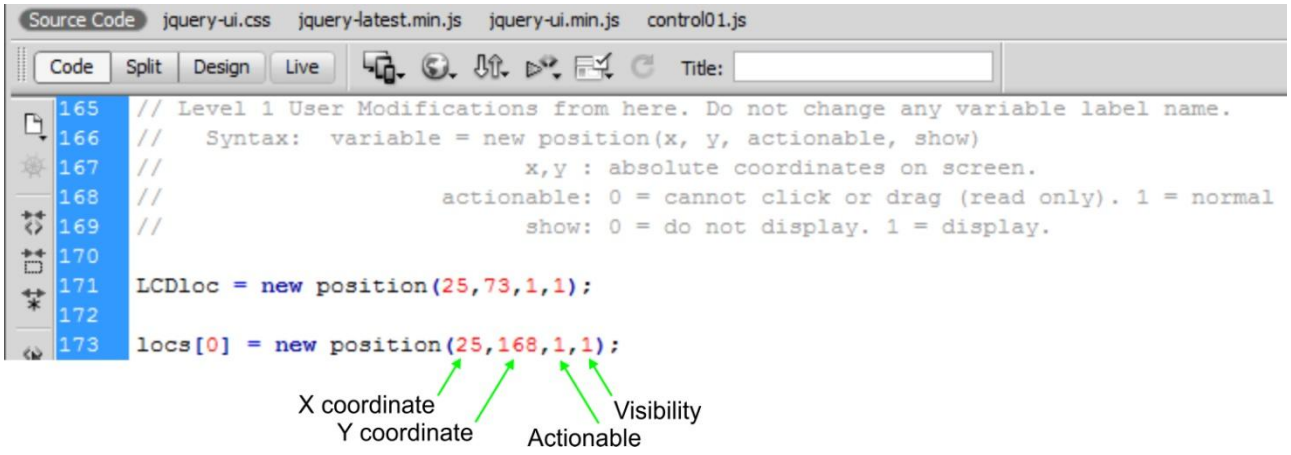
1. Make sure the PLC is loaded with the i-Ready.PC6 program.
2. Open a PC or smart phone browser
3. Enter the IP address of the PLC with port number in the format: http://192.168.1.5:9080

Without entering any specific file name after the port number you will be accessing the default preloaded web page, which is called "0-C001-01.HTM". You will see what is shown in the above screenshot.

3 CUSTOMIZING THE WEB PAGES

3.1 Overview

The HTML file can be modified with any text editor or webpage editing software. The level 1 user modification section of the files is where the beginner modifications can be made.



Such modifications include:

1. X coordinate: absolute pixel coordinate on screen.
2. Y coordinate: absolute pixel coordinate on screen.
3. Actionable: 0 = cannot click or drag (read only). 1 = normal (clickable)
4. Visibility: 0 = do not display. 1 = display.
5. Label Names: Default labels such as RLY129 and DM[5] can be renamed
6. Slider Range Values: Value range of the associated variable (by label name)
7. I/O Label Color: The 'off' and 'on' colors of the I/O labels can be modified.
8. Slider Pause Warning:
   0 = no pause warning when a slider value is changed during continuous update.
   1 = pause warning will pop up.

3.2 Code Legend

3.2.1 LCD

```
LCDloc = new position(25,73,1,1);
```

Los Angeles:7:34:58
New York:10:34:58
London:15:34:58
Tokyo:22:34:58

3.2.2 2) I/O Bits

```
locs[0] = new position(25,168,1,1);
locs[1] = new position(125,168,1,1);
locs[2] = new position(225,168,1,1);
locs[3] = new position(325,168,1,1);
locs[4] = new position(25,196,1,1);
locs[5] = new position(125,196,1,1);
locs[6] = new position(225,196,1,1);
locs[7] = new position(325,196,1,1);
locs[8] = new position(25,224,0,1);
locs[9] = new position(125,224,0,1);
locs[10] = new position(225,224,0,1);
locs[11] = new position(325,224,0,1);
locs[12] = new position(25,252,0,1);
locs[13] = new position(125,252,0,1);
locs[14] = new position(225,252,0,1);
locs[15] = new position(325,252,0,1);
```

RLY129	RLY130	RLY131	RLY132
RLY133	RLY134	RLY135	RLY136
RLY137	RLY138	RLY139	RLY140
RLY141	RLY142	RLY143	RLY144

```
var IOlabels =    [
                'RLY129','RLY130','RLY131','RLY132','RLY133','RLY134','RLY135','RLY136',
                'RLY137','RLY138','RLY139','RLY140','RLY141','RLY142','RLY143','RLY144'
                ];
```

3.2.3 DM[] Variables

```
dmlocs[0] = new position(25,288,1,0);
dmlocs[1] = new position(225,288,1,0);
dmlocs[2] = new position(25,312,0,0);
dmlocs[3] = new position(225,312,0,0);
dmlocs[4] = new position(25,336,1,1);
dmlocs[5] = new position(225,336,1,1);
dmlocs[6] = new position(25,360,1,1);
dmlocs[7] = new position(225,360,1,1);
dmlocs[8] = new position(25,384,1,0);
dmlocs[9] = new position(225,384,1,0);
dmlocs[10] = new position(25,408,1,0);
dmlocs[11] = new position(225,408,1,0);
dmlocs[12] = new position(25,432,1,0);
dmlocs[13] = new position(225,432,1,0);
dmlocs[14] = new position(25,456,1,0);
dmlocs[15] = new position(225,456,1,0);
```

DM[5]	505	DM[6]	328
DM[7]	707	DM[8]	808

```
var DMlabels =    [
                'DM[1]','DM[2]','DM[3]','DM[4]','DM[5]','DM[6]','DM[7]','DM[8]',
                'DM[9]','DM[10]','DM[11]','DM[12]','DM[13]','DM[14]','DM[15]','DM[16]'
                ];
```

3.2.4 FP (Floating Point) Variables

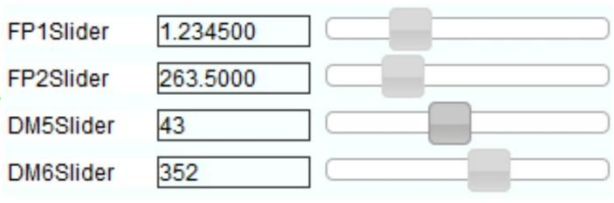
```
fplocs[0] = new position(25,288,1,1);
fplocs[1] = new position(225,288,1,1);
fplocs[2] = new position(25,312,1,1);
fplocs[3] = new position(225,312,1,1);
fplocs[4] = new position(25,336,1,0);
fplocs[5] = new position(225,336,1,0);
fplocs[6] = new position(25,360,0,0);
fplocs[7] = new position(225,360,0,0);
fplocs[8] = new position(25,384,1,0);
fplocs[9] = new position(225,384,1,0);
fplocs[10] = new position(25,408,1,0);
fplocs[11] = new position(225,408,1,0);
fplocs[12] = new position(25,432,1,0);
fplocs[13] = new position(225,432,1,0);
fplocs[14] = new position(25,456,1,0);
fplocs[15] = new position(225,456,1,0);
```

FP[1]	1.234500	FP[2]	263.5000
FP[3]	3.703500	FP[4]	4.938000

```
var FPlabels =    [
                'FP[1]','FP[2]','FP[3]','FP[4]','FP[5]','FP[6]','FP[7]','FP[8]',
                'FP[9]','FP[10]','FP[11]','FP[12]','FP[13]','FP[14]','FP[15]','FP[16]'
                ];
```

3.2.5 Slider Location

```
// define slider's locations, draggable
// and whether to display.
sliderlocs[0] = new position(30,290,1,0);
sliderlocs[1] = new position(30,315,1,0);
sliderlocs[2] = new position(30,340,1,0);
sliderlocs[3] = new position(30,365,1,0);
sliderlocs[4] = new position(30,390,1,1);
sliderlocs[5] = new position(30,415,0,1);
sliderlocs[6] = new position(30,440,1,1);
sliderlocs[7] = new position(30,465,0,1);
```




```
var sliderLabels = [
                   'DM1Slider','DM2Slider','DM5Slider','DM6Slider',
                   'FP1Slider','FP2Slider','DM5Slider','DM6Slider'
                   ];
```

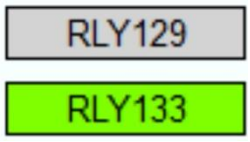
3.2.6 Slider Range

```
// define the range (minimum and maximum)
// of the sliders and the object it is attached to
// (May only use: FP1 to FP16 or DM1 to DM16)
sliderRange[0] = new DefineSlider(-1000,1000,'DM1');
sliderRange[1] = new DefineSlider(-800,800,'DM2');
sliderRange[2] = new DefineSlider(-500,500,'DM5');
sliderRange[3] = new DefineSlider(0,2000,'DM6');
sliderRange[4] = new DefineSlider(-200.0,500.0,'FP1');
sliderRange[5] = new DefineSlider(0,1000.0,'FP2');
sliderRange[6] = new DefineSlider(0,100,'DM5');
sliderRange[7] = new DefineSlider(-500,1000,'DM6');
```

[-200,500]
[0,1000]
[0,100]
[-500,1000]

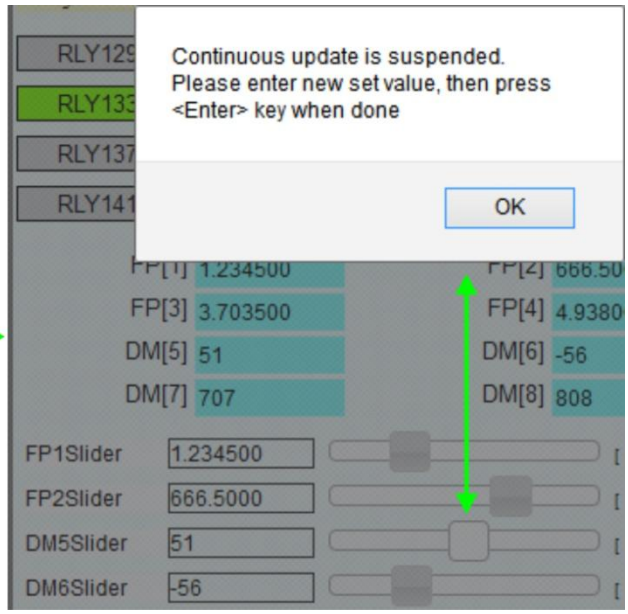
3.2.7 I/O Label Color

```
var OFFcolor = 'lightgray'
var ONcolor = 'Chartreuse'
```



3.2.8 Slider Pause Warning

```
// set this to false if you don't want the
// "Continuous update suspended" alert.
var updatePauseWarning = true;
```



4 TRANSFERRING MODIFIED WEBPAGE FILES

The original and new webpage files can be transferred in and out of the PLC web server using the File Transfer Protocol (FTP). Please refer to chapter 2.9 of the Super PLC user manual for more information ("Installing a Web Page or Web Applet into the Nano-10 PLC using FileZilla").