

Quick Start

Mini-Lab

Requirements

- MP3300iec Controller
 - Servos and IO not required
- 7 inch smartPanel HMI
- MotionWorks IEC Project “HMI Quickstart”
 - Can also be created quickly

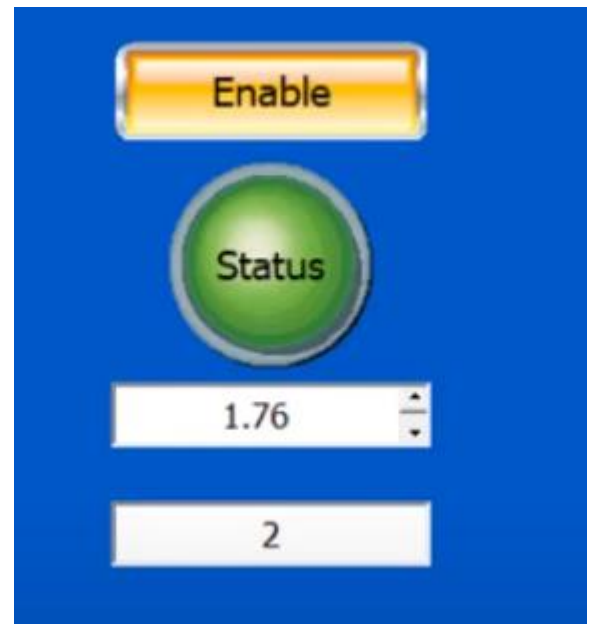
Overview

This lab document will guide the participant through the following steps:

- I. Run HMI_Quickstart on the MP3300iec (5 min)
- II. Start Movicon Project (5 min)
- III. Import Variables to Project (5 min)
- IV. Create Simple HMI Screen (15 min)
- V. Test Runtime Simulation (5 min)
- VI. Run project on the HMI Hardware (15 min)

Goal

- A simple project runs on the HMI and communicates to the controller



I. Run the HMI_Quickstart project in the MP3300iec controller (5 min)

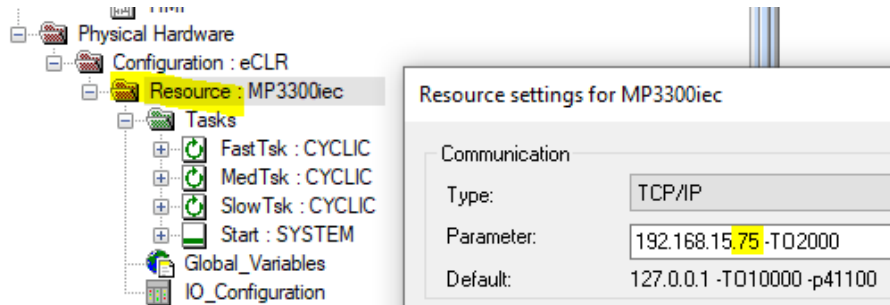
A. Open MotionWorks IEC

B. Open HMI_Quickstart from class materials

1. File → Open → Yes → unzip → Do not extract zipped library

2. Set project IP address to match the MP3300iec controller

Right-click Resource → Settings → change Parameter



C. Download the project to the controller

Any hardware configuration (or none at all) is fine for this project

1. Make the project

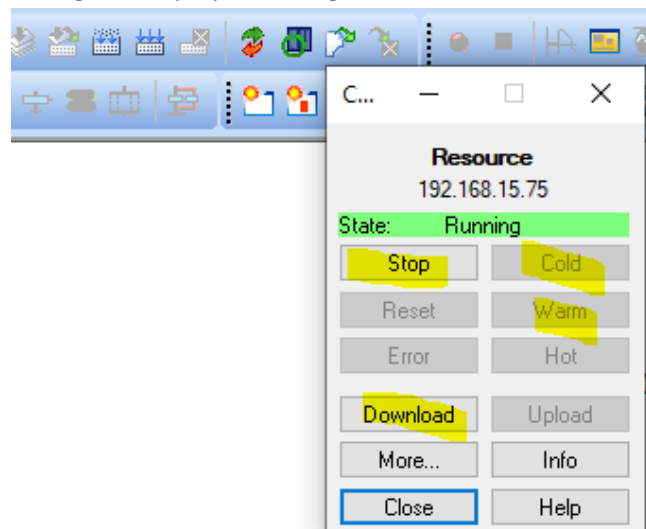
i. Build menu → Make

2. Open the Project Control Dialog

i. Online menu → Project Control

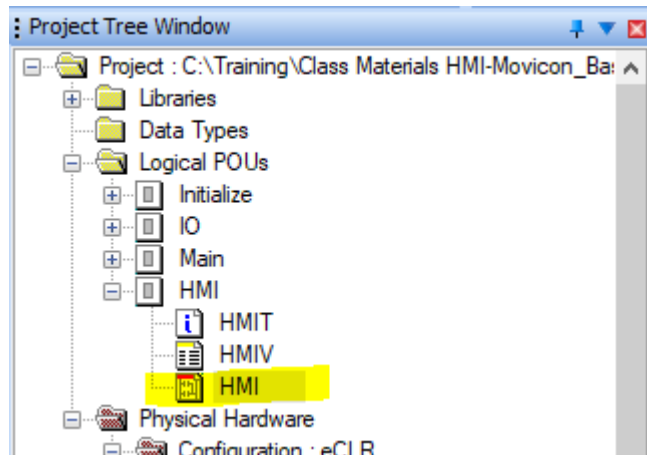
3. Click: Stop→Download → “Yes” if prompted → Cold → “Yes”

Dialog will display “Running”



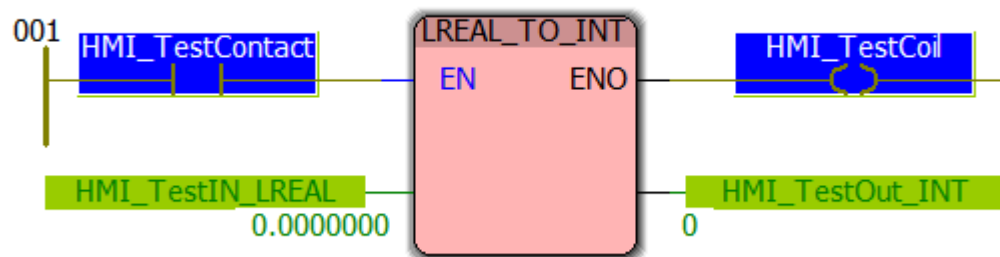
D. Monitor the project in Debug Mode

1. Open the HMI pou



2. Turn on Debug mode

i. Online menu → Debug



This is the code for the entire project

3. Open the **GLOBAL_VARIABLES** and navigate to **USER VARIABLES**

i. Project Tree Window → Global_Variables

User Variables		
HMI_TestContact	FALSE	BOOL
HMI_TestCoil	FALSE	BOOL
HMI_TestIN_LREAL	0.0000000	LREAL
HMI_TestOut_INT	0	INT

E. Mark HMI variables for OPC

1. Turn off Debug mode



2. Check the boxes for OPC

Name	Type	Usage	Description	Address	Init	Retain	PDD	OPC	TB	Hid...	Init...	Default Hid...
User Variables												
HMI_TestContact	BOOL	VAR_GLOBAL				<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HMI_TestCoil	BOOL	VAR_GLOBAL				<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HMI_TestIN_LREAL	LREAL	VAR_GLOBAL				<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
HMI_TestOut_INT	INT	VAR_GLOBAL				<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. Download Changes

i. Online menu → Download Changes

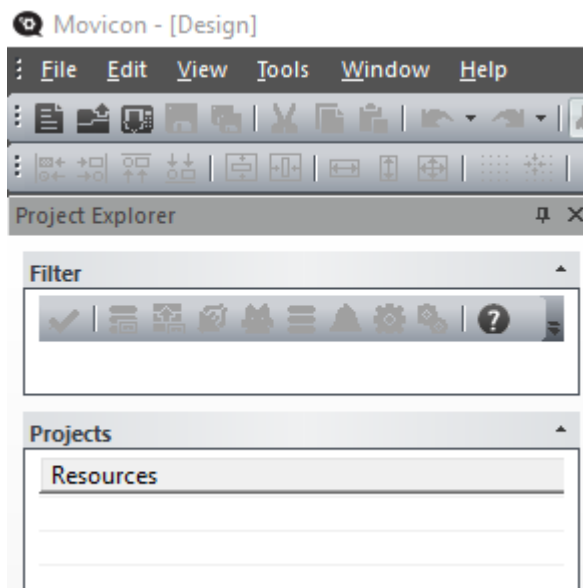
II. Start Movicon Project

A. Open Movicon (HMI Editor)

B. Close all open projects

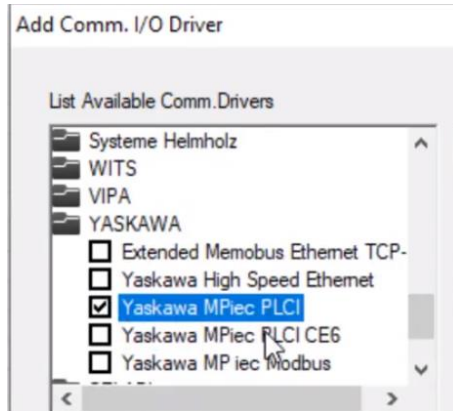
1. File → Close

2. Project Explorer is empty



C. New Project

1. File → New
2. WinCE platform → Open>
3. Name: Quickstart → Next>→ Next>
4. Add Comm. I/O Driver → Yaskawa MPiec PLCI → Next>



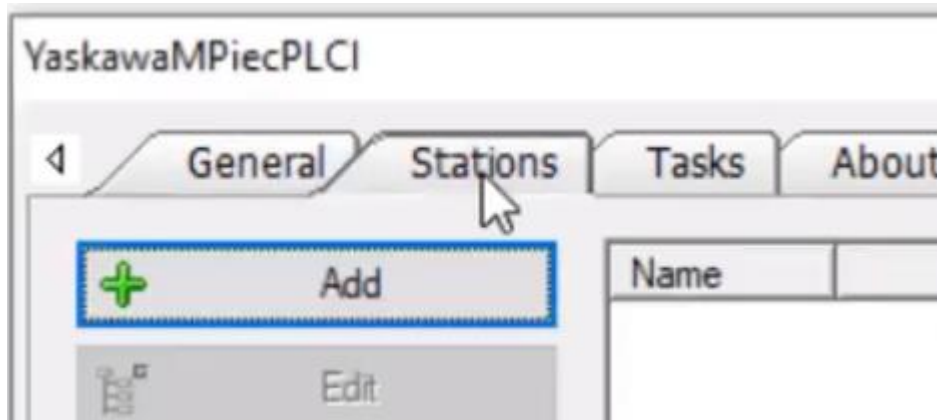
5. Default Screen Width = 800, Default Screen Height = 480 → Next>→ Next>→ Next> → Finish

When the New Project process is complete, the user is prompted to set up the comm. driver. This is the next section.

III. Import Variables to Project

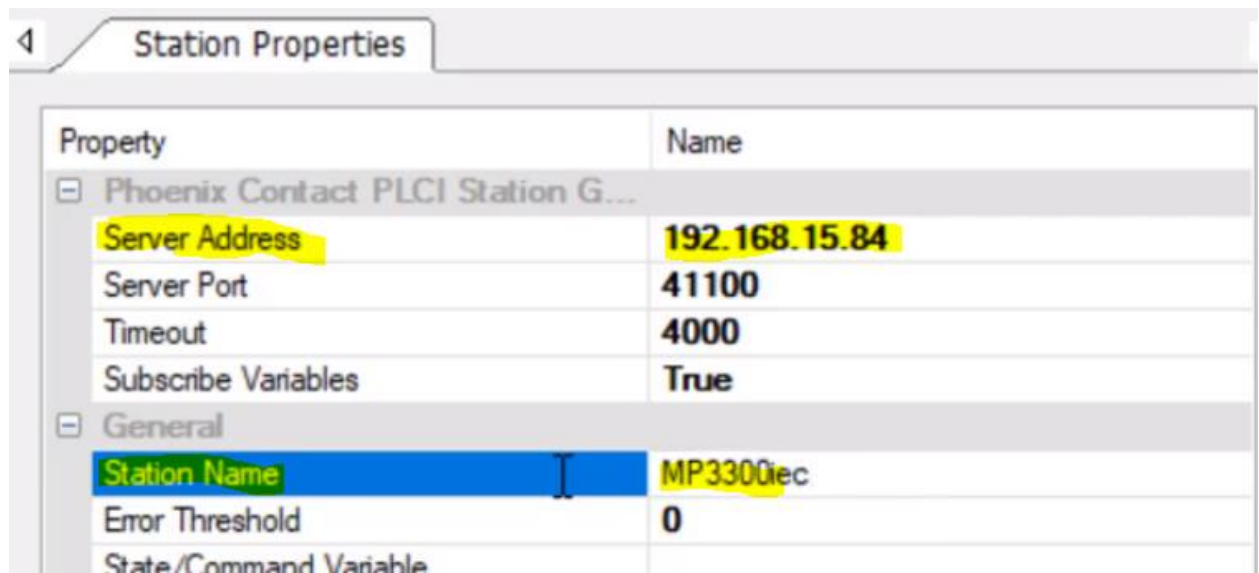
A. Add Station

1. Stations → Add

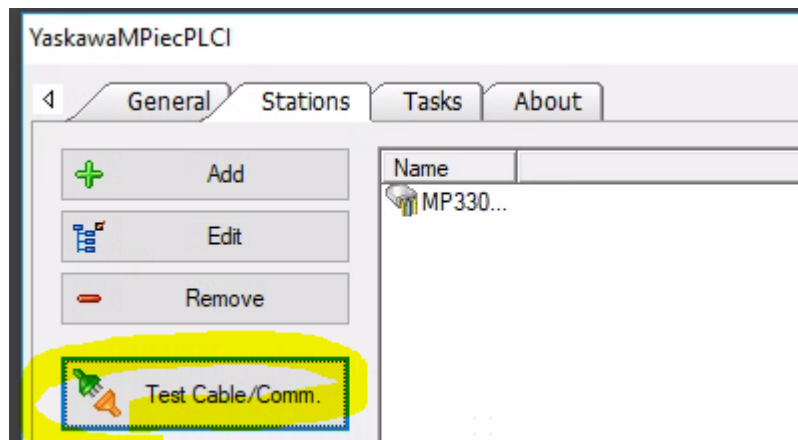


B. Station properties

1. Server Address = IP address of MPiec
2. Station Name = MP3300iec



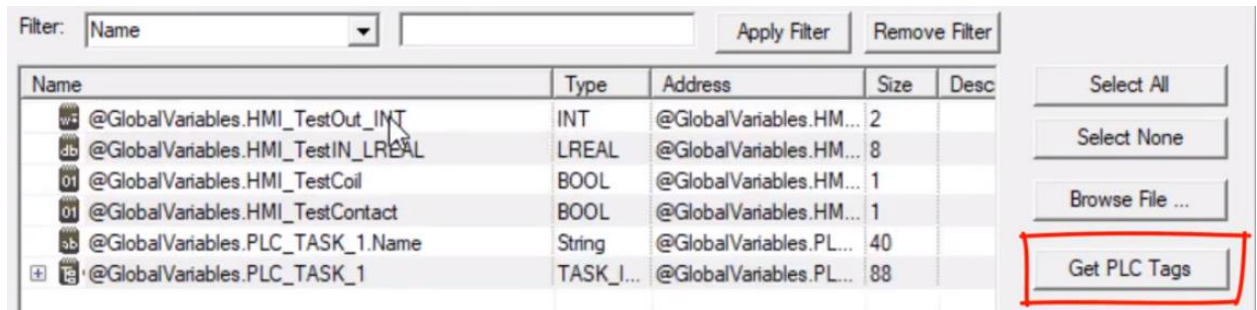
3. Test Cable/Comm.



4. OK to exit, Yes to import tags

C. Import Tags

1. Get PLC Tags from the MP3300iec

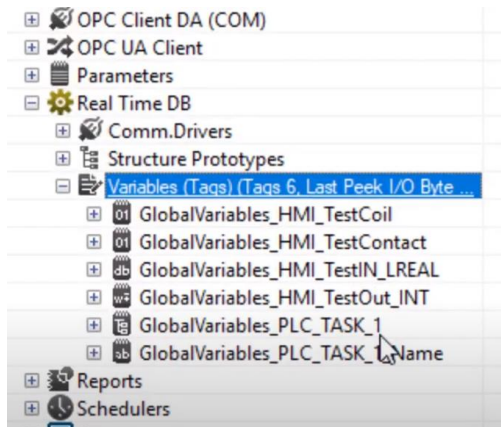


2. Select All

3. Import

D. Locate Tags in Project Explorer

1. Real Time DB → Variables



The variables have the prefix "GlobalVariables_"

IV. Create Simple HMI Screen

A. New Screen

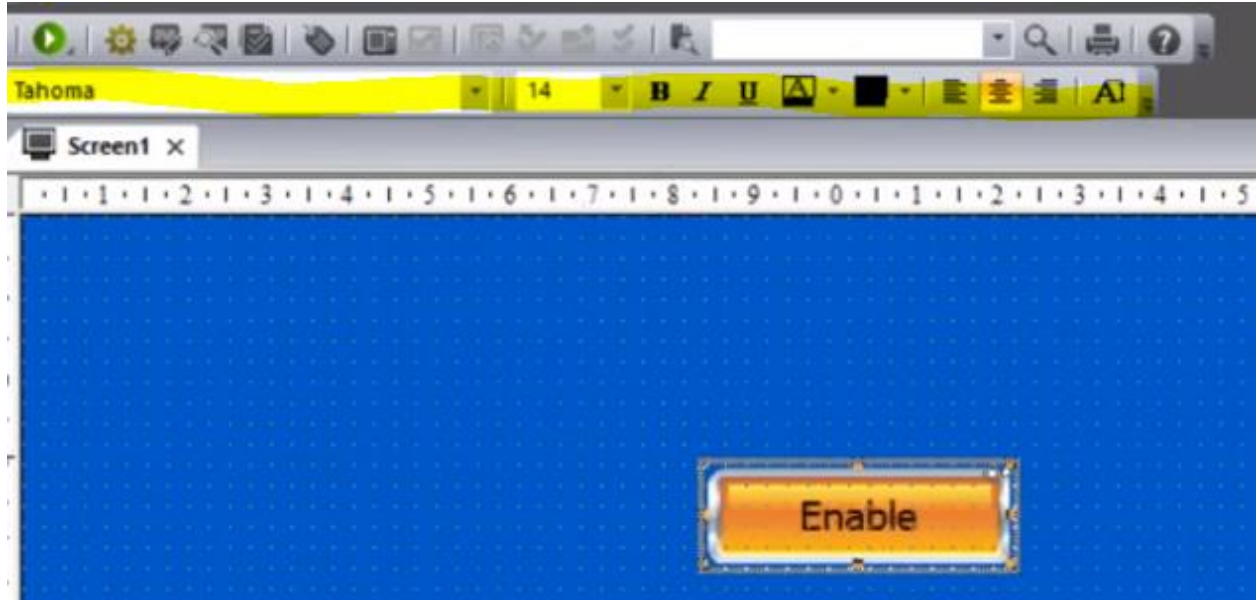
1. Project Explorer → Right-click “Screens” → Add a new screen → OK (or rename)

B. Locate Properties toolbar (far right)

Tip: Pin the Project Explorer and Properties windows so they do not hide

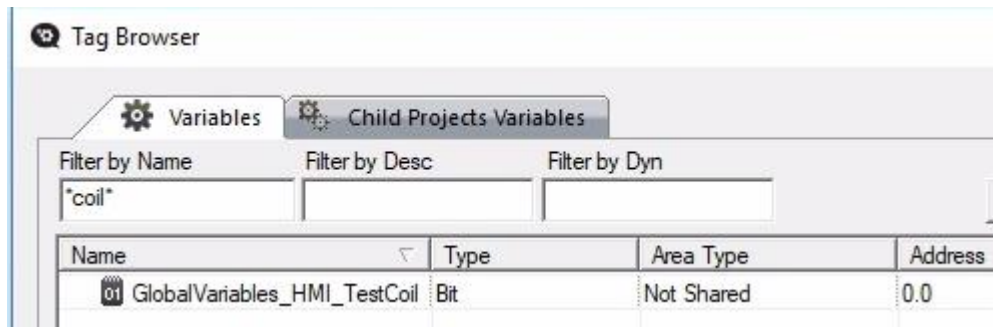
C. Create a button for **HMI_TestContact**

1. Toolbox → Rectangular Buttons → drag and drop control onto screen
2. Drag and drop the required variable onto button
3. Label and adjust text



D. Create LED for **HMI_TestCoil**

1. Toolbox → lights-Leds → drag and drop LED or light onto screen
2. Label and adjust text
3. Add variable using Properties → Execution → Command/State Variable → “...”
4. Tag Browser → filter by name → use* asterisk wildcard to filter

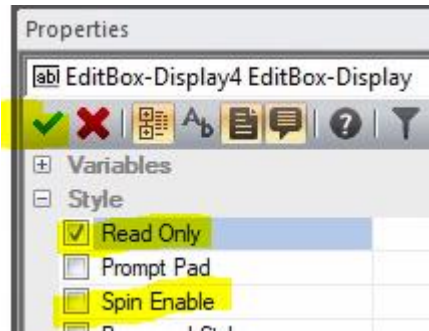


E. Create Edit Box for **HMI_TestIN_LREAL**

1. Toolbox → Objects → Edit Box Display
2. Drag and drop control onto screen
3. Drag and drop variable onto control
4. Properties → Style → Format Value: x.xx, Max Value: 100, Min Value: 0

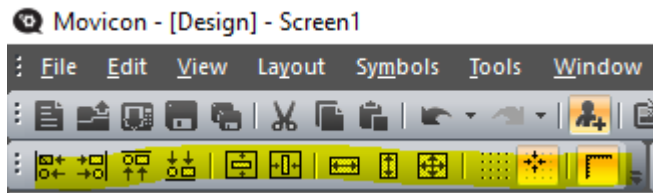
F. Create Edit Box for **HMI_TESTOUT_INT**

1. Toolbox → Objects → Edit Box Display
2. Drag and drop control onto screen
3. Drag and drop variable onto control
4. Properties → Style → Read Only = TRUE, Spin Enable = False.
5. Apply



G. Align Objects

1. Select multiple Items
2. Layout menu → Object Alignment → Distribute Object Space
3. Use layout buttons to make same width, center



V. Test Runtime Simulation

A. Set Startup Screen

1. Project Explorer → QuickStart (the project name)
2. Properties → Execution → Startup Screen → “...” → Choose screen

B. Start Project



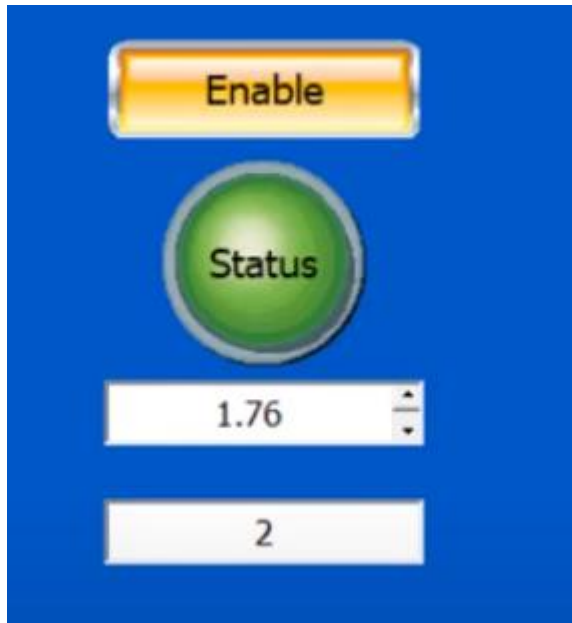
1. Start project button
2. “Yes” to save changes
3. Windows Defender - Allow access
4. Evaluation Mode - OK

C. Verify Functionality

1. MWiec project in debug mode
2. Status light turns on when Enable turns on
3. Input LREAL is converted to INT

D. Implement changes as required

1. Close the Runtime Simulation demo mode
2. Change the code
3. Verify functionality



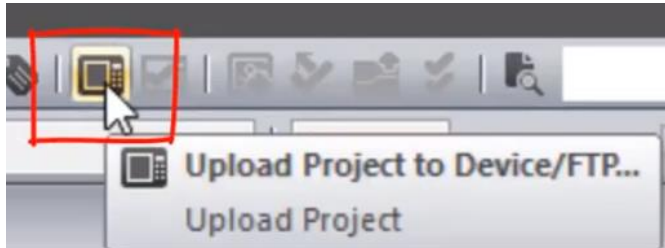
VI. Run project on the HMI Hardware

A. Confirm Ethernet Communications to HMI Hardware

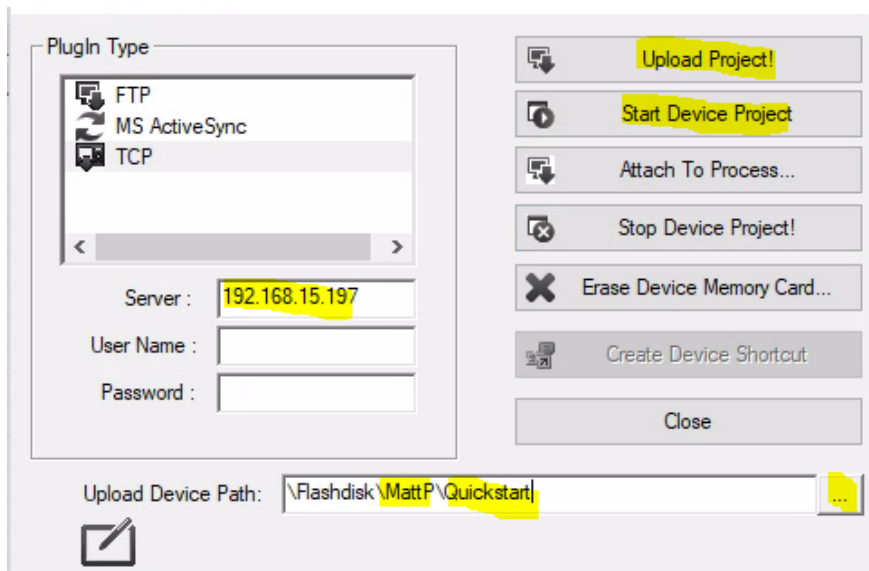
1. Connect over VNC Viewer
2. See reference procedure at the end of this document

B. Upload Project

1. Click Upload Project button

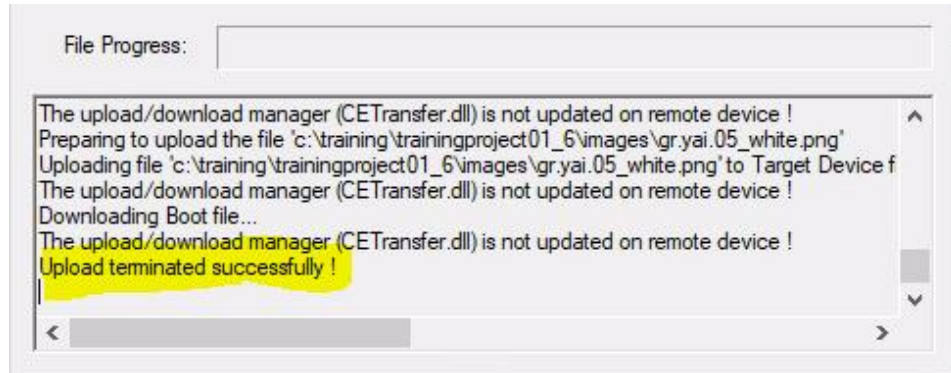


2. Server = IP address of HMI
3. Upload Device Path → “...” → Browse for \Flashdisk\
4. Type to add a folder with Your Name
 - i. Your HMI project files will be easier to find on the device



5. Upload Project!
 - i. “Yes to all” to overwrite files
 - ii. Accept “Default Speed”
 - iii. Accept “Install PLCI Driver” (First time only)

6. Success with "Upload terminated successfully"



C. Run Project

1. Stop Device Project (wait)
2. Start Device Project
3. Confirm Operation

D. Set HMI Runtime Start

1. VNC Viewer → File → Close
2. Project Path parameter → "..."
3. Select your project
4. Back → Back → Start



End Of Mini-Lab

Troubleshooting Tips

- ☐ IP addresses entered correctly
- ☐ Each object has variable in Execution → Command/State Variable or Variables → EditBox-Display Variable
- ☐ Movicon runtime and VNC viewer are not running at the same time
- ☐ MotionWorks IEC in Debug mode
- ☐ MP3300iec in RUN state

Certification Checklist

- ☐ Project running on smartPanel HMI
- ☐ Enable button toggles on and off
- ☐ Status LED follows state of Enable
- ☐ Input EditBox with digits after decimal point
- ☐ Input EditBox with spin up/down
- ☐ Output EditBox-Display shows input value converted to integer when Enable = TRUE

VII. Reference Section – Establish Comms via VNC Viewer

A. Establish comms. Via VNC Viewer

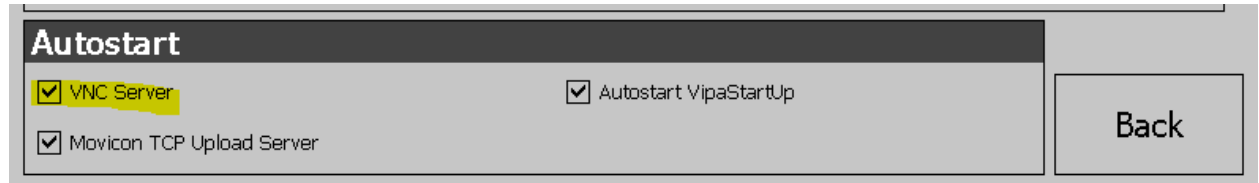
1. The HMI must already have a static IP address in order to use VNC Viewer

The IP address has already been set. The following is for reference.

- i. Power on the HMI
- ii. Touch Main
- iii. Settings → LAN Settings → CPSW3G2 → IP address → Specify an IP Address

2. **VNC SERVER** must be enabled in the HMI **AUTOSTART** menu. It is enabled by default.

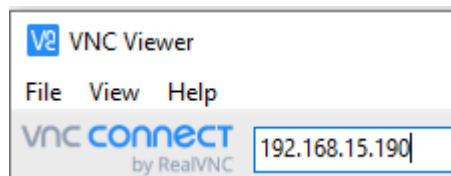
The VNC Server has already been enabled. The following is for reference.



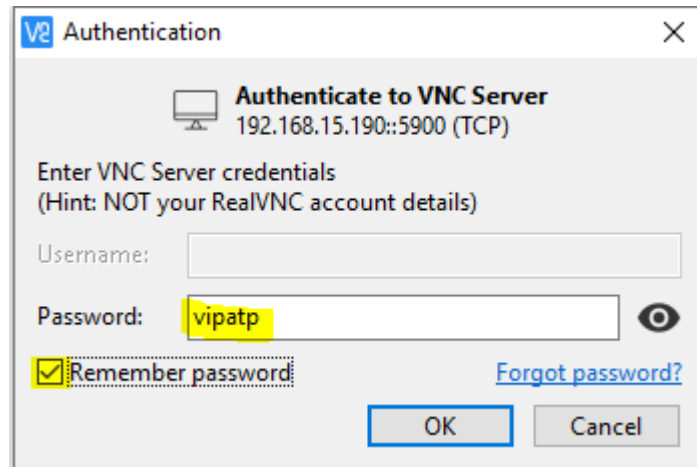
3. Run VNC Viewer client by RealVNC

4. Enter IP address of HMI

Delete the HMI from the VNC Viewer page if you want to complete these steps again



5. Enter password **vipatp** and mark **REMEMBER PASSWORD**



6. The HMI may be running a project from a previous user. This is OK.

Optional Exploration

Work on any of the following in any order

- Add more controls
- Browse the Symbol Libraries