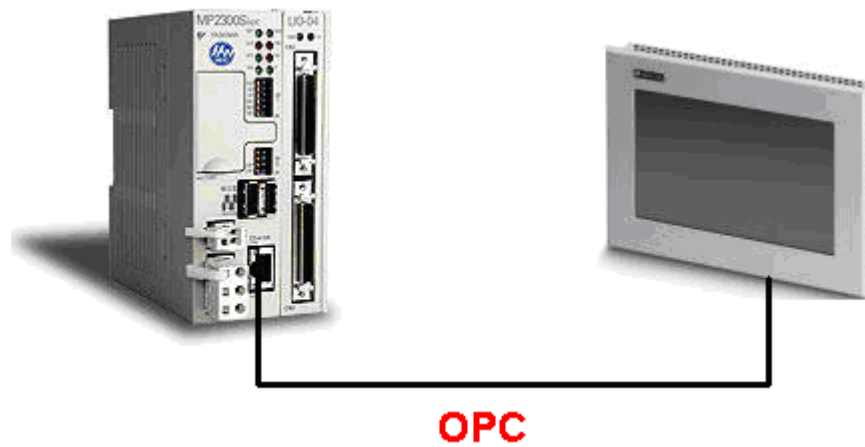Product Application Note

Configuring Visu+ software on a TP series Phoenix HMI to Communicate with an MPiec controller over OPC

Applicable Product: MPiec, MotionWorksIEC

OPC

Subject: Application Note	Product: MPiec	Doc#: AN.MP2000iec.08
Title: Configuring Visu+ software on a TP series Phoenix HMI to Communicate with an MPiec controller over OPC		

Application Overview

This document explains the steps required to configure a TP series HMI using Visu+ to communicate to an MPiec series controller over OPC.

Products Used:

Component	Product and Model Number
Controller	MPiec
Software	MotionWorks IEC Professional, MW OPC server 2.1
HMI	TP series HMI from Phoenix contact
HMI software	Visu+ 2.0

Implementation Method of Core Operation

Step 1: Set the OPC configurator with the controller settings as shown in figure 1.
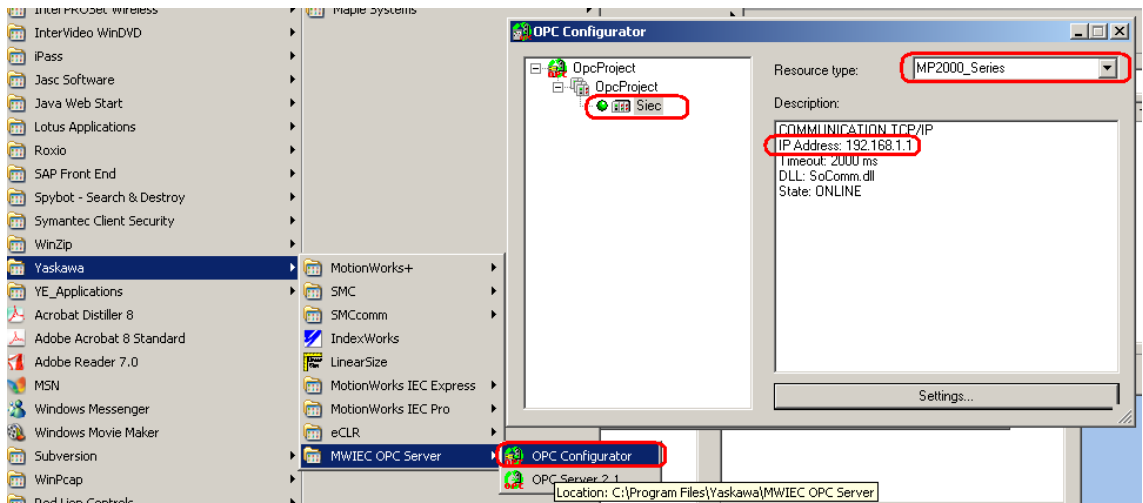

Figure 1: OPC configurator settings

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Step 2: By default, all global variables in a MotionWorksIEC project are considered OPC items. In order not to use all global variables and to choose OPC variables of interest, go to the Resource settings for the controller in MotionWorksIEC and opt to use only marked variables as OPC items in place of all global variables (figure 2). Choose the OPC variables from the global variables worksheet by checking the OPC column as shown in figure 3.
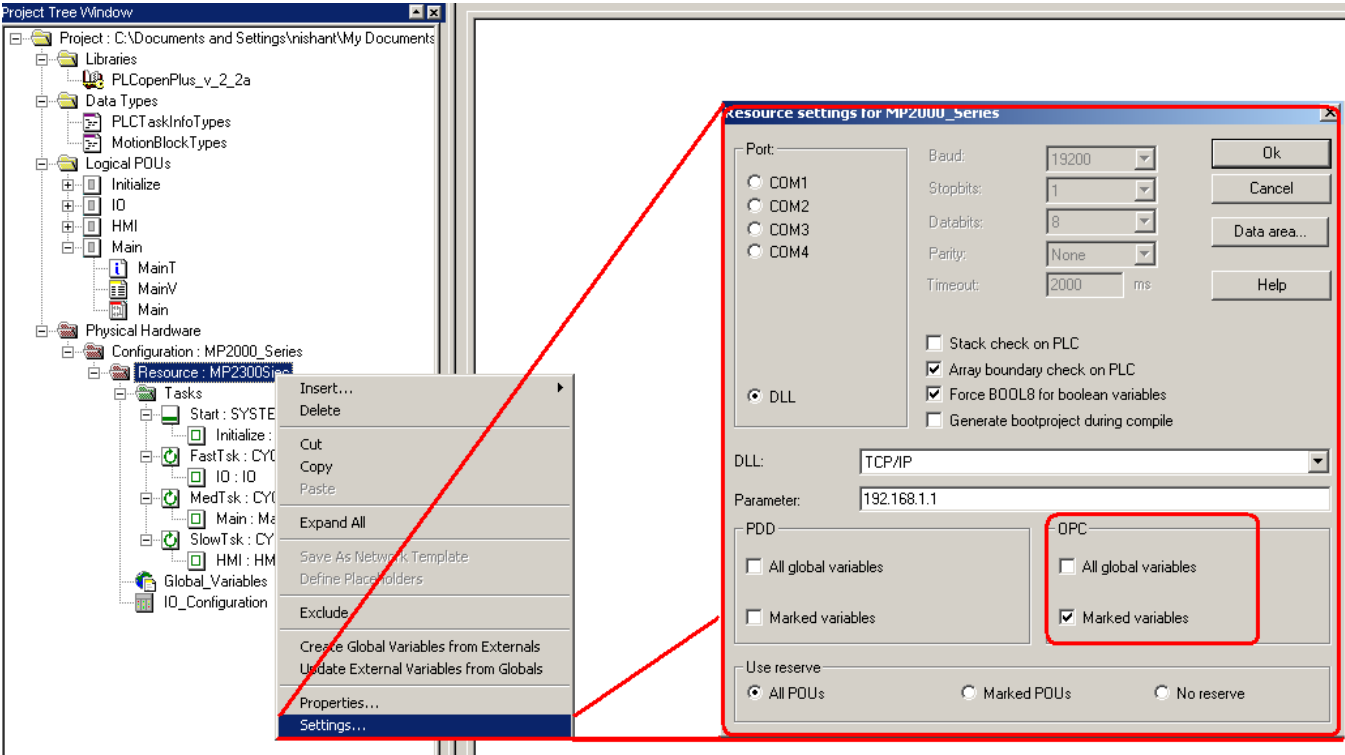

Figure 2: Controller resource settings to choose OPC items

☐ User Variables									
OPC_Bit_to_IEC	BOOL	VAR_GLOBAL				☐	☐	☑	☐
OPC_Bit_from_IEC	BOOL	VAR_GLOBAL				☐	☐	☑	☐
OPC_LREAL_to_IEC	LREAL	VAR_GLOBAL				☐	☐	☑	☐
OPC_LREAL_from_IEC	LREAL	VAR_GLOBAL				☐	☐	☑	☐

Figure 3: OPC variables selected in MotionWorksIEC

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Step 3: In Visu+, add new OPC items under Resources > OPC Client DA (COM) > Add new OPC item
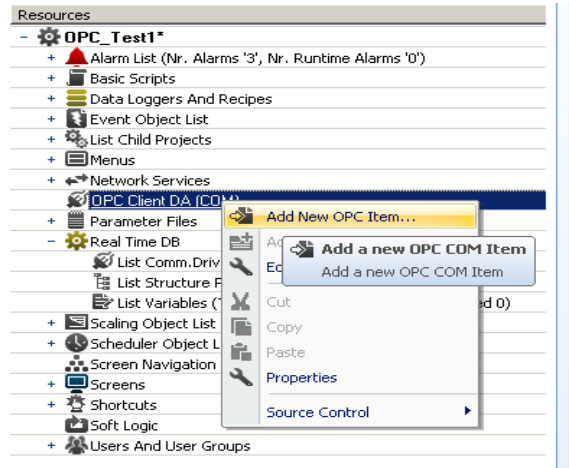

Figure 4: Add new OPC items

Select the MotionWorks OPC server from the list of OPC servers available in the tag browser window (figure 5). This selection will start running the OPC server (figure 6). Once it starts running the server icon can be seen running in the task bar.
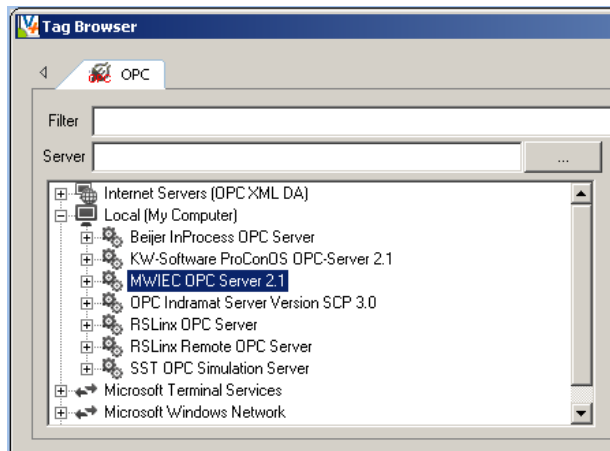

Figure 5: MWIEC OPC server selected in tag browser

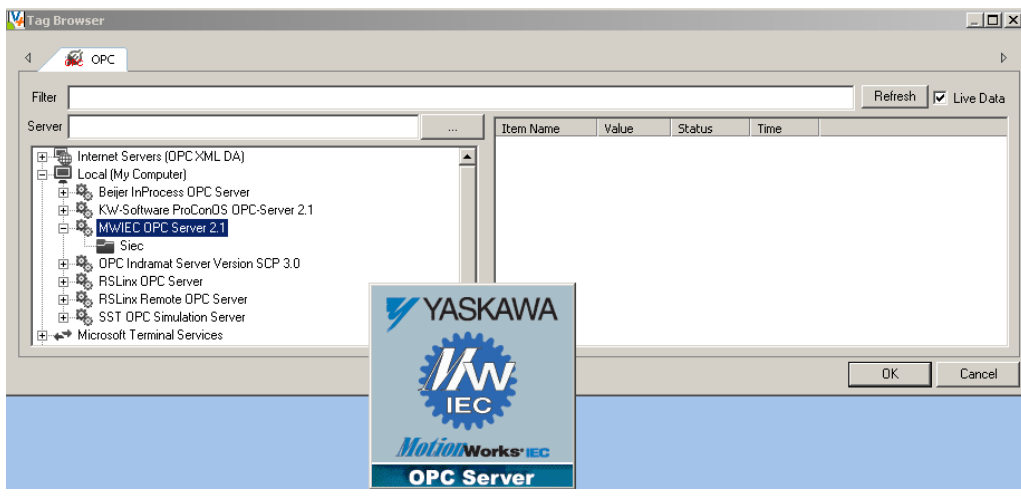| Subject: Application Note	Product: MPiec	Doc#: AN.MP2000iec.08
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Figure 6: MWIEC OPC server running

Step 4: Verify the status of the OPC variables by selecting the resource in the tag browser. A 'good' status indicates healthy communication.
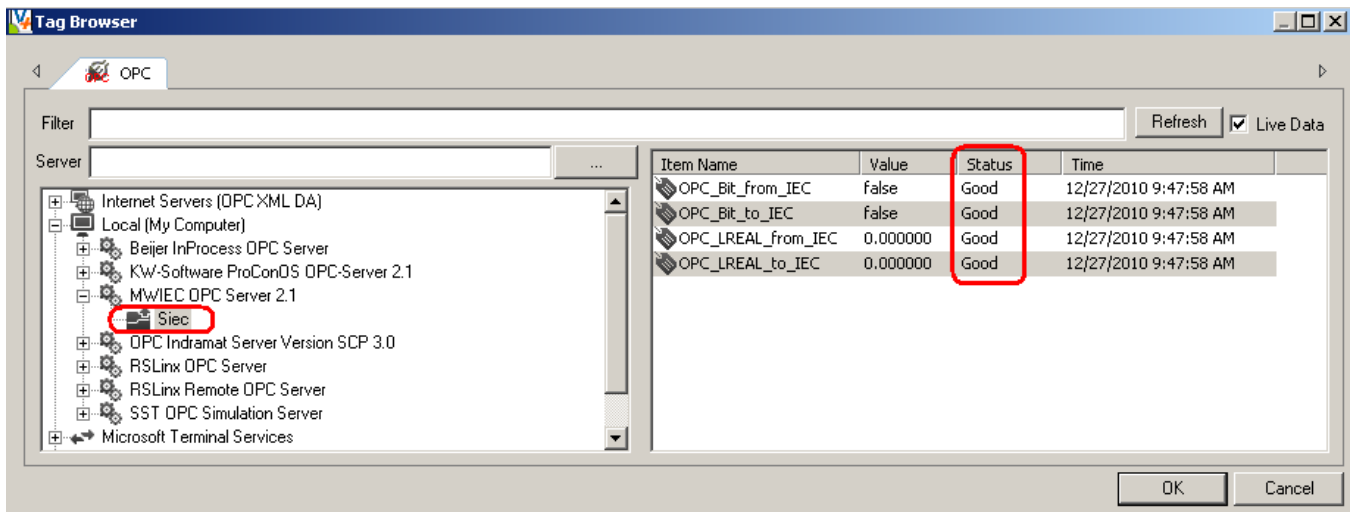

Figure 7: Healthy OPC communication verification

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Step 5: Bring the OPC variables in the tag browser to the real time data base. Click on the OPC Client group and add a new OPC item.
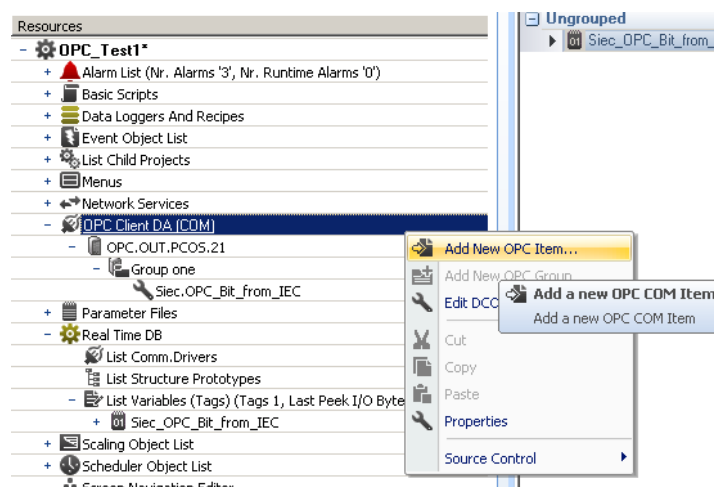

Figure 8: Choosing a variable to be part of the real time data base

Select the variable that needs to be added to the real time data base and click OK. Multiple variables can be selected at once and brought to the real time DB too.
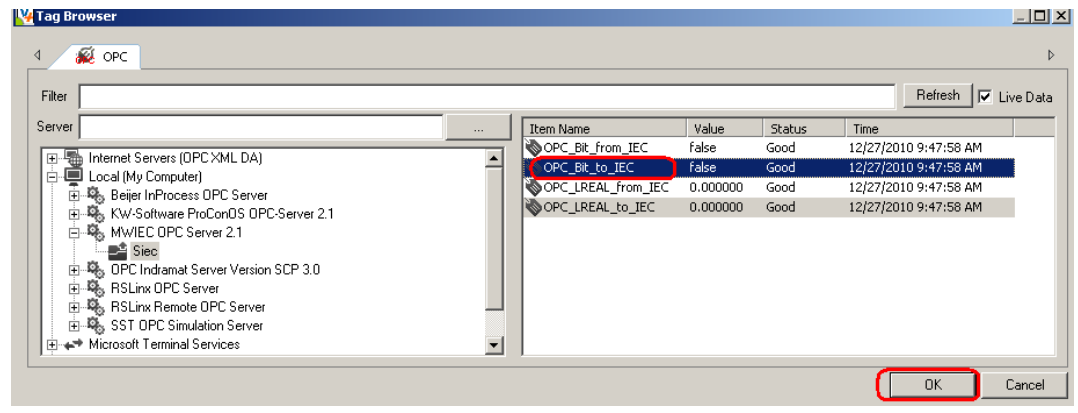

Figure 9: Adding an OPC item to the real time data base

Once the variables have been added to the real time data base, they can be seen in the RTDB list as shown in figure 10

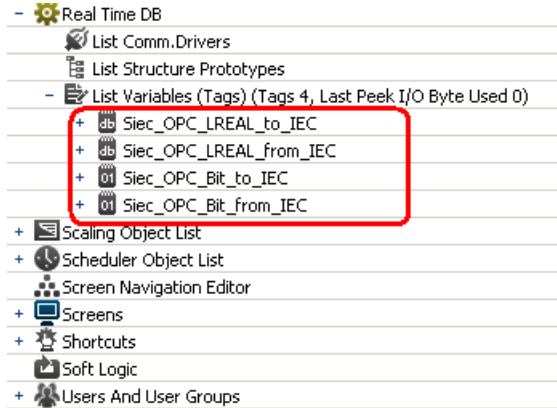| Subject: Application Note	Product: MPiec	Doc#: AN.MP2000iec.08
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Figure 10: Updated RTDB list

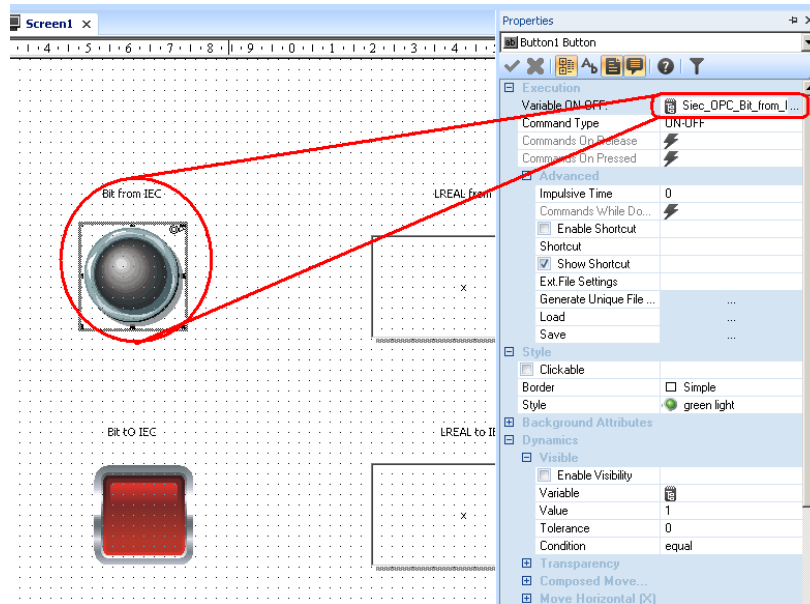**Step 6**: Create a screen, screen objects and map the variables in the RT data base to the screen objects.

Figure 11: Mapping variables to screen objects.

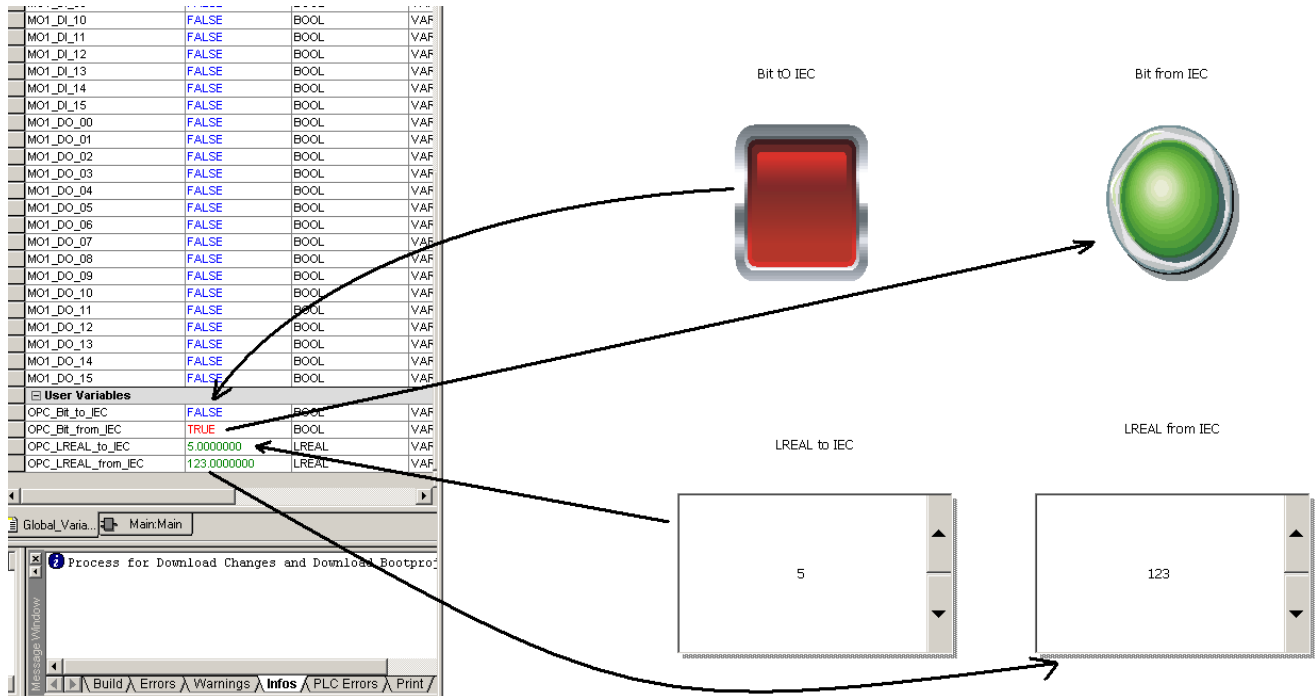| Subject: Application Note	Product: MPiec	Doc#: AN.MP2000iec.08
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Start simulation and verify OPC communication.

Figure 12: OPC communication verification