

Quick Start Guide

Control Panels CP405 Control Panels CP408

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1 Introduction

This documentation describes the steps to create a simple CP400PB (Panel Builder 400) project. The description includes hardware, configuration and programming of CP405/CP408 and AC500-eCo in order to communicate with each other.

2 Before You Start

2.1 Hardware Connection

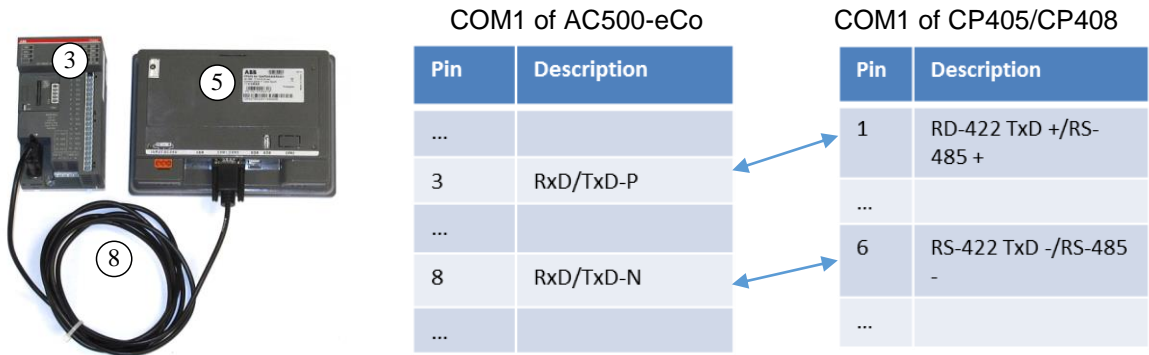
Before you start, following equipments should be prepared:



1. Personal Computer
2. 24V DC power supply
3. AC500-eCo PM554
4. TA562-RS(-RTC) (RS485 serial adapter for COM2 interface)
5. CP405/CP408 control panel
6. TK504 (PLC programming cable for COM2)
7. USB programming cable type A to type B (Between CP405/CP408 and PC)
8. TK407 communication cable (Between AC500-eCo and CP405/CP408)
9. PS501 Control Builder Plus installation (TK504 driver included)
10. CP400PB (Panel Builder400) installation (USB programming cable type A to type B driver included)

Make sure all above listed items are available, then follow the steps below.

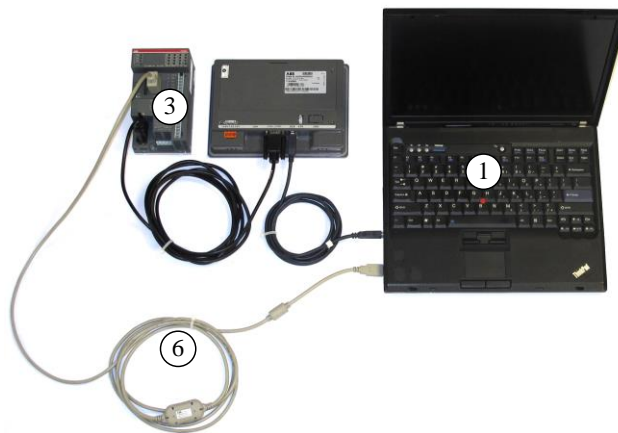
1. Connect CP405/CP408 (5) with AC500-eCo (3). Pinning of TK407 (8) is shown below.



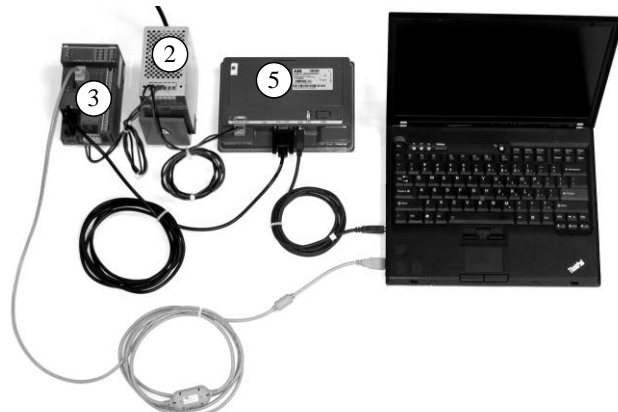
2. Connect CP405/CP408 (5) with PC (1).



3. Connect AC500-eCo (3) with PC (1) with TK504 (6).



4. Connect 24VDC power supply (2) to CP405/CP408 (5) and AC500-eCo (3).





NOTE

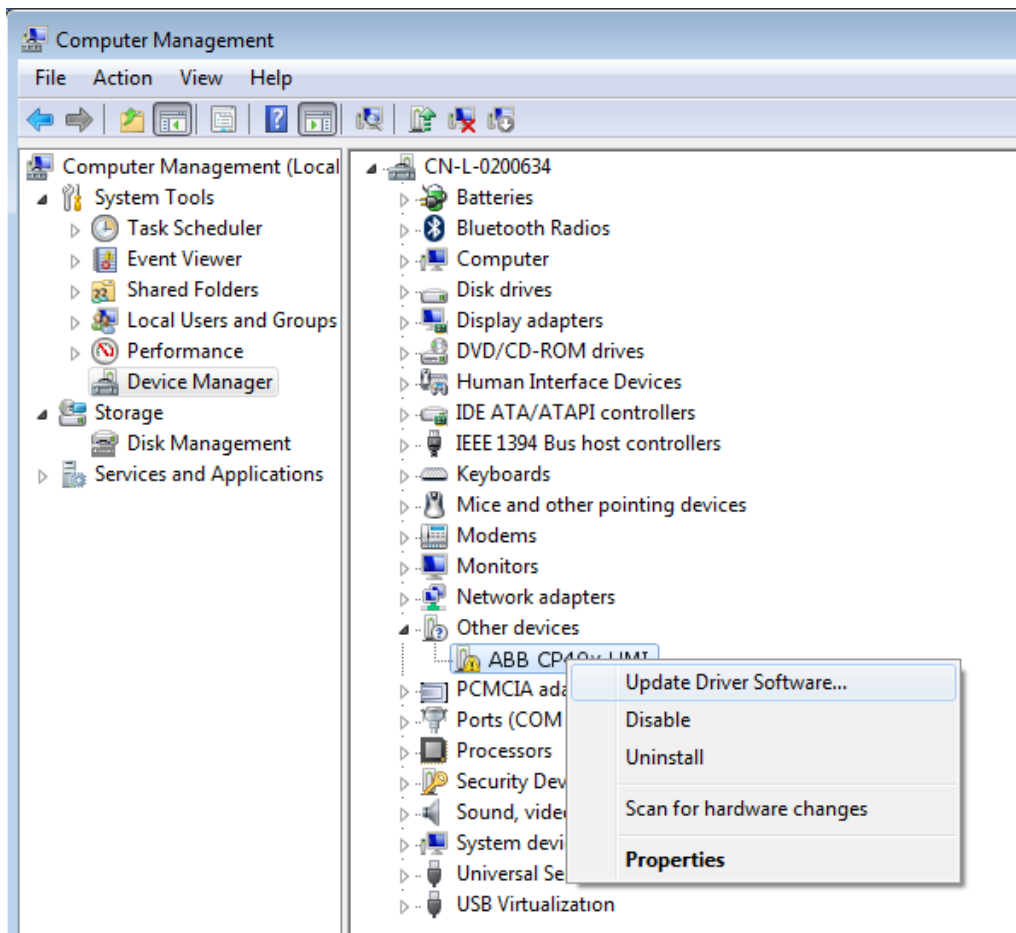
System requirements for using CP400PB (Panel Builder 400):

- Driver will be installed automatically for:
 - Windows 2000™ SP4
 - Windows XP™ SP2
 - Windows Server 2003™
 - Windows Vista™
- Driver needs to be installed manually, see Chapter 2.2:
 - Windows 7™

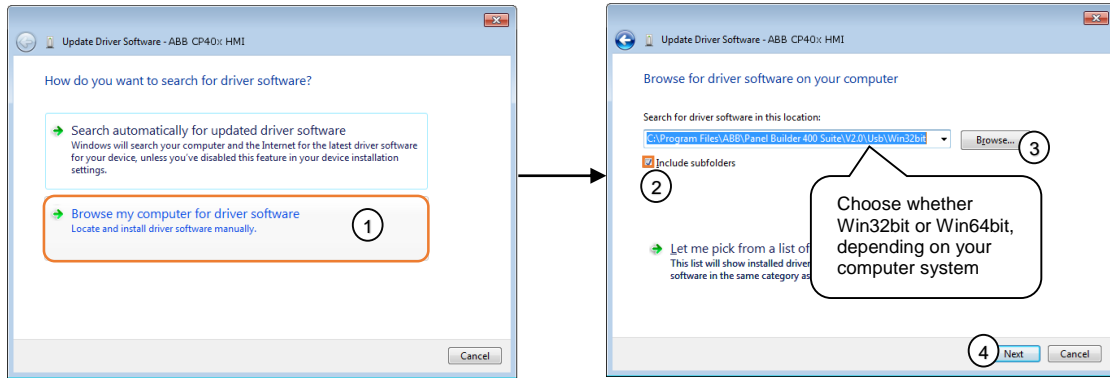
2.2 Software Installation

Install the driver for panel in Windows 7 system as below.

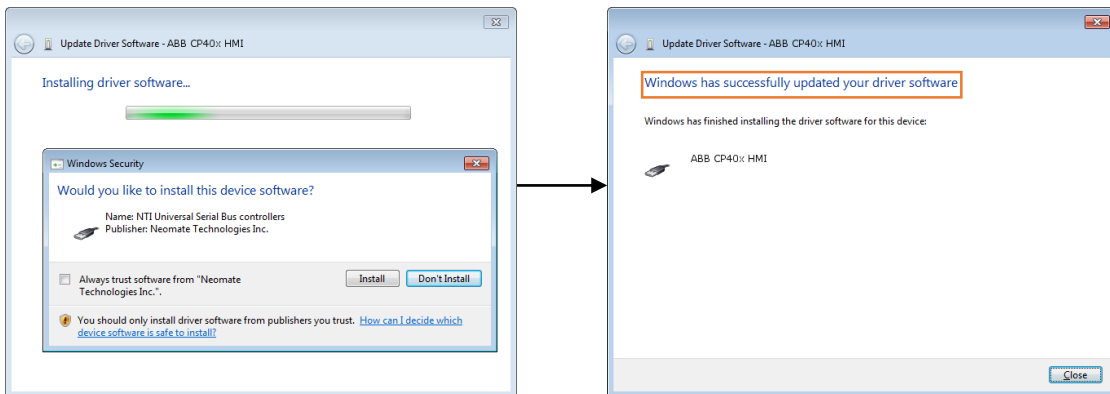
1. Install CP400PB (Panel Builder 400) and CBP (Control Builder Plus) software. For further details, please see AC500-eCo Starter Kits: 2CBA125031M0201
2. After USB programming cable is plugged in PC for the first time, Windows will detect it automatically. Right click **ABB CP40x HMI** to update the software.



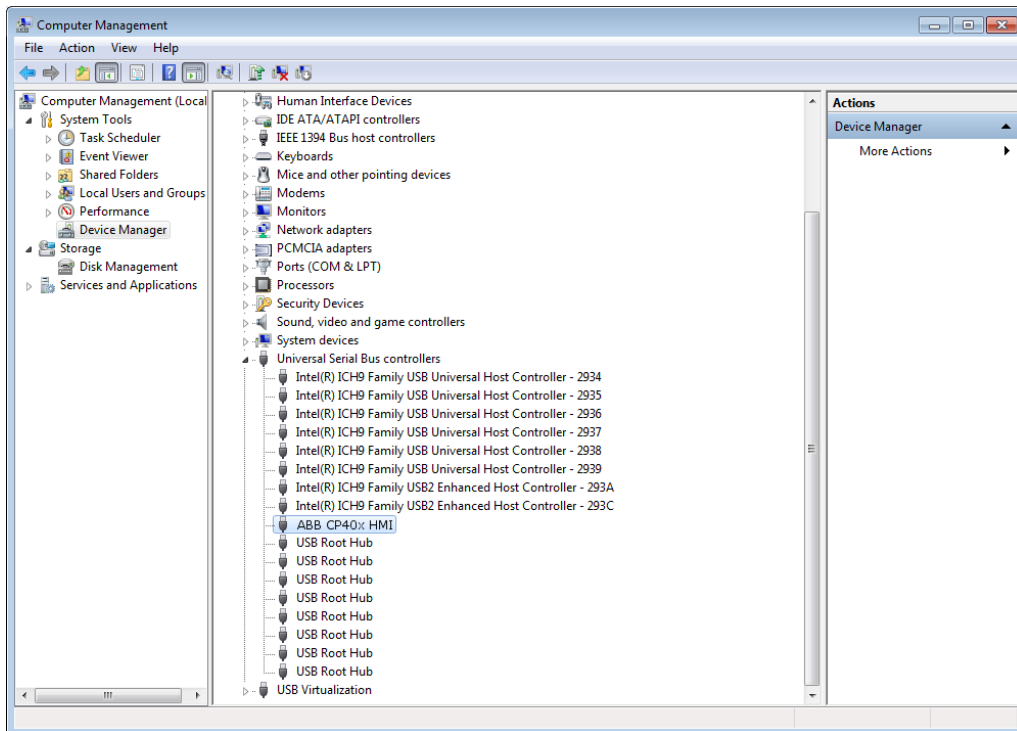
3. Browse the driver software.



4. Finish the installation.



5. Check if driver is installed correctly in Device Manager.



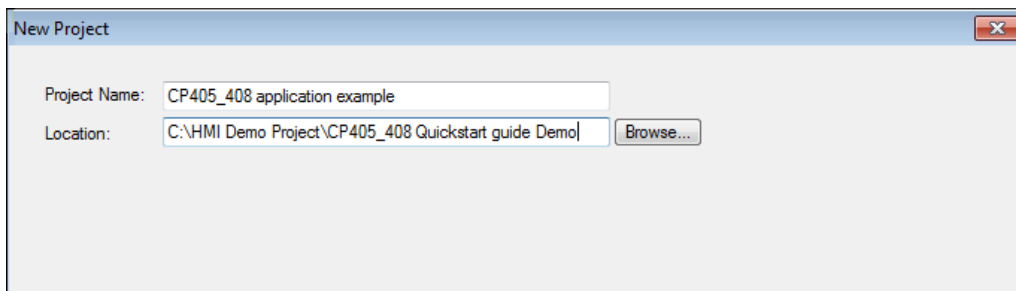
3 Application Examples - Data Display

Open Panel Builder software to configure the setting on CP400PB.

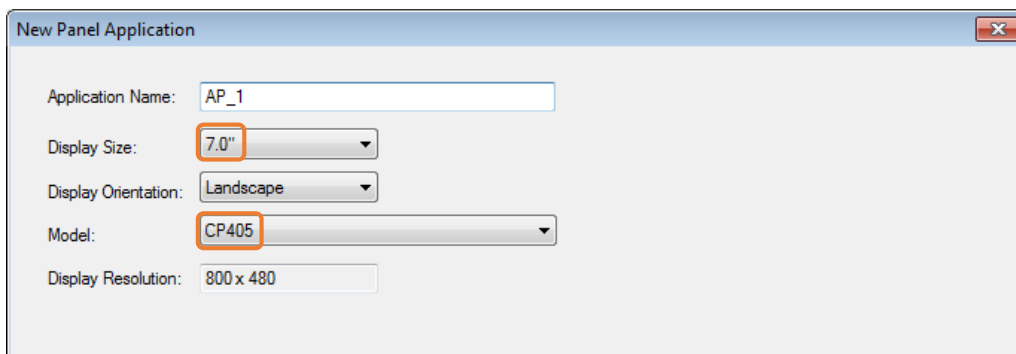
1. Open CP405/CP408 configuration environment and create a new project.



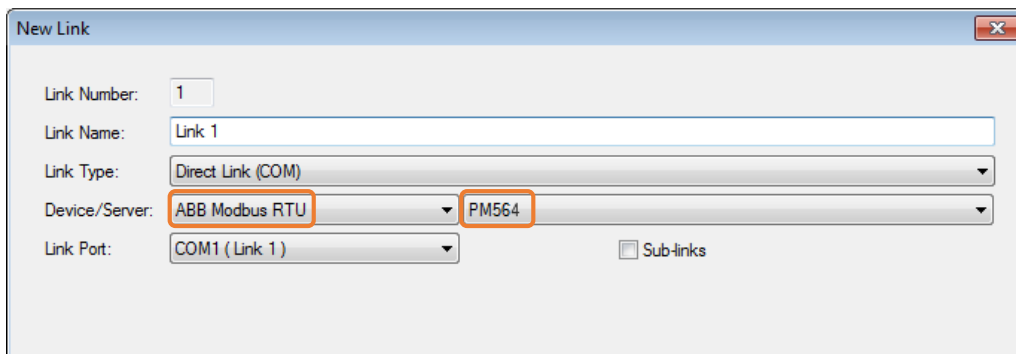
2. Input project name and location. Then click **Next**.



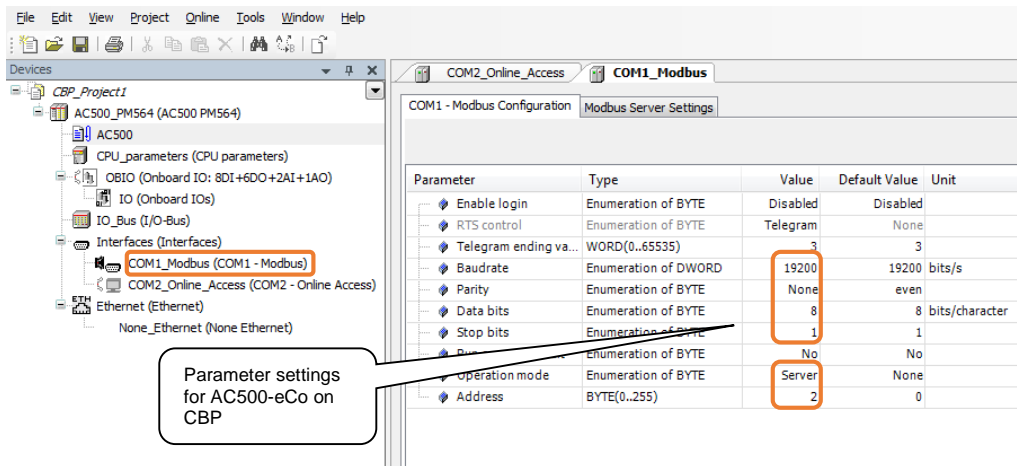
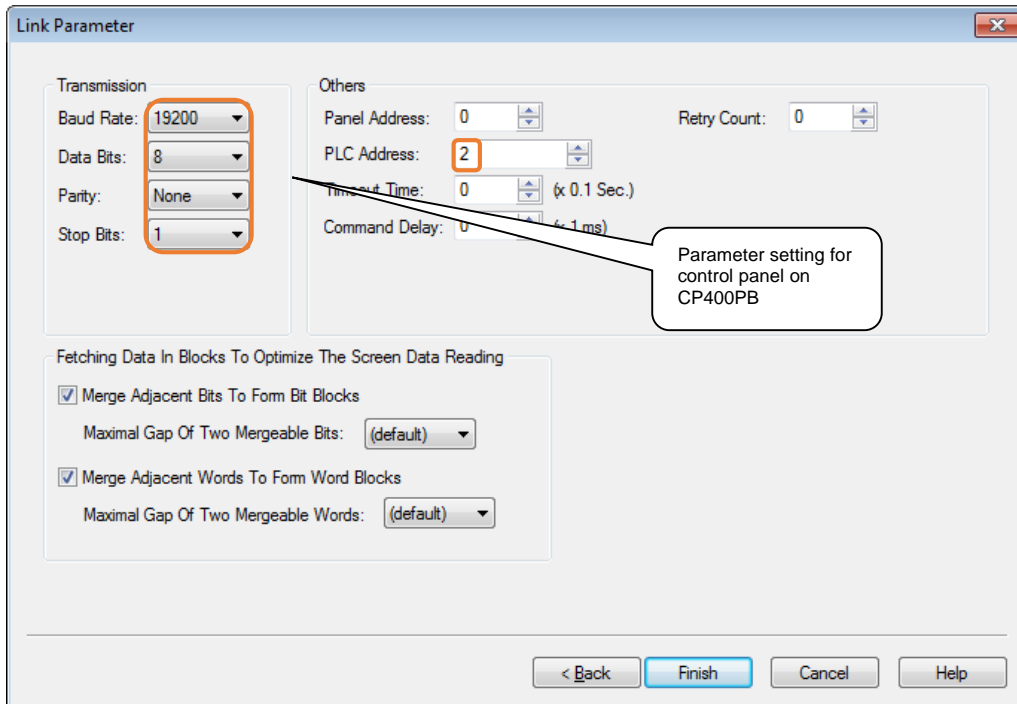
3. Choose corresponding CP405/CP408 type. Then click **Next**.



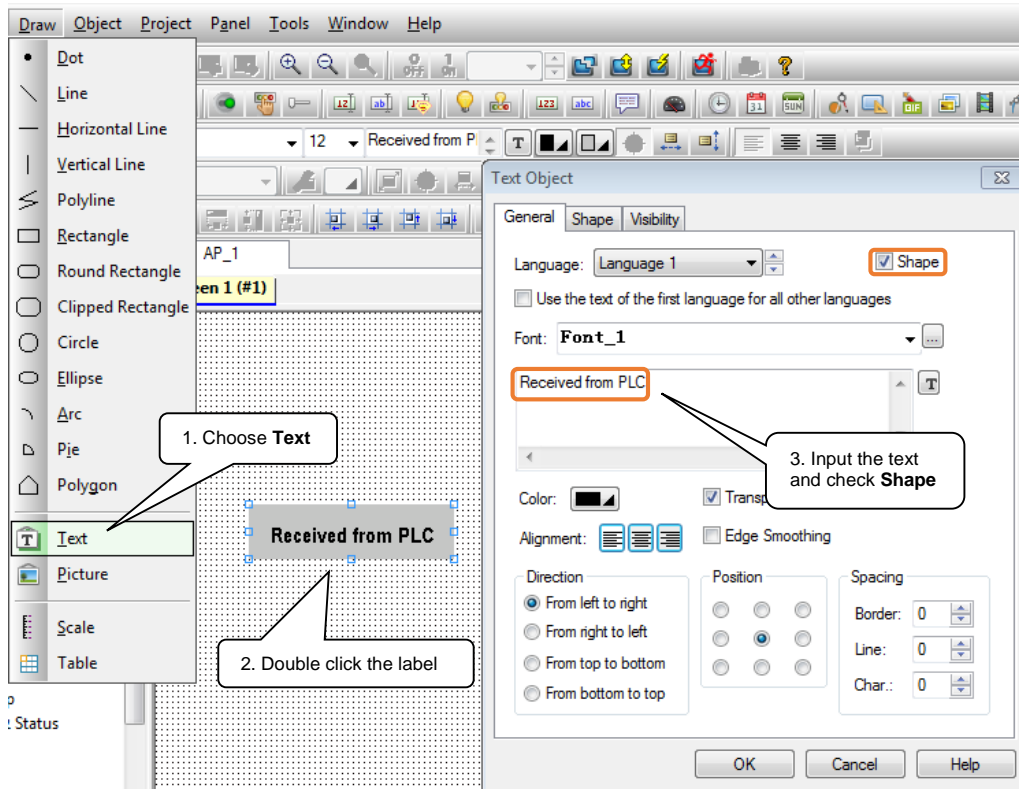
4. Set ABB Modbus RTU as communication service. Then click **Next**.



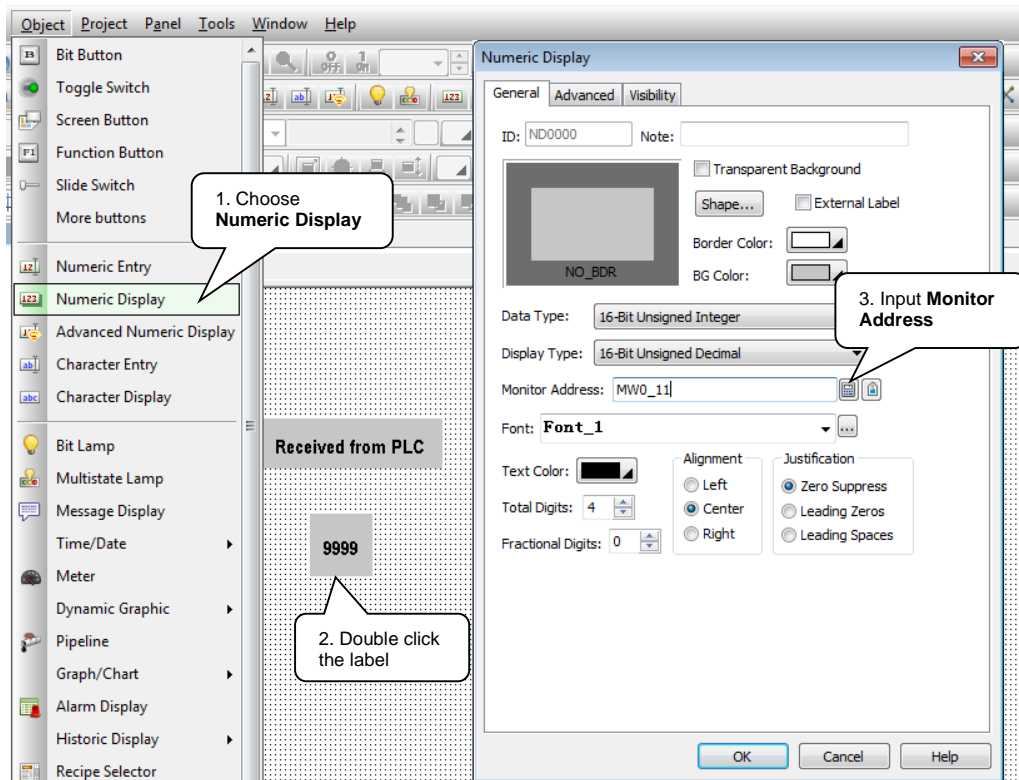
5. Configure the **Link parameter** of CP405/CP408, which shall be consistent with the used parameter settings in AC500-eCo.



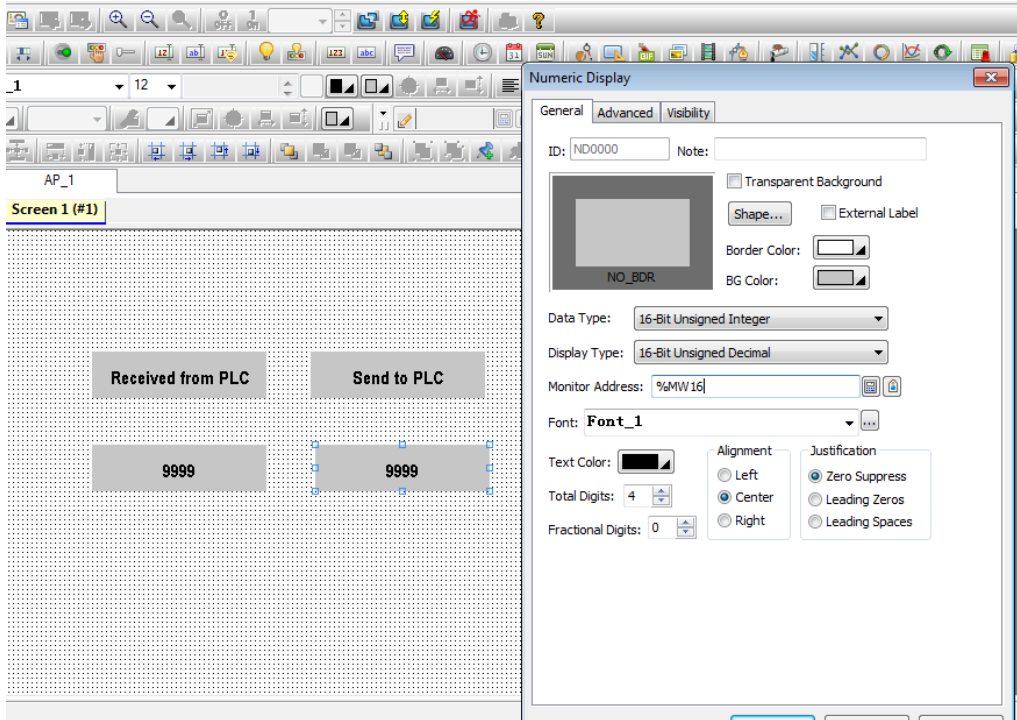
6. Draw a text label and edit the current text.



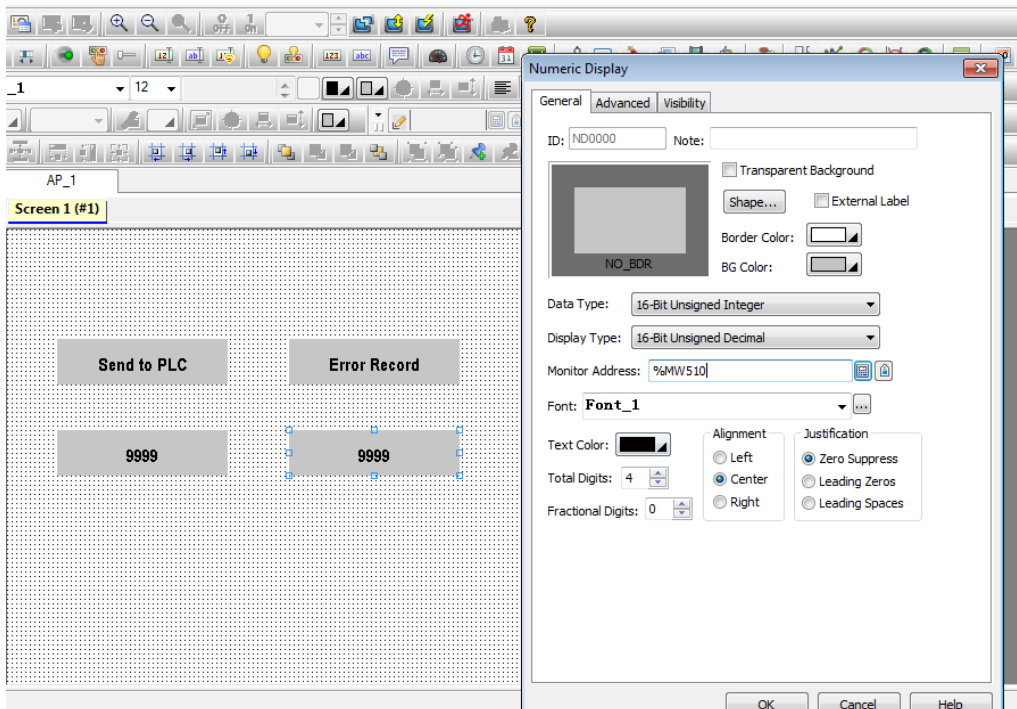
7. Draw a numeric display label to display the data received from AC500-eCo. Choose the data type (Monitored variable type), display type and monitor address.



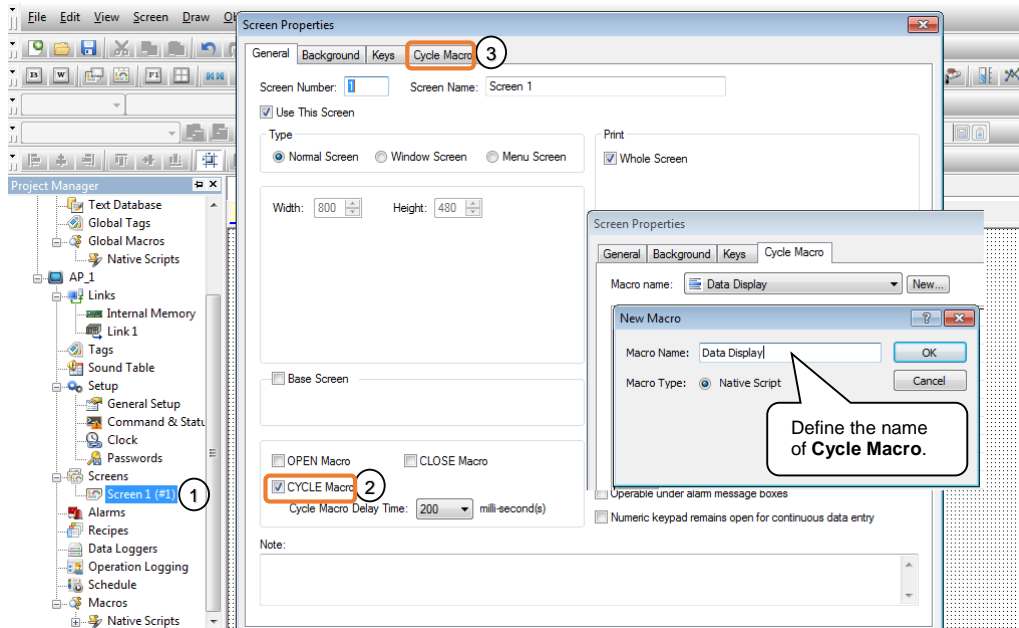
8. Draw and specify a numeric display label to display the data sent to AC500-eCo.



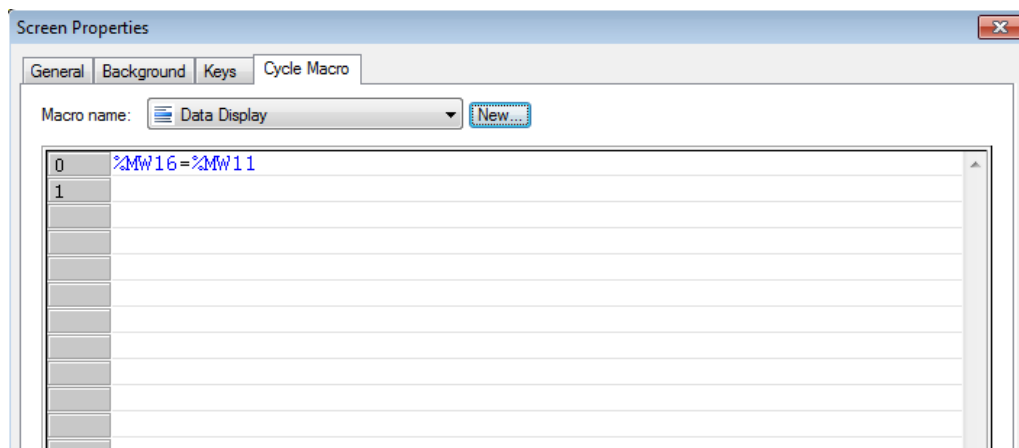
9. Draw and specify a numeric display label to display the error record (how many times data received from AC500-eCo is not equal to data send to AC500-eCo).



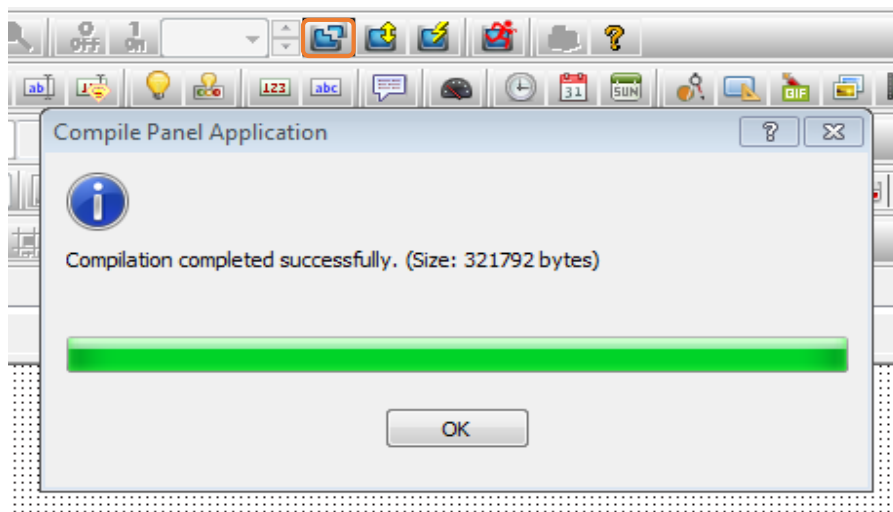
10. Double click **Screen 1** and check **Cycle Macro**, the Cycle Macro will be running continuously while the **Screen 1** is open.



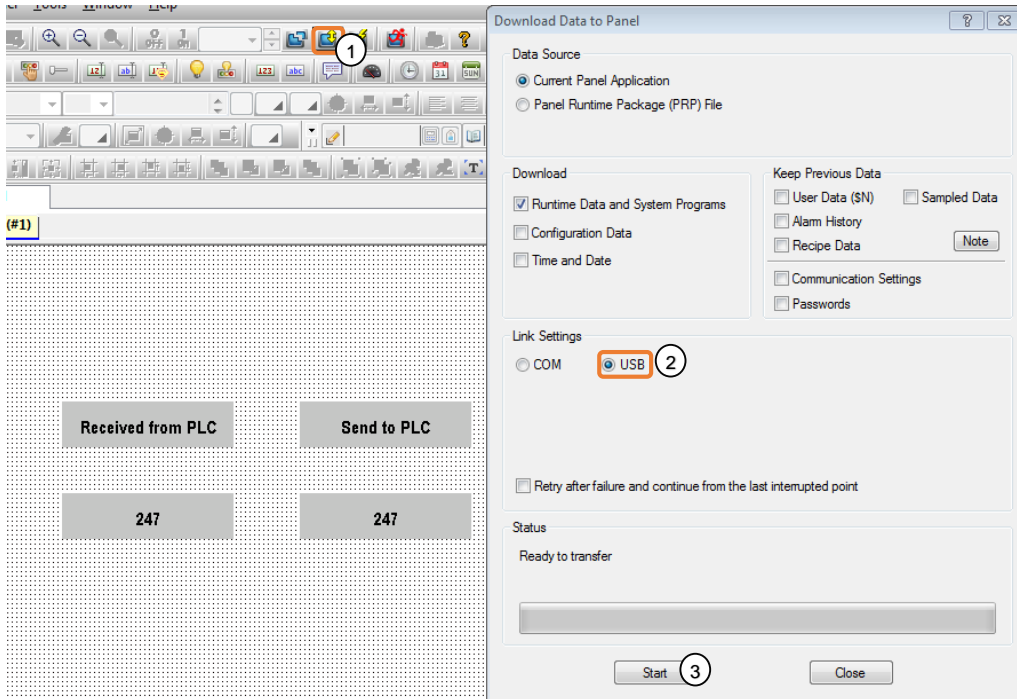
11. Write **Cycle Macro** to perform data exchange operation.



12. Compile the application.



13. Click **Download** icon and select the link before downloading.



Step 14 to 17 are the settings on CoDeSys.

14. Program in CoDeSys.

```

PROGRAM PLC_PRG
VAR

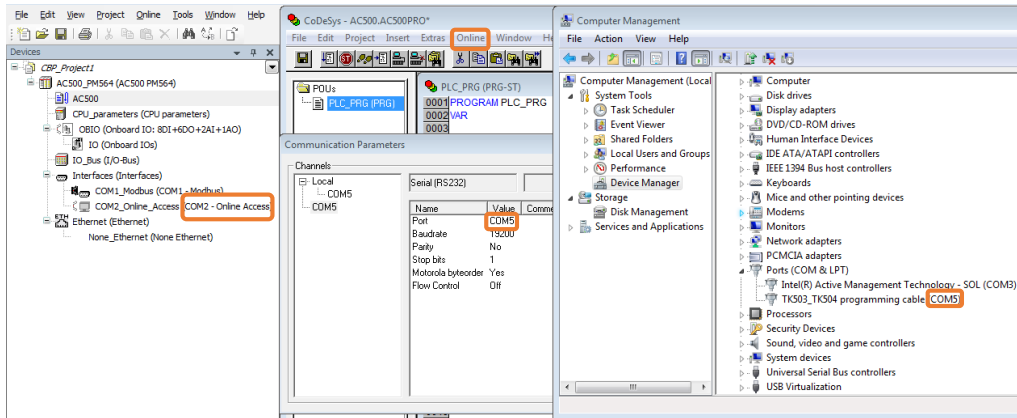
    Datasend AT%MW0.11: INT;
    Datareceive AT%MW0.16: INT;
    Errornum AT%MW0.510: INT; (*point to the numeric displayed labels defined at CP400*)
    datatransfer: INT;
    step: INT;
    tempdata: INT:=123;
    Delay: TON;
END_VAR

CASE step OF
0:
    Datareceive:=tempdata;(*give a temp valut to communicaiton data*)
    Delay(IN:=FALSE);
    IF datatransfer<2000 THEN
        datatransfer:=datatransfer+1;
    ELSE
        datatransfer:=0;
    END_IF
    END_IF
    Datasend:=datatransfer;
    Step:=1;

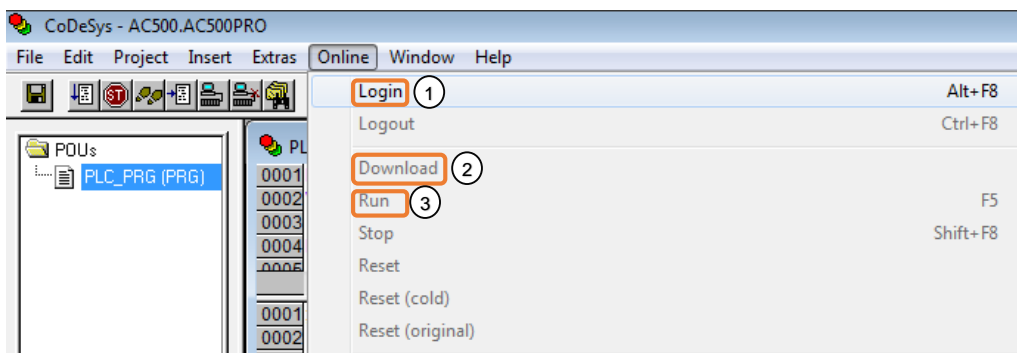
1:
    Delay(In:=TRUE,PT:=#5s);(*delay, wait for HMI to execute the program *)
    IF Delay.Q THEN
        IF Datasend<=>Datareceive THEN (*if no problem,the data can be covered by gradually added value, otherwise it will keep temp value*)
            Errornum:=Errornum+1;
        END_IF
        step:=0;
    END_IF
END_CASE

```

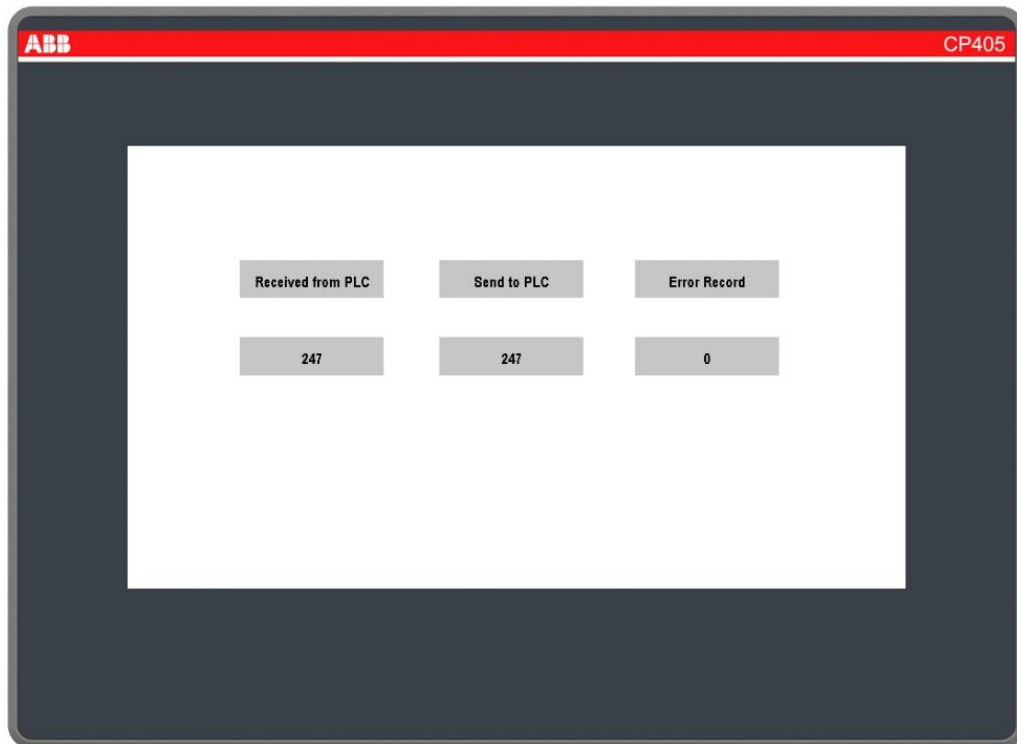
15. Set AC500-eCo Communication parameters.



16. Login, download and run the program to AC500-eCo.



17. CP405/CP408 panel display after a few minutes.



4 Revision History

Rev. ind.	Page (P) Chapt. (C)	Description

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