



OCS Training Workshop Lab 23

Configuration of SmartBlock I/O modules

Lab 23: Configuration of SmartBlock I/O modules

Introduction

Objective:

The objective of this lab is to give you the knowledge to configure SmartBlock Remote I/O's over CsCAN.

Overview:

SmartBlock I/O is DIN rail mountable expansion I/O and comes in various block formats. In this lab, connectivity of the I/O to the OCS is done over a CsCAN network.

Requirements:

- *Any OCS controller with a CAN port (XL6e in the exercise).*
- *HE579RTD100 SmartBlock I/O module (Set as CsCAN node ID 5).*
- *Cscape 9.30 or higher.*
- *Firmware version 12.8x or higher.*
- *CAN cable.*
- *120Ohm resistors for bus termination.*

Cscape Configuration Procedure

Step 1

Open CsCAN I/O window

Click on the **Controller** menu and select **Hardware Configuration**. Choose the tab labelled **CsCAN I/O**.

Step 2

Add the relevant SmartBlock device

Click the Add button. Browse to the Smartblock tab. Double click on the relevant module entry (in this example HE579RTD100).

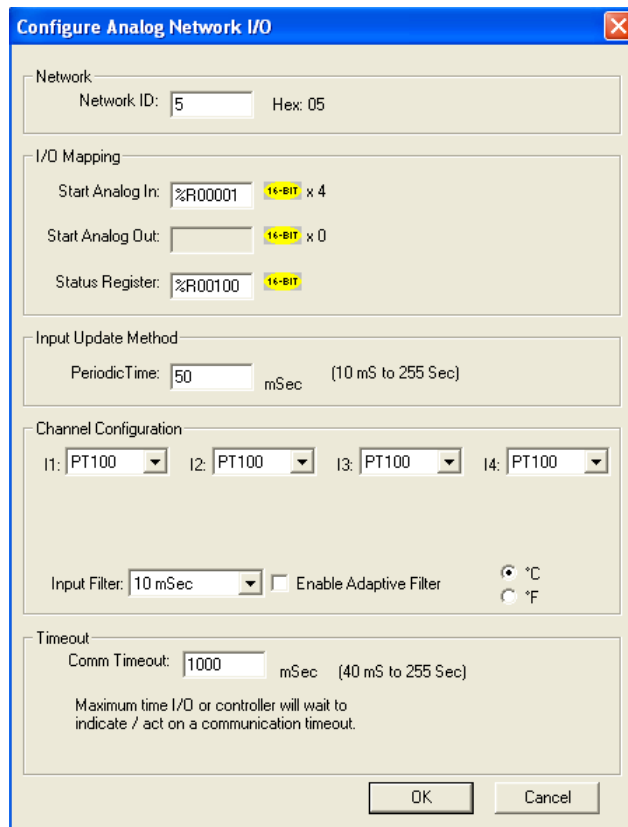
Double click on the module entry in the left hand window pane to display the configuration window below.

Step 3

Set module Node ID and network Baudrate

Move the dial on the front of the HE579RTD100 using a screw driver to set the module as CsCAN node ID 5. Set the Network Baud rate of the controller to 125k Baud via the System Menu of the controller.

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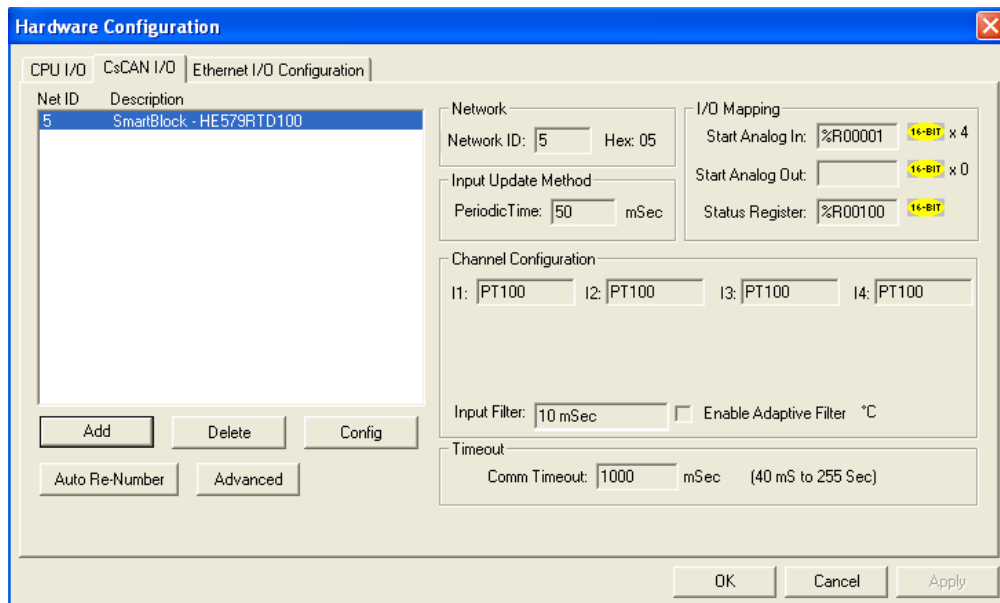


The 'Configure Analog Network I/O' dialog box contains the following sections and fields:

- Network:** Network ID: 5, Hex: 05
- I/O Mapping:**
 - Start Analog In: %R00001 (16-BIT) x 4
 - Start Analog Out: (16-BIT) x 0
 - Status Register: %R00100 (16-BIT)
- Input Update Method:** PeriodicTime: 50 mSec (10 mS to 255 Sec)
- Channel Configuration:** I1: PT100, I2: PT100, I3: PT100, I4: PT100
- Input Filter:** 10 mSec, ☐ Enable Adaptive Filter, ☒ °C, ☐ °F
- Timeout:** Comm Timeout: 1000 mSec (40 mS to 255 Sec)
Maximum time I/O or controller will wait to indicate / act on a communication timeout.
- Buttons:** OK, Cancel

Now fill in the necessary fields for the status register and starting register points for monitoring I/O data. For this lab exercise, type %R00001 into the Start Analog Input field as seen above. Fill in the remaining fields such as Status registers etc as you see above.

There are also channel configuration settings needed. Select the relevant channel setting you need. By default, PT100 is selected as seen above. Click OK when complete and the table below should appear.



The 'Hardware Configuration' dialog box shows a table of configured modules and their settings:

Net ID	Description
5	SmartBlock - HE579RTD100

Buttons: Add, Delete, Config, Auto Re-Number, Advanced

The right side of the dialog shows the configuration for the selected module (Net ID 5):

- Network:** Network ID: 5, Hex: 05
- I/O Mapping:** Start Analog In: %R00001 (16-BIT) x 4, Start Analog Out: (16-BIT) x 0, Status Register: %R00100 (16-BIT)
- Input Update Method:** PeriodicTime: 50 mSec
- Channel Configuration:** I1: PT100, I2: PT100, I3: PT100, I4: PT100
- Input Filter:** 10 mSec, ☐ Enable Adaptive Filter, ☒ °C
- Timeout:** Comm Timeout: 1000 mSec (40 mS to 255 Sec)
- Buttons:** OK, Cancel, Apply

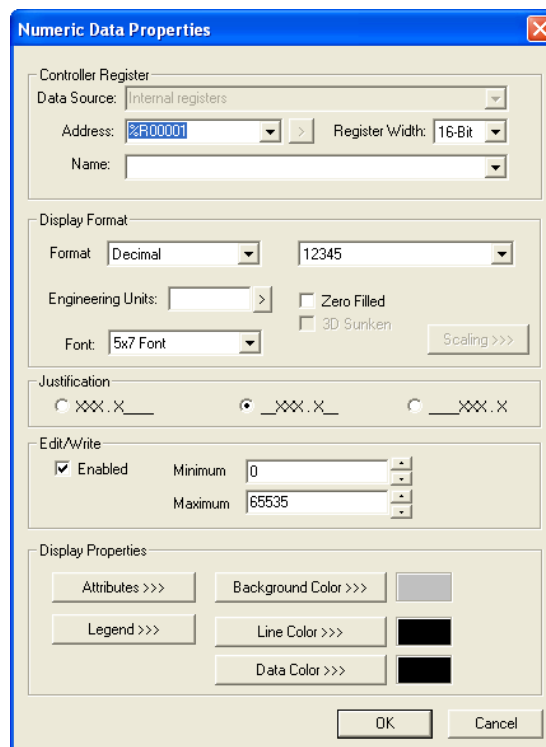
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Step 4

Configure your XL6e screen

Open the graphics editor in Cscape and on the first screen add an numeric data field to monitor the four RTD channels.

The screen should look like something below:



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Step 5

Configure ladder code

Configure the ladder code as you see fit to use/manipulate the data as per your needs.

Save all changes and download the program to your OCS controller. Make sure you have wired up all the CAN port terminal connectors correctly and put the system into RUN mode.

End of LAB 22