EXOR® *Tech-note*

Connecting UniOP to Control Logix 5550 via A-B DF1

This Technical Note contains the information needed to connect UniOP to the A-B Control Logix 5550 controllers using the A-B DF1 serial communication protocol.

Contents

1. Introduction

The UniOP operator panels can be connected to the Allen-Bradley Control Logix 5000 series controllers via Ethernet. In addition to the Ethernet connection it is possible to use the standard A-B DF1 communication protocol to connect UniOP panels to the controller serial port.

2. Designer Configuration

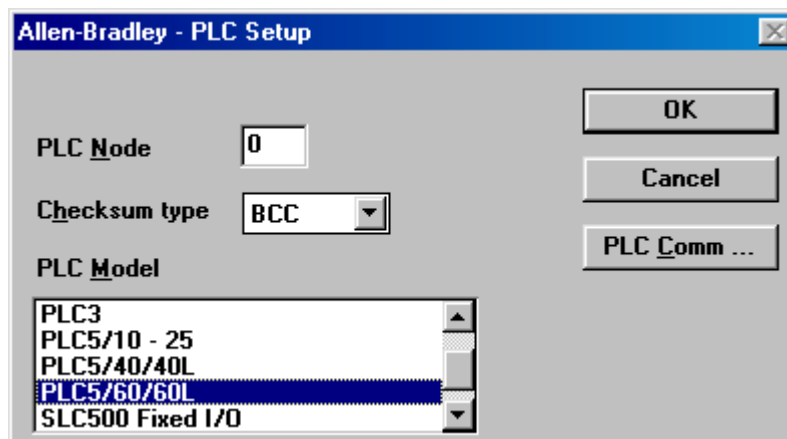Designer has to be configured to use the standard A-B DF1 driver selecting the "PLC5/60/60L" controller model.

Figure 1

Communication parameters have to match the settings done on the Control Logix controller concerning its serial port. Please see next chapter for additional information.

3. PLC Configuration

The PLC Serial Port must be properly configured to support the Full Duplex DF1 protocol according to the configuration example shown in the following figures.
Communication parameters selected in the controller must match the communication parameters selected in the Designer project.
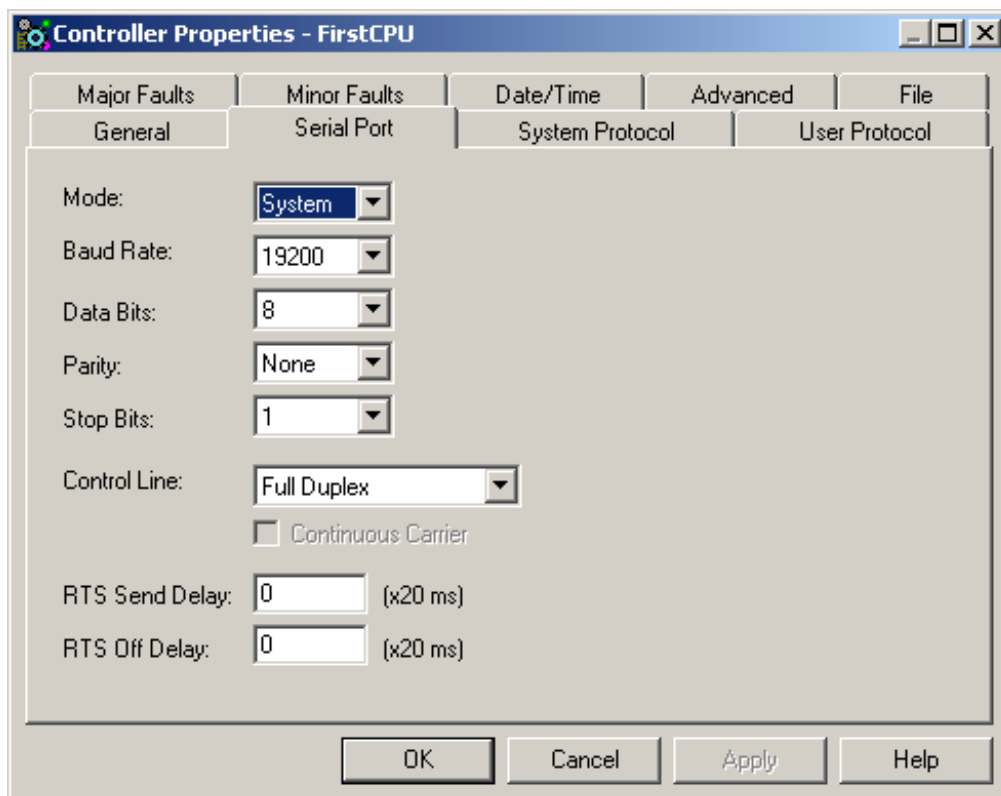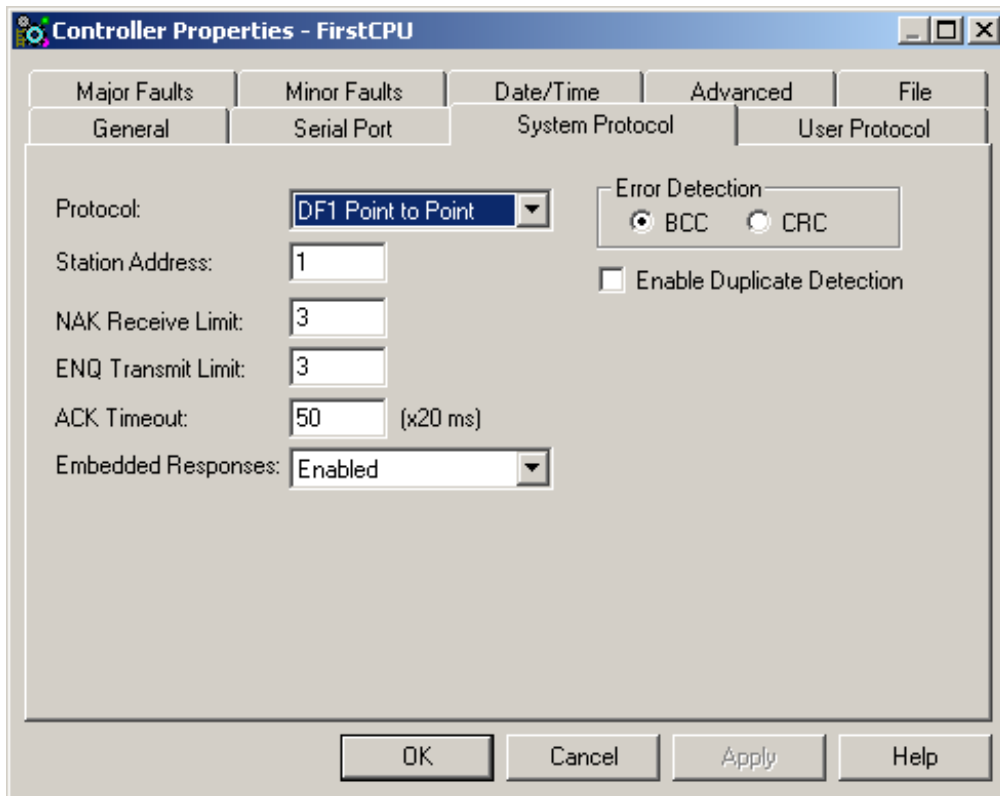
Figure 2

Figure 3

A proper mapping rule must be created between the standard DF1 data types and the "tag oriented" memory organization of the Control Logix controllers.

From the "Logic" menu of the RSLogix 5000 programming tool, select the "Map PLC/SLC Messages". The dialog box shown below will be displayed.
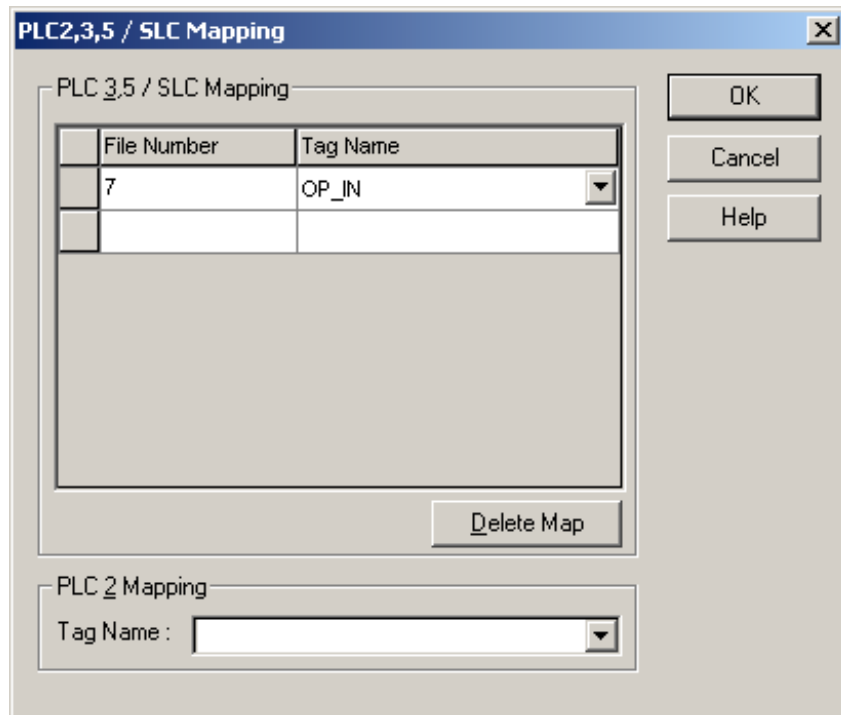
Figure 4

The "File Number" identifies the number of the file referred from Designer application. It is the number indicated in the "File Num." box of the Designer define field dialog box shown in Figure 5.

The "Tag Name" identifies a name of a tag created to match the File Type indicated in the "File Type" box of the Designer Define Filed dialog shown in Figure 5.

Due to the structure of the Allen-Bradley "File", the tag must be a mono-dimensional array.

The "Element" box of the Designer Define Field dialog indicatex the variable index of that array. Element number must be less or equal to the array dimension.

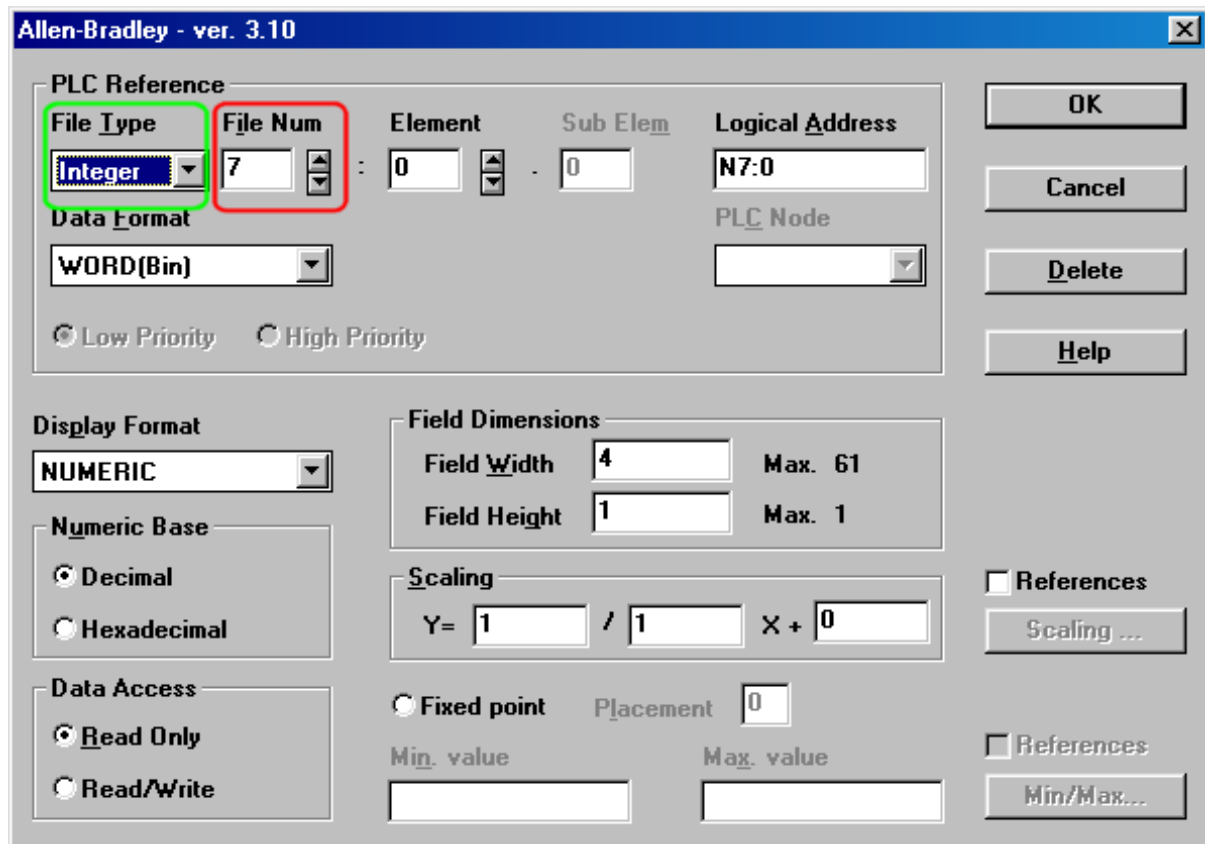Figure 4 shows the case in which the Integer File number 7 is mapped to an array of Integers called "OP_IN".

Figure 5