Connecting UniOP to GE Fanuc SRTP

This Technical Note contains the information needed to connect UniOP to GE Fanuc Series 90 controllers on the Ethernet network using SRTP protocol. The "GE Fanuc SRTP" protocol is associated to the Designer file UPLC165.DLL.

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1. Introduction

The UniOP operator panels can be connected to the GE Fanuc controllers via Ethernet. The GE Fanuc controller must be equipped with the Ethernet Interface Module; UniOP must be equipped with the SCM11 Ethernet Interface module and the ETAD01 adapter.
In the Designer 'Change Controller Driver…' dialog box, the communication driver 'GE Fanuc SRTP' must be selected for communication via Ethernet.

2. Designer Configuration

2.1 Designer Controller Setup

Figure 1 shows the Designer Controller Setup dialog box for the GE Fanuc SRTP driver.
The Ethernet IP address of the controller connected to the operator panel must be defined in the "IP address" field.

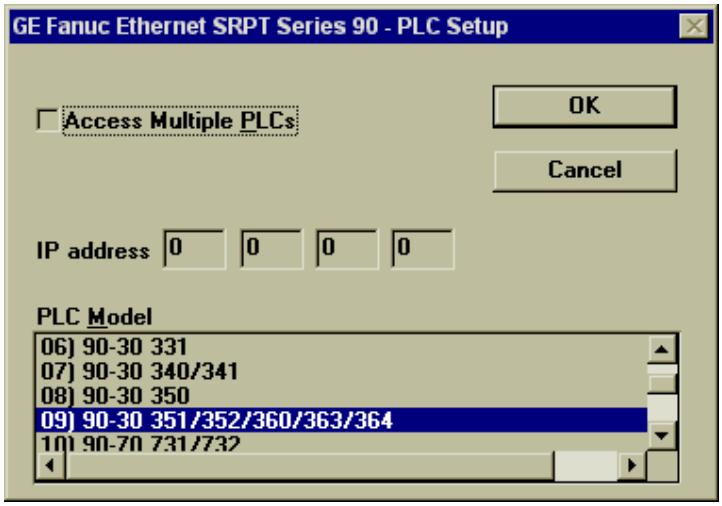

Figure 1– Controller Setup dialog box

The protocol allows the connection of multiple controllers to one operator panel, as shown in Figure 2. To set-up multiple connections, check "Access Multiple Drives" checkbox, shown in Figure 1.

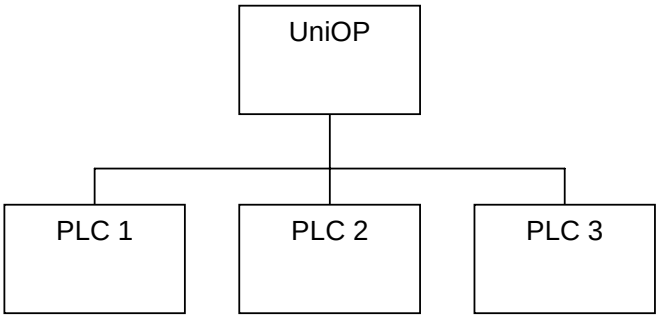

Figure 2– Multiple controller connection

2.2 Designer Panel Setup

The UniOP panel has a unique IP address assigned to it. The IP address for UniOP has to be entered in the Panel Setup dialog box under the tab “External Devices”. Enter the IP address in the field “Ethernet Board” as shown in Figure 3 below.

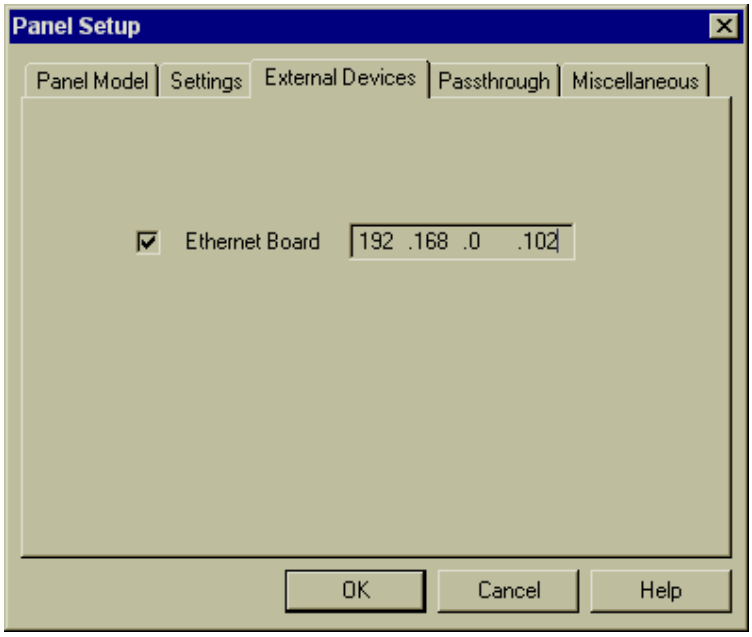

Figure 3

3. PLC Configuration

The default communication options of the GE Fanuc SRTP driver are the following:

- Protocol TCP/IP.
- Port number is fixed to 18245.

4. Converting Projects

Projects created using "GE Fanuc SRTP" driver (for communication with Ge Fanuc Controllers via Ethernet) and those created using the "GE Fanuc 90" driver (for communication with GE Fanuc Controllers via serial port) are fully compatible. In other words, there is exactly the same view and access to all the variables of the controller with any communication drivers. Project files can be converted from serial protocols to Ethernet protocol and viceversa.

However, as the “GE Fanuc SRTP” is an Ethernet-based protocol, some special steps must be followed when converting to or from a project created for serial protocols.

4.1 Converting a Serial Project to the GE Fanuc SRTP project

1. Modify PLC Nodes in the project configured for the serial protocol and make sure that they all follow the increasing sequence 1,2,3...n, where n is the number of nodes used in the project.
2. Convert the project to GE Fanuc SRTP.
3. Open the Controller Setup dialog box and create the PLC network including n nodes with unique IP addresses. The driver will link the first GE Fanuc SRTP node to all PLC references previously linked to the PLC with PLC Node number 1 and so on.

4.2 Converting GE Fanuc SRTP Projects to Serial Projects

1. Convert the project to the serial driver.
2. Open the Controller Setup dialog box and create the PLC network with as many nodes as there were before the conversion (n). Set PLC Node numbers in the increasing sequence 1,2,3...n.
3. The first IP address in the list is converted to PLC Node number 1, the second IP address in the list is converted to PLC Node number 2, and so on.
4. Return to Controller Setup and adjust the PLC Node numbers according to the actual configuration of the serial GE Fanuc 90 network.

Appendix A. Communication Error Codes

Current communication status is displayed in the System Menu of the UniOP.
A message and a numeric error code describe the error status.
The message reports the current communication status. The number shows the code of the current communication error or, if the communication is correct, the code of the last error encountered. When the error code 0 is shown, it means there have been no communication errors since this system start-up.

Code	Description	Notes
0	**No error**	There are no communication errors and there have been no errors since start-up.
1	**Not accepted**	Unexpected response frame length.
4	**Negative acknowledgment**	Wrong response data or NAK returned by PLC.
5	**Time out**	No response received from the controller within the timeout period.
7	**General communication error**	Software error, or UniOP can not open the Socket for communication with the PLC.
9	**Time out**	Timeout while trying to send request to PLC
12	**Response error**	Bad response from PLC.