CONTROLLER INFORMATION SHEET

GE Fanuc

Series 90 & VersaMax

Overview

Maple Systems' **Silver Series Plus** Operator Interface Terminals (Maple OITs) communicate with GE Fanuc Series 90 and VersaMax PLCs using the SNP-X protocol. The GE PLC communication protocol must be set for SNP; in later versions of firmware the SNP protocol includes SNP-X which is what's actually used by the OITs. When configured with EZware, the Maple OIT is the master in a point-to-point single master, single slave format. Please refer to the *Silver Series Plus Installation and Operation Manual* for information on connecting multiple Maple OIT's to a single PLC port.

Compatible PLCs	
Family	**Model**
Series 90-30	311, 313, 323, 331, 340, 341, 351, 352, 363, 364, CMM311
Series 90-70	CMM711
Series 90 Micro	IC693UDR005, IC693UAL006, IC693UAA007, IC693UDR010 (if firmware version 3.01 or later is used which includes the SNP-X protocol)
VersaMax	CPU001, 002, 0005, E05, 10pt Nano, 14 - 28pt Micro

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Communications Cable

For the Series 90-30, the Maple OIT can be connected to:

- the main SNP communications port located on the power supply module
- the CPU may have an RS232 or RS485 port that can be set up for SNP, this depends upon model CPU selected
- the Port 1 or 2 on the CMM311 communications coprocessor module wye cable, must be set up for SNP (the CMM311 is for the Series 90-30).

For the Series 90-70, the Maple OIT can be connected to:

- the port on the CMM711 communications coprocessor module which must be set up for SNP (the CMM711 is for the Series 90-70). Note, for the Series 90-70 PLC's, only the CMM711 communications module supports the SNP-X protocol needed to communicate with the Silver Series HMI500's.

For the VersaMax, the Maple OIT can be connected to:

- Port1 (via RS-232) located on the power supply module or main CPU of the PLC, set for SNP protocol
- Port2 (via RS-485) located on the power supply or main CPU.

A list of communications cables offered by Maple Systems as well as cable assembly instructions to assist you in assembling your own communications cable are available on our website at www.maple-systems.com/cables.htm.

WARNING: If your communications cable is not wired exactly as shown in our cable assembly instructions, damage to the OIT or loss of communications can result.

PLC Settings

The Modem Turnaround Delay must be set to 0.
The Level 2 Password in the PLC must be set to NULL
The port used must be set for SNP and the processor must use firmware version "S" or newer, which includes the SNP-X protocol.
The SNP-X port's Baud Rate, Parity, Data Bits, and Stop Bits settings must match the settings in EZware-5000

Accessible PLC Memory

Register Memory

The following table lists the PLC's register memory ranges that the Maple OITs are able to access. Please note that your PLC's memory range may be ***smaller*** or ***larger*** than that supported by these OIT's. The following register memory can be displayed in 16 or 32-bit format on the Maple OITs.

PLC Register Type	Address Range	Format	PLC Register Description
%R	1-10000	ddddd	Data Memory Registers
%AI	1-10000	dddd	Analog Input Registers
%AQ	1-10000	dddd	Analog Output Registers

Discrete Memory

The following table lists the PLC's discrete memory ranges that the Maple OITs are able to access. Please note that your PLC's memory range may be ***smaller*** or ***larger*** than that supported by these OITs. The following discrete memory is displayable in single-bit format on the Maple OITs.

PLC Bit Type	Address Range	Format	PLC Bit Description
%M	1-10000	dddd	Discrete Internals
%I	1-10000	dddd	Discrete Inputs
%Q	1-10000	dddd	Discrete Outputs

The following PLC memory areas are not currently supported by the Maple OITs:

- %T (Discrete Temporaries)
- %SA (SA Status Discretes)
- %SB (SB Status Discretes)
- %SC (SC Status Discretes)
- %S (S Status Discretes)
- %G (Genius Global Data)

Important Memory Considerations

If your PLC's memory range is smaller than the range supported by the Maple OITs, it is possible to configure the OIT to monitor a PLC memory address which does not exist. Since this can cause unpredictable results, when you configure the OIT please ensure that all selected PLC memory addresses are valid for your PLC model.

Do not configure the OIT to write to any PLC memory address which should only be written to by the PLC.

EZware Settings

The following table lists the communications settings that must be configured in EZware-500. These settings can be found in the Edit-Set System Parameters menu under the PLC tab. Please note:

- the **Recommended Settings** column provides the recommended setting based upon the default settings most commonly used in the GE Fanuc Series 90 PLCs. The available port may determine whether RS232 or RS485 should be used.
- the **Options** column lists EZware-500's options; your PLC may not support every option

Name	Recommended Settings	Options	Important Notes
Name:	GE Fanuc Series 90 (SNP-X)		
HMI or PLC:	PLC		
Location:	Local	Local, Remote	Select local if PLC directly connected to the OIT, remote if PLC connected through another OIT.
PLC Type:	GE Fanuc SNP-X		
PLC I/F:	RS-485	RS-232, RS485 2W, RS485 4W, Ethernet	Must match SNP-X port setting.
PLC default station no.:	0	0-255	Not used
Settings: COM:	COM 1	COM1-COM3	Serial port of OIT connected to PLC.
Settings: Baud rate:	19200	4800, 9600, 19200, 38400, 5700, 115200	Must match SNP-X port settings. Use the fastest baud rate supported by the PLC.
Settings: Data bits:	8	7, 8	Must match the SNP-X port settings.
Settings: Parity:	Odd	None, Even, Odd	Must match the SNP-X port settings.
Settings: Stop bits:	1	1, 2	Must match the SNP-X port settings.
Settings: Timeout (sec)	1.0	0.1 to 25.5	Adjust if longer timeout is required
Settings: Turn around delay (ms)	0	0-1000	Timeout period between OIT polls
Settings: Reserved 1:	0		Not Applicable

Settings: Reserved 2:			Not Applicable
Settings: Reserved 3:			Not Applicable