



Siemens

S7-300 Series

Overview

Maple Systems' **Silver Series** Operator Interface Terminals (Maple OITs) communicate with Siemens S7-300 Series PLCs using the 3964®) protocol. When configured with EZware, the Maple OIT is the master in a point-to-point single master, single slave format.

The Maple OITs connect to the S7-300 PLCs using the Maple Systems PC adapter (Maple Systems p/n 7431-0107. This requires selecting the Siemens S7-300 "PC Adapter" communications driver). The Maple OITs are not compatible with Siemens' CP340 or CP341 communications modules. Please refer to the *Silver Series Installation and Operation Manual* for information on connecting multiple Maple OITs to a single PC adapter.

Compatible PLCs	
Family	Model
S7-300 Series	CPU 312, 313, 314, 315, 316, 318 (using the Maple Systems PC adapter)

Communications Cable

Connecting to the S7-300 Series requires the use of the Maple Systems PC adapter (Maple Systems p/n 7431-0107. This requires selecting the Siemens S7-300 "PC adapter" communications driver). The Maple OIT should be connected to the RS-232 port on the PC adapter.

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.

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 S7-300 Station Number must be set to 02.

DB10 must be created.

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 OITs. The following register memory can be displayed in 16, 32, or 64 bit format on the Maple OIT.

PLC Register Address	Range	Format	PLC Register Description
DB10 Note: The Number of Words that the HMI reads (1, 2, or 4) determines VW or VD types. VB is not supported.	0-8192	dddd (d=decimal)	Data Memory Registers. Note: address must be an even number (0, 2, 4, etc.).
DB11-60 (PC adaptor only)	0-8192	dddd	Data Memory Registers. Note: address must be an even number (0, 2, 4, etc.).

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 OIT.

PLC Bit Address	Range	Format	PLC Bit Description
I	0.0 to 99.7	ddo (d=decimal) (o=octal)	Discrete Inputs
Q	0.0 to 99.7	ddo	Discrete Outputs
M	0.0 to 511.7	dddo	Discrete Internals
DB 10 Bit-DB 29 Bit (PC adaptor only)	0-8192	ddddo	Data bits

Memory Not Supported

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

- T (Timers)
- C (Counters)
- H (High Speed Counters)
- AI (Analog Inputs)
- SM (Special Memory)
- S (Status Memory)

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 Siemens S7-300 PLC
- the **Options** column lists EZware-500's options; your PLC may not support every option

Name	Recommended Settings	Options	Important Notes
PLC type:	Siemens S7-300 (PC Adapter)		The Siemens S7-300 HMI Adapter is not used with the Maple Systems PC adapter cable
Serial port I/F:	RS232	RS232, RS485	
Data Bits:	8	7 or 8	Must match the PLC's port setting.
Stop Bits:	1	1 or 2	Must match the PLC's port setting.
Baud Rate:	19200 (PC Adapter)	9600,19200, 38400,57600, 115200	Must match the PLC's port setting. Use the fastest baud rate supported by the PLC.
Parity:	Odd	Even, Odd, None	Must match the PLC's port setting.
HMI station No.:	0	0-255	Does not apply to this protocol.
PLC station No.:	2	0-255	Must match the PLC's Address.
Multiple HMI:	Disable	Disable, Master, Slave	use for multiple OITs
HMI-HMI link speed:	38400	38400, 115200	use for multiple OITs
PLC time out constant (sec)	3.0	1.5 to 5.0	adjust if longer timeout is required
PLC block pack:	0	0-10	see <i>Silver Series Installation and Operation Manual</i>