



Siemens

S7-200 Series

Overview

Maple Systems' **BLU300 Series** Operator Interface Terminals (Maple OITs) communicate with Siemens S7-200 Series PLCs using the Profibus PPI protocol. When configured with BlueLeaf configuration software, the Maple OIT is the master in a point-to-point single master, single slave format.

Compatible PLCs	
Family	Model
S7-200 Series	S7-212, S7-214, S7-215, S7-216, S7-221, S7-222, S7-224, S7-226

Communications Cable

The Maple OIT should be connected to the RS-485 network connection. Please note that the Maple OIT does not support connection to multiple PLCs.

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 Station Number must be set to 02.

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 or 32 bit format on the Maple OIT.

PLC Register Type	Address Range	Format	PLC Register Description
VW	0-10238	dddd (d=decimal)	Data Memory Registers (16-bit)
VD	0-10236	dddd	Data Memory Registers (32-bit)
IW	0-14	dd	Input Image Registers
QW	0-14	dd	Output Image Registers
MW	0-30	dd	Internal Memory Registers
SMW	0-548	ddd	Special Memory Registers
SW	0-30	dd	Stage Memory Registers
T	0-255	ddd	Timer Current Values
C	0-255	ddd	Counter Current Values
AIW	0-62	dd	Analog Input Registers
AQW	0-30	dd	Analog Output Registers

Note on using the V memory

The S7-200 PLC's have one continuous block of V memory, with each address referring to a single Byte of data. All V addresses (VW, VD) refer to this one block of V memory. VW and VD indicate how many bytes of data to access:

- VW: 2 Bytes (reads/writes two consecutive addresses in V memory)
- VD: 4 Bytes (reads/writes four consecutive addresses in V memory)

For example VW100 refers to V100 and V101; and VD100 refers to V100, V101, V102 and V103.

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 Type	Address Range	Format	PLC Register Description
V	0.0-10239.7	dddd.o (d=decimal, o=octal)	Variable Memory Bits
I	0.0-15.7	dd.o	Input Image Coils
Q	0.0-15.7	dd.o	Output Image Coils
M	0.0-31.7	dd.o	Internal Memory Bits
SM	0.0-549.7	ddd.o	Special Memory Bits
S	0.0-31.7	dd.o	Stage Memory Bits
T	0-255	ddd	Timer Current Bits
C	0-255	ddd	Counter Current Bits

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.

BlueLeaf Communication Settings

The following table lists the communications settings that must be configured in BlueLeaf Configuration Software. These settings can be found in the Tools...HMI-PLC Communications Settings menu. Please note:

- the **Recommended Settings** column provides the recommended setting based upon the default settings most commonly used in the Siemens S7-200 PLC
- the **Options** column lists BlueLeaf's options; your PLC may not support every option

Name	Recommended Settings	Options	Important Notes
PLC type:	Siemens S7-200		
Com Port:	RS485	RS232, RS485 (2-wire only)	Tools...Set HMI-PLC.
Baud Rate:	9600	4800, 9600,19200, 38400,57600, 115200	Must match the PLC's port setting. Use the fastest baud rate supported by the PLC.
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.
Parity:	Even	Even, Odd, None	Must match the PLC's port setting.
Net Addr.:	2	0-255	Must match actual PLC's Address.