



Siemens

TI405 Series

Overview

Maple Systems’ **BLU300 Series** Operator Interface Terminals (Maple OITs) communicate with Siemens TI405 Series PLCs using the K Sequence protocol. When configured with BlueLeaf software, the Maple OIT is the master in a point-to-point single master, single slave format.

Compatible PLCs	
Family	Model
SIMATIC TI405 Series	425, 435

Communications Cable

The Maple OIT should be connected to the serial port located directly on the 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 PLC must not have a password.
PLC must be set for <i>Full Duplex</i> operation.
PLC must be set for <i>No Hardware Handshaking</i> .
The PLC must be set to use the ‘K’ Sequence Protocol.
The PLC must be set to Station Number 1.
The Siemens TI405 PLC has a three-position switch on the CPU which changes the Operating Mode of the PLC (<i>RUN/TERM/STOP</i>). Set this switch to the <i>TERM</i> mode when communicating with the OIT.

Accessible PLC Memory

Register Memory

The following table lists the controller's register memory ranges that the Maple OITs are able to access. Please note that your controller'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
V	1400-7777	0000 (o=octal)	Data Memory Registers
T	0-177	000	Timer Accumulators (current values)
CT	0-177	000	Counter Accumulators (current values)

Discrete Memory

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

PLC Register Type	Address Range	Format	PLC Register Description
X	0-477	000 (o=octal)	Input Coils
Y	0-477	000	Output Coils
C	0-737	000	Control Relay Coils
S	0-577	000	Stage Coils
TR	0-177	000	Timer Status Bits
CTR	0-177	000	Counter Status Bits

Memory Not Supported

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

- GX (Remote I/O)
- SP (Special Relays)

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 software. These settings can be found in the **Tools...HMI-PLC Communications Settings** menu.

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

Name	Default	Options	Important Notes
PLC Type	Koyo DL05, 06, 105, 205, 350, 405		
Com Port	RS232	RS232, RS485 (2-wire only)	Tools...Set HMI-PLC Port
Baud Rate	9600	115200, 57600, 38400, 19200, 9600,	Must Match the PLC's Port Setting. Use the fastest baud rate supported by the PLC.
Data bits	8	7, 8	Must match the PLC's port settings
Stop bits	1	1, 2	Must match the PLC's port settings
Parity	Odd	Even, Odd, None	Must match the PLC's port settings
Net Addr:	1	0-255	Must match the PLC's station no (configure in each object attribute).