



# Industrial Control Links

## ICL-4100, ICL-4200 & ICL-4300

### Overview

Maple Systems’ **Silver Series** Operator Interface Terminals (Maple OITs) communicate with Industrial Control Links Controllers using the Modbus RTU protocol. 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 Installation and Operation Manual* for information on connecting multiple Maple OITs to a single Modbus RTU port.

Compatible Controllers	
Family	Model
ICL-4100 Series	ICL-4120 RTU, ICL-4130 RTU
ICL-4200 Series	ICL-4215, ICL-4216, ICL-4225, ICL-4226
ICL-4300 Series	ICL-4300

### Communications Cable

The Maple OIT should be connected to the ICL Serial Port on the controller.

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.

### Controller Settings

Use the Modbus RTU Protocol Software on your controller.

# 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, 32, or 64 bit format on the Maple OIT.

Controller Register Address	Controller Register Description
30001 - 39999	Input Register, Read Only, 16-bit Format
40001 - 49999	Holding Register, 16-bit Format

## Discrete Memory

The following table lists the controller's discrete 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 discrete memory is displayable in single-bit format on the Maple OIT.

Controller Bit Address	Controller Bit Description
00001 - 09999	Coils, Bit Format
10001 - 19999	Inputs, Read Only, Bit Format

## Important Memory Considerations

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

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

The Maple OITs use the following Modbus function codes:

- 01 - Read output coils (ex. 00001)
- 02 - Read input coils (ex. 10001)
- 03 - Read data registers (ex. 40001)
- 04 - Read input registers (ex. 30001)
- 05 - Write output coils (ex. 00001)
- 06 - Write data registers (ex. 40001)
- 15 - Write multiple output coils (ex. 00001-00016)
- 16 - Write multiple data registers (ex. 40001-40016)

# EZware Settings

The following table lists the communications settings that must be configured in EZware. 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 Industrial Control Links controller
- the **Options** column lists EZware's options; your controller may not support every option

Name	Recommended Settings	Options	Important Notes
PLC type:	Modbus RTU Extend V3		See Controller Information Sheet 1033-0045 <i>Modbus Generic Series</i> for more information
Serial port I/F:	RS232	RS232, RS485	
Data Bits:	8	7 or 8	Must match the Modbus port setting.
Stop Bits:	2	1 or 2	Must match the Modbus port setting.
Baud Rate:	19200	9600,19200, 38400,57600, 115200	Must match the Modbus port setting. Use the fastest baud rate supported by controller.
Parity:	None	Even, Odd, None	Must match the Modbus port setting.
HMI station No.:	0	0-255	Does not apply to this protocol
PLC station No.:	1	0-255	Must match the Modbus port setting.
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>