



Wago

System 750

Overview

Maple Systems' **HMI500 Series** Operator Interface Terminals (Maple OITs) communicate with a Wago PLC using the Modbus RTU protocol. The HMI500 Series uses **MODBUS RTU Extended V3** protocol driver, to allow the Maple OIT to act as the master in a point-to-point single master, multiple slave format. FS485 networking is supported to connect multiple MODBUS slave devices to a single Maple OIT.

Communications Cable

The Maple OIT should be connected to the device's Modbus port.

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.

Controller Settings

The Modbus port on the Controller must be set to RTU Slave mode in order to properly communicate with the OIT.

Accessible 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 Type	Controller Register Description
40001-40512	Input Registers, Read Only
40513-41023	Holding / Output Registers

NOTE: The 5x memory area is exactly the same as the 4x memory area. Use the 5x memory area when reading/writing to a 32-bit register using the Low Word First 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 Type	Controller Bit Description
00513-00768*	Discrete Coils / Outputs
10001 - 10256	Discrete Inputs, Read Only

***NOTE:** Use the Set_Digital_Ouput_Offset function block to change the starting location of digital outputs.

Address Format when Networking

If you are connecting multiple PLCs/Controllers on a network to an HMI500 OIT, you can specify the network node address for each object placed onto the HMI screen. To target a specific slave address, you must use the following format when entering the address in the Device Address box: aaa#nnnn where aaa=network address (1-255) and nnnn=memory address. The pound sign (#) is used as a placemaker. For example, to configure the Numeric Data object to read memory address 40015 of a PLC that has been assigned a network address of 2: Device Type=4x, Device Address=2#15.

EZware-500 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 default settings most commonly used in Modbus Devices
- the **Options** column lists EZware-500's options; your controller may not support every option

Name	Recommended Settings	Options	Important Notes
PLC type:	Modbus RTU Extend V3		
Serial port I/F:	RS232	RS232, RS485	
Data Bits:	8	7 or 8	Must match the Controller's port setting.
Stop Bits:	1	1 or 2	Must match the Controller's port setting.
Baud Rate:	9600	9600,19200, 38400,57600, 115200	Must match the Controller's port setting. Use the fastest baud rate supported by the Controller.
Parity:	None	Even, Odd, None	Must match the Controller's port setting.
HMI station No.:	0	0-255	Does not apply to this protocol.
PLC station No.:	1	0-255	
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)	2.0	1.5 to 5.0	adjust if longer timeout is required
PLC block pack:	0	0-10	see <i>HMI500 Series Installation and Operation Manual</i>
Parameter 1	15	1-999	Turn around delay in Msec

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