



Watlow Electric

CAS200, CLS200, CPC400, MLS300, PPC2000

Overview

Maple Systems' OIT Family Operator Interface Terminals (Maple OITs) communicate with Watlow Anafaze controllers using the Modbus Network-Generic communications protocol. The Maple OIT is the master in a single-master, single-slave format or single-master, multiple-slaves format.

Compatible Controllers	
Family	Model
CAS200	CAS200-xxxx
CLS200	CLS2xx-xxxx
CPC400	CPC40x-xxx
MLS300	MLS3xxx-xxxxx
PPC2000	PPC-2010-xxx

Communications Cable

The Maple OIT should be connected to the RS-232 or RS-485 serial communications port on the Watlow Anafaze 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 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 Maple OIT or loss of communications can result.

Controller Settings

Name	Models	Settings	Options	Important Notes
Communication protocol	All	Modbus RTU slave	No valid options	Only Modbus RTU slave supported
Electrical interface	CAS200, CLS200 CPC400, MLS300	RS-485 (screw term)	No options	The PPC2010 processor board has jumpers to select RS-232 or RS-485.
	PPC2000	RS-485 (RJ-12)	RS-232 (RJ11)	
Baud rate	CAS200, CLS200, MLS300	9600	9600, 2400	Must match the OIT configuration setting. Use the fastest baud rate supported by both.
	CPC400, PPC2000	19200	19200, 9600	
Data bits	All	8	No options	Must match the OIT configuration setting
Parity	CAS200, CLS200, MLS300	None	No options	Must match the OIT configuration setting
	CPC400	None	None, Even, Odd	
	PPC2000	Even	No options	
Stop bits	CAS200, CLS200, CPC400, MLS300	2	No options	Must match the OIT configuration setting
	PPC2000	1	No options	
Address	CAS200, CLS200, MLS300	1	1 to 32	Must match the OIT configuration setting
	CPC400, PPC2000	1	1 to 247	

Accessible Controller Memory

Register Memory

The following table lists the controller's register 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 register memory is displayable in 16-bit or 32-bit formats on the Maple OIT.

Register Address	Modbus Address	Register Description	Access
0 to 65535	300001 to 365536	Input Registers	Read Only
0 to 65535	400001 to 465536	Holding/Output Registers	Read/Write

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 or bank formats on the Maple OIT.

Register Address	Modbus Address	Register Description	Access
0 to 65535	000001 to 065536	Discrete Coils/Output	Read/Write
0 to 65535	100001 to 165536	Discrete Inputs	Read Only

Important Memory Considerations

<p>If your controller's memory range is smaller than the range supported by Maple's OITs, it is possible to configure the Maple OIT to monitor a controller memory address which does not exist. Since this can cause unpredictable results, when you configure the Maple OIT please ensure that all selected controller memory addresses are valid for your controller model.</p>
<p>Do not configure the Maple OIT to write to any controller memory address which should only be written to by the controller.</p>
<p>Accessing the 1XXXX Coils or 3XXXX Registers Although the OITware-200 configuration software allows the programmer to select read/write access for 1XXXX and 3XXXX memory, these controller memory areas are designed to be read only.</p>
<p>When using the Bank 8 or Bank 16 register monitor formats to display information from the controller's discrete memory, the bits displayed must start on a byte boundary. The byte boundaries leave no remainder when the following formula is used: $(\text{discrete memory address} - 1) / 8$.</p>

OITware-200 Settings

The following table lists the communications settings that must be configured in OITware-200.

Please note:

- The Setting column lists OITware-200's recommended setting; your controller's default may be different.
- The Options column lists OITware-200's options; your controller may not support every option.

Name	Models	Setting	Options	Important Notes
Baud rate	CAS200, CLS200, MLS300	9600	19200, 9600, 4800, 2400, 1200, 600, 300	Must match the controller's configuration settings. Use the fastest baud rate supported by both.
	CPC400, PPC2000	19200		
Parity	CAS200, CPC400, CLS200, MLS300	None	Even, Odd, None, Mark, Space	Must match the controller's configuration settings
	PPC2000	Even		
Data bits	All	8	7, 8	Must match the controller's configuration settings

Name	Models	Setting	Options	Important Notes
Stop bits	CAS200, CLS200, CPC400, MLS300	2	1, 2	Must match the controller's configuration settings
	PPC2000	1		
Status coils	All	Disable	N/A	N/A
Destination address	All	1	1 to 247	Must match the controller's address
Message request register (optional)	All	Disable	N/A	N/A
Current message register (optional)	All	Disable	N/A	N/A
Function key coils (optional)	All	Disable	Disable, Screen	N/A; not bit addressable. Use screen- dependent function key coils.
Screen-dependent function key coils (optional)	All	369	1 to 65536	Must be within the controller's supported memory range. Applies to OITs with screen-dependent function key coils.
Control key coils (optional)	All	OIT Action	No valid options	N/A; not bit addressable
Status LED coils (optional)	All	1	1 to 65536	Must be within the controller's supported memory range. Applies to OITs with status LED coils.
Function key LED coils (optional)	All	417	1 to 65536	Must be within the controller's supported memory range. Applies to OITs with function key LED coils.