



# Bristol Babcock

## Network 3000 Series Controllers

### Overview

Maple Systems’ OIT Family Operator Interface Terminals (Maple OITs) communicate with the Bristol Babcock Network 3000 controllers using the Modbus communications protocol. The Maple OIT is the master in a point-to-point single-master, single-slave format.

Compatible Controllers	
Family	Model
Network 3000	RTU 3305, RTU 3310, DPC 3330, DPC 3335

### Communications Cable

The Maple OIT should be connected to the Modbus port located 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 at [www.maple-systems.com/cables.htm](http://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

The Modbus port on the Network 3000 Series controllers must be set to RTU mode to communicate properly with the OIT.

# 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.

Controller Register Address	Controller Register Description	Access
300001 to 365536	Input registers	Read only
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 and bank formats on the Maple OIT.

Controller Bit Address	Controller Bit Description	Access
000001 to 065536	Discrete coils/Output	Read/write
100001 to 165536	Discrete inputs	Read only

## Important Memory Considerations

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 that 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.

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

### Accessing the 1XXXX 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.

### On using Bank 8 or Bank 16 formats

When you use these formats, each controller coil (bit) is individually displayed in terms of 1 and 0, with the lowest addressed coil displayed in the left-most position in the field. Therefore, you use coils 00001-00016, then 00016 is the least significant bit displayed in the right-most position and the 00001 is the most significant bit displayed in the left-most position. The address used must start on a word boundary, which can be determined if the first coil's address, minus 1 and then divided by 16, leaves no remainder.

# OITware-200 Settings

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

Please note:

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

Name	Default	Options	Important Notes
Baud rate	19200	19200, 9600, 4800, 2400, 1200, 600, 300	Must match the Modbus port settings. Use the fastest baud rate supported by both.
Parity	None	Even, Odd, None, Mark, Space	Must match the Modbus port settings
Data bits	8	7, 8	Must match the Modbus port settings
Stop bits	2	1, 2	Must match the Modbus port settings
Status coils (optional)	000385	000001 to 065536	Must be within the controller's supported memory range
Address, source address	N/A		
Destination address	1	1 to 247	Must match the Modbus port settings
Password	N/A		
Message request register (optional)	400001	400001 to 465536	Must be within the controller's supported memory range
Current message register (optional)	400003	400001 to 465536	Must be within the controller's supported memory range
Function key coils (optional)	000401	000001 to 065536	Must be within the controller's supported memory range
Screen-dependent function key coils (optional)	000369	000001 to 065536	Must be within the controller's supported memory range. Applies to OITs with screen-dependent function keys.
Control key coils (optional)	000433	000001 to 065536	Must be within the controller's supported memory range
Status LED coils (optional)	000001	000001 to 065536	Must be within the controller's supported memory range. Applies to OITs with status LEDs.
Function key LED coils (optional)	000417	000001 to 065536	Must be within the controller's supported memory range. Applies to OITs with function key LEDs.

# Important Controller Memory Considerations

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 that 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.

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

## **Accessing the 1XXXX 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.

## **On using Bank 8 or Bank 16 formats**

When you use these formats, each controller coil (bit) is individually displayed in terms of 1 and 0, with the lowest addressed coil displayed in the left-most position in the field. Therefore, you use coils 00001-00016, then 00016 is the least significant bit displayed in the right-most position and the 00001 is the most significant bit displayed in the left-most position. The address used must start on a word boundary, which can be determined if the first coil's address, minus 1 and then divided by 16, leaves no remainder.