CONTROLLER INFORMATION SHEET

SAF Drives

OEM SAFphire

Overview

Maple Systems' **BLU300 Series** Operator Interface Terminals (Maple OITs) communicate with SAF Drives OEM SAFphire using the Modbus RTU protocol. When configured with BlueLeaf configuration software, the Maple OIT is the master in a point-to-point single master, single slave format.

Compatible Controllers	
Family	**Model**
SAF Drives	OEM SAFphire Dedicated Controller CA418 Processor Card

Communications Cable

The Maple OIT should be connected to the SAF Drives *download* or *hand term* communications 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 SAFphire Drive Serial Communications Protocol is Modbus Slave.

Other Settings for the CA418 and OEM SAFphire:

Name	Setting	Options
Node Address	SW1=1; J7=OFF	SW1=1-F; J7=ON/OFF
Modbus Communication Download Port or Hand Term Port	 SW2=2 SW3=2	 None for OIT None for 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 or 32 bit format on the Maple OIT.

Controller Register Address	Controller Register Description
40001 - 40064	Input/Output Register

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)

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 SAF Drives controller
- The **Options** column lists BlueLeaf's options; your controller may not support every option.

Name	Default	Options	Important Notes
PLC Type	Modbus RTU Master (Modicon, etc.)		
Com Port	RS232	RS232, RS485 (2-wire only)	Tools...Set HMI-PLC Port
Baud Rate	19200	115200, 57600, 38400, 19200, 9600, 4800	Must match the Modbus port settings. Use the fastest baud rate supported by both.
Data bits	8	7, 8	Must match the Modbus port settings
Stop bits	1	1, 2	Must match the Modbus port settings
Parity	Even	Even, Odd, None	Must match the Modbus port settings
Net Addr:	1	0-255	Must match the Controller's port setting (configure in each object attribute).