CONTROLLER INFORMATION SHEET

Fife Corporation CDP-01 Controller (Proprietary)

Overview

Maple Systems' OIT Family Operator Interface Terminals (Maple OITs) communicate with Fife CDP-01 Controller using a proprietary serial communications protocol, subset of Siemens 3964A protocol in a point-to-point single master, single slave format.

Compatible Controllers	
Controller Family	**Controller Model**
Fife Controller	CDP-01

Communications Cable

The Maple OIT should be connected to the serial port located on the bottom of the controller. Refer to Technical Note 1061 for information on communication cable part numbers and cable assembly instructions. If you will be assembling your own communications cable, cable assembly instructions are also available on our web site at www.maple-systems.com.

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.

Accessible Controller Memory

Controller Register Memory

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

Controller Register Address	Controller Register Description	Format
CDW0 to 15	Command Data Words	1, 8, 16, 32
SDW0 to 163	Status Data Words	1, 8, 16, 32

Format: Indicates the bit-sizes that are valid, where the following formats can be used:

1: 1/0 Coil, On/Off Coil, ASCII String

8: Bank8

16: Signed, Decimal, 4 Digit BCD, Bank16, ASCII Character

32: 8 Digit BCD, Long

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 memory address which does not exist. Since this can cause unpredictable results, when you configure the Maple OIT please ensure that all selected memory addresses are valid for the controller model.

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

When programming the OIT to monitor controller registers, it is possible to select read/write access on a controller register that may be intended by the controller manufacturer to be read only. For example, a certain controller register may be used by the controller to record the scan time, as a fault table, or for diagnostics purposes. Since unpredictable operation of the controller may result from writing to a value to a read only controller register, it is the responsibility of the OIT programmer to ensure that the read/write access is used properly.

When programming the OIT to monitor registers in the Fife CDP-01 Controller, the following restrictions apply:

- To allow future models of the Controller to have a different range of memory than other models, the OIT may be programmed to access Controller memory which is out of range for the original model. For example, CDW addresses 16-127 (SDW addresses 64-127) can be programmed, but the Controller currently does not support these larger areas. Unpredictable results may occur to the Controller or the OIT if this is attempted. Always ensure that only Controller registers that fall within the memory range of the Controller you are using are monitored by the OIT.

On using Bank 8 or Bank 16 formats

When using these formats, each controller coil (bit) is individually displayed in terms of 1 and 0, with the lowest addressed coil displayed in the right-most position in the field. Therefore, if using coils 0-15, the 0 is the least significant bit displayed in the right-most position and 15 is the most significant bit displayed in the left-most position. The address used must start on a byte boundary.

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	9600	19200, 9600, 4800, 2400, 1200, 600	Must match the Controller port settings. Use the fastest baud rate supported by both.
Parity	Even	Even, Odd, None, Mark, Space	Must match the serial port settings.
Data Bits	8	7, 8	Must match the serial port settings.
Stop Bits	1	1, 2	Must match the serial port settings.
Status Coils	CDW8 and SDW8	CDW0 to 127 and SDW0 to 127	Must be within the Controller's supported memory range.
Address	0	0 to 255	Must match the Controller's address.
Source Address, Destination Address	N/A		
Password	N/A		
Message Request Register	CDW9	CDW0 to 127	Must be within the Controller's supported memory range.
Current Message Register (optional)	SDW9	SDW0 to 127	Must be within the Controller's supported memory range.
Function Key Coils (optional)	CDW7 and SDW7	CDW0 to 127 and SDW0 to 127	Must be within the Controller's supported memory range.
Screen Dependent Function Key Coils (optional)	CDW10 and SDW10	CDW0 to 127 and SDW0 to 127	Must be within the Controller's supported memory range. Applies to OITs with Screen Dependent Function Keys.
Control Key Coils (optional)	CDW11 and SDW11	CDW0 to 127 and SDW0 to 127	Must be within the Controller's supported memory range.
Status LED Coils (optional)	SDW20	SDW0 to 127	Must be within the Controller's supported memory range. Applies to OITs with Status LEDs.
Function Key LED Coils (optional)	SDW21	SDW0 to 127	Must be within the Controller's supported memory range. Applies to OITs with Function Key LEDs.

PLC Error Messages

The following error messages are related to PLC protocol (indicated by “PLC: xxxx...”):

“PLC: Invalid Write (Read_Only Reg)...” Attempted to write to a read-only Word register. Using OITware-200, correct the screen register’s format or read/write access.
“PLC: No Connection Error...” The OIT cannot communicate with the PLC during initialization. This is most likely due to a bad connection (cable, connector or attachment faulty) or loss of proper power to the PLC. Remote possibilities include severe noise, a faulty PLC or faulty OIT.
“PLC: No Response Error...”, “PLC: Data Reception Error...”, “PLC: BCC Checksum Error...” “PLC: Response Invalid...” The OIT cannot communicate properly with the PLC after initialization. This is most likely due to noise, a bad connection (cable, connector or attachment faulty) or loss of proper power to the PLC. Remote possibilities include a faulty PLC or faulty OIT.
“PLC: Invalid Command...”, “PLC: Invalid Register...”, “PLC: Invalid Address...”, “PLC: Procedure/Data Internal Error...” An internal error occurred in the OIT. Contact Maple Systems technical support.