



# Yaskawa CP900SH/MP900 Series Controllers

## Overview

Maple Systems' **HMI900 Series** Operator Interface Terminals (Maple OITs) communicate with Yaskawa CP900SH and MP900 Series Controllers using the Memobus protocol in a point-to-point single master, single slave format.

Compatible Controllers	
Family	Model
MP900 Series	MP920, MP930, MP940
CP Series	CP9200SH

## Communications Cable

The Maple OIT should be connected to the serial communications port on the Yaskawa Controller or via a memo bus unit. 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

When connecting the HMI900 to the Yaskawa controller, make the following communications settings with the peripheral tool in the Yaskawa controller:

Parameter	Setting
Baud Rate:	4800/9600/19200/38400*
Data Bits:	8
Parity:	Even
Stop Bits:	1
Protocol:	Memobus
Mode:	RTU
Address	1

\*Use the fastest baud rate available on the controller.

## Accessible Controller 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	Address Range	Format	Controller Register Description
IW	0-7FFF	hhhhh (h=hexadecimal)	Input register
MW	0-32767	Ddddd (d=decimal)	Holding register

## 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 Address	Address Range	Format	Controller Bit Description
MB	0-4095F 40960-8191F 245670-28167F 286720-32767F	ddddh (d=decimal, h=hexadecimal)	Coil
IB	0-FFFF	hhhh	Input relay

## Configuring the HMI900

Perform the following steps to configure your HMI900 operator interface to communicate to a Yaskawa GL/PROGIC-8 Series Controller:

1. Start Designer-900 configuration software.
2. From the **Project** menu, select **New**. The HMI/PLC Type dialog box will appear. Select HMI Type and PLC type: **Yaskawa CP9200SH/MP900**.
3. Click **OK**.
4. Create your project.
5. From the **Communication** menu, select **Install...**, then **OS..** The OS Install dialog box will appear.
6. Under the OS frame, check the **Standard monitor OS** checkbox. Then select **English**.
7. Under the Communication Driver pull-down box, select **Yaskawa CP9200SH/MP900..**
8. Click the [INSTALL] button. A dialog box is displayed, "OS will be installed after monitoring is stopped. Are you sure?"
9. Click the [YES] button. A dialog box is displayed to indicate that the drivers are being downloaded. The HMI will display "Installing standard monitor" onscreen while downloading. Do not shut off or reset HMI during the download.
10. The total time for download is approximately three minutes. The dialog box will update as the downloading process continues to indicate the total number of data bytes transmitted.
11. When downloading has finished, click [OK] on the dialog box. The HMI will display "Offline completed. Cycle power on unit."

12. Cycle power on the HMI. As the HMI is powering up, it will display “Communicating with CPU.” Press the upper left and right corners of the HMI touchscreen at the same time. This will cause the Utility Menu to be displayed.

13. Press the Setup icon to display the Setup Menu.

14. In this menu, you can vary the following communications parameters:

Parameter	Setting	Default	Description
Baud Rate	38400, 19200, 9600, 4800	19200	Transmission speed
Start Up Time	0-255	016	Sets how many seconds after HMI powers on before communications with controller is begun
Send Message	0-30 (x 10 msec)	0	Sets the amount of delay after receiving a response from the controller before the HMI sends another command.

When finished, press the Close Window icon in the upper left corner of the Setup window.

15. Press the Close Window icon in the upper left corner of the Utility Menu. The HMI will try to establish communications with the PLC.