

C O N T R O L L E R   I N F O R M A T I O N   S H E E T

**Maple Model(s)**

HMI5000 Series

**PLC or Controller**

Compumotor 6000  
6K Series



**Summary**

Maple Systems' **HMI5000 Series** Human/Machine Interface Terminals (Maple HMIs) communicate with Compumotor 6000 and 6K controllers using the Compumotor 6000 and 6K Series protocol. When configured with EZware-5000, the Maple HMI is the master in a point-to-point single master, single slave format.

**Compatible PLCs**

PLC Family	PLC Model
6000	610n, 615n, 620n, 625n, 6270
6K	6Kn

**Communications Cable**

The Maple HMI should be connected to the COM1 (via 3-wire RS-232), COM2 (via 3-wire RS-232 or 5-wire RS-485) or AUX (via 3-wire RS232) serial communications port on the Compumotor 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.maplesystems.com](http://www.maplesystems.com).

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**WARNING** *If your communications cable is not wired exactly as shown in our cable assembly instructions, damage to the HMI or loss of communications can result.*

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## PLC Settings

Name	Setting	Options	Important Notes
Serial Port 1/F:			
COM1, AUX:	RS232	No options	The controller has DIP switches to select the RS232 or RS 485 settings.
COM2:	RS232		The controller has DIP switches to select the RS232 or RS 485 settings.
Baud Rate:	9600	1200, 2400, 4800, 9600, 19200	Must match the HMI <i>Configuration</i> setting. Use the fastest baud rate supported by both.
Data Bits:	8	No options	Must match the HMI <i>Configuration</i> setting.
Parity:	None	No options	Must match the HMI <i>Configuration</i> setting.
Stop Bits:	1	No options	Must match the HMI <i>Configuration</i> setting.

Use the following code in the Compumotor controller if the HMI is to be connected to the controller's COM1:

```

PORT1           ;COMMANDS TO COM1
ECHO1           ;ECHO ON
EOT13,10,62    ;DEFINE 'END OF TRANSMISSION' CHARS
DRPCHK0        ;CHECK FOR RP240
ERRBAD13,10,63,0 ;DEFINE 'ERROR' PROMPT
ERROK13,10,62,0 ;DEFINE 'GOOD' PROMPT
ERRLVL3        ;ERROR LEVEL 3

```

If the HMI is to be connected to the controller's COM2, the first line should be PORT2. The code should be at the top of the program.

## Accessible Controller Commands and Memory

### Register Memory

The following table lists the PLC's register memory ranges that the Maple HMIs are able to access. Please note that your PLC's memory range may be *smaller* or *larger* than that supported by these HMIs.

Controller Register	Address	Format	Access	Data Range
VAR	1-225	32-bit Float	R/W	+999,999,999.99999999
VARToInt	1-225	32-bit Unsigned	R/W	+2,147,483,648 <sup>1</sup>
VARI	1-225	32-bit Unsigned	R/W	+2,147,483,648

<sup>1</sup> Reads a VAR register, and returns a rounded integer value

### Discrete Memory

The following table lists the controller's discrete memory ranges that Maple HMIs are able to access. Since the HMI5000 can address a maximum of 16 bits per register, the VARB's 32 bit registers are split into two (High and Low) 16 bit registers. The VARB\_H 1-125 and VARB\_L 1-125 are 125x16x2=4000 bit registers. This is the same quantity as VARB1-125 (125x32=4000). The address number must specify both the register and the bit:

VARB\_L 12300 = VARB123, bit 0  
 VARB\_L 12315 = VARB123, bit 15  
 VARB\_H 12300 = VARB123, bit 16  
 VARB\_H 12315 = VARB123, bit 31

Controller Register	Address	Format	Access	Data Range
VARB_H	100-12515	dddbb	R/W	0 = On, 1 = Off
VARB_L	100-12515	dddbb	R/W	

### Run Command:

The Maple HMIs have the ability to run programs that are stored in the Compumotor controller. Using EasyBuilder's *Set Word Object*, select "RUN PRG" for the *Device Type*, 0 for the *Device Address*, and "BIN" for format. For the *Attribute*, select "Set Constant" for style and enter the number 1 to 999 that refers to the program's name (prefixed by "PRG") stored in the Compumotor. When pressed during operation, the program of the same name in the Compumotor will run.

### Important Memory Considerations

If your PLC's memory range is smaller than the range supported by the Maple HMIs, it is possible to configure the HMI to monitor a PLC memory address which does not exist. Since this can cause unpredictable results, when you configure the HMI please ensure that all selected PLC memory addresses are valid for your PLC model.
Do not configure the HMI to write to any PLC memory address which should only be written to by the PLC.
If the controller is busy while the HMI is requesting information, it may prevent communications and cause a communications error to be displayed on the HMI

## EZware Settings

The following table lists the communications settings that must be configured in EZware. These settings can be found in the *Edit-System Parameters* menu under the *Device* tab. Please note:

- The **Recommended Settings** column provides the recommended setting based upon the default settings most commonly used in Compumotor Devices.
- The **Options** column lists EZware's options; your PLC may not support every option

Name	Recommended Settings	Options	Important Notes
Name:	Compumotor		Description label
HMI or PLC	PLC		
Location	Local	Local, Remote	Select <i>Local</i> if PLC directly connected to HMI, <i>Remote</i> if PLC connected thru another HMI.
PLC type	Compumotor		
PLC I/F:	RS232	RS-232, RS-485 2W, RS-485 4W, Ethernet	Must match the PLC port setting.
PLC default station no.:	1	0-255	Must match the controller port number.
Settings:	COM 1	COM1-COM3	Serial port of HMI connected to PLC.
Settings: Baud rate:	9600	9600, 19200, 38400, 57600, 115200	Must match the PLC's port setting. Use the fastest baud rate supported by the PLC.
Settings: Data bits:	8	7 or 8	Must match the PLC's port setting.
Settings: Stop bits:	1	1 or 2	Must match the PLC's port setting.
Settings: Parity:	None	Even, Odd, None	Must match the PLC's port setting.
Settings: Timeout (sec)	3.0	0.1 to 25.5	Adjust if longer timeout is required.
Settings: Turn around delay (ms)	0	0-1000	Timeout period between HMI polls.
Settings: Send ACK Delay:	0		Not Applicable

<b>Name</b>	<b>Recommended Settings</b>	<b>Options</b>	<b>Important Notes</b>
Settings: Parameter 1:	0		Not Applicable
Settings: Parameter 2:	0		Not Applicable
Settings: Parameter 3:	0		Not Applicable
Interval of block pack words	0	0-512	See <i>HMI5000 Series Programming Manual</i> (Maple p/n 1010-1007)
Max. read-command size (words):	2		Not Adjustable
Max. write-command size (words):	2		Not Adjustable