

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)	PLC or Controller
HMI5000 Series	Baldor Motion Controllers MINT Series



Summary

Maple Systems' **HMI5000 Series** Human/Machine Interface Terminals (Maple HMIs) communicate with Baldor Motion Controllers using the Host Comms Protocol (HCP or HCP2). When configured with EZware-5000, the Maple HMI is the master in a point-to-point single master, multiple slave format. Please refer to the HMI5000 Series Programming Manual for information on connecting multiple Maple HMIs to a single port.

Compatible PLCs

PLC Family	PLC Model
Baldor Motion Controllers MINT Series	NextMove BX ^{II} , NextMove ST, NextMove ES, NextMove ESB, ESB-2, Mint Drive ^{II} , SmartMove

Communications Cable

The Maple HMI should be connected to the serial port 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.maplesystems.com.

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.*

Accessible PLC 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. The following register memory can be displayed in 16 or 32-bit format on the Maple HMI

Memory Type	Range	Details
CommsArrayInt	1 - 255 ¹	Comms() array element as an Integer value
CommsArrayFloat	1 - 255 ²	Comms() array element as a Floating Point value
Error	0 - 1	0 = No Error, 1 = Error
ControllerType	0 - 1	0 = Servo, 1 = Stepper

Discrete Memory

The following table lists the PLC's discrete 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. The following discrete memory is displayable in single-bit format on the Maple HMI.

Memory Type	Range	Details
CommsArrayBit	1.00 - 255.15 ³	Bit within an element of the Comms() array

NOTES:

¹ On the Object Attribute's *Numeric Format* tab, set the Data Format to 16-bit signed or unsigned, or 32-bit signed or unsigned. This setting affects how the HMI stores the data internally, and does not affect how many elements are read from or written to the controller's Comms() array.

² On the Object Attribute's *Numeric Format* tab, set Data Format to Single Float. After entering a value, a slightly different value may be displayed. This is due to the drive's conversion of the data to its internal data format. If a high degree of precision is required, use the CommsArrayInt type, and scale the value. If Floating Point values are not displayed correctly, the drive's firmware may need updating.

³The bit number must be specified to 2 digits. For example, bit 7 in Element 50 would be entered as 50.07. Only the first 16 bits (00-15) are supported.

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.

Note that the PLC Control Object will not work as stated in the manual with this controller. Contact Maple Systems for additional information.

EZware Settings

The following table lists the communications settings that must be configured in EZware. These settings can be found in the *Edit-Set 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 the Baldor Motion controller.
- The **Options** column lists EZware's options; your PLC may not support every option

Name	Recommended Settings	Options	Important Notes
Name:	Baldor MINT		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:	Baldor MINT		
PLC I/F:	RS-232	RS-232, RS-485 2W, RS-485 4W, Ethernet, USB	Must match the controller port setting.
PLC default station no.:	1	0-255	Must match the node address assigned to the PLC.
Settings: COM:	COM1	COM1-COM3	Serial port of the HMI connected to the controller.
Settings: Baud rate	19200	9600, 19200, 38400, 57600, 115200	Must match the port setting. Use the fastest baud rate supported by the controller.
Settings: Data Bits	8	7 or 8	Must match the port setting.
Settings: Stop Bits	1	1 or 2	Must match the port setting.

Name	Recommended Settings	Options	Important Notes
Settings: Parity:	None	Even, Odd, None	Must match the port setting.
Settings: Timeout (sec)	1.5	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
Settings: Parameter 1:	0		Not Applicable
Settings: Parameter 2:	0		Not Applicable
Settings: Parameter 3:	0		Not Applicable
Interval of block pack (words):	5	0-512	See <i>HMI5000 Series Programming Manual</i> (Maple p/n 1010-1007)
Max. read-command size (words):	32		Not Adjustable
Max. write-command size (words):	32		Not Adjustable