

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

Emerson (Bristol)
Control Wave, Control
Wave Micro



Summary

Maple Systems' **HMI5000 Series** Human/Machine Interface Terminals (Maple HMIs) communicate with Emerson (Bristol) Control Wave controllers using the BSAP protocol. When configured with EZware, the Maple HMI is the master in a point-to-point single master, multiple slave format.

Compatible PLCs

Family	Model
Control Wave	All
Control Wave Micro	All

Communications Cable

The Maple HMI can be connected directly to the Programming port on the PLC. 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.*

PLC Settings:

The Control Wave program must be designed so that any data to be retrieved from or sent to the HMI is done so through tags named as follows

- @GV.ASx (for analog signals)
- @GV.DSx (for digital signals)

Where x is a number from 0 to 65535

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, 32, or 64 bit format on the Maple HMI.

(Note: d=decimal)

PLC Register	Address Range	Format	PLC Register Description
AS	0 to 65535	dddd	Analog Signal ¹
AS_Scaled Int	0 to 65535	dddd	Analog Signal as Scaled Integer ²
AS_Rounded Int	0-65535	ddd	Analog Signal as Rounded Integer ³

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.

(Note: d=decimal)

PLC Bit Type	Address Range	Format	PLC Bit Description
DS	0 to 65535	dddd	Digital Signals ⁴

NOTES

¹When using AS, set the Numeric Format to 32-bit Floating Point.

²When using AS_Scaled Int., set the Numeric Format to 32-bit Signed or Unsigned Integer. AS_Scaled Int. will read/write the controller's data as Floating Point, but show the data on the HMI as Integer, with an implied decimal place of 2. For example, a value of 45.75 will be reported to the HMI as 4575. This will allow the controller's data to work with the HMI's trend and bargraph objects.

³When using as Rounded Integer, the HMI will read/write as floating point, but will round the value on the HMI. For example, if the value 2.75 is read from the controller, the HMI will display the value as 3.

⁴When using DS, the address must be followed by a 0. For example, to create a reference to tag @GV.DS14, use Device Type DS, address 140.

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.

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 Emerson (Bristol) devices.
- The **Options** column lists EZware's options; your PLC may not support every option

Name	Recommended Settings	Options	Important Notes
Name:	Emerson (Bristol) BSAP		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:	Emerson (Bristol) BSAP		
PLC I/F:	RS-232	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's setting
Settings: COM:	COM1	COM1-COM3	Serial port of the HMI connected to

Name	Recommended Settings	Options	Important Notes
Settings: Baud Rate:	115200	9600, 19200, 38400, 57600, 115200	Must match the controller port setting. Use the fastest baud rate supported by the controller
Settings: Data Bits:	8	7 or 8	Must match the controller port setting
Settings: Stop bits:	1	1 or 2	Must match the controller port setting
Settings: Parity:	None	Even, Odd, None	Must match the controller port setting
Settings: Timeout (sec):	1.5	0.1-25.5	Adjust if longer timeout required
Settings: Turn around delay (ms)	0	0-1000	Timeout period between HMI polls
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