

CONTROLLER INFORMATION SHEET

Maple Model(s)

Basic HMIs
Advanced HMIs
cMT HMIs

PLC or Controller

Schneider Modbus RTU TCP (M221 Controllers)



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Summary

Maple Systems HMIs communicate with Schneider M221 controllers via Modbus TCP with the HMI acting as the master in a point-to-point single master, multiple slave formats.

Communications Cable

The HMI should be connected to the device's Ethernet port. A list of cables offered by Maple Systems as well as cable assembly instructions to assist you in assembling your own communications cable is available on our website.

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.*

Important Memory Considerations

If your PLC's memory range is smaller than the range supported by Maple HMIs, it is possible to configure the HMI to monitor a PLC memory address that does not exist. Since this can cause unpredictable results, ensure all selected PLC memory addresses are valid for your PLC model when configuring the HMI project.

Do not configure the HMI to write to any PLC memory addresses which should only be written to by the PLC. Consult your controller documentation for a list of PLC-exclusive memory addresses.

Accessible PLC Memory

The following table lists the PLC memory ranges that are accessible by the Maples HMI Series. Please note that your PLC memory range may be smaller or larger than that supported by the HMC. The following addresses can be displayed in 8, 16 or 32 bit formatting and/or single bit format as designated.

Bit /Word	Device type	Format	Range	Memo
B	%IX	DDDDo	0 ~ 81927	Input bit (read only)
B	%QX	DDDDo	0 ~ 81927	Write multiple coils
B	%MX	DDDDDDo	0 ~ 1310707	Output register bit (octal)
B	%M	DDDDD	0 ~ 65535	Output bit
B	%MW_Bit	DDDDDdd	0 ~ 6553515	Output register bit (decimal)
B	1x	DDDDD	0 ~ 65535	Input bit (read only)
B	0x_multi_coils	DDDDD	0 ~ 65535	Write multiple coils
B	3x_Bit	DDDDDdd	0 ~ 6553515	Input register bit (read only)
W	%MW	DDDDD	0 ~ 65535	Output register
DW	%MD	DDDDD	0 ~ 32767	Output register
W	3x	DDDDD	0 ~ 65535	Input Register (read only)
DW	5x	DDDDD	0 ~ 65535	4x double word swap
DW	6x	DDDDD	0 ~ 65535	4x single word write

HMI Settings

The following table lists the communications settings that must be configured in EZware/EBPro.

These settings can be found in the *Edit-System Parameters* menu under the

Edit->System Parameters. (EZware)

Home->Systems Parameter->Device Settings. (EBPro)

Please note:

The **Recommended Settings** column provides the recommended setting based upon default settings most commonly used for Schneider Modbus TCP/IP Controllers.

- The **Options** column lists EZware's/EBPro options; your controller may not support every option.

Parameters	Recommended	Options	Notes
Name:	Schneider Modbus TCP/IP		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:	Schneider Modbus TCP_IP		
PLC I/F:	Ethernet		Ethernet-only driver
PLC Sta.no	1	0-255	
IP address:	xxx.xxx.xxx.xxx	0.0.0.0-255.255.255.255	Use the IP address assigned to the controller
Port no.:	502	0 - 65535	Must be 502
Timeout (sec):	1.0	0.1 – 25.5	Adjust if longer timeout is needed
Turn around delay (ms):	0	0 – 1000	Time period between HMI polls. Adjust if comms are intermittent
Network number	0	0-999	Must match setting on PLC
Communication data code	Binary	Binary / ASCII	Must match setting on PLC
# resend commands:	0	0 - 3	Maximum number of attempts the HMI will make when trying to establish comms when comms are lost.
Use broadcast command:	Unchecked	Checked, Unchecked	When selected, the HMI will not expect a response from the station set by <i>Broadcast station #</i>
Interval of block pack (words):	32	0 -512	See <i>EZware/EBPro Help: Topic- Optimize the Update Rate with PCL Block Pack</i>
Max. read-command size (words):	120		Not Adjustable
Max. write-command size (words):	120		Not Adjustable
PLC sta.no	1	0~255	