



Mitsubishi

FX Series

Overview

Maple Systems’ **Silver Series** Operator Interface Terminals (Maple OITs) communicate with Mitsubishi MELSEC FX Series PLCs using the Monitor Interface protocol. When configured with EZware, the Maple OIT is the master in a point-to-point single master, single slave format. Please refer to the *Silver Series Installation and Operation Manual* for information on connecting multiple Maple OITs to a single PLC port.

Compatible PLCs	
Family	Model
MELSEC FX & FX2C Series	FX-16 through FX-128
MELSEC FX ₀ Series	FX ₀ -14 through FX ₀ -30
MELSEC FX _{0S}	FX _{0S} -10 through FX _{0S} -24
MELSEC FX _{0N} Series	FX _{0N} -24 through FX _{0N} -60
MELSEC FX _{2N} Series	FX _{2N} -16 through FX _{2N} -128
FX _{1S} Supermicro	FX _{1S} -10 through FX _{1S} -30
FX _{1N} Supermicro	FX _{1N} -14 through FX _{1N} -60
FX _{2NC} Supermicro	FX _{2NC} -16 through FX _{2NC} -96

Communications Cable

The Maple OIT should be connected to the main programming port located 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.

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

PLC Settings

The MELSEC FX Series port's Baud Rate, Parity, Data Bits, and Stop Bits must match the settings in EZware.

Accessible PLC Memory

Register Memory

The following table lists the PLC's register memory ranges that the Maple OITs are able to access. Please note that your PLC's memory range may be *smaller* or *larger* than that supported by these OITs. The following register memory can be displayed in 16, 32, or 64 bit format on the Maple OIT.

PLC Register Type	Address Range	Format	PLC Register Description
D	0-7999*	dddd (d=decimal)	Data Registers
TV	0-255	ddd	Timer Current Value
CV	0-199	ddd	16-Bit Counter Current Value
CV2	200-255	ddd	32-Bit Counter Current Value NOTE: Set Number of Words to 2
SD	8000-9999	dddd	Special Data Register

* 0-999 for FX_{0N} and FX₂

Discrete Memory

The following table lists the PLC's discrete memory ranges that the Maple OITs are able to access. Please note that your PLC'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.

PLC Bit Type	Address Range	Format	PLC Bit Description
X	0 to 377	ooo (o=octal)	Input Bits
Y	0 to 377	ooo	Output Bits
M	0 to 7999	dddd	Internal Control Relays
T	0 to 255	ddd	Timer complete bit (preset reached)
C	0 to 199	ddd	Counter complete bit (preset reached)
SM (Mitsubishi FX2n driver only)	8000 to 9999	dddd	Special Auxiliary Relay

Memory Not Supported

The following PLC memory areas are not currently supported by the Maple OITs:

- S (States)

Important Memory Considerations

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

Do not configure the OIT 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 PLC tab. Please note:

- the **Recommended Settings** column provides the recommended setting based upon the default settings most commonly used in the Mitsubishi MELSEC FX Series PLCs
- the **Options** column lists EZware's options; your PLC may not support every option

Name	Recommended Settings	Options	Important Notes
PLC type:	Mitsubishi FX _{0N} /FX ₂ Series or Mitsubishi FX _{2N} Series		
Serial port I/F:	RS485	RS232, RS485	
Data Bits:	7	7 or 8	Must match the PLC's port setting.
Stop Bits:	1	1 or 2	Must match the PLC's port setting.
Baud Rate:	9600	9600,19200, 38400,57600, 115200	Must match the PLC's port setting. Use the fastest baud rate supported by PLC.
Parity:	Even	Even, Odd, None	Must match the PLC's port setting.
HMI station No.:	0	N/A	Does not apply to this protocol.
PLC station No.:	0	N/A	Does not apply to this protocol.
Multiple HMI:	Disable	Disable, Master, Slave	use for multiple OITs
HMI-HMI link speed:	38400	38400, 115200	use for multiple OITs
PLC time out constant (sec)	3.0	1.5 to 5.0	adjust if longer timeout is required
PLC block pack:	0	0-10	see <i>Silver Series Installation and Operation Manual</i>

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