5.15 MITSUBISHI FX IO Server

5.15.1 Introduction

This MITSUFX IOServer allows the eWON to poll tags belonging to a MITSUBISHI FX series PLC using its RS-422 base unit programming connector.
No remote maintenance functionality is provided by this IO server. The VCOM feature of the eWON has to be used to cover a remote maintenance.

MITSUFX IOServer is available in eWON with Firmware 5.5 and above.

5.15.2 Setup

5.15.2.1 COM configuration

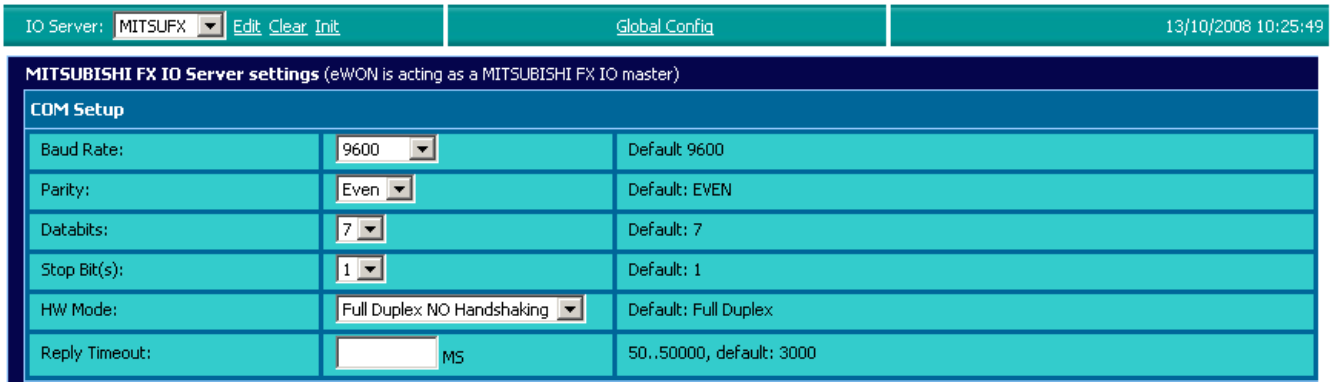

Figure 106: MITSUFX IOServer: COM setup

Parameter	Description
Baud Rate	Speed of the Serial port. Available speeds are 9600 Bauds or disabled
Parity	The parity to apply (None / Even / Odd)
Databits	The number of bits in data (7 or 8)
Stop bit(s)	The number of Stop bits (1 or 2)
HW mode	Choose the Hardware mode of communication: • **Ful Duplex HW handshaking** • **Full Duplex NO handshaking (by default)** • **Half duplex**
Reply Timeout	The maximum time the eWON will wait for a valid message response

Table 121: MITSUFX IOServer: COM parameters

The switches of the eWON must be configured in RS485/RS422 mode.

5.15.2.2 Topic configuration

Figure 107: MITSUFX IOServer: Topic configuration

Three (3) topics can be used for the IO Server. These topics are used to give a common property to a group of Mitsubishi Tags like:

- Enable/Disable
- Global Device Address
- Polling Rate

Topic configuration item	Description
Topic enabled	Enables or disables polling of all the Tags in the topic.
Global Device Address	Select the type of Mitsubishi PLC to link. Available FX type are: • **FX** • **FX0** • **FX0N** • **FX2N** • **FX3U** There is no address (number) to add because the eWON is connected directly to one PLC by its programming port. If a device is specified here, it will replace (overload) the device-defined Tag by Tag.
Poll rate	Defines the refresh rate of the Tag name. In a complex application, we can imagine that some Tag names must be refreshed every second - typically for digital input - and other every minute - typically: temperature-.

Table 122: MITSUFX IOServer: Topic configuration item definition

5.15.3 Tag name convention

IO Server Name	MITSUFX	
Topic Name	A	
	B	
	C	
Item Name	ValueName, Global Device Address	PLC address is defined Tag by Tag
	ValueName	Topic PLC Address is used.

Table 123: MITSUFX IOserver - Tag name convention table

The Item Name can contain the PLC address where the value is polled, or not. If the address is also specified at topic level, the address specified at Tag level will be ignored.

5.15.3.1 Value Name

The syntax is the following:

<Memory Type Symbol>[<Modifier>]<address>

Symbol	Memory type	Modifier allowed (optional)	Address
X	Input Bit (boolean)		1 to 3 **OCTAL** digits
Y	Output Bits (boolean)		1 to 3 **OCTAL** digits
M	Auxiliary relays (boolean)		1 to 4 decimal digits (max 7999)
M	Special Auxiliary relays (boolean)		1 to 4 decimal digits (min 8000)
S	States (boolean)		1 to 4 decimal digits
TC	Timer Contacts (boolean)		1 to 3 decimal digits
CC	Counter Contacts (boolean)		1 to 3 decimal digits
TR	Timer Reset (boolean)		1 to 3 decimal digits
CR	Counter Reset (boolean)		1 to 3 decimal digits
T	Timer Value	**W**, S	1 to 3 decimal digits
C	Counter Value	**W**, S	1 to 3 decimal digits (max 199)
C	High Speed Counter Value	L, **D**	1 to 3 decimal digits (min 200)
D	Data Registers	**S**, W, L, D, F	1 to 4 decimal digits (max 7999)
D	Special Data Registers	**S**, W, L, D, F	1 to 4 decimal digits (min 8000)

Table 124: MITSUFX Memory types and address scheme

Note: The Modifier can be omitted, the modifier in bold will be used.

Symbol	Modifier	value range
W	Word	0 .. 65535
S	signed Word	-32768 .. 32767
D	DWord	0 .. 4294967296 (*)
L	signed DWord	-2147483648 .. 2147483647 (*)
F	Float	+/- 3.4e38

Table 125: MITSUFX Modifiers

(*) Important: See “Tags are stored as Float” on page 67

Examples

address	point to
X14	input bit at octal address 14
D3	data register at address 3 (read as Signed Word)
DD3	data register at address 3 (read as DWord)
DF3	data register at address 3 (read as Float)
D8010	special data register at address 8010 (read as Signed Word)
C199	counter value at address 199 (read as Word)
C200	high speed counter at address 200 (read as DWord)

Table 126: MITSUFX register address examples

• Status register:

The STATUS Tag is a special Tag that returns information about the current state of communication for a given device. As for the other Tags, the status Tag ValueName is composed of:

Status, Global Device Address

- You can define a status Tag for each PLC used.
- If you use the status address, the Tag must be configured as analog.

0	Communication not initialized. Status UNKNOWN. If no Tag is polled on that device address, the communication status is unknown.
1	Communication OK.
2	Communication NOT OK.

Table 127: Tag Status meaning