V21.3.4

Drivers

eScada.Drivers.Mitsubishi.FX

eScada.Drivers.MitsubishiFX

(Mitsubishi FX Series CPU Programming port protocol)

OS availability
Windows, Linux, RaspBian

Atomic data type
bit or 16, 32 bit Word oriented protocol.

Hardware and documentation reference
FX5 Series CPU

Parameters available in every section

Channel:	COM Port	Serial port name depending on OS type. e.g. Linux: /dev/ttyS0, /dev/ttyUSB0 e.g. Windows: COM1, COM3
	Baud rate	Communication baud-rate, eg. 9600, 38400, 19200, etc.
	Parity	N for none, E for even, O for odd
	Data bit	Allowed values are 5, 6, 7 and 8
	Data stop bit	Allowed values are 1 and 2
	Reconnect timeout [ms]	Waiting time before a reconnection after COMM break-down
	Response timeout [ms]	Timeout interval used to wait for a response.
Device:	Read - Retry value.	Retry value before getting COMM error. (0=no retry)
	Write - Retry value.	Retry value before getting COMM error. (0=no retry)
Group:	none	
Tag:	none	

Remarks for devices

The following attributes can be expressed for every device.

Bytes order actions	None, Swap bytes (little endians ↔ big endians adjustment)
String actions	None, Swap bytes in words

Useful Linux commands

COM List:	dmesg | grep tty
COM rights:	sudo chmod a+rw /dev/ttyUSB0
COM user info:	ls -l /dev/ttyUSB0
COM add user:	sudo adduser *username* dialout (dialout is the default group)

Implemented devices

The user must verify with its PLC reference manual whether the desired device is addressable or not.

Booleans

Normal	Extended		Single element	HMI Array
X	EX	Input	-	X
Y	EY	Output	-	X
M	EM	Internal Relay	-	X
S	ES	State	-	X
TS	ETS	Timer contact	-	X
TC	ETC	Timer coil	-	X
TR	ETR	Timer reset	-	X
CS	ECTS	Counter contact	-	X
CC	ECC	Counter coil	-	X
CR	ECTR	Counter reset	-	X

Word (16 bit)

Normal	Extended		Single element	HMI Array
D	ED	Data register	X	X
TN	ETN	Timer current value	X	X
CN	ECN	Counter current value	X	X

DWord (32 bit)

Normal	Extended		Single element	HMI Array
CN	ECN	Counter current value	X	X

Address example:
D120, M1200, X20, Y40, ecc ...
Expressed using base 10 numbers

Addressing

Variable type	Type	Device type	Items
Boolean Items for this type regarding must be declared as multiple of 16			
Single bit	Bit	Booleans, Word 16 bit	512
Byte The number of items used declaring TAGs, must be a multiple of 2			
Unsigned 8 bit	UInt8	Word 16 bit	64
Signed 8 bit	Int8		
16 bit			
Unsigned integer 16 bit	UInt16	Word 16 bit	32
Signed integer 16 bit	Int16		
32 bit			
Unsigned integer 32 bit	UInt32	Word 16 bit, DWord 32 bit	16
Signed integer 32 bit	Int32		
Single precision 32 bit - (IEEE 754)	Float		
64 bit			
Unsigned integer 64 bit	UInt64	Word 16 bit	8
Signed integer 64 bit	Int64		
Double precision 64 bit - (IEEE 754)	Double		
Strings The string length used declaring TAGs, must be a multiple of 2 String bytes can be interpreted as ASCII, UTF-7, UTF-8, UTF-16 or UTF-32 encoding			
Array of bytes	String	Word 16 bit	(A)
Array of bytes. (Siemens S7) Array of bytes. (AllenBradley style)	S7String ABString	Not allowed	
(A) It depends on the strings length: items = 64 / String length			