v25.10.1

Drivers

eScada.Drivers.Mitsubishi.CL

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(Mitsubishi FX Series CPU Computer link protocol)

OS availability
Windows, Linux, RaspBian

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

Hardware and documentation reference
FX Series CPU

Parameters available in every section

Channel:	COM Port[1]	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:	Station number	The station number is specified in hexadecimal
	PLC Number	It is fixed to "FF" for each FX Series PLC
	Check sum	Enable or disable check sum calculation
	Control code	Enable or disable CR+LF control code
	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	

[1] You can specify more than one port name by using multiple rows or separating names with comma (',') or semicolon (';')

Remarks for devices
The following attributes can be expressed for each device.

Bytes order actions	None, Swap bytes order, Swap bytes order in DWords, Swap words order, Swap bytes order in DWords then words order
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		Single element	HMI Array
X	Input	X	X
Y	Output	X	X
M	Internal Relay	X	X
S	State	X	X
TS	Timer contact	X	X
CS	Counter contact	X	X

Word (16 bit)

Normal		Single element	HMI Array
D	Data register	X	X
R	Extension register	X	X
TN	Timer current value	X	X
CN	Counter current value	X	X

DWord (32 bit)

Normal		Single element	HMI Array
CN	Counter current value	X	X

Address example:
D120, M1200, X20, R30000, Y40, ecc ...
Expressed using base 10 numbers

Addressing

Variable type	Type	Device type	Items
Boolean			
Single bit	Bit	Booleans, Word 16 bit	(C)
Byte The number of items used declaring TAGs, must be a multiple of 2			
Unsigned 8 bit	UInt8	Word 16 bit	(C)
Signed 8 bit	Int8		
16 bit			
Unsigned integer 16 bit	UInt16	Word 16 bit	(C)
Signed integer 16 bit	Int16		
32 bit			
Unsigned integer 32 bit	UInt32	Word 16 bit, DWord 32 bit	(C)
Signed integer 32 bit	Int32		
Single precision 32 bit - (IEEE 754)	Float		
64 bit			
Unsigned integer 64 bit	UInt64	Word 16 bit	(C)
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, C)
Array of bytes. (Siemens S7) Array of bytes. (AllenBradley style)	S7String ABString	Not allowed	
(A) It depends on the strings length			
(C) It depends on PLC model. The best way is to try with the maximum items you need. Please refer to your PLC model documentation and its protocol specification			