eScada

v24.2.0

Drivers

eScada.Drivers.KernelCom

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OS availability
Windows, Linux, RaspBian

Atomic data type
16 bit Word oriented protocol.

Hardware and documentation reference
www.kernelgroup.it

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:	Node ID	Slave ID number
	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 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)

Addressing

Variable type	Type	Address type	Items
Boolean The number of items used declaring TAGs, must be a multiple of 16			
Single bit	Bit	DW	592
Byte The number of items used declaring TAGs, must be a multiple of 2			
Unsigned 8 bit	UInt8	DW	74
Signed 8 bit	Int8		
16 bit			
Unsigned integer 16 bit	UInt16	DW	37
Signed integer 16 bit	Int16		
32 bit			
Unsigned integer 32 bit	UInt32	DW	18
Signed integer 32 bit	Int32		
Single precision 32 bit - (IEEE 754)	Float		
64 bit			
Unsigned integer 64 bit	UInt64	DW	9
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	DW	(A)
Array of bytes. (Siemens S7) Array of bytes. (AllenBradley style)	S7String ABString	DW	(B)
(A) It depends on the strings length: e.g. if you want to read strings with a length of 10 chars each string, you can set a number of items of 74 / 10 = 7 consecutive items.			
(B) It depends on the strings length: e.g. if you want to read strings with a length of 10 chars each string, you can set a number of items of 74 / (10+2) = 6 consecutive items.			

S7 strings format
They have got two bytes at the beginning.
The first byte is for max allowed string length, the second one is for the real string length.
These types of strings can be declared with a length of 255 bytes max.

AB Strings format
They have got one word (16 bit) at the beginning, it contains the string length.

Consecutive items
The number of consecutive read/write items depends on the PLC model.
Values expressed below refer to the PLC model TSP350