v24.2.0

Drivers

eScada.Drivers.OmronEIP

eScada.Drivers.OmronEIP

(Ethernet IP – Connected CIP Transport)

OS availability
Windows, Linux, RaspBian

Atomic data type
Following CIP specifications for implemented data types.

Hardware and documentation reference
www.ia.omron.com
www.odva.org

Parameters available in every section

Channel:	none	
Device:	IP address	It can be IPV4 Multiple addresses can be expressed using multiple rows or a comma. e.g. 192.168.1.10,192.168.1.11
	TCP Port	A valid TCP port number.
	Session Serial Number	It shall be a unique number for the connected device
	EIP Mode	0=Connected, 1=Unconnected
	Request Packet Interval	It must be greater than the maximum polling time
	Reconnect timeout [ms]	Waiting time before a reconnection after COMM break-down
Group:	none	
Tag:	Chunk mode	None, no chunks System, tries to use a default value for chunks size. Custom, permits to set a custom size for every chunk.
	Bytes per chunk	Only with custom mode Amount of bytes, admitted by the protocol, for each communication frame to get or set data. It depends on the protocol and device you are using, please refer to the protocol documentation. 0=No data chunks used.

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

Implemented data types

PLC data type		Single element	HMI Array
BOOL	single bit	Yes	Yes
SINT	8 bit	Yes	Yes
INT	16 bit	Yes	Yes
DINT	32 bit	Yes	Yes
LINT	64 bit	Yes	Yes
USINT	8 bit	Yes	Yes
UINT	16 bit	Yes	Yes
UDINT	32 bit	Yes	Yes
ULINT	64 bit	Yes	Yes
REAL	floating point 32 bit	Yes	Yes
LREAL	floating point 64 bit	Yes	Yes
BYTE	8 bit	Yes	Yes
WORD	16 bit	Yes	Yes
DWORD	32 bit	Yes	Yes
LWORD	64 bit	Yes	Yes
STRING	1 byte per character Please use ABString as data type	Yes	Yes (using chunks)

Addressing
You can address every variable with a basic data type, using its symbol name.
Basic data in a user defined structure can be addressed.
Single item belonging to an array can be addressed using its index within square brackets.

Examples
variable myVariable
structure structure.element.data – libab_TIMERS[0].PRE – libab_COUNTERS[1].CU
item array myVariable[2] – srtucture.element[0]

remark:
In order to address an array, it is important to add the first array element you want to access at the end of the variable name. Otherwise you'll get a communication error.
e.g. myarray[0] is the correct way to express the tag address.

Variable type	Type	Data type	chunks	Items
Boolean The number of items used declaring TAGs, must be multiple of source PLC data size. Every group of booleans, must start from the first bit.				
Single bit	Bit	every numeric data type, BOOL	NO	496
Byte				
Unsigned 8 bit	UInt8	every numeric data type with 8 bit	YES	496
Signed 8 bit	Int8			
16 bit				
Unsigned integer 16 bit	UInt16	every numeric data type up to 16 bit	YES	248
Signed integer 16 bit	Int16			
32 bit				
Unsigned integer 32 bit	UInt32	every numeric data type up to 32 bit	YES	124
Signed integer 32 bit	Int32			
Single precision 32 bit (IEEE 754)	Float			
64 bit				
Unsigned integer 64 bit	UInt64	every numeric data type up to 64 bit	YES	62
Signed integer 64 bit	Int64			
Double precision 64 bit (IEEE 754)	Double			
Strings The number of items used declaring TAGs, must be a multiple of source PLC data size String bytes can be interpreted as ASCII, UTF-7, UTF-8, UTF-16 or UTF-32 encoding				
Array of bytes	String	every numeric data type up to 64 bit	YES	A
Array of bytes. (Siemens S7)	S7String	every numeric data type up to 64 bit every numeric data type up to 64 bit	YES	A
Array of bytes. (AllenBradley style)	ABString	STRING	YES	B
A It depends on the string's length				
B Multiple items are admitted only using data chunks. Without using chunks, only one element can be treated.				

remark:
When using chunks, there are no limits on the amount of 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.
Please have a look at 'Implemented data types' to understand which type of basic object can be addressed using array of items.