

eWon drivers - Driver Details

UDP MIP4000

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1. UDP MIP4000 Driver Details

1.1. Port configuration

The UDP MIP4000 driver must use UDP ports.

Example:

eWon TAG Name: UDP1

eWon TAG Description: UdpMip4000Port**Udp**21101**20

Parameter	Value	Description
Parameter 1	UdpMip4000Port	This string is used by the driver to identify a “Port configuration TAG” and must not be modified.
Parameter 2	Udp	This string is used by the driver to define an UDP port and must not be modified.
Parameter 3	:21101	Connection string (UDP port on eWON for UDP packet receiving task). The colon (“:”) is mandatory.
Parameter 4	20	Max size of UDP packet queue.

Depending on hardware resources, workload and driver configuration, parsing every UDP packet may be not possible in realtime. So the parameter 4 can be tuned in order to manage a queue of UDP packets that are processed as soon as possible by the driver.

The queue is implemented following a “leaky bucket” model: if the queue is full, then older UDP packets are dropped. If the size of UDP packet queue is too large, then a lot of memory is used on eWON.

1.2. Device configuration

For each device a tag named *deviceNameN* (e.g. : PLC1) must be defined, where *N* is the number of device starting from 1. Description of *deviceNameN* tag is used by the driver to read some parameters, as described below.

Example:

eWon TAG Name: PLC1

eWon TAG Description: UDP1**1**2000**0**0**192.168.23.101:21101**50

Parameter	Value	Description
Parameter 1	UDP1	Name of the “Serial port configuration TAG”.
Parameter 2	1	Device module number (UDP packet header).
Parameter 3	2000	UDP connection time-out (in milliseconds).
Parameter 4	0	Device type (not used, required for compatibility).
Parameter 5	0	Device unit address (not used, required for compatibility).
Parameter 6	192.168.23.101:21101	Connection string (device IP address and port for UDP packet sending task).
Parameter 7	50	Max number of values read from each UDP packet.

Depending on hardware resources, workload and driver configuration, parsing all the values from every UDP packet may be too slow. So the parameter 7 can be tuned in order to read a few read-only values per UDP packet and to obtain a stable communication between the eWON and the monitored device.

Read/write values are always managed and they are not managed by this algorithm.

1.3. TAG list (example)

The following is an example of partial CSV configuration file:

<i>CmdName</i>	<i>ReadAddress</i>	<i>WriteAddress</i>	<i>Description</i>
INWORD001	1		Input Word 1
INWORD300	300	20	Interface check
OUTWORD001		1	Output Word 1

The first three fields (*CmdName*, *ReadAddress*, *WriteAddress*) are used by the **eWon drivers eXtender**:

- You can edit the *CmdName* field, then use the new customized prefixes for the eWON tag names.
- You can edit the *ReadAddress* and *WriteAddress* fields. They represent the offset into UDP packet expressed in words (16-bits). Leave the field *ReadAddress* empty for write-only tags. Leave the field *WriteAddress* empty for read-only tags.
- You can edit the *Description* field as you wish.

Please note that defining eWON tags you must respect the following rules:

- Given a device, the postfix of the eWON tag name must be equal to the *CmdName* field of the CSV configuration file.

To ensure that the **eWon drivers eXtender** reads the values properly, define the tags in the following way:

deviceNameN_tagPostfix (e.g.: PLC1_INWORD001)

1.4. How to create var_lst.csv

If you want use a var_lst.csv file to add the tag to the eWON, create the file as follows:

Name	Description	Server Name	Topic Name	Address	Type	PageId
UDP1	UdpMip4000Port**Udp**:21101**20	MEM		UDP1	2	2
PLC1	UDP1**1**2000**0**0**192.168.23.101:21101**50	MEM		PLC1	2	2
PLC1_INWORD001	Input word 1	MEM		PLC1_INWORD001	2	1
PLC1_INWORD300	Input word 300	MEM		PLC1_INWORD300	2	1
PLC1_OUTWORD001	Output word 1	MEM		PLC1_OUTWORD001	2	1

- For value tags the field *Name* in var_lst.csv must be composed of *deviceNameN* (e.g. PLC1) and field *CmdName* (e.g. INWORD001).
- The field *Address* in var_lst.csv must be equal to field *Name*.
- The field *ServerName* in var_lst.csv must be *MEM*.
- The field *Description* in var_lst.csv, except for the configuration tags (e.g. UDP1, PLC1), has no constraints. It is recommended to fill it with the tag description and other useful informations.
- The field *Type* in var_lst.csv is the data type. Use the following mapping to insert a type (it may depend on the eWON firmware version):

<i>Data Format</i>	<i>eWON Format</i>
0	Boolean
1	Float
2	Integer
3	Dword

1.5. Tested Devices

- PLC MIP4000