eWon drivers - Driver Details
M-Bus

Summary

1. M-Bus Driver Details

1.1. Serial port configuration

Default device configuration: 2400 8-E-1

Serial port configuration tag description (example):
MBusPort**Serial**comm:com:0;baudrate=2400;parity=even;blocking=off;autocts=off;autorts=off

1.2. Device configuration

For each device a tag named *deviceNameN* (e.g. : COUNTER1) 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:
*commname***address***timeoutMs*

Example:
COM0**3**2000
commname = COM0 ; eWon serial port
address = 3 ; primary M-Bus address
timeoutMS = 2000 ; 2s timeout for serial read

You can also use **new device parameters configuration** , as described below:
*commname***NodeAddress= *address*;SecondaryAddress=*secAaddress*; TimeOutMS= *timeoutMs*

Example:
COM0**NodeAddress= 3;SecondaryAddress=*14651469*; TimeOutMS= *2000*

commname = COM0 ; eWon serial port
address = 3 ; primary M-Bus address
SecondaryAddress=*14651469*; secondary M-Bus address
timeoutMS = 2000 ; 2s timeout for serial read

With this new device parameters configuration you can also only define the SecondaryAddress without define primary MBus address (ES: COM0**SecondaryAddress=*14651469*; TimeOutMS= *2000*)

1.3. Autoscan of supported TAGS from devices

For this driver, the TAG list model (CSV configuration file) is automatically generated in the eWON folder **/usr/Config/MBus/** because the set of available tags depends on the device type. So if you don't know "CSV configuration file", you need to create a Tag list with only **devices configuration** (see above) and connect the devices to serial bus.
On driver startup, if no device file is found in **/usr/Config/MBus/** folder, the driver provides to creation of those files (CSV configuration file), one file for each device found. You can use those files to create you own TAG list, for the data that you need to read from each device.
The time for file generation process depends on the number of the devices configured and connected.
If want to change something or regenerate all the device tag model, you have to erase file in this folder.

1.4. TAG list (example)

For this driver the TAG list model is automatically generated in the eWON folder **/usr/Config/MBus/** because the set of available tags depends on the device type.
For each M-Bus device you have defined on the eWON (*chapter 7.2 appendix A*), the **eWon drivers eXtender** creates the configuration file *deviceNameN.csv* (e.g.: COUNTER1.csv) during the startup sequence (only if file doesn't exist yet).
In this file there are defined the postfix of the eWON tag, the description and other information.

To ensure that the **eWon drivers eXtender** reads the values in the correct way, define the tags in the following way:
deviceNameN_tagPostfix (e.g.: COUNTER1_TAG001)

The following is an example of partial CSV configuration file:

CmdName	*DataRecordHeader*	*ValueInfo*	*DataField*	*Function*	*SubUnit*	*Storage*	*Tariff*
TAG001	0C 78	Fabrication No	8 digit BCD	Inst	0	0	0
TAG002	04 06	Energy (Wh)	32 Bit Integer	Inst	0	0	0
TAG003	0C 14	Volume (m^3)	8 digit BCD	Inst	0	0	0
TAG004	3B 2D	Power (W)	6 digit BCD	Err	0	0	0
TAG005	3B 3B	Volume Flow (m^3/h)	6 digit BCD	Err	0	0	0
TAG006	0A 5A	Flow Temperature (°C)	4 digit BCD	Inst	0	0	0
TAG007	0A 5E	Return Temperature (°C)	4 digit BCD	Inst	0	0	0
TAG008	0B 61	Temperature Difference (K)	6 digit BCD	Inst	0	0	0
TAG009	04 6D	Time Point (date time)	32 Bit Integer	Inst	0	0	0
TAG010	02 27	Operating Time (d)	16 Bit Integer	Inst	0	0	0
TAG011	09 FD 0E	Firmware version #	2 digit BCD	Inst	0	0	0
TAG012	09 FD 0F	Software version #	2 digit BCD	Inst	0	0	0

The first two fields (*CmdName*, *DataRecordHeader*) are used by the **eWon drivers eXtender**:

- You can edit the *CmdName* field, then use the new customized prefixes for the eWON tag names.
- **Do not edit the *DataRecordHeader* field.**

Other fields (ValueInfo, DataField, Function, SubUnit, Storage, Tariff) refer to M-Bus properties as provided by the M-Bus device itself and are useful to identify each different value. You can copy informations from these fields to eWON tag descriptions as you wish.

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

- Given an M-Bus device, the postfix of the eWON tag name must be equal to the *CmdName* field of its CSV file.
- To decide the data type of the eWON tag, use the column *Data Format* and decode it as follows (it may depend on the eWON firmware version):

Data Format	*eWON Format*
0	Boolean
1	Float
2	Integer
3	Dword

1.5. 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	ServerName	TopicName	Address	Type	PageId
COM0	MBusPort**Serial**comm:com:0;baudrate=2400; parity=even;blocking=off;autocts=off;autorts=off	MEM		COM0	2	2
COUNTER1	COM0**NodeAddress=3; SecondaryAddress=14651469	MEM		COUNTER1	2	2
COUNTER1_TAG001	Fabrication No	MEM		COUNTER1_TAG001	1	1
COUNTER1_TAG002	Energy (Wh)	MEM		COUNTER1_TAG002	1	1
COUNTER1_TAG003	Volume (m^3)	MEM		COUNTER1_TAG003	1	1
COUNTER1_TAG004	Power (W)	MEM		COUNTER1_TAG004	1	1
COUNTER1_TAG005	Volume Flow (m^3/h)	MEM		COUNTER1_TAG005	1	1
COUNTER1_TAG006	Flow Temperature (°C)	MEM		COUNTER1_TAG006	1	1
COUNTER1_TAG007	Return Temperature (°C)	MEM		COUNTER1_TAG007	1	1
COUNTER1_TAG008	Temperature Difference (K)	MEM		COUNTER1_TAG008	1	1
COUNTER1_TAG010	Operating Time (d)	MEM		COUNTER1_TAG010	1	1
COUNTER1_TAG011	Firmware version #	MEM		COUNTER1_TAG011	1	1
COUNTER1_TAG012	Software version #	MEM		COUNTER1_TAG012	1	1

- The field *Name* in *var_lst.csv* must be composed of *deviceNameN* (e.g. COUNTER1) and field *CmdName* (e.g. TAG001).
- 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. COM0, COUNTER1), has no constraints. It is recommended to fill it with the tag description and other useful informations as derived from M-Bus device documentation or CSV configuration file.
- 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):

Data Format	*eWON Format*
0	Boolean
1	Float
2	Integer
3	Dword

1.6. Tested Devices

- Itron TH4 Integral
- Itron Ultramax