

eWon drivers - Driver Details

SMA Net

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1. SMA Net Driver Details

1.1. Serial port configuration

Default inverter configuration: 1200 8-N-1

Serial port configuration tag description:

SmaNetPort**Serial**comm:com0;baudrate=1200;blocking=off;halfduplex=on;bitsperchar=8;stopbits=1;parity=none

1.2. Device configuration

For each device (inverter) must be defined a tag named INVn (e.g. : INV1) where n is the number of device starting from 1.

Description of INVn tag is used by the driver to read some parameters, as described below :

*commname**address**timeoutMs*

Example:

COM0**1**2000

commname = COM0 ; eWon serial port
address = 1 ; bus address
timeoutMS = 2000 ; 2s timeout for serial read

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/SMA/** 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/SMA/** 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 is automatically generated in the eWON folder: `/usr/Config/SMA/` because the available tag depends on the inverter type.

For each SMANet device you have defined on the eWON (*chapter 2.2 appendix A*), the **eWON drivers eXtender** creates during the startup sequence the configuration file: `deviceName.csv` (e.g.: `INV1.csv`).

In this file there are defined the postfix of the eWON tag, the unit or description of status and other informations.

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

`deviceName_postfixTag` (e.g.: `INV1_`)

The following is an example of partial CSV configuration file:

Acc. to channel: Index	Parameter Type	Channel Type	Data Format	Level	Name	Unit	LoVal	HiVal
2	9	1	0		Soh	%	1.0	0.0
55	9	1	1		Pac	kW	0.1	-3276.7
57	9	1	1		Iac	A	0.1	-3276.7
58	9	1	1		Vac	V	0.1	0.0
59	9	1	1		Fac	Hz	0.1	0.0
1	9	4	2		FwVer		0.0010	
28	9	4	2		E-Total-In	kWh	0.1	
29	9	4	2		E-Total	kWh	0.1	
19	9	8	0		Mode	###,Operation,Warning,Disturbance,Error		
20	9	8	0		Error	#####,1xx INV,2xx BAT,3xx EXT,4xx GEN,5xx GRD,6xx RLY,7xx SYS,8xx AS/MC Box,85x SIC		

- The postfixTag name must be equal to the Name field of 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

- A tag where the *Channel Type* is equal to 8 is a **status tag**.
To decode the state, it is sufficient to bind the value of tag to the i-th value of the string in the *Unit* field.
Below an example of decoding the unit field of tag *Mode* (###,Operation,Warning,Disturbance,Error):

Tag Value	Unit (string split)
0	###
1	Operation
2	Warning
3	Disturbance
4	Error

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	SmaNetPort**Serial**comm:com0; baudrate=1200;blocking=off;halfduplex=on	MEM		COM0	2	2
INV1	COM0**1	MEM		INV1	2	2
INV1_Soh	Soh [%]	MEM		INV1_Soh	2	1
INV1_Pac	Pac [kW]	MEM		INV1_Pac	1	1
INV1_Iac	Iac [A]	MEM		INV1_Iac	1	1
INV1_Vac	Vac [V]	MEM		INV1_Vac	1	1
INV1_Fac	Fac [Hz]	MEM		INV1_Fac	1	1
INV1_FwVer	FwVer	MEM		INV1_FwVer	1	1
INV1_E-Total-In	E-Total-In [kWh]	MEM		INV1_E-Total-In	1	1
INV1_E-Total	E-Total [kWh]	MEM		INV1_E-Total	1	1
INV1_h-On	h-On [h]	MEM		INV1_h-On	1	1
INV1_Mode	###,Operation,Warning,Disturbance,Error,	MEM		INV1_Mode	2	1
INV1_Error	#####,1xx INV,2xx BAT,3xx EXT,4xx GEN,5xx GRD,6xx RLY,7xx SYS,8xx AS/MC Box,85x SIC,	MEM		INV1_Error	2	1

- The field *Name* in var_lst.csv must be composed of the *device name* (e.g. INV1) and field *Name* (e.g. Vac).
- 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 tag (e.g. COM0, INV1) has no constraint.
- It is recommended to fill it with the tag *Name* and *Unit* or with *status string*.
- The field *Type* in var_lst.csv is the data type. Use the following code to insert a type:
 - 1 – Floating Point
 - 2 – Integer
 - 3 – Dword

1.6. Tested devices

- SMC 6000 A IT
- SB 1700 IT
- SB 3000 IT
- SI 5048 EH