



Application User Guide

AUG 062 / Rev. 1.0

eWON configured by SD Card

Configure your eWON with an SD Card and perform actions such as a firmware upgrade / downgrade or even a recovery, restore a backup, integrate it in your Talk2M account ...



Table of Contents

- 1. Purpose 3**
- 2. Requirements 4**
 - Devices 4
 - Firmware 4
 - SD Card 4
- 3. How does it work? 5**
 - SD Card insertion 5
 - .(d)ebu files 5
 - Other valid file formats 5
 - File(s) processing 5
 - End Status 6
 - SD Card removal 6
- 4. Authorized files 7**
 - ewonfwr.(d)ebu 8
 - Procedure 8
 - Upgrade 8
 - Downgrade 9
 - T2M.txt 9
- 5. Disable the configuration by SD Card 11**
- 6. Events.txt messages 12**
- Revision 13**
 - Revision History 13

1. Purpose

The eWON integrated SD card reader is used to configure your eWON in a simple way.

When talking about configuration, there are 3 possibilities:

- **Firmware upgrade/downgrade or recovery**
The user inserts an SD Card containing either a .edf file (such as ewonfwr.edf or dewonfwr.edf) or a .ebu file.
- **Restore a backup or apply communication settings**
The user inserts an SD Card containing any of the followings:
 - backup.tar
 - comcfg.txt
- **Talk2M autoregistration**
The user inserts an SD Card with a T2M.txt file which contains the Talk2M Global Registration Key (GRK) used by Talk2M to automatically link this eWON to your account.

2. Requirements

Devices

Only eWONs with an integrated card reader are able to use this feature. This means that it concerns:

- Flexy: all models
- Cosy 131: all models

Firmware

This feature concerns the firmware v11 and higher.

SD Card

The SD Card needs the FAT32 format with a capacity of 128Gb maximum (only the first partition is used).

3. How does it work?

Except for the .(d)ebu files, the configuration process can be summarized in 3 steps:

- The user inserts the SD Card in the eWON
- The eWON processes the files
- The user removes the SD Card from the eWON which provokes the reboot.

SD Card insertion

.(d)ebu files

Because these types of file are only considered at boot time, the SD Card needs to be already inserted when powering up the eWON. See [ewonfwr.\(d\)ebu section](#) for more information

Other valid file formats

The SD Card can be inserted at any time even if your eWON is powered on.

The insertion is detected in a very short period (5 seconds maximum) and this detection is visualized by the quick orange blinking pattern of the USR LED.

The blinking pattern reflects a cycle that alternates the ON / OFF. In this case, the LED is powered ON for 150msec then is powered OFF for 150msec.



If the SD Card is already inserted on the power up of the eWON but doesn't contain any firmware file type, the SD Card will be processed at the end of the boot phase.

File(s) processing

The following blinking process occurs for these types of file only:

- ewonfwr.edf
- dewonfwr.edf
- backup.tar
- comcfg.txt
- T2M.txt

While the file(s) is(are) being processed, the eWON displays a slow orange blinking pattern of the USR LED. It could last from 1 to 20 seconds depending on the files the

eWON needs to process.

The slow blinking is a cycle that alternates theUSR LED by powering ON for 1sec and powering OFF for 1sec.



- Note -

Processing the files for the eWON is exactly the same as if you transfer those files by FTP. These files are copied on the eWON and immediately active.

As some communication parameters are effective only after a reboot, this one is automatically initiated when you remove the SD Card.

End Status

When the eWON has completed the processing of the SD Card, it will display the result on theUSR LED:

- Solid green is a success
- Solid red is a failure expressing an error that occurred during the processing.

- Important -

The solid green/red LED will stay until the SD Card is removed

SD Card removal

In any case, success or failure, at the end of the processing, you must remove the SD card.

When the SD Card is removed and after a few seconds, the eWON reboots automatically.

- Important -

If the T2M.txt file is available, after the reboot produced by the SD Card removal and as soon as it catches a connection, the eWON will automatically run its T2M wizard with the settings set by the T2M.txt file. The catching phase can last for a minute depending on the communication media used to connect to the Internet.

4. Authorized files

The eWON considers several different files on an SD Card. These files are processed in the strict order below:

1. ewonfwr.debu (firmware file)
2. ewonfwr.ebu (firmware file)
3. ewonfwr.edf (firmware file)
4. dewonfwr.edf (firmware file)
5. backup.tar (configuration file)
6. comcfg.txt (configuration file)
7. T2M.txt (configuration file)

If one of the firmware files is found, it will be processed separately. The other files available on the SD Card will be executed at another time.

If there are only configuration files on the SD Card, these ones will be processed immediately and at the same time.

You can combine multiple files on the SD Card. This leads to two scenarios depending on when you insert the SD Card :

- **The eWON is powered off**
At the startup, if a firmware file is available on the SD Card, it will be executed first. Once the firmware has been upgraded/downgraded, the other files will be processed.
- **The eWON is running**
The configuration files will be processed first. Once those files are processed, the eWON reboots. If a firmware file is available on the SD Card as well then it will be executed at this moment, when the eWON reboots.

It is recommended to insert the SD Card when the eWON is turned off if you need to perform an upgrade/downgrade while combining firmware & configuration files.

- Notes -

Don't forget that with a backup.tar file, the eWON is totally erased before copying the files from the backup.

ewonfwr.(d)ebu

The .(d)ebu files are used to perform a recovery when switching eWON firmware between major versions or in case of firmware issue :

- The .ebu file is used to upgrade while keeping eWON's configuration intact.
- The .debu file is used to upgrade or downgrade with your eWON being completely erased.

- Important -

You may not perform a downgrade to a version lower than v11.

Procedure

The whole process, starting from the powering up to the ready-to-use state, should take around 2,5 minutes.

Upgrade

Here's how to proceed when performing an upgrade:

1. At boot, the eWON checks if:
 - there is an SD Card
 - there is a .(d)ebu file
 - the version of the .(d)ebu is strictly higher than current firmware version.
2. If the .(d)ebu file is valid, the recovery process can begin. The USR LED displays a solid orange. The expected time of this step is between 1 and 2 minutes.
3. When the recovery ends, the USR LED shows the result during 3 seconds:
 - Green light on success
 - Red light on failure
4. After a few seconds, the eWON continue its boot process. A reboot of the eWON isn't necessary.

- Note -

Because the firmware version is checked, the recovery will only happen once if you let the SD Card plugged in.

Downgrade

There is just one difference with the upgrade process: you need to press the RESET button while powering on the eWON until the USB LED becomes solid orange.

This disables the firmware version verification that checks if the .(d)ebu version is higher than the one currently running in the eWON.

- Good to know -

If you want to force a recovery with the same firmware version as the one currently running, simply follow the downgrade procedure with a .ebu version equal to the one already in the eWON.

(d)ewonfwr.edf

There are two scenarios possible for the .edf file :

- The ewonfwr.edf file performs a firmware upgrade.
- The dewonfwr.edf file performs a firmware downgrade.

- Important -

All settings of the eWON are erased during a firmware downgrade procedure.

backup.tar

The backup.tar erases the whole configuration of the eWON and applies the configuration parameters sent inside the backup.tar file.

It can be an entire backup file of an eWON (containing all configuration parameters) but it can also be a custom backup containing only a few parameters created by yourself.

comcfg.txt

The comcfg.txt file is used to configure the communication parameters of the eWON.

Same as the backup file, you can use an entire comcfg.txt file or just create a comcfg.txt file containing some of the configuration parameters.

See also the example section at the end of this document.

T2M.txt

The T2M.txt consists of a text file containing 2 keys used to do the Talk2M auto registration with the Global Registration Key (GRK):

- T2MKey: KEY_VAL (prefixed 128 bits GUID)
- T2MNote: NOTE_VAL (140 ASCII chars note)

The T2MKey is the Global Registration Key (GRK) found in the Account properties (starting eCatcher v6).

- Important -

For security reasons, the eWON doesn't process the T2M.txt file if it's already linked to a Talk2M account. The GRK can only be used on eWONs that are not registered on a Talk2M account.

You will need to first remove it from your account in eCatcher, then only will you be able to perform the auto registration with the SD Card.

- Note -

If you mean to use a T2M.txt file, after the reboot produced by the SD Card removal and as soon as it catches a connection, the eWON will automatically run its T2M wizard with the settings coming from the T2M.txt file.

The catching phase can last for a minute depending on what type of communication media you are using.

T2M.txt file example:

```
T2MKey:A01-6BB884ABCDEFGHJKLMNOPQRSTUVWXYZ  
T2MNote:Message copied in eCatcher during registration
```

5. Disable the configuration by SD Card

The configuration by SD Card feature is controlled by the parameter **SDConfigEnable** from the comcfg.txt file.

By default, this option is enabled. This parameter is only check at boot time.

```
SDConfigEnable:1
```

- Note -

If a user wants to disable this feature, he must set it to 0 and reboot his eWON.

6. Events.txt messages

When you perform a configuration by SD card (with a T2M.txt file), the eWON will put some traces in your events.txt file. For example :

```
"14:40:00";"bkz-The SD device has been inserted";"udevmon";79347;1073779147  
"14:40:05";"bkz-Successfully load SD file  
(T2M.txt)";"esyncitf";79337;1073779149  
"14:41:05";"System Booting, FWR: 11.0s0b11 (11.0), SN: 1524-0071-21  
[EF0000]";...  
"14:41:06";"Reboot reason: SD device removed";"wd";79308;1073762140
```

If a SD Card with no valid files is inserted, you can find the following traces:

```
"14:48:52";"bkz-The SD device has been inserted";"udevmon";79347;1073779147  
"14:49:17";"bkz-The SD device has been removed";"udevmon";79347;1073779148
```

- Note -

No reboot is done when invalid configuration files are processed.



7. File examples

The links here under will give you examples how the SD Cards can be used:

- [KB-0258 : eWON preconfigured via SD Card to connect through 3G](#)
- [KB-0259 : eWON preconfigured via SD Card to connect through Ethernet with a static WAN IP address](#)
- [KB-0260 : eWON preconfigured via SD Card to connect through WiFi](#)
- [KB-0261 : eWON preconfigured via SD Card to connect through USB port](#)
- [KB-0262 :eWON preconfigured via SD Card to set up the NAT1-1](#)



Revision

Revision History

Revision Level	Date	Description
1.0	08/01/2016	Original Document
1.1	27/01/2016	Added content for T2M.txt section
1.2	25/04/2016	Added content for ewonfwr.(d)ebu section
1.3	09/05/2016	Added content backup.tar & comcfg.txt

Document build number: 83

Note concerning the warranty and the rights of ownership:

The information contained in this document is subject to modification without notice. Check <https://ewon.biz/support> for the latest documents releases.

The vendor and the authors of this manual are not liable for the errors it may contain, nor for their eventual consequences.

No liability or warranty, explicit or implicit, is made concerning the quality, the accuracy and the correctness of the information contained in this document. In no case can the manufacturer's responsibility be implied for direct, indirect, accidental or other damage occurring from any defect of the product or mistakes coming from this document.

The product names are mentioned in this manual for information purposes only. The trade marks and the product names or marks contained in this document are the property of their respective owners.

This document contains materials protected by the International Copyright Laws. All reproduction rights are reserved. No part of this handbook can be reproduced, transmitted or copied in any way without written consent from the manufacturer and/or the authors of this handbook.

eWON sa