TELTONIKA

TFT100 Sleep Modes

# TELTONIKA TFT100 Sleep Modes Instructions



Contents



TELTONIKA

## TELTONIKA TFT100 Sleep Modes


## Product Information

### Specifications

- **Sleep Modes:** GPS sleep, Deep sleep, Online Deep sleep, Ultra Deep-sleep mode

## Product Usage Instructions

**GPS Sleep mode**
TFT100 is capable of entering GPS sleep mode to conserve power. The device will turn off the GPS module and continue recording periodically. To enter GPS sleep mode, the following conditions must be met:

- TFT100 is configured for GPS Sleep mode and the sleep timeout is reached.
- Device time is synchronized with GPS satellites.
- Movement is not detected by the accelerometer.
- Ignition is off.
- No SMS messages are being received.

The device will exit GPS sleep mode if movement is detected or ignition is turned on.

**Deep Sleep mode**
In deep sleep mode, TFT100 puts the GNSS receiver to sleep and turns off the GSM/GPRS module. The device cannot be woken up via SMS in this mode. To enter deep sleep mode, the following conditions must be met:

- TFT100 is configured for Deep Sleep mode and the sleep timeout is reached.
- Device time is synchronized with GPS satellites.

The device will exit deep sleep mode if movement is detected or ignition is turned on.

**FAQ**

- **Q: Can TFT100 be woken up via SMS in Deep Sleep mode?**

A: No, in Deep Sleep mode, the GSM/GPRS module is turned off, so the device cannot be woken up via SMS.

- **Q: What happens if movement is detected while in GPS Sleep mode?**
  A: If movement is detected, the device will exit GPS Sleep mode.
- **Q: How does TFT100 save power in Ultra Deep-sleep mode?**
  A: In Ultra Deep-sleep mode, the device minimizes power consumption by shutting down all non-essential functions.

https://wiki.teltonika-gps.com/view/TFT100_Sleep_modes

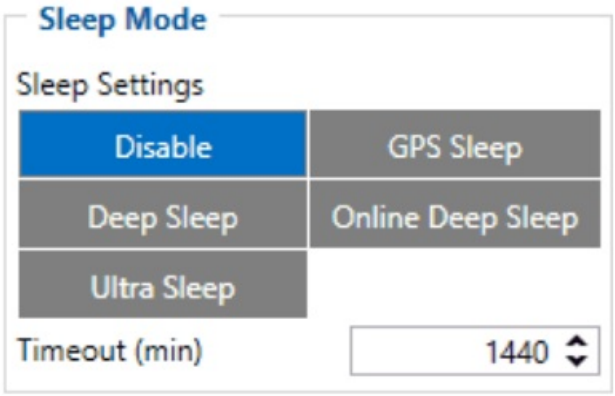
**There are four sleep modes:** GPS sleep, Deep sleep, Online Deep sleep, and Ultra Deep-sleep mode.

### Video Demonstration

Here is a visual demonstration of the sleep modes and how they they affect the device.

### GPS Sleep mode

TFT100 is able to go into GPS sleep mode if such mode is enabled. Sleep mode timeout starts counting when the device is in STOP mode. After timeout is reached and all conditions for GPS sleep mode are met, the device goes into sleep mode.




When in GPS sleep mode, TFT100 turns the GPS module off and continues making new periodic records. As a result power usage decreases, in turn saving vehicle battery.
TFT100 will enter GPS sleep mode if ALL of these conditions are met:

- TFT100 is configured to work in GPS Sleep mode and sleep timeout is reached;
- Device time must be synchronized with GPS satellites. From Firmware 03.18.15 version, this condition depends on the “Records saving/sending without TS” parameter:
  - After Position Fix – TFT100 time is synchronized with GNSS satellites and GPS fix is obtained;
  - After Time Sync – TFT100 time is synchronized over NTP, NITZ, or GNSS satellites;
  - Always – TFT100 will enter sleep mode without time synchronization and GPS fix.
- Movement is not detected by the accelerometer and configured movement source;
- Ignition (configured ignition source) is off;
- There are no SMS messages being received.

On Firmware version older than 03.18.15, the device time has to be synchronized with GNSS satellites and GPS fix has to be obtained in order for the device to enter GPS Sleep mode.

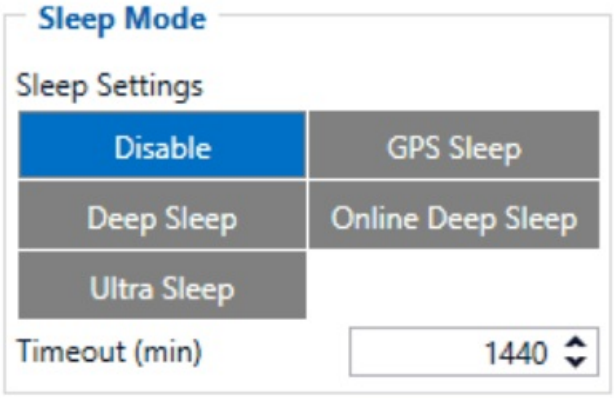
http://wiki.teltonika-gps.com/view/File:Bw_nb.png

TFT100 exits deep sleep mode if ONE of following conditions is true:

- Movement by accelerometer or configured movement source is detected;
- Ignition (configured ignition source) is turned on.

### Deep Sleep mode

While in deep sleep mode, TFT100 sets the GNSS receiver to sleep mode and turns off GSM/GPRS module (hence it is not possible to wake up the device via SMS). Despite records with the last known coordinate being saved and sent to the AVL server (GSM/GPRS module is turned on to send data and then it is turned off), power usage is decreased to save the vehicle's battery.




Please note that power saving depends on two configurable parameters: Send Period and Minimum Record Saving Period in "X on Stop Mode". When records are sent successfully in deep sleep mode, open link timeout counter will be skipped and TFT100 will enter deep sleep mode immediately. Because a lot of functions are disabled in deep sleep mode following I/O elements are disabled from records that are generated in this mode: GSM Signal, GNSS Status, GNSS PDOP, GNSS HDOP, GSM CellID, GSM Area Code, Active GSM Operator, Trip Odometer, Total Odometer, Speed, Fuel Rate GPS, Fuel Used GPS and ICCID.

TFT100 can enter deep sleep mode if ALL of these conditions are met:

- TFT100 is configured in Deep Sleep mode and sleep timeout is reached;
- Device time must be synchronized with GPS satellites. From Firmware 03.18.15 version, this condition depends on the "Records saving/sending without TS" parameter:
  - After Position Fix – TFT100 time is synchronized with GNSS satellites and GPS fix is obtained;
  - After Time Sync – TFT100 time is synchronized over NTP, NITZ, or GNSS satellites;
  - Always – TFT100 will enter sleep mode without time synchronization and GPS fix.
- Ignition (configured ignition source) is off;
- Movement is not detected by the accelerometer or configured movement source;
- Min. Record Saving Period (**Data Acquisition Mode settings**) must be larger than Open Link Timeout parameter, so that TFT100 could close GPRS link;
- The difference between Send Period (**Data Acquisition Mode settings**) and Open Link Timeout must be more than 90 seconds, so that TFT100 could close GPRS link within at least 90 seconds;
- There are no SMS messages being received;
- Data socket(s) are closed;
- Data sending is not in progress;

- FOTA is not in progress.

On Firmware version older than 03.18.15, the device time has to be synchronized with GNSS satellites and GPS fix has to be obtained in order for the device to enter Deep Sleep mode.

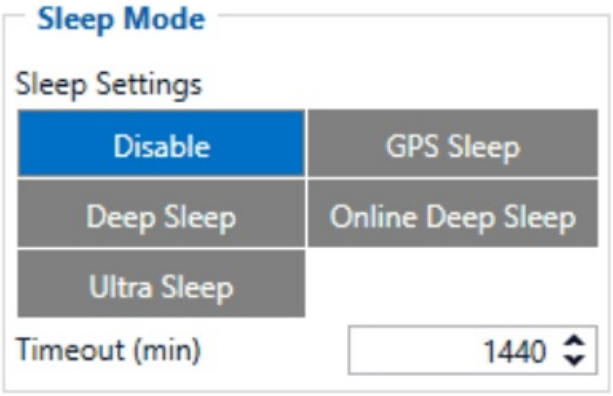
http://wiki.teltonika-gps.com/view/File:Bw_nb.png

TFT100 exits deep sleep mode if ONE of following conditions is true:

- Movement by accelerometer or configured movement source is detected;
- Ignition (configured ignition source) is turned on.

### Online Deep Sleep mode

In this mode, the device works as in deep sleep mode, but without deregistering from the GSM network. GSM part stays powered so this increases power consumption. In this mode, the device should send/receive SMS and make/accept calls. It does not close the GPRS context if one was previously opened.

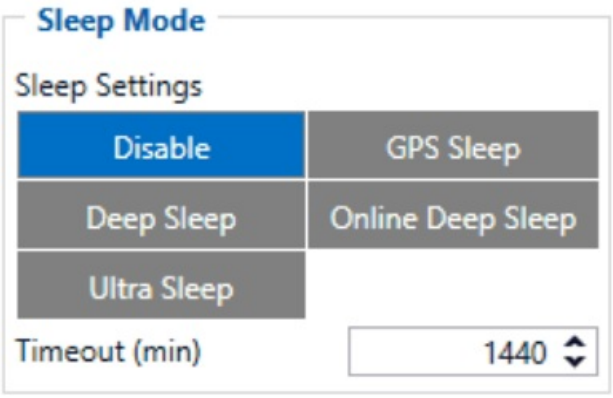



Conditions to enter online deep sleep mode are the same as entering deep sleep mode. TFT100 exits online sleep mode if ONE of following conditions is true:

- Movement by accelerometer or configured movement source is detected;
- Ignition (configured ignition source) is turned on.

### Ultra Deep Sleep mode

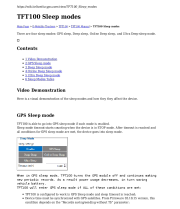
Conditions to enter ultra deep sleep mode, where GPS and GSM modem are turned off and device functions are suspended for maximum battery saving, are the same as entering deep sleep mode. TFT100 exits ultra deep sleep mode only when DIN1 or movement are detected by accelerometer. Movement source and Ignition source configuration is not taken into account in this case.




## Sleep Modes Table

| Sleep Mode | GNSS | GSM/GPRS | Exit from Sleep Mode by | Periodic data transmission |
|---|---|---|---|---|
| **Disabled** | On | On | - | On |
| **GPS Sleep** | Off | On | Movement / Ignition | On |
| **Deep Sleep** | Off | Off | Movement / Ignition | On |
| **Online Deep Sleep** | Off | On | Movement / Ignition | On |
| **Ultra Deep Sleep** | Off | Off | Movement / DIN1 | Off |

## Documents / Resources

| | |
|---|---|
|  | TELTONIKA TFT100 Sleep Modes [pdf] Instructions<br>TFT100 Sleep Modes, TFT100, Sleep Modes, Modes |

## References

- User Manual