

GliderKeeper

User Manual

GliderKeeper App Ver. 1.3

Management application



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1. Introduction and general concepts

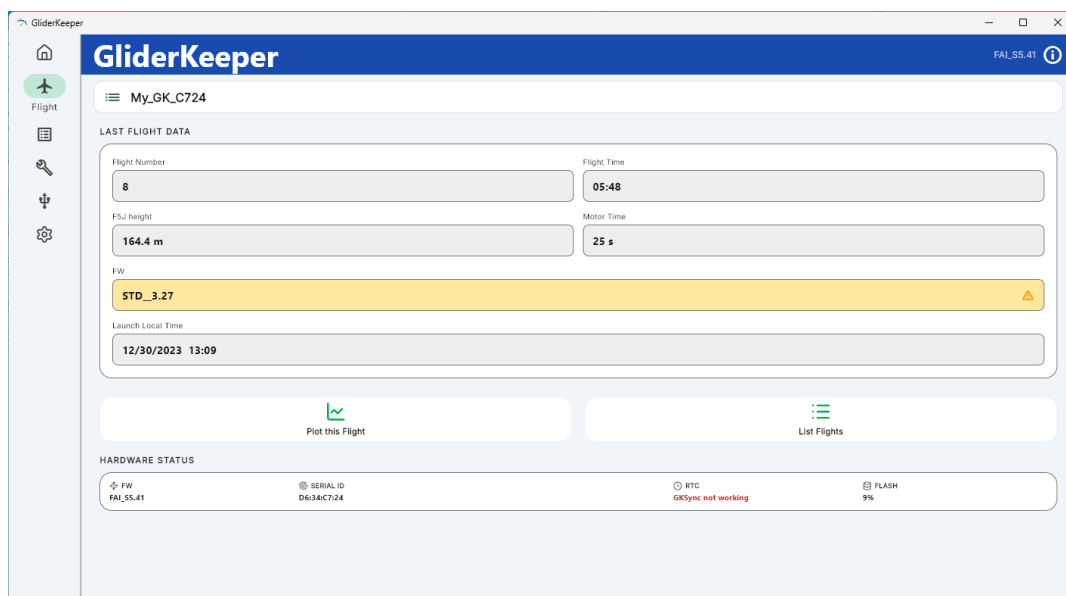
This section describes what the application is and the screens and concepts common to the interface (device connection, flight charts and settings). Section 2 details each of the everyday screens.

1.1 WHAT IS GLIDERKEEPER APP?

GliderKeeper App is a cross-platform application (Windows, Android and iOS) for managing microcontroller-based GliderKeeper devices used in gliding. It communicates with the device through a REST API over Wi-Fi and, on compatible models, over Bluetooth Low Energy (BLE). Firmware is downloaded automatically from our servers.

The application supports several FAI electric glider categories (F5J, F5L, F3G, ALES, F5K, among others), so the features and fields described in this manual may vary slightly depending on the firmware installed on the device.

The application is offered in a mobile version (Android and iOS) and a desktop version (Windows), with the same functionality and an interface adapted to each format:



Windows version (desktop)



Mobile version (Android / iOS)

1.2 GENERAL NAVIGATION

All screens share a common structure. At the top there is a blue header with the name "GliderKeeper", the firmware version of the connected device (when there is one) and an information button (i). Below, when a device is connected, a card with the device data may appear.

Navigation between screens is done through a bottom bar on mobile devices (narrow screens) or a side rail on desktop (wide screens). The available screens are Home, Flight, Flight list, Maintenance and Settings; on the desktop version (Windows) a USB screen also appears.

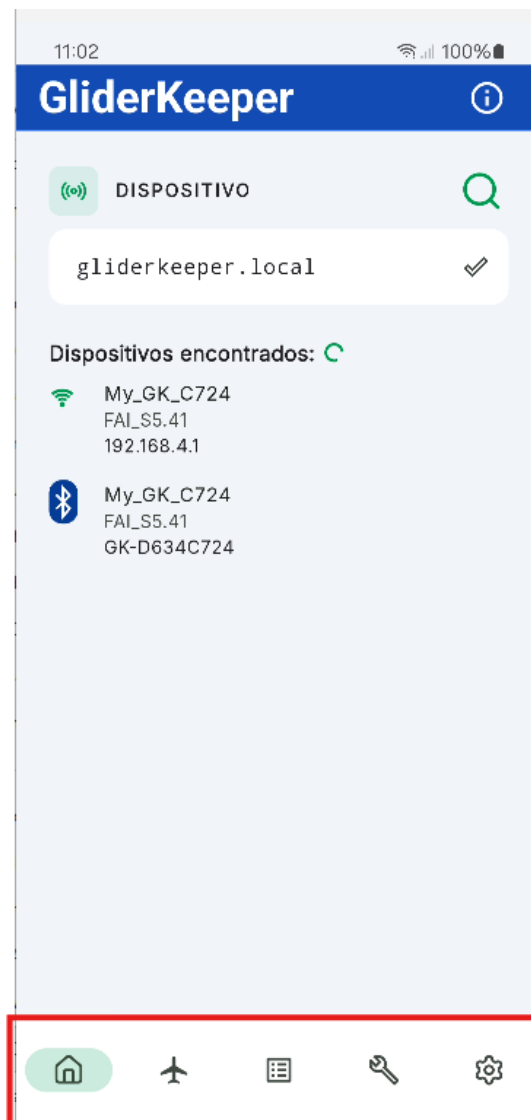
Header elements

- “GliderKeeper” title: identifies the application.

- Firmware version: shown on the right when a device is connected.
- Information button (i): opens a dialog with the application version (and build number), a short description and a link to www.gliderkeeper.com.

Device card

- Shows the name of the connected device (or its serial number if no name is assigned).



Header and navigation bar with a device connected

1.3 CONNECTING A DEVICE (HOME SCREEN)

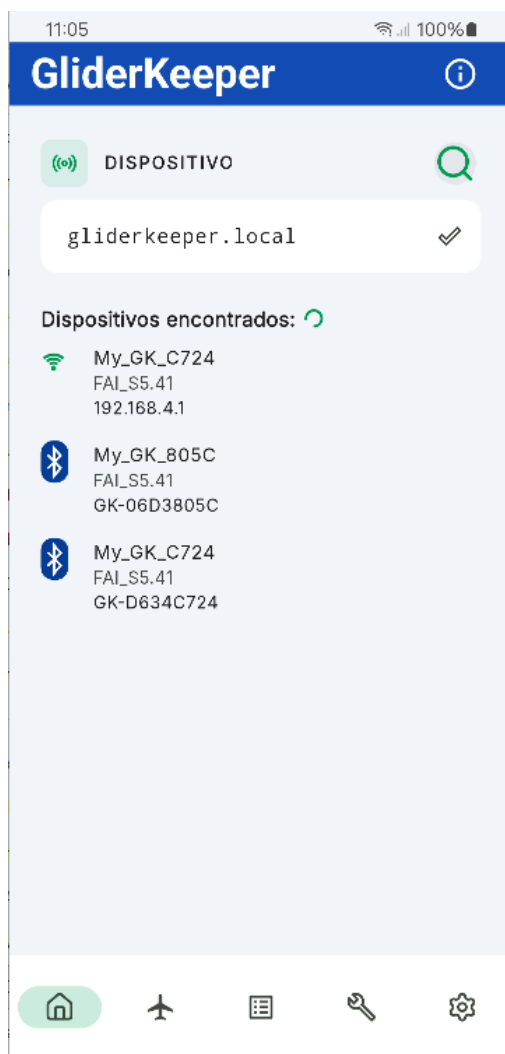
It is the first screen of the application. It lets you locate and connect to a GliderKeeper device. When it opens, the application automatically starts a search for devices over Wi-Fi (mDNS) and Bluetooth (on compatible platforms).

Fields and controls

- Device address: text field to enter the device's IP or network name (default "gliderkeeper.local"). It allows manual connection.
- Search button (magnifier): restarts the device scan.
- Confirm button (✓): connects to the address entered in the text field.
- List of found devices: shows the detected devices, distinguishing those found over Wi-Fi (Wi-Fi icon) from those found over Bluetooth (Bluetooth icon). For each device its name, firmware version and IP address are shown. Tapping a device connects to it and loads its data.

Additional features

- Recovery mode: if a device is in recovery mode, it appears with an orange "RECOVERY" tag. When selected, the application offers to reinstall the firmware.
- Troubleshooting: when no device is found, a button appears that opens a step-by-step guide to diagnose connection problems. For Bluetooth-specific problems there is also a dedicated guide (the "GliderKeeper BLE Troubleshooting" documents).
- Background firmware update: at startup and when searching, the application checks whether there is a new firmware version available and, while there is an internet connection, downloads and caches the packages so it can update later, even if the phone stays attached to the device's access point, i.e. without real internet access.



Home screen with the list of found devices

1.4 FLIGHT CHARTS

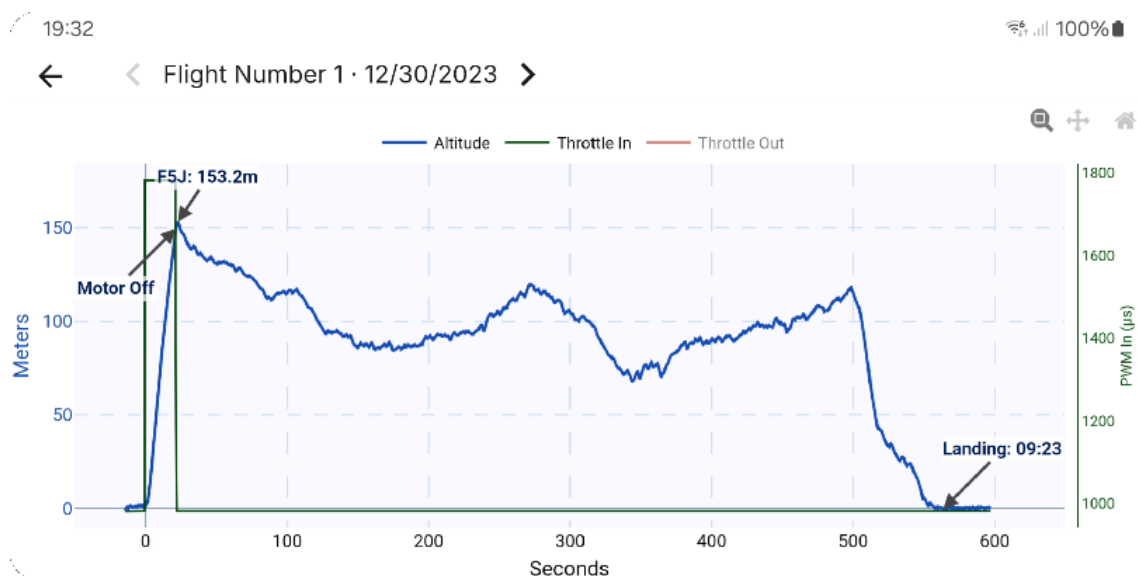
It shows a flight's telemetry graphically (altitude and other variables recorded over time). It is accessed from the "Plot this flight" button on the Flight screen or by tapping a flight in the Flight list.

When opened from the Flight list or from the last flight, the top includes < > arrows to move to the previous or next flight without going back.

Display modes

- Plotly (WebView): interactive representation based on Plotly. It is the default option.
- Syncfusion: native representation using Syncfusion charts, used as an alternative.

The mode is selected with the "Use Plotly for charts" option on the Settings screen.



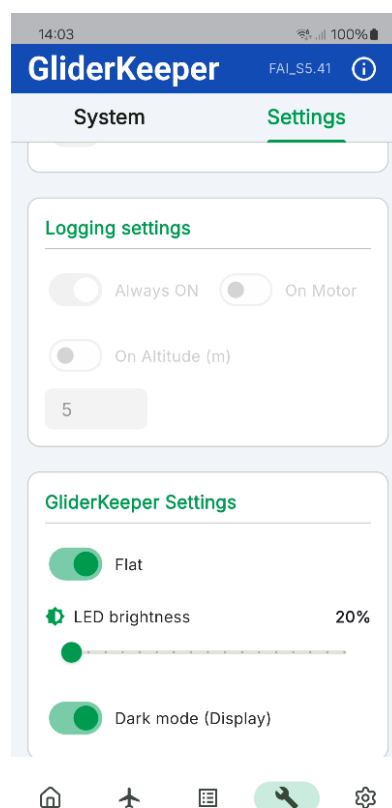
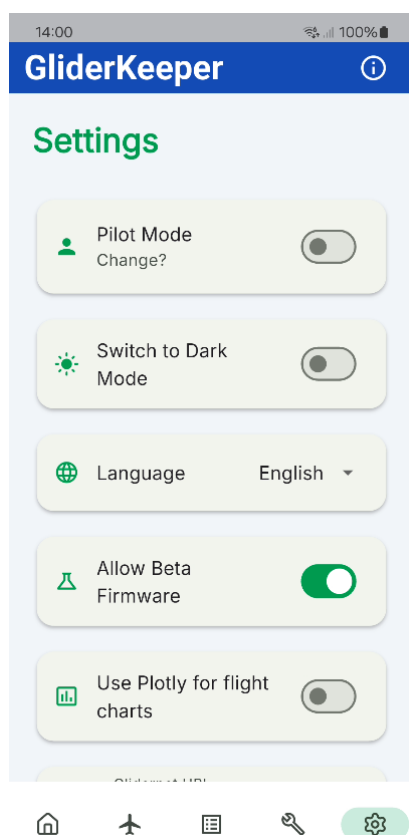
Flight telemetry chart

1.5 APPLICATION SETTINGS

It contains the application's general configuration; changes are saved automatically.

Options

- Light / dark theme: toggles the application's appearance.
- Language: selects the interface language (system language, German, English, Spanish, French, Italian or Czech).
- Allow beta firmware: enables downloading beta firmware versions. It is password-protected and requires accepting a disclaimer.
- Use Plotly for charts: toggles between the Plotly (WebView) representation and the native Syncfusion representation.
- GliderNet URL: address of the external service (GliderLink).
- Send diagnostic log: at the bottom of the screen, a discreet link exports or shares the BLE / Wi-Fi communication log to send it to technical support in case of problems.



System and device settings

2. Using the application

After connecting a device from the Home screen (section 1.3), the navigation bar gives access to the Flight, Flight list, Maintenance and Settings screens. On the desktop version (Windows) there is also a USB screen to reinstall the firmware over cable (section 2.5).

2.1 FLIGHT SCREEN

It shows the data of the last flight recorded by the connected device, the hardware status and shortcuts to the most common actions. If the device has no flight data, an informational message is shown.

Last flight data

- Flight number: identifier of the flight in the device.
- Flight time: duration in minutes:seconds format.
- F5J height: recorded height (in metres).
- Motor time: duration of motor operation, in seconds.
- FW (firmware version): version the flight was recorded with. If it does not match the device's current version, it is highlighted in amber and, when tapped, the discrepancy is explained.
- Local launch time: date and time of takeoff.

Action buttons

- Plot this flight: opens the charts screen (section 1.4) with the last flight's telemetry.
- Flight list: opens the flight history (section 2.2).

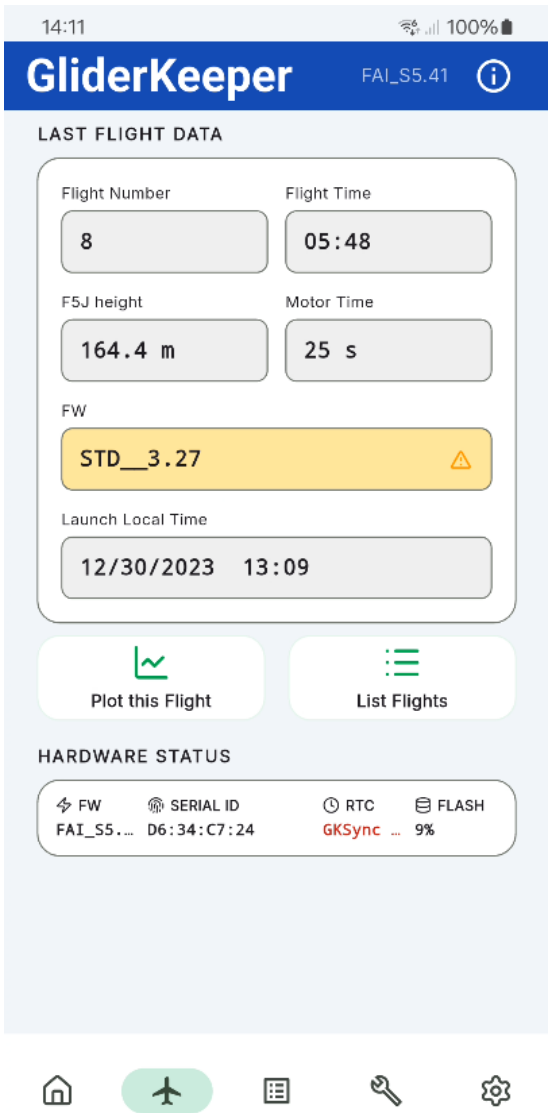
Hardware status

It shows a panel with the firmware version (FW), the interface version (UI, hidden on Bluetooth devices), the serial number (Serial ID), the real-time clock status (RTC) and the percentage of record memory used (Flash). Tapping it opens a dialog with graphical indicators of the percentage of records and flights used in the device's memory.



GliderKeeper application manual

Device hardware data



Last flight data

2.2 FLIGHT LIST

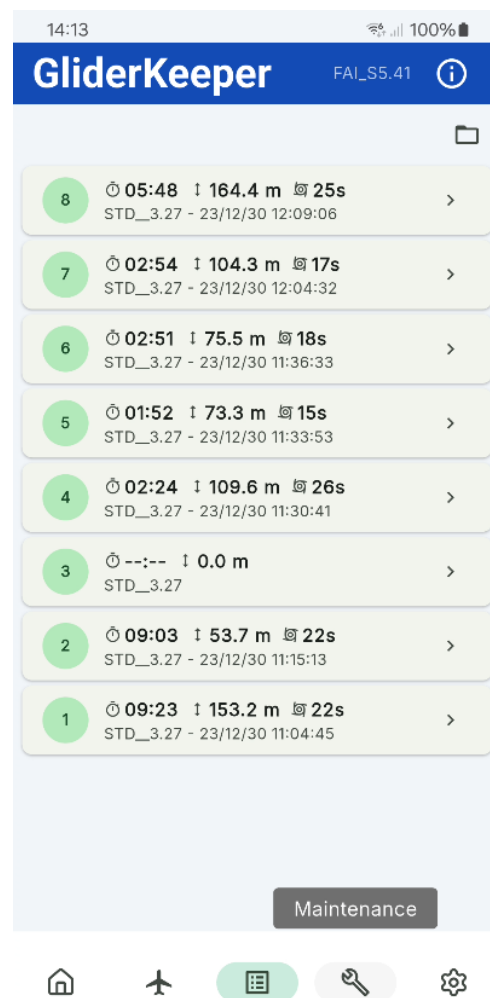
It shows the complete history of flights stored on the device, ordered from most recent to oldest. It also lets you open and analyse exported data files (.bin) without needing to be connected to a device.

Information for each flight

- Flight number (in the circle on the left).
- Flight duration (stopwatch icon).
- Height (height icon), in metres.
- Motor time (propeller icon), in seconds, when the flight records it.
- Firmware version and flight date.
- On F5K flights, the task sequence (Task Seq) and launch number (Launch) are also shown; these flights are grouped visually with colour bands per task.

Actions

- Tap a flight: opens the charts screen with its telemetry (with <> navigation between flights).
- Swipe down (Pull to refresh): reloads the data from the device.
- Import .bin file (folder icon, on desktop and Android): opens a previously downloaded flight data file to analyse it offline; a top bar indicates the open file and lets you close it to return to the device data.



2.3 MAINTENANCE — SYSTEM

“System” tab of the Maintenance screen. It groups the device maintenance operations and updates. Some options require a connected device.

Available actions

- Device configuration: opens the device’s Wi-Fi network configuration form (see below).
- Download flight data: downloads the whole flight memory to a .bin file. On desktop you choose the location; on mobile the file is shared.
- Delete flight data: deletes all flights from the device (asks for confirmation). The actual deletion happens on the device's next boot, so the app asks you to reconnect after the operation.
- Firmware: expandable group that gathers the update operations (see the detail below).
- Hibernate GKSync: puts the GKSync module into low-power mode (asks for confirmation).
- Advanced functions: hidden option (Windows only) unlocked with Ctrl+Alt; it allows manually uploading firmware or UI files. Reserved for technical support.

“Firmware” group

When expanded, four operations are offered, automatically adapted to the family of the connected device:

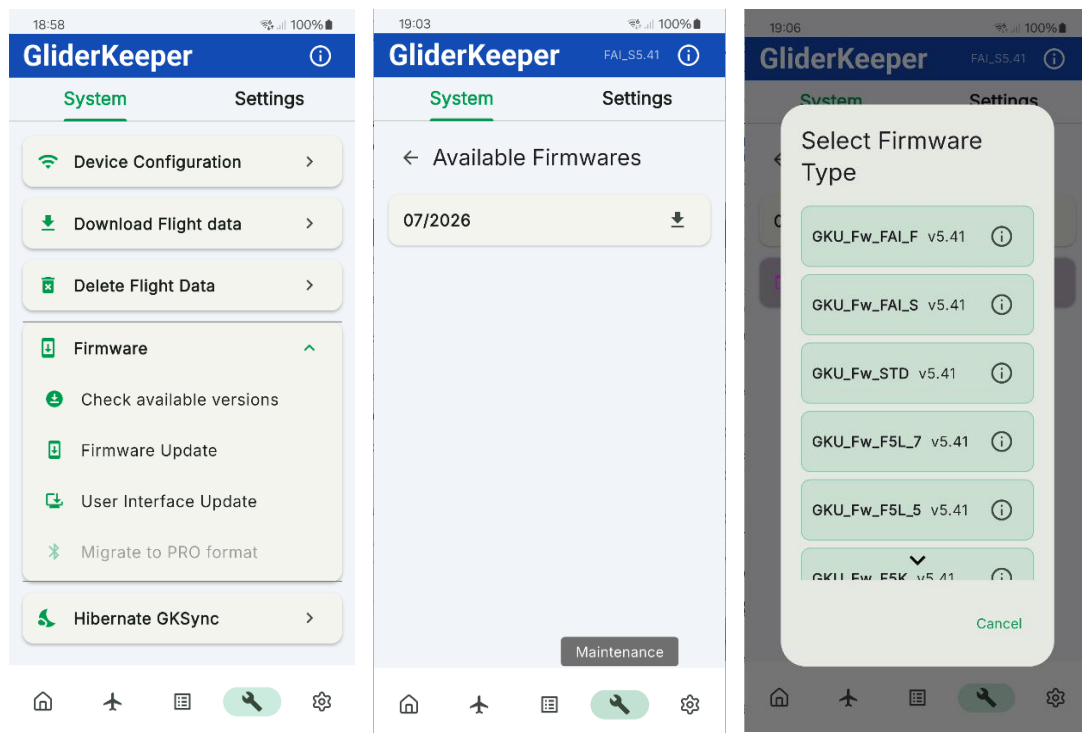
- Check available versions: shows a table ("Available firmwares") with the stable version (and beta, if enabled) of each family — "Original (no Bluetooth)" and "Bluetooth" — and indicates whether it is already downloaded. On Bluetooth devices only the Bluetooth section is shown.
- Firmware update: updates the device’s application firmware, choosing the variant among those available for its family.
- User Interface update: updates the device’s web interface (UI) firmware.
- Migration to PRO format: only available on old devices (no Bluetooth); it repartitions the flash to enable the Bluetooth connection. It is a delicate operation that erases all flights and asks for confirmation.

NOTE on device families: old devices ("Original / no Bluetooth") and new ones ("PRO format / Bluetooth") use different partitioning and firmware packages. The application detects the family from the firmware version and always offers the

correct channel (Wi-Fi, Bluetooth or USB) and package, without the user having to choose it.

Wi-Fi configuration form

- Device name: visible name it is identified by (max. 11 characters).
- Initials: short identifier (max. 4 characters).
- SSID 1 and Password 1: main Wi-Fi network. The search icon lets you scan for nearby networks.
- SSID 2 and Password 2: secondary Wi-Fi network (optional).
- Time to attempt connection: seconds the device will try to connect (between 5 and 30).



Firmware update

2.4 MAINTENANCE — GLIDERKEEPER

CONFIGURATION

"GliderKeeper" tab of the Maintenance screen. It configures the device's behaviour. Some fields are only editable depending on the installed firmware type; on competition firmwares many values are fixed (the app shows a note about it).

Competition settings

- Training / ESC Setup: enables training and ESC setup mode.
- FAI mode: enables FAI mode.
- Altitude switch / ALES / Antizoom: depending on the firmware's competition class, this control and its two numeric fields change label (for example, trigger altitude and time, or class-specific fields such as Weight, Energy or k4/k6).
- Enable emergency motor: allows the use of the emergency motor.

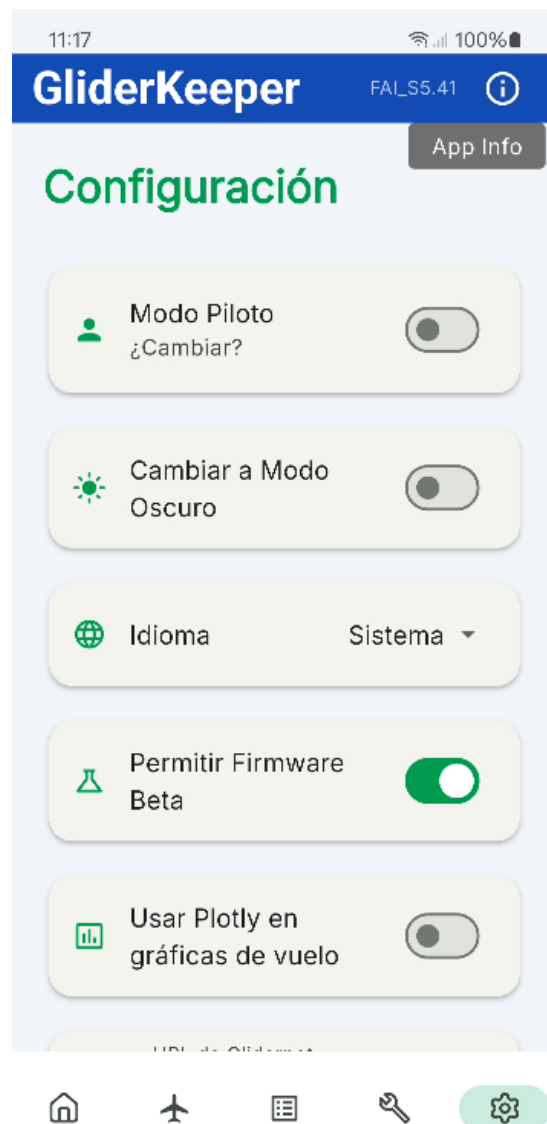
Logging settings

- Always ON: records continuously.
- On Motor: records when the motor is engaged.
- On Altitude: records from a configurable altitude threshold (in metres).

GliderKeeper settings

- Screen orientation (Flat / Vertical): sets the orientation of the device's screen.
- LED brightness: brightness slider (only if the firmware supports it).
- Dark mode (Display): dark theme for the device's screen (only on the PRO model).

The "Save" button sends the configuration to the device. After saving it, the application returns to the last flight screen.



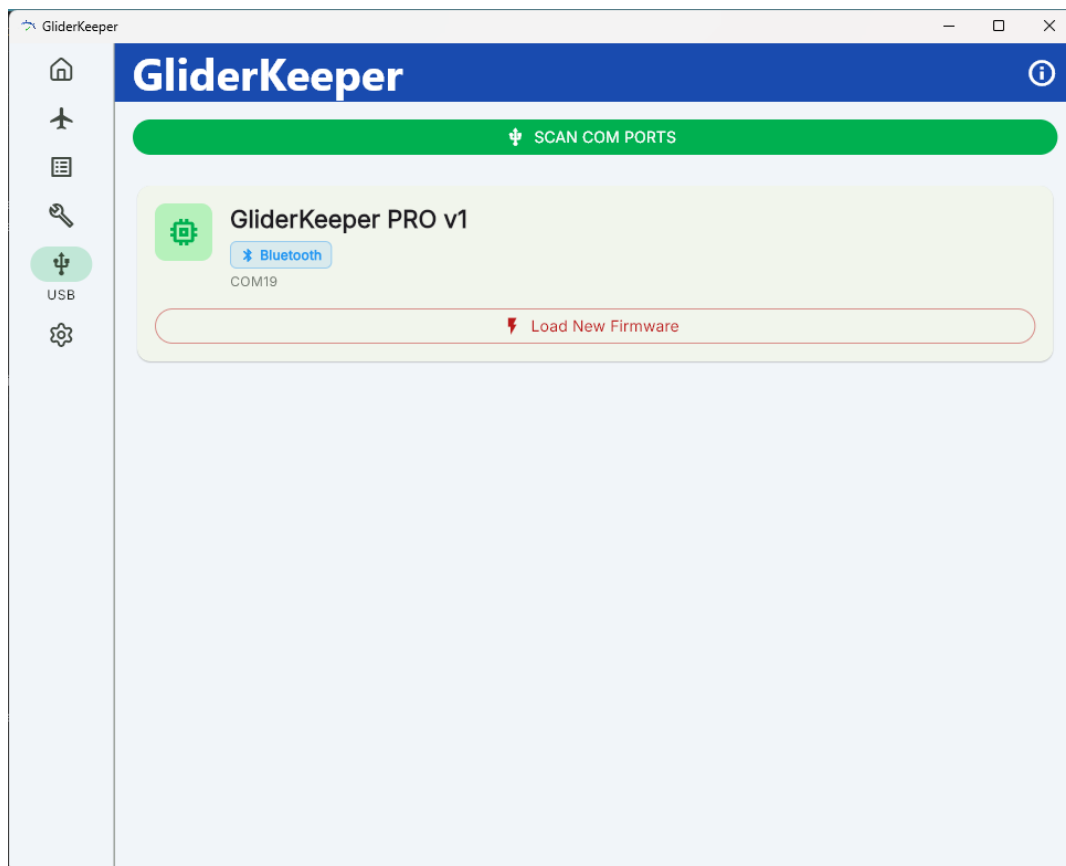
Maintenance screen, GliderKeeper configuration tab

2.5 USB (WINDOWS ONLY)

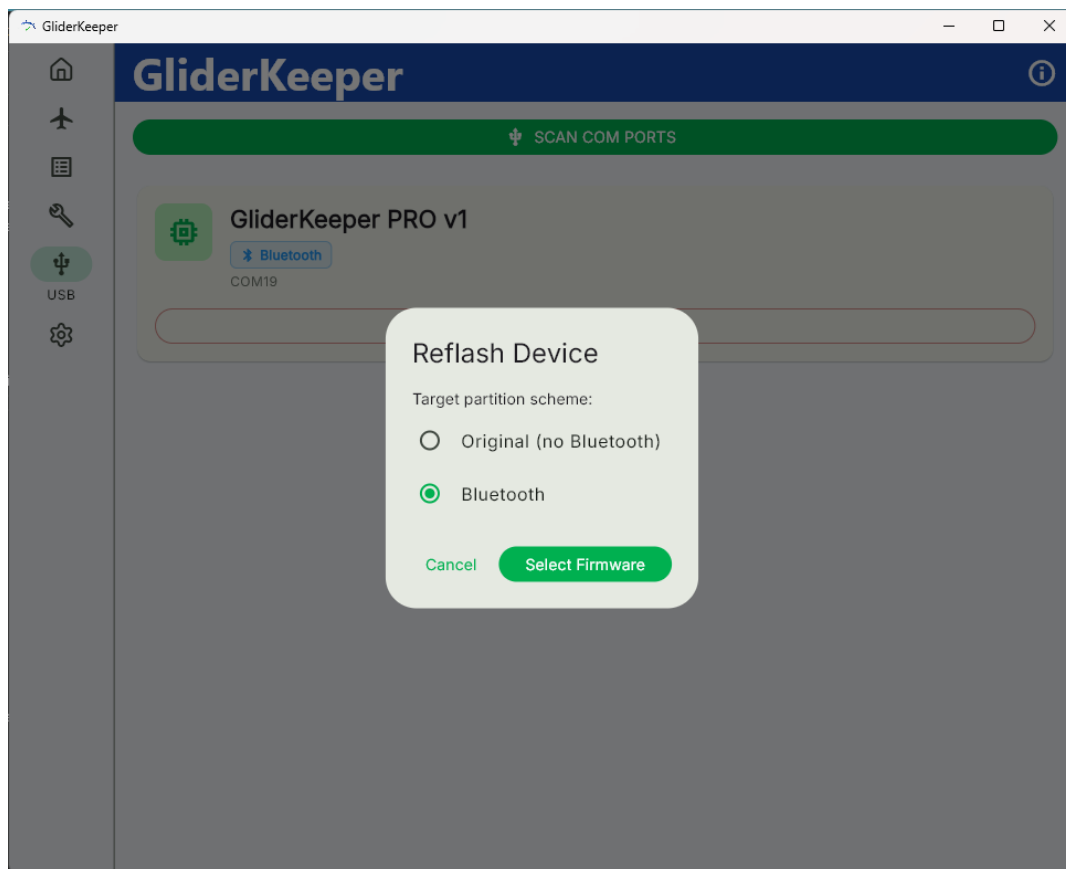
Screen exclusive to the desktop version (Windows). It lets you reinstall the device's firmware over a USB cable, useful when the device does not boot or to change firmware family. It requires connecting the device to the PC over USB.

Procedure

- Scan COM ports: detects the available serial ports and connected devices.
- Load New Firmware: starts reflashing the detected device.
- Partition scheme selection: choose between "Original (no Bluetooth)" and "Bluetooth". If the scheme changes with respect to the current one, a warning is shown that the device will be completely erased (flights and configuration).
- Firmware selection: the app checks/downloads the corresponding package and lets you choose the specific variant from the cache.
- Writing: the image is written in a single step. When finished, you can disconnect the USB and power on the device. The first boot after an update can take up to 20 seconds; do not disconnect until the display lights up.



USB screen (Windows): port scan and detected device



Partition scheme and firmware selection in the USB screen