

# Approval document for an IGC Position Recorder for IGC Silver and Gold Badge Flights

**Issuing Authority:** Real Federación Aeronáutica Española  
(Sección de Vuelo a Vela)

**Date of effect:** 2015-04-09

## References:

FAI Sporting Code Section 3 (Gliders and Motor Gliders) (SC3)  
Particularly: SC3 Appendix A to Chapter 4 on Position Recorders  
Annex B to the Code (SC3B), Glossary on Position Recorder and Validation,  
and paras 1.7, 2.1.1.2, 2.2.2.  
Annex C to the Code (SC3C), particularly para 6.1, also 1.1, 1.5, 3.3.

## Introduction

1.1. This document authorises the use of the GPS recording device described in para 2 for use as an IGC Position Recorder for flights under the jurisdiction of the above NAC under the rules and procedures specified in the FAI Sporting Code Section 3, in particular under the References above. These specify when an IGC "Position Recorder" may be used for the validation of flights for IGC Silver and Gold Badge performances. In addition, for such flights, evidence from an IGC-approved GNSS Flight Recorder may also be used if one is available.

1.2. This approval covers only the Position Recorder itself and its operation. The detailed process for making a badge flight and providing evidence to the NAC, is contained in the Sporting Code for Gliding (SC3 and its Annexes).

## Type of Position Recorder

2.1. Name of Position Recorder: flyWithCE Flight Recorder FR300

Manufacturer: flyWithCE Uroš Podlogar s.p.  
Ulica Lojzeta Hrovata 9  
4000 Kranj  
Slovenia

Contact details: uros.podlogar@flywithce.com  
www.flywithce.com

2.2. This approval applies to the flight data recorded internally in the instrument and downloaded in the form of a file in IGC format with a verifiable security record (3.3 below).

## 3. Compliance with Sporting Code

To comply with the Sporting Code requirements for Position Recorders, the following subparagraphs apply. References below are to paragraphs in Appendix A to SC3 Chapter 4.

3.1. The WGS84 datum (ellipsoid Earth Model) is used for all fixes in the IGC file (Para A2 refers)

3.2. Fixes in the downloaded IGC file are obtained from real-time GPS data (Para A3 refers). No predictive fixes are recorded without GPS data.

3.3. The downloaded IGC file may be electronically validated at any time to ensure that the file is identical to when it was initially downloaded (para A6 refers).

3.3.1 The Download program/method is:

flyWithCE Logbook application is used for downloading IGC file from flyWithCE Flight Recorder device:

- Version 2.40 or newer for flyWithCE Flight recorder FR300

During download personal computer has to be connected to Internet, because flyWithCE web server is used to sign the downloaded flight. If Internet connection is not available than G record is not generated in IGC file (flight can be reloaded at later time when Internet connection is available and then G record will be generated).

Flight declaration has to be entered before the flight. User can change flight declarations at later time, but then G record will be deleted (or will no longer be valid if user will change the declaration in text editor).

Program flyWithCE Logbook is available with flyWithCE Flight Recorder or on web site: <http://www.flywithce.com/download.html>

3.3.2 The file validation program to be used with such downloaded IGC files is:

IGC file can be validated with program vali-fwc.exe, which is available on web site: <http://www.flywithce.com/download.html>

3.4. Pressure Altitude calibrated to the ICAO ISA (Para A7).

flyWithCE Flight Recorder does not have the internal pressure altitude sensor. GPS altitude is used in the IGC file. Altitude information must be obtained from separate barograph system.

### **Approval Limitations**

4.1. General. This equipment is approved as a Position Recorder for flights for IGC Silver and Gold Badges only, as specified in the references above para 1, mainly Appendix A to Chapter 4 of SC3.

4.2. Altitude for IGC Measurement Purposes. For the accurate measurement of altitude for Gain-of-Height, start and finish altitudes, and the 1:50 requirement for Silver distance, evidence of pressure altitude is required. Such evidence must be from a system (either inside or outside of the Position Recorder) that can be calibrated before the flight to IGC standards and at the intervals required by the Sporting Code. The IGC calibration datum is the International Standard Atmosphere of the International Civil Aviation Organisation (the ICAO ISA). This evidence may be provided by a separate barograph or a pressure altitude function within the Position Recorder, if the latter can be calibrated to IGC standards.

4.2.1 Other Altitude Data. GPS altitude, or pressure altitude that is not calibrated to IGC standards, must only be used to demonstrate flight continuity, not for the IGC measurement purposes referred to in 4.2 above.

#### 4.2.2. Pressure Altitude Calibration.

flyWithCE Flight Recorder does not have pressure altitude sensor and because this option is not applicable.

#### 4.3. Motor Glider Means of Propulsion (MoP) Recording.

This equipment is not able to detect the operation of a Means of Propulsion (MoP). For gliders with a functioning MoP, SC3 4.5.4 and SC3C 12.1 apply. One of the following must be carried out:

4.4.1. Carry a separate device that records MoP use and is acceptable to the Official Observer and the NAC, or:

4.4.2. Seal the MoP in such a way that the Official Observer can detect if it has been operated, or:

4.4.3. Disable the MoP prior to flight to the satisfaction of the Official Observer and NAC.

### **Operating Requirements**

5.1. This Position Recorder may be mounted anywhere in the glider, but the Official Observer must be able to show that it was present in the glider throughout the flight for which the performance is claimed, and that the downloaded IGC file used to assess the flight came directly from it.

5.2. Files downloaded from this Position Recorder must be in the IGC file format, so that they can be read by analysis programs designed for the IGC format, without modification to the file. It must be possible to carry out a Validation check (see 3.3.2 above) that ensures that the IGC file used for assessment of the flight performance is the same as the file that was originally downloaded from this type of Position Recorder.

### **Authority**

6. This approval document has been issued by Carlos Ayllon (Presidente Comisión Nacional de Vuelo a Vela Española) to permit evidence from this Position Recorder to be used for the validation of claims for Silver and Gold Badges (for which an IGC-approved Flight Recorder may also be used).

### **Questions**

7. Any questions about the contents of this document should be sent to Angel Casado ([acasado@acm.org](mailto:acasado@acm.org)) FAI Delegate, or through the Chairman of the IGC GFA Committee ([ian@ukiws.demon.co.uk](mailto:ian@ukiws.demon.co.uk)) who is responsible for co-ordinating Position Recorder data and putting it forward for publication on the IGC GNSS web site.