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FAI AEROMODELLING COMMISSION (CIAM) ELECTRONIC DEVICES IN COMPETITIONS WORKING GROUP (EDIC-WG)

References:

FAI web site: www.fai.org
CIAM website: www.fai.org/aeromodelling

To: CIAM web site under AMRT Approvals
CIAM Technical Secretary
F5 Sub Committee

Copy: Manufacturer Concerned

Date: 22 Sep 2026

CIAM APPROVAL FOR F5 ALTIMETER/MOTOR RUN TIMER (AMRT)

Approval Reference: AMRT068
Manufacturer: GliderKeeper
Manufacturer Contact: support@gliderkeeper.com
Device Names: Model 309, Model 309 V2, PICO Model 311, PRO Model 314

(i) This document gives formal approval from the above date for the AMRT equipment described below to be used for competitions under the Sporting Code Section 4: Aeromodelling – Class F5 – Electric Thermal Duration Gliders.

(ii) This document is the initial approval for this type of AMRT and only applies to the functions relevant to the F5 competition class rules.

(iii) Tests undertaken by EDIC-WG (or such representative as it may appoint), are specifically concerned with the functions relevant to the F5 competition class rules. Other functions of the equipment are not part of this approval and the relevance of this document does not extend beyond the specific validation and certification purposes mentioned above.

(iv) This document does not constitute a guarantee of compatibility of the device listed above with any associated devices with which it may be interconnected.

(v) This document does not constitute any guarantee and/or statement by EDIC-WG, CIAM and/or FAI as to the reliability of the device listed above.

(vi) This approval is not concerned with National and other regulations relating to electronic equipment and compliance with such regulations is not the responsibility of the FAI.

(vii) This approval is not concerned with, and the FAI has no responsibility for, matters related to: (a) intellectual property and intellectual property rights and/or, (b) relations of the manufacturer listed above with any other entities except with FAI and its agents or as they affect the FAI, its agents and this approval.

EQUIPMENT

1 HARDWARE

1.1 Equipment Name

GliderKeeper Model 309 GliderKeeper Model 309 V2	 A white, heatshrink-encased circuit board with a black display screen. The screen shows flight data: 'GKS F#2', 'FAI S1.25v/h', '1:03', and '85.9m'. The device is labeled 'GliderKeeper Altimeter & Timekeeper Competition Recorder' and 'www.gliderkeeper.com'. A multi-colored cable (red, yellow, black) is attached to the side.
GliderKeeper PICO Model 311	 A small, white, heatshrink-encased circuit board with a black display screen. The screen shows flight data: 'GKS F#2', 'FAI S1.27v/h', '9:58', and '101.3m'. The device is labeled 'GliderKeeper Pico Display'. A multi-colored cable (red, yellow, black) is attached to the side.
GliderKeeper PRO Model 314	 A white, heatshrink-encased circuit board with a black display screen. The screen shows flight data: 'FAI S 05.41' and 'PRO'. The device is labeled 'GliderKeeper PRO'. A multi-colored cable (red, yellow, black) is attached to the side.

1.2 Hardware Version

M309, M309 V2, M311, M314

1.3 External Features

The AMRT modules are a heatshrink-encased circuit board with drilled cables terminated in two 3 pin JR style male/female connectors for connection to the control equipment (RC) and ESC. An extra WiFi antenna (black) is provided for WLAN and Bluetooth communication.

The hardware has a built in WLAN/Bluetooth interface and onboard Accelerometer adding additional functions like measuring the flight time from motor ON to model touchdown.

F5 firmware when enabled via the app is a standalone program with no needs of an external application to run. It fulfills the F5 requirements for CAT I and CAT II contests. Version Information is displayed at power on.

It is possible to connect to an Apple or Android app in order to setup F and S mode as well as replicate the F5 information like flight altitude plot on a mobile phone. This app is not part of the functional test!

1.4 Pressure Altitude Sensor

The pressure sensor module BMP388 is manufactured by Bosch.

2 FIRMWARE

2.1 Firmware Version

#	fff_f (Shown in displ)	.bin file	Competition/ Formula
1	FAI_F	GKU_Fw_FAI_F_5.42.bin	F5J WC/EC, no emergency
2	FAI_S	GKU_Fw_FAI_S_5.42.bin	F5J 2nd class, emergency enabled
3	F5L_5	GKU_Fw_F5L_5_5.42.bin	F5L 30s/90m, with emergency
5	F5K_	GKU_Fw_F5K_5.42.bin	F5K 7s/60m
7	F5L_7	GKU_Fw_F5L_7_5.42.bin	F5L 30s/90m, no emergency

2.2 Pressure to ISA Height Conversion

The firmware uses a polynomial series calculation to perform the pressure to ISA height calculation. This has a demonstrated accuracy consistent with the F5 competition applications.

Calibration factors provided by the pressure sensor manufacturer are incorporated in the calculation. 2.3

2.3 Temperature Compensation

The firmware incorporates temperature compensation processing in accordance with the pressure sensor manufacturer's recommendations.

2.4 Dynamic Response

Oversampling of pressure sensor data and subsequent processing does not contribute any significant degradation of dynamic response in the context of the F5J competition application.

2.5 Motor Emergency Restart

This firmware version allows motor emergency restart which results in setting height reading to "---.-".

3 CONDITIONS OF APPROVAL

3.1.1 This Approval only applicable to devices of the type described and manufactured to the same production standards as the example evaluated.

3.1.2 This S firmware does ALLOW the emergency operation of the motor's throttle and MAY be used in FAI Class II competitions (i.e. EUROTOURCONTEST) or where the contest organization so stipulates.

3.1.3 This Approval is not applicable to any device which has been subject to repair or modification by person(s) other than the original manufacturer or his authorized agent.

3.2 Withdrawal of Approval

If after this Approval has been issued, inconsistencies of performance are found in further examples of the device(s), Approval may be withdrawn upon notice to the manufacturer.

3.3 Changes to F5 Class Rules

If the F5 class rules are amended in any manner that affects the technical specification of the AMRT, the validity of this Approval will be subject to review.

3.4 Expiry of Approval

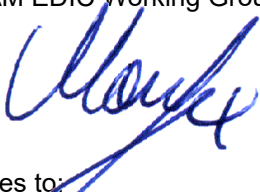
This Approval remains active until it is either superseded or withdrawn. A list of all currently active Approvals can be obtained from the FAI CIAM website.

4 PRODUCTION STATUS

At the date of issue of this Approval, the device is in current production.

5 MANUFACTURER’S CHANGES

Notification of any changes to hardware and/or firmware must be made by the manufacturer to the Chairman of EDIC-WG so that a decision can be made on any further testing that might be required to maintain CIAM Approval of the AMRT. This includes changes that are applicable to any additional functions of the device(s) that do not necessarily form part of the F5 requirements.

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