

Airborne Collision Avoidance

UK Reg (EU) 1332/2011

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Airborne Collision Avoidance System (ACAS)

Consolidated version of UK Regulation (EU) 1332/2011

List of Revisions

Published	Reason for publication
November 2023	First issue incorporating: The Civil Aviation (Amendment etc.) (EU Exit) Regulations SI No. 687/2019

Disclaimer

This version is published by the Civil Aviation Authority in order to provide a consolidated and sequential presentation of current regulations with the related acceptable means of compliance (AMC) and guidance material (GM), as well as certification specifications (CS) as appropriate.

It has been prepared by combining the UK Government published regulations with the adopted AMC, GM and CS, made and issued by CAA under Official Records Series 9 decisions in accordance with Article 76 of the UK Basic Regulation.

There may be a period of time between the regulations and AMC, GM and CS being updated and the amendment to this consolidated version. Users must bear in mind that this is an unofficial version of the legislation, AMC, GM and CS. The authoritative versions (which Courts of Law will refer to) are:

(i) the King's Printer's Edition of Statutory Instruments available at www.legislation.gov.uk; and

(ii) Official Record Series 9 decisions published by the CAA available at <https://publicapps.caa.co.uk/>.

Note from the Editor

The content of this document is arranged as follows: the cover regulation (recitals and articles) of the implementing rule (IR) appear first, then the IR annex points, followed by the related acceptable means of compliance (AMC) and guidance material (GM) paragraph(s).

In case of certification specifications (CS), a CS paragraph is followed by the related AMC paragraph.

Under the Retained EU Law (Revocation and Reform) Act 2023 (“REUL Act”), previous references to retained EU law are replaced by the term “assimilated law” and are written as either UK Reg (EU) No. #####/year or UK Reg (EU) year/#####.

All elements (i.e. cover regulation, IRs, CS, AMC and GM) are colour-coded and can be identified according to the illustration below.

Cover Regulation

Implementing Rule

Certification Specification

Acceptable Means of Compliance

Guidance Material

An ellipsis in square brackets [...] indicates that text has been intentionally left out, such as the result of an earlier amendment to the regulation, AMC, GM or CS.

Note that the Regulations text may refer to the 'old', repealed, Basic Regulation legislation reference (Regulation (EC) No. 216/2008) rather than 2018/1139. General UK legal principles mean that the UK Reg (EU) 2018/1139 should be referred to in these cases and amendments to the legal text will follow in due course.

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Airborne Collision Avoidance

UK Regulation (EU) No 1332/2011

Preamble

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC, and in particular Articles 8(1), 8(5), and 9(4) thereof,

Whereas:

(1) Safety requirements should be imposed on operators of aircraft registered in a Member State or registered in a third country and operated by a Union operator, and on operators of aircraft used by a third country operator within the Union.

(2) Following a series of mid-air encounters in which safety margins have been lost, including accidents in Yaizu (Japan) in 2001 and in Überlingen (Germany) in 2002, the current airborne collision avoidance system software should be upgraded. The studies concluded that with the current airborne collision avoidance system software there is a probability of a mid-air collision risk of $2,7 \times 10^{-8}$ per flight hour. Therefore the current ACAS II version 7.0 is considered to be of an unacceptable safety risk.

(3) It is necessary to introduce a new software version of the airborne collision avoidance system (ACAS II) to avoid mid-air collision of all aircraft flying in the airspace covered by Regulation (EC) No 216/2008.

(4) To ensure the highest possible safety standards, aircraft which do not fall within the scope of the mandatory carriage requirement but were equipped with ACAS II prior to entry into force of this Regulation should install ACAS II containing the latest version of collision avoidance software.

(5) In order to ensure that the safety benefits associated with the new software version are achieved, all aircraft need to be equipped as soon as practically possible. However, it is necessary to provide a realistic time for the aeronautical industry to adapt to this new Regulation taking into account the availability of new equipment.

(6) The Agency prepared draft implementing rules and submitted them as an opinion to the Commission in accordance with Article 19(1) of Regulation (EC) No 216/2008.

(7) The measures provided for in this Regulation are in accordance with the opinion of the European Aviation Safety Agency Committee established by Article 65 of Regulation (EC) No 216/2008,

HAS ADOPTED THIS REGULATION:

Enacting Terms

Article 1 Subject matter and scope

This Regulation lays down common airspace usage requirements and operating procedures for airborne collision avoidance to be fulfilled by:

- (a) operators of aircraft referred to under Article 4(1)(b) and (c) of Regulation (EC) No 216/2008 undertaking flights into, within or out of the United Kingdom ; and
- (b) operators of aircraft referred to under Article 4(1)(d) of Regulation (EC) No 216/2008 undertaking flights within the airspace of the United Kingdom.

Article 2 Definitions

For the purposes of this Regulation the following definitions shall apply:

- (1) 'airborne collision avoidance system (ACAS)' means an aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders;
- (2) 'airborne collision avoidance system II (ACAS II)' means an airborne collision avoidance system which provides vertical resolution advisories in addition to traffic advisories;
- (3) 'resolution advisory (RA) indication' means an indication given to the flight crew recommending a manoeuvre intended to provide separation from all threats or a manoeuvre restriction intended to maintain existing separation;
- (4) 'traffic advisory (TA) indication' means an indication given to the flight crew that the proximity of another aircraft is a potential threat.

Article 3 Airborne collision avoidance system (ACAS)

1. The aeroplanes referred to in Section I of the Annex to this Regulation shall be equipped with and operated in accordance with the rules and procedures as specified in the Annex.
2. The Civil Aviation Authority shall ensure that operation of aeroplanes referred to in Article 1(2)(a) of Regulation (EC) No 216/2008 comply with the rules and procedures specified in the Annex in accordance with the conditions set out in that Article.

Article 4 Special provisions applying to operators subject to Council Regulation (EEC) No 3922/91

Provision repealed before document was retained.

Article 5 Entry into force and application

1. This Regulation shall enter into force on the 20th day following its publication in the Official Journal of the European Union .
2. Article 3 shall apply as of 1 March 2012.
3. By way of derogation from paragraph 2, in the case of aircraft with an individual certificate of airworthiness issued before 1 March 2012, Article 3 shall apply as of 1 December 2015.

Signatures

[...]

Done at Brussels, 16 December 2011.

For the Commission

The President

José Manuel Barroso

Annex I Airborne collision avoidance systems (ACAS) II

(Part-ACAS)

AUR.ACAS.1005 Performance requirement

(1) The following turbine-powered aeroplanes shall be equipped with collision avoidance logic version 7.1 of ACAS II:

- (a) aeroplanes with a maximum certificated take-off mass exceeding 5700 kg;
- (b) aeroplanes authorised to carry more than 19 passengers.

(2) Aircraft not referred to in point 1 which are equipped on a voluntary basis with ACAS II shall have collision avoidance logic version 7.1.

(3) Point 1 shall not apply to unmanned aircraft systems.

AUR.ACAS.1010 ACAS II training

Operators shall establish ACAS II operational procedures and training programmes so that the flight crew is appropriately trained in the avoidance of collisions and becomes competent in the use of ACAS II equipment.

AMC1 AUR.ACAS.1010 ACAS II Training

The ACAS II operational procedures and training programmes established by the operator should take into account the procedures contained in: (a) ICAO PANS-OPS, Volume I Flight Procedures, Attachment A (ACAS Training Guidelines for Pilots) and Attachment B (ACAS High Vertical Rate Encounters) to Part III, Section 3, Chapter 3; and (b) ICAO PANS-ATM Chapters 12 and 15, in regard to ACAS phraseology and applicable procedures.