

Specification for

Counter and pointer pressure altimeters

ICS 49.090

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Committees responsible for this British Standard

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- British Airways
- British Cable Makers' Confederation
- British Rubber Manufacturers' Association
- Civil Aviation Authority (Airworthiness Division)
- Federation of the Electronics Industry
- Ministry of Defence
- Society of British Aerospace Companies

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Foreword

This British Standard has been prepared by Technical Committee ACE/6 and is a revision of BS G 201:1967 which is superseded and withdrawn. It specifies pressure altimeters, calibrated in feet, suitable for indications up to 50 000 ft. This revision brings the standard up to date and corrects the value for air pressure at 4 000 ft.

The requirements of this standard conform to the recommendations contained in the report of the United Kingdom Altimeter Committee relating to presentation, examples of which are shown in Figure A.1 (see Annex A).

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This British Standard specifies the general design and performance requirements for pressure altimeters having a combined counter and single pointer presentation in two forms as follows.

- a) *Type A*. A panel-mounting indicator operating from any form of remote altitude transducer.
- b) *Type B*. A panel-mounting indicator containing its own sensing mechanism inside the case.

The standard provides for instruments operating over an indicated range of – 1 000 ft to + 50 000 ft (geopotential).

The design may include provision for applying corrections to the aircraft static pressure system error.

2 Normative references

This British Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are made at the appropriate places in the text and the cited publications are listed on the inside back cover. For dated references, only the edition cited applies; any subsequent amendments to or revisions of the cited publication apply to this British Standard only when incorporated in the reference by amendment or revision. For undated references, the latest edition of the cited publication applies, together with any amendments.

3 Construction

3.1 General

The design and construction of the indicator shall conform to the relevant requirements of BS G 100 and BS G 101.

NOTE The preferred case sizes for the indicators are the types 5 and 8 cases and 4-inch square cases as shown in BS G 101.

3.2 Particular

3.2.1 The detailed construction and dial markings of the indicator shall conform to BS G 100 and BS G 101.

3.2.2 When transmission of electric signals from a remote mounted sensing mechanism is used, the transmission signals shall conform to BS G 183.

3.2.3 The value of the ground pressure shall be shown on counters clearly visible on the face of the indicator. The range of the ground pressure setting shall be from 800 mbar¹⁾ to 1 050 mbar. The marking shall be in millibars, and in inches of mercury if required, conforming to BS 2520 where a display of ground pressure setting in inches of mercury is required.

3.2.4 The ground pressure setting shall be moved by an adjusting knob readily accessible from the front of the indicator. Rotation of the knob in a clockwise direction shall increase the ground pressure reading on the setting counters, the numerals moving downwards. A datum mark shall be provided on the millibar scale to ensure that the indicated value of 1013.25 mbar can be accurately set.

3.2.5 Any pre-set device fitted for adjustment of the relationship between the ground pressure setting and the altitude indication shall be such that the relationship which is set up is not capable of being inadvertently disturbed. The device shall not be accessible from the front of the indicator and the total possible correction shall not exceed a range of ± 3 mbar.

3.2.6 The pointer shall make one revolution per 1 000 ft clockwise for increasing altitude.

3.2.7 Numerals on the height indicating counters shall move downwards for an increase in indication.

3.2.8 If the altimeter includes mechanical reversion or electrical assistance, when operated in the reverted state, the permissible errors shall not exceed those specified in BS G 115.

3.2.9 Warning flags provided to give an indication of malfunction shall be legible.

3.2.10 The relationship between the movement of the counters and the movement of the pointer shall be such as to ensure that the 1 000 ft digit of the counter changes during the interval when the pointer travels between the “950” and “0” scale marks on the dial with altitude readings either increasing or decreasing.

3.2.11 The response rate shall be such that the rate of follow of the indicator is not less than 70 000 ft per minute.

3.2.12 The servo system, when fitted, shall be damped.

3.2.13 The threshold of the indicator and its associated sensing mechanism shall be such that low changes of pressure applied to the sensor at any altitude will result in movement of the pointer.

¹⁾ 1 mbar = 100 N/m² = 100 Pa.