

Specification for

Counter and pointer, servo type, pressure altimeter systems

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Foreword

This British Standard, which is one of a series for indicators for use in aircraft, relates to servo type pressure altimeter systems, calibrated in feet, suitable for indications up to 80 000 ft or a lesser altitude, as may be declared.

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.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

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.

Amendments issued since publication

Amd. No.	Date of issue	Comments

This British Standard, having been prepared under the direction of the Aerospace Standards Committee, was published under the authority of the Executive Board on 31 January 1979

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The following BSI references relate to the work on this standard:
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1 Scope

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

- a) *Type A*. A panel-mounting indicator associated with its own internal or external pressure sensing mechanism.
- b) *Type B*. As type A but incorporating an encoder for altitude reporting purposes.

Provision is made for instrument systems operating over an indicated range of – 2 000 ft to + 80 000 ft (geopotential) or such other range as may be declared.

The design includes a barometric pressure setting facility and may include provision for applying corrections for the aircraft static pressure system error.

2 References

This standard makes reference to the following standards publications.

BS 3G 100, *General requirements for equipment for use in aircraft*.

BS G 101, *General requirements for aircraft indicators*.

BS G 191, *Lighting for aircraft indicators using integral filament lamps*.

BS G 199, *Tables relating pressure to altitude, airspeeds and Mach numbers, for use in aeronautical instrument design and calibration*.

BS G 211, *Reflection-reducing coating of instrument windows and lighting wedges*.

BS 2520, *Barometer conventions and tables*.

The latest editions of these standards shall be used.

NOTE The latest revision of an Aerospace Series standard is indicated by a prefix number.

Reference is also made to the following ICAO (International Civil Aviation Organization) publication:

International Standards and recommended practices Aeronautical telecommunications Annex 10 to the Convention of International Civil Aviation Volume I (ICAO Annex 10 Volume I)¹⁾

3 General construction requirements

The design and construction of the indicator shall comply with the relevant requirements of BS 3G 100 and BS G 101.

The preferred case sizes for the indicators are the type 3 and type 6 cases given in BS G 101.

4 Particular requirements

4.1 Construction

4.1.1 The detailed construction and dial markings of the indicator shall comply with the relevant requirements of BS 3G 100 and BS G 101. The presentation should generally conform to the recommendations given in the report of the United Kingdom Altimeter Committee¹⁾.

4.1.2 The barometric pressure setting shall be shown on counters clearly visible on the face of the indicator. The range of the barometric pressure setting shall encompass 800 mbar to 1 088 mbar or shall be as declared.

The markings shall be in millibars and, if required, in inches of mercury.

It shall be possible to set the counter readings to 0.5 mbar values and, where practicable, a datum mark shall be provided to ensure that the indicated value of 1013.25 mbar can be accurately set.

4.1.3 The barometric pressure setting shall be moved by an adjusting knob readily accessible from the front of the indicator and preferably situated on the lower right hand corner of the bezel.

The torque to operate this knob shall be between 25 mN m and 50 mN m and a safety device shall be provided to prevent damage when attempting to set beyond the limits of the pressure scale range.

4.1.4 Any pre-set device fitted for adjustment of the relationship between the barometric 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.

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

4.1.6 A clear warning of failure shall be provided when the electrical power supply is inadequate for correct functioning of the system. This device and any additional failure monitoring or warning devices shall themselves fail safe.

¹⁾ Obtainable from HMSO.