
International Standard



6859/1

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**Aircraft — Proximity switches —
Part 1 : General requirements**

Aéronautique — Détecteurs de proximité — Partie 1 : Exigences générales

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6859/1 was developed by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, and was circulated to the member bodies in September 1980.

It has been approved by the member bodies of the following countries :

Austria	Germany, F. R.	South Africa, Rep. of
Belgium	Italy	Spain
Brazil	Japan	Sweden
Canada	Netherlands	United Kingdom
Czechoslovakia	Romania	USA

The member body of the following country expressed disapproval of the document on technical grounds :

France

Aircraft — Proximity switches — Part 1 : General requirements

0 Introduction

This International Standard has been prepared to provide requirements for class 1 proximity switches, for use in unprotected positions on aircraft, and for class 2 proximity switches, intended for use in less arduous environments.

This Part of ISO 6859 deals with general requirements for all proximity switches. Requirements for magnetic proximity switches, for inductive proximity switches, and for Hall effect proximity switches, will form the subjects of Parts 2, 3 and 4 of this International Standard respectively. Further Parts may be added in due course, covering other basic methods of operation.

1 Scope and field of application

This Part of ISO 6859 specifies general requirements for proximity switches for aircraft, suitable for use in nominal 28 V d.c. systems, or 115/200 V, 400 Hz a.c. systems, having the characteristics specified in ISO 1540.

Two classes of switch are specified .

- class 1 switches for use in unprotected positions on aircraft,
- class 2 : switches intended for less arduous environments.

Specific requirements for proximity switches using a particular method of operation will be given in the relevant Part of this International Standard (see the introduction) and shall be read in conjunction with this Part.

NOTE — This Part of ISO 6859 has been prepared primarily for class 1 switches. The applicability of the requirements for class 1 and different requirements for class 2 switches are summarized in annex C

2 References

ISO/R 224, *Standard form of declaration of performance of aircraft electrical equipment.*

ISO 1467, *General purpose push-pull single-pole circuit-breakers for aircraft — Performance requirements*

ISO 1540, *Aerospace — Characteristics of aircraft electrical systems.*

ISO 2653, *Environmental tests for aircraft equipment — Part 2.3 . Ice formation.*

ISO 2669, *Environmental tests for aircraft equipment — Part 3.2 . Steady state acceleration.*

ISO 2678, *Environmental tests for aircraft equipment — Part 4.3 Insulation resistance and high voltage tests for electrical equipment.*

ISO 2683, *Environmental tests for aircraft equipment — Part 5.1 : Explosion proofness.¹⁾*

ISO 2859, *Sampling procedures and tables for inspection by attributes.*

ISO 7137, *Aircraft — Environmental conditions and test procedures for airborne equipment.*

3 Definitions

For the purpose of this International Standard, the following definitions apply.

3.1 proximity switch system : A switch system which provides one or more circuit switching functions when the target is brought within the declared operating region of the sensor. The system may include a separate relay or electronic module in addition to the target and sensor.

1) At present at the stage of draft.