
International Standard



6858

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Aircraft — Ground support electrical supplies — General requirements

Aéronefs — Alimentations électriques de service au sol des avions — Conditions générales requises

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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 6858 was developed by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, and was circulated to the member bodies in March 1980.

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

Austria	Egypt, Arab Rep. of	South Africa, Rep. of
Belgium	Ireland	Spain
Brazil	Italy	Sweden
Canada	Netherlands	United Kingdom
China	Poland	USA
Czechoslovakia	Romania	USSR

The member bodies of the following countries expressed disapproval of the document on technical grounds :

France
Germany, F. R.

Aircraft — Ground support electrical supplies — General requirements

1 Scope

This International Standard specifies electrical output characteristics, and interface requirements, between an aircraft and ground support electrical supplies. Requirements for safety features are included also.

The electrical characteristics relate to nominal 28 V d.c., and 115 /200 V three-phase, 400 Hz, a.c., outputs measured at the connector.

2 Field of application

The ground support electrical supply facilities covered by this International Standard are intended to supply power to an aircraft. In some cases the facility may also be capable of being used for aircraft engine starting.

This International Standard lays down a number of safety features considered essential to protect aircraft in the vicinity of the ground electrical supply facility.

Specifically excluded are requirements for ground traffic control purposes, such as towing points, identification and warning lights etc.

3 References

ISO 461, *Aircraft — Connections for ground electrical supplies*.¹⁾

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

4 Definitions

For the purpose of this International Standard the relevant definitions in ISO 1540 and ISO 461, together with the following, apply.

4.1 connector : The supply cable interface with the aircraft.

4.2 facility : Equipment designed to supply electrical power to an aircraft on the ground.

4.3 rated load : Maximum continuous output in kilovoltamperes for a.c., and maximum continuous current for d.c.

5 Electrical characteristics

5.1 General

The combination of the facility and the interconnecting cable shall provide electrical power at the aircraft connector having characteristics generally in accordance with ISO 1540 as amended by this specification. The relevant facility specification shall state the appropriate power rating and any special additional characteristics.

The a.c. voltage characteristics stated below apply to line-to-neutral quantities : line-to-line characteristics should be as a result of line-to-neutral values being as specified.

All a.c. voltages are r.m.s. values unless otherwise stated.

All d.c. voltages are mean values unless otherwise stated.

The facility shall be capable of supplying electrical power having the specified characteristics under all extreme environmental conditions encountered at the airfield of use.

5.1.1 A.C. power

The a.c. power system shall be three-phase, four-wire, star-connected having a nominal voltage of 115/200 V, a nominal frequency of 400 Hz and a phase sequence A-B-C. The neutral point shall be connected in accordance with the circuits shown in figure 1.

1) At present at the stage of draft. (Revision of ISO 461-1965.)