

131

INTERNATIONAL
STANDARD

ISO
6952

First edition
1989-09-01

**Fluid power systems and components —
Two-pin electrical plug connector with earth
contact — Characteristics and requirements**

iTeh STANDARD PREVIEW
*Transmissions hydrauliques et pneumatiques — Connecteurs électriques à deux
broches avec contact de sécurité — Caractéristiques et exigences*
(standards.iteh.ai)

ISO 6952:1989

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Reference number
ISO 6952 : 1989 (E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 6952 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*.

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International Organization for Standardization

Case postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Introduction

In fluid power systems, power is transmitted and controlled through a fluid under pressure within an enclosed circuit. Typical components found in such systems are hydraulic and pneumatic controls. These devices are used to regulate the function of a component or system.

Some control components found in fluid power systems are electrically actuated. The electrical plug connector described in this International Standard is used with control and regulation assemblies for use in hydraulic and pneumatic fluid power systems.

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Fluid power systems and components – Two-pin electrical plug connector with earth contact – Characteristics and requirements

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1 Scope

This International Standard specifies the following characteristics and requirements for a general purpose two-pin electrical plug connector with earth contact for use with a single solenoid :

- the electrical characteristics of the connector ;
- the dimensions of the pins and earth contact ;
- the means for fixing the socket to the plug ;
- the sealing procedure between the plug and the socket.

The electrical plug connector specified in this International Standard is intended to be used under working conditions where the connector cannot be damaged by external action (for example shock or excessive loading).

The ability of these devices to interrupt the current has not been investigated. They shall be mechanically disconnected only after the electricity has been switched off.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International

Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 5598 : 1985, *Fluid power systems and components – Vocabulary*.

IEC 309 : 1988, *Plugs, socket-outlets and couplers for industrial purposes – Part 1: General requirements*.

IEC 529 : 1976, *Classification of degrees of protection provided by enclosures*.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 5598 and the following definition apply.

electrical connector: Two-piece assembly (plug and socket) which, when joined, provides electrical continuity.

4 Connector components

The components of the connector are illustrated and identified in figure 1.

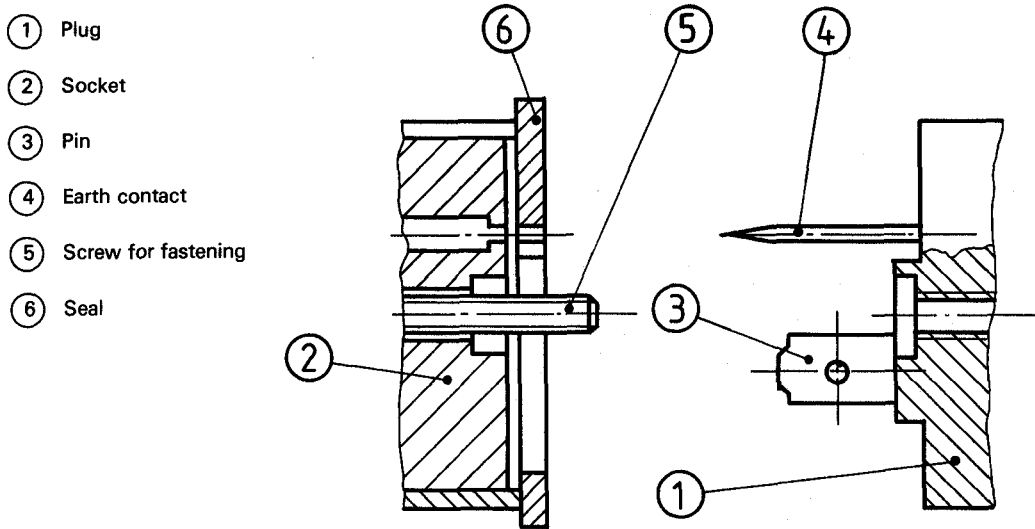


Figure 1 – Connector components

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5 Connector characteristics

The connector shall be designed to meet the following requirements:

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- a) voltage : 250 V ; <https://standards.iteh.ai/catalog/standards/sist/a0b520e0-19e2-4843-bf50-6536fd026256/iso-6952-1989>
- b) current : 10 A ;

- c) temperature of use : $-20\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$; at elevated temperatures, the variation of current with temperature is given in figure 2;

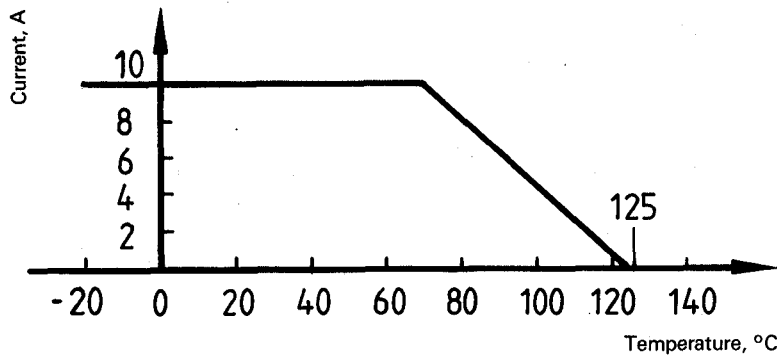


Figure 2 – Variation of current with temperature

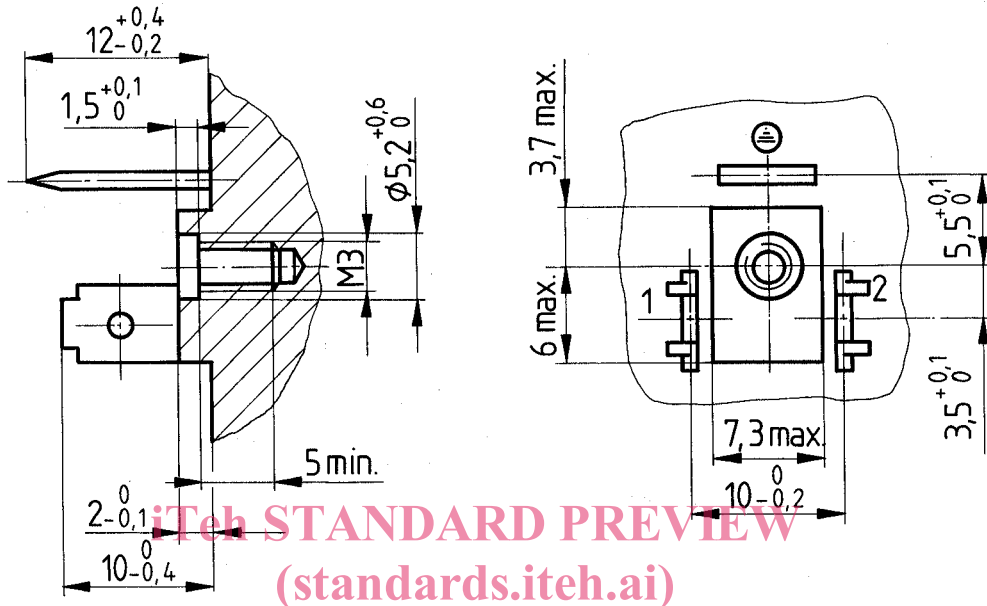
- d) degree of protection after fixing the socket onto the plug : IP 65, in accordance with IEC 529;
- e) insulation and dielectric strength : the connector shall meet the requirements stated in clause 19 of IEC 309-1 : 1988.

NOTE – If it is necessary to specify the mechanical degree of protection, reference should be made to IEC 529.

6 Position of pins and earth contact

- 6.1 The pins and earth contact shall be fitted on the plug.
- 6.2 The earth contact pin shall be fixed in such a way that earth connection is ensured before current enters the pins.
- 6.3 The position, dimensions and marking information of pins and the earth contact shall comply with figure 3.

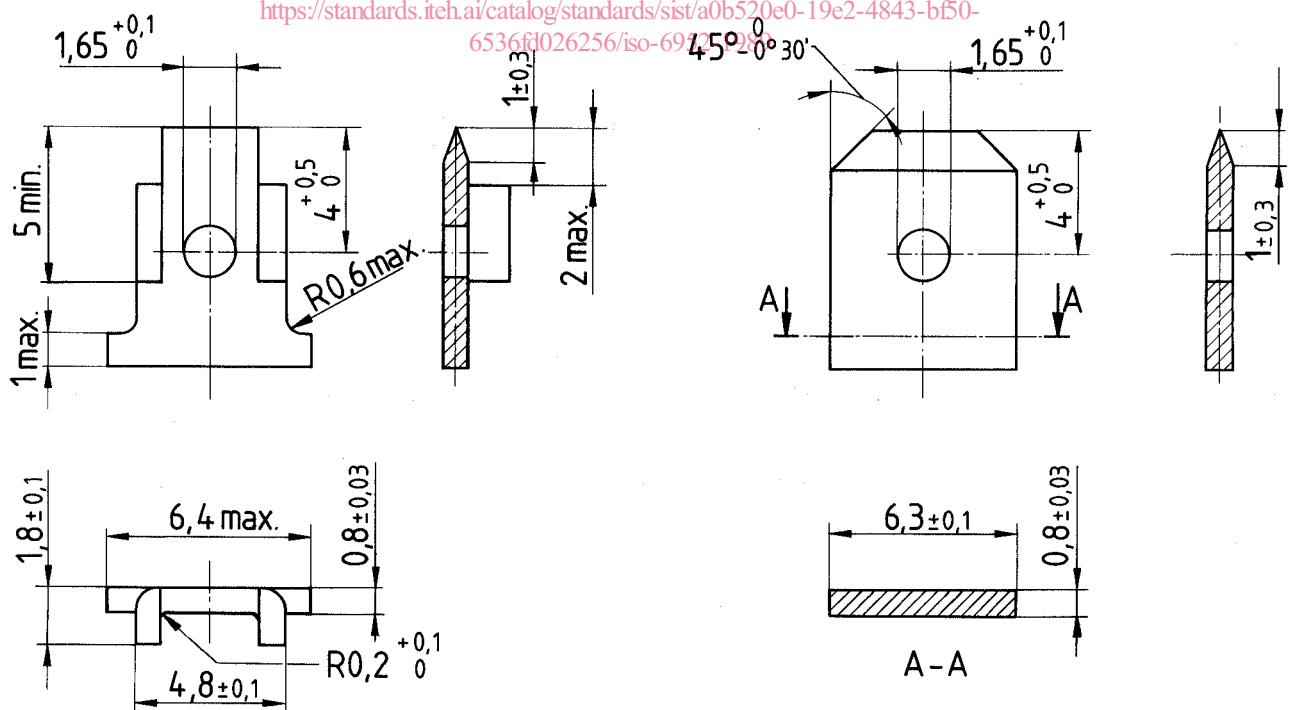
Dimensions in millimetres



a) Position and marking of pins and earth contact

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b) Pin dimensions

c) Earth contact dimensions

Figure 3 — Connector details

7 Fixing the socket onto the plug

An M3 screw shall be used to fix the socket onto the plug in accordance with figure 3a).

8 Socket/plug tightness

8.1 A flat seal shall be provided on the plug to protect against dust and fluid (IP 65) in the socket/plug assembly.

8.2 The seal shall be fitted on the socket to suit the overall dimension requirements indicated in figure 4.

8.3 Alternative seal profiles within the dimensions of figure 4 are possible.

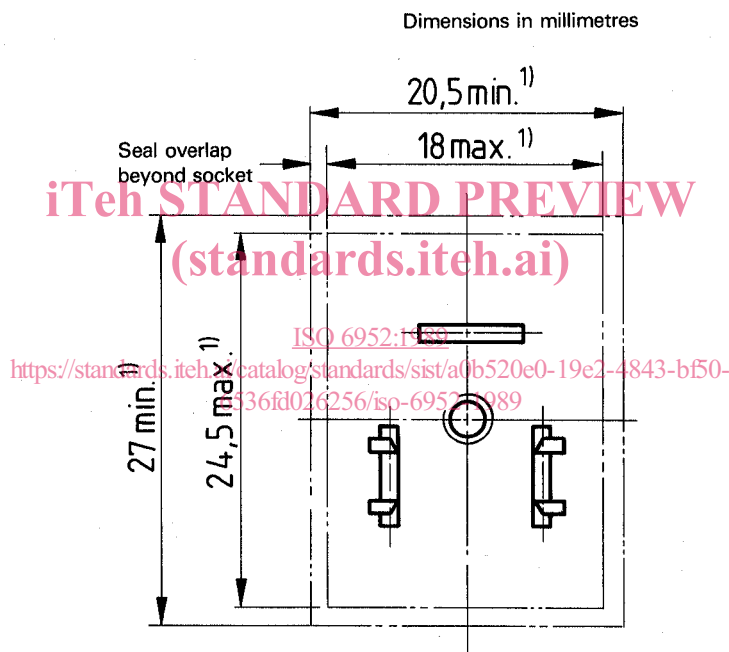
9 Mechanical protection

A cover plate shall be provided to protect the electrical plug connector specified in this International Standard when the socket connector has been removed. The cover plate may be made of plastics or similar material.

10 Identification statement (Reference to this International Standard)

Use the following statement in test reports, catalogues and sales literature when electing to comply with this International Standard:

"Electrical plug connector conforms to ISO 6952, *Fluid power systems and components — Two-pin electrical plug connector with earth contact — Characteristics and requirements.*"



1) The values 18 and 24,5 give the maximum dimensions of the plug; the values 20,5 and 27 give the minimum dimensions of the socket.

Figure 4 — Overall dimensions

UDC 621.316.541 : 621.8.032/.033

Descriptors : hydraulic fluid power, pneumatic fluid power, hydraulic equipment, pneumatic equipment, control devices, electrical control units, connector plugs, specifications.

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