INTERNATIONAL STANDARD

ISO 3732

Third edition
1997-11-01

Road vehicles — Electrical connections between towing and towed vehicles with 12 V systems — 7 pole connector type 12 S (supplementary)

Véhicules routiers — Connexions électriques entre véhicule tracteur et véhicule tracté équipés d'un circuit électrique de 12 V — Connecteur à 7 contacts de type 12 S (supplémentaire)

Reference number
ISO 3732:1997(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 normallyl 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 voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 3732 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

This third edition cancels and replaces the second edition (ISO 3732:1982), which has been technically revised and augmented by the inclusion of specific tests.

Annex A of this International Standard is for information only.

International Organization for Standardization
Case postale 56 • CH-1211 Genève 20 • Switzerland
Internet central@iso.ch
X.400 c=ch; a=400net; p=iso; o=isocs; s=central

Printed in Switzerland

Road vehicles — Electrical connections between towing and towed vehicles with 12 V systems — 7 pole connector type 12 S (supplementary)

1 Scope

This International Standard specifies dimensional characteristics and specific requirements of the 7 pole connector type 12 S and its contact allocation for the electrical connection between passenger cars or light commercial vehicles and their towed vehicles, equipped or 12 V systems to ensure their interchangeability.

This connector is intended to be used in addition to a 12 N connector according to ISO 1724 if more than 7 poles are required.

NOTE — As an alternative to the use of these two connectors, the 13-pole connector according to ISO 11446 should be considered.

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 1103:1996, *Road vehicles — Coupling balls for caravans and light trailers — Dimensions.*

ISO 1724:1997, *Road vehicles — Electrical connections between towing and towed vehicles with 12 V systems — 7 pole connector type 12 N (normal).*

ISO 4091:1992 and Amendment 1:1997, *Road vehicles — Connectors for electrical connections between towing vehicles and trailers — Test methods and performance requirements.*

ISO 4141-1:—[1)], *Road vehicles — Multi-core connecting cables — Part 1: Test methods and requirements of basic performance sheathed cables.*

ISO 4141-2:—[1)], *Road vehicles — Multi-core connecting cables — Part 2: Test methods and requirements of high performance sheathed cables.*

ISO 4141-3:—[1)], *Road vehicles — Multi-core connecting cables — Part 3: Construction, dimensions and marking of unscreened sheathed low-tension cables.*

3 Dimensions

Unspecified details are to be selected as appropriate.

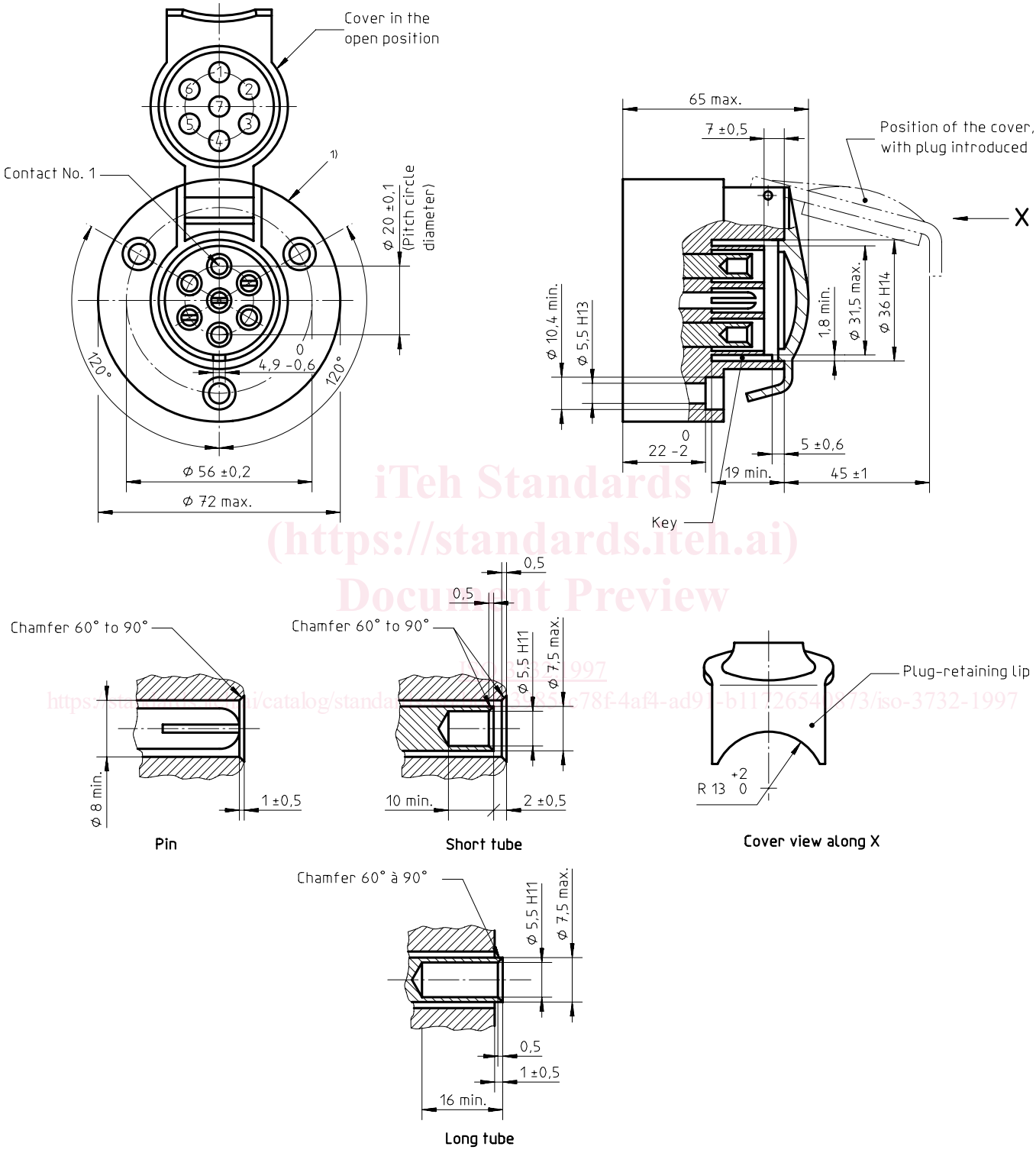
Pins in sockets and plugs shall be slotted to allow compression over a minimum length of 8,5 mm when plug and socket are engaged.

1) To be published. (Revision of ISO 4141:1988)

3.1 Socket

See figure 1.

Dimensions in millimetres



1) Other housing designs are permitted provided that the dimensions are within the maximum diameter.

Figure 1 — Socket

The socket shall have five tubes (Nos. 1, 3, 4, 6 of equal length, tube No. 7 three millimetres longer) and two spring pins (Nos. 2 and 5).

The contact numbers shall be permanently marked on the inside of the socket cover and on the terminal face. The character size shall be not less than 2 mm. Reduced space available may require application of a smaller size on the terminal face.

3.2 Plug

See figure 2.

Dimensions in millimetres

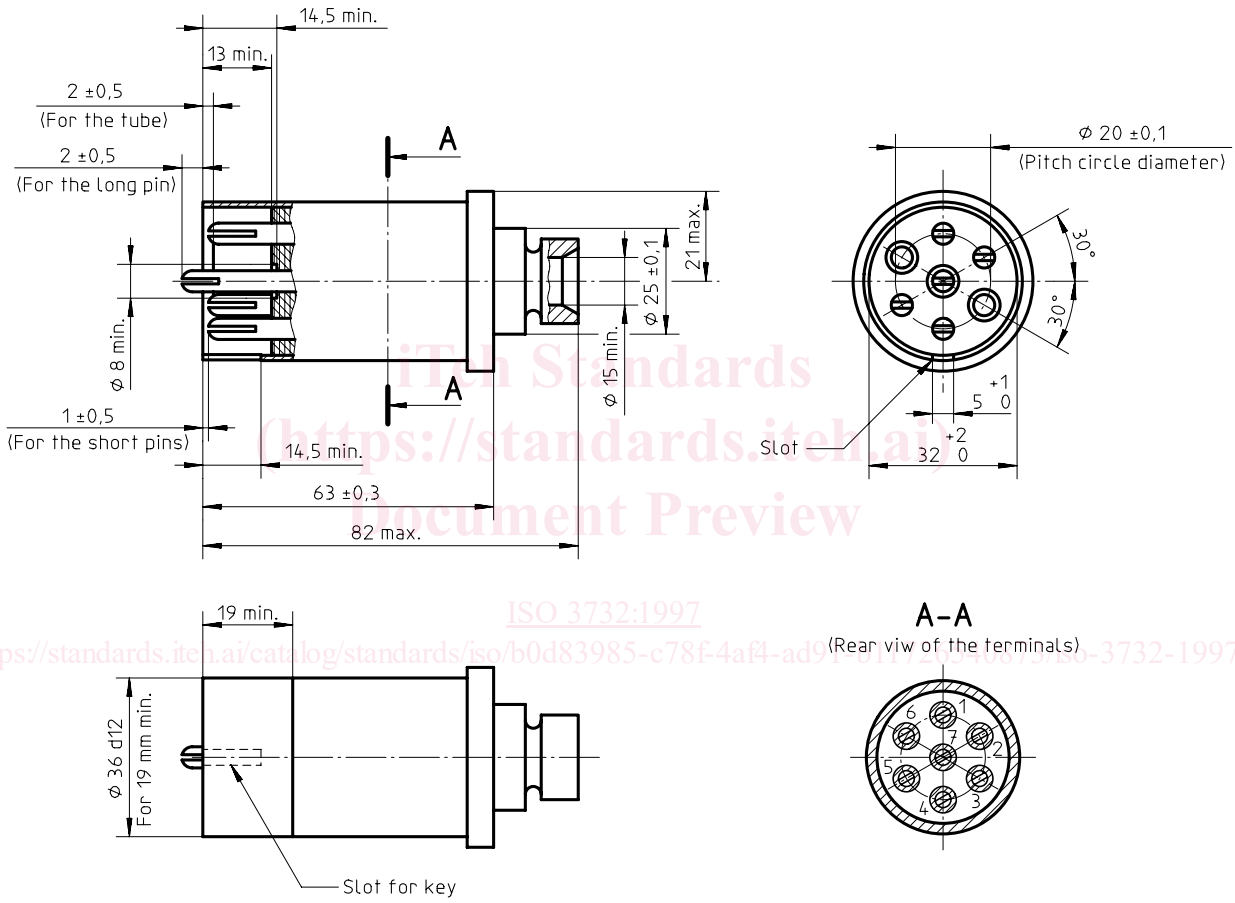


Figure 2 — Plug

The plug shall have five spring pins (Nos. 1, 3, 4, 6 of equal length, pin No. 7 three millimetres longer) and two tubes (Nos. 2 and 5).

The contact numbers shall be permanently marked on the terminal face. The character size shall be not less than 2 mm. Reduced space available may require application of a smaller size on the terminal face.

4 Application of the connector

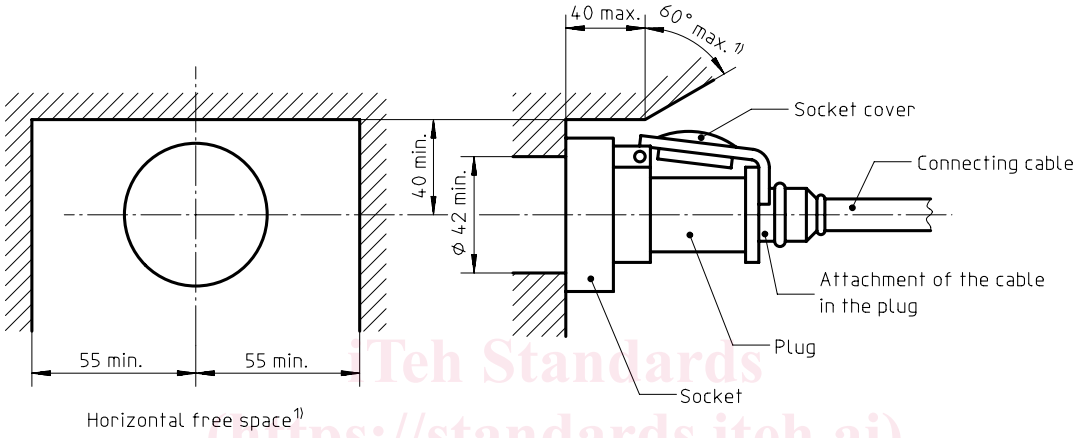
4.1 Socket and plug position on vehicles

A socket shall be mounted at the rear of a towing vehicle and the position shall comply with the dimensional characteristics necessary for the compatibility of mechanical coupling devices as specified in ISO 1103.

4.2 Free space

The minimum free space for the connector is specified in figure 3.

Dimensions in millimetres



1) The angle of maximum 60° shall extend across the horizontal free space.

Figure 3 — Free space

4.3 Contact allocation

The allocation of the seven contacts provided shall be as shown in table 1.

Table 1 — Contact allocation

Contact No.	Function	Core insulation colour (for information)
1	Reversing light[1)]	yellow
2	Coding for coupled trailer[2)]	no core
3	Return for circuit to contact No. 4	white
4	Power supply (steady, constant)	green
5	No allocation	brown
6	Power supply controlled by ignition switch	red
7	Return for circuit to contact No. 6	black

1) The return for the circuit of this contact will normally be by contact No. 2 of the 12 N connector according to ISO 1724.

2) On the plug this pin shall be bridged to pin No. 3, to signal to the towing vehicle whether or not a trailer is connected.