
**Road vehicles — Connectors for the
electrical connection of towing and towed
vehicles — 7-pole connector type 12 S
(supplementary) for vehicles with 12 V
nominal supply voltage**

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*Véhicules routiers — Connecteurs pour liaisons électriques entre
véhicules tracteurs et véhicules tractés — Connecteur à 7 contacts de
type 12 S (supplémentaire) pour les véhicules à tension nominale
de 12 V*

[ISO 3732:2003](#)

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Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Dimensions	2
5 Application of connector	5
6 Tests and specific requirements	7
Bibliography	9

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

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

This fourth edition cancels and replaces the third edition (ISO 3732:1997), which has been technically revised.

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Road vehicles — Connectors for the electrical connection of towing and towed vehicles — 7-pole connector type 12 S (supplementary) for vehicles with 12 V nominal supply voltage

1 Scope

This International Standard specifies the dimensions of, and requirements for, 7-pole connectors of type 12 S and their contact allocation for the electrical connection of towing (passenger cars or light commercial vehicles) and towed vehicles with 12 V nominal supply voltage, thus ensuring interchangeability. A 12 S connector is intended to be used in addition to a 12 N connector according to ISO 1724 where more than 7 poles are required.

NOTE For new developments and where more than 7 poles are required, as an alternative to the use of the 7-pole connector according to this International Standard and ISO 1724, the use of 13-pole connector in accordance with ISO 11446 ^[1] may be required.

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2 Normative references (standards.iteh.ai)

The following referenced documents are indispensable for application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

<https://standards.iteh.ai/catalog/standards/sist/d824160b-9264-4ead-9db5-1d434b958f18/iso-3732-2003>
ISO 1103, *Road vehicles — Coupling balls for caravans and light trailers — Dimensions*

ISO 1724, *Road vehicles — Connectors for the electrical connection of towing and towed vehicles — 7-pole connector type 12 N (normal) for vehicles with 12 V nominal supply voltage*

ISO 4091:2003, *Road vehicles — Connectors for the electrical connection of towing and towed vehicles — Definitions, tests and requirements*

ISO 4141 (all parts), *Road vehicles — Multi-core connecting cables*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4091 apply.

4 Dimensions

4.1 General

Details not specified are at the manufacturer's discretion.

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.

4.2 Plug

Dimensions of the plug shall be in accordance with Figure 1. The plug shall have five spring pins, numbered 1, 3, 4, 6 and 7, and two tubes, numbered 2 and 5.

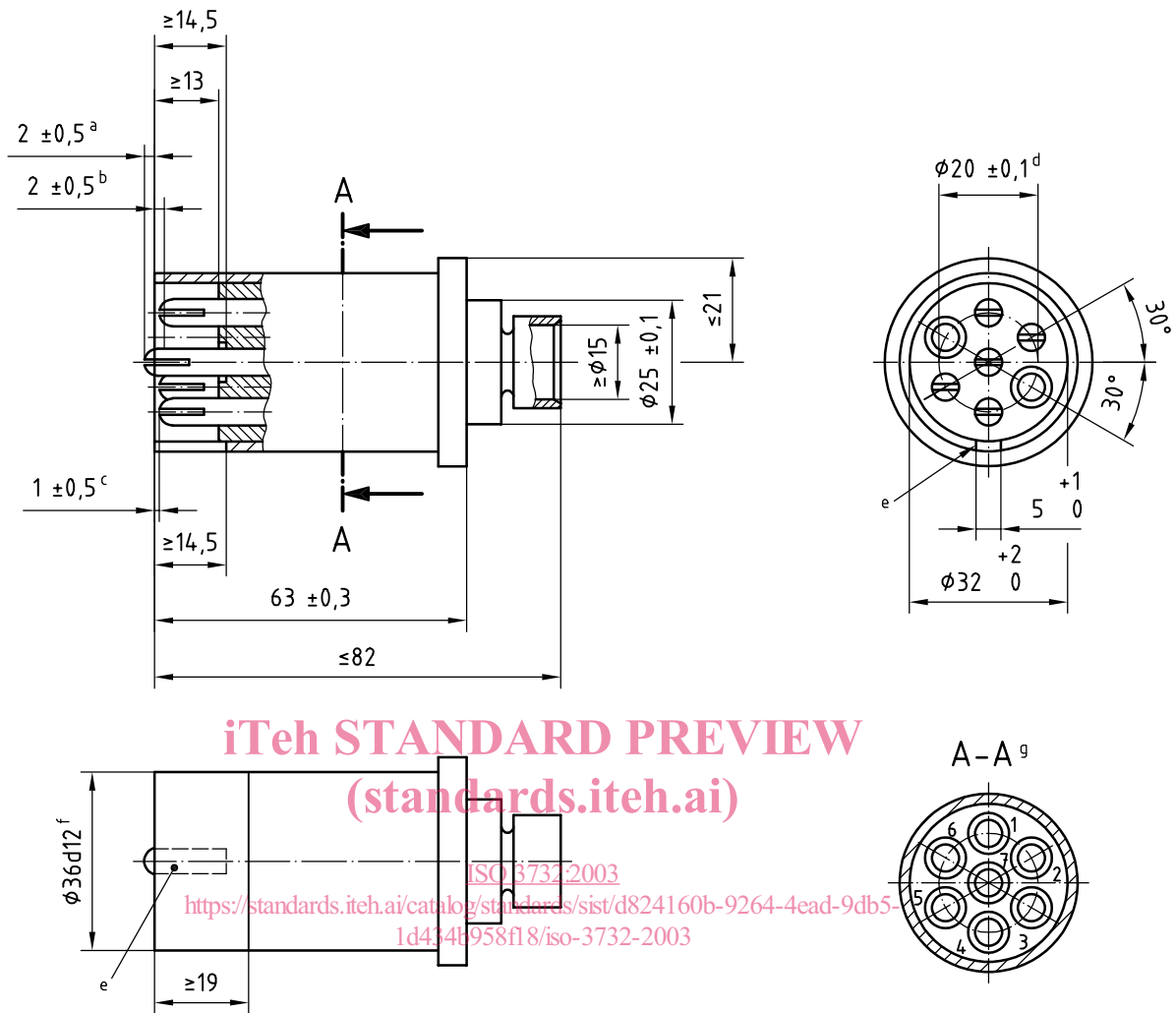
4.3 Socket

Dimensions of the socket shall be in accordance with Figure 2. The socket shall have five tubes, numbered 1, 3, 4, 6 and 7, and two spring pins, numbered 2 and 5.

The cover is shown in the open position: it shall close automatically when the plug is disconnected.

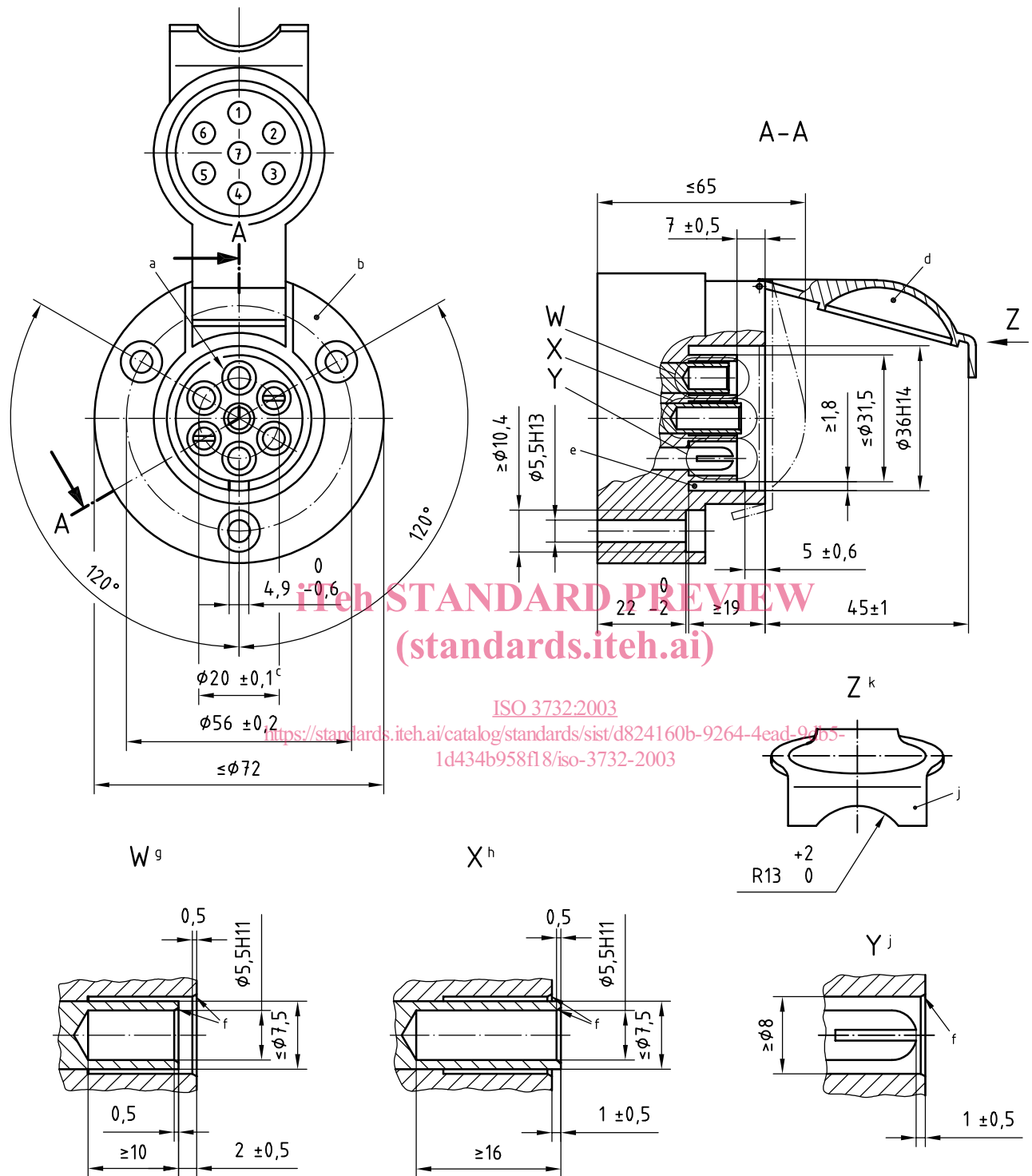
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Dimensions in millimetres



- a For Pin No. 7.
- b For the tubes.
- c For Pin Nos. 1, 3, 4 and 6.
- d Pitch circle diameter.
- e Slot for key.
- f For 19 min.
- g Rear view of the terminals.

Figure 1 — Plug



- a Contact No. 1.
- b Other housing designs are permitted provided that the dimensions are within the maximum diameter.
- c Pitch circle diameter.
- d Position of the cover with the plug engaged.
- e Key.
- f Chamfer 60° to 90°.
- g Tube Nos. 1, 3, 4 and 6.
- h Tube No. 7.
- i Pins.
- j Plug-retaining lip.
- k Cover view.

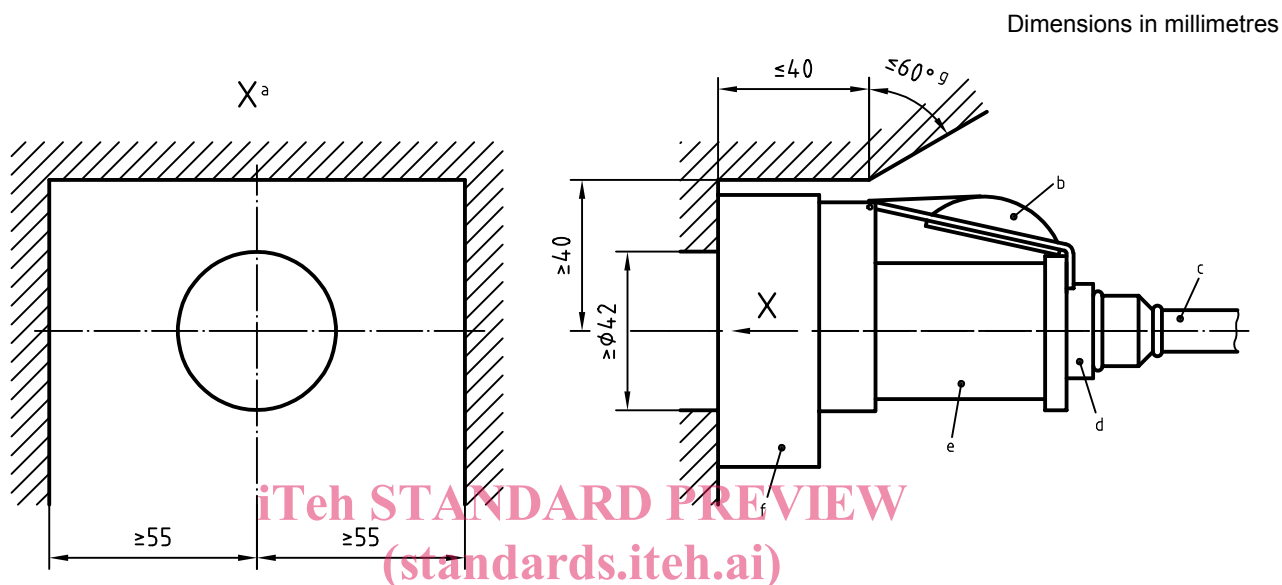
Figure 2 — Socket

5 Application of the connector

5.1 Connector positions and free space

A socket shall be mounted at the rear of the towing vehicle and the position shall be in accordance with the dimensions necessary for the compatibility of mechanical coupling devices according to ISO 1103.

The minimum free space around the connection shall be in accordance with Figure 3.



- a Horizontal free space.
- b Socket cover. <https://standards.iteh.ai/catalog/standards/sist/d824160b-9264-4ead-9db5-1d434b958f18/iso-3732-2003>
- c Connecting cable.
- d Attachment of the cable in the plug.
- e Plug.
- f Socket.
- g The angle of maximum 60° shall extend across the horizontal free space.

Figure 3 — Free space

5.2 Distinguishing marking

The 12 S connectors shall be distinguished from 12 N connectors (see ISO 1724) by means of a different colouring of at least the insulating parts. A light and permanent colour, preferably white, shall be used for the 12 S connectors.

5.3 Contact allocation

The contact allocation of the connector shall be in accordance with Table 1.