
**Road vehicles — Connectors for the
electrical connection of towing and towed
vehicles — 15-pole connector for
vehicles with 24 V nominal supply
voltage**

iTeh STANDARD PREVIEW
*Véhicules routiers — Connecteurs pour liaisons électriques entre
véhicules tracteurs et véhicules tractés — Connecteur à 15 contacts
pour les véhicules à tension nominale de 24 V*
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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 12098 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*.

This second edition cancels and replaces the first edition (ISO 12098:1994), which has been technically revised.

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Road vehicles — Connectors for the electrical connection of towing and towed vehicles — 15-pole connector for vehicles with 24 V nominal supply voltage

1 Scope

This International Standard gives the dimensions of, and specifies the contact allocation and tests and test requirements for, 15-pole connectors for the electrical connection of equipment other than braking systems and running gear of towing and towed vehicles with 24 V nominal supply voltage. It specifies a park socket used to receive and store the plug when disconnected, and a means of adaptation between 7-pole and 15-pole connectors.

2 Normative references

The following referenced documents are indispensable for the 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.

ISO 1185, *Road vehicles — Connectors for the electrical connection of towing and towed vehicles — 7-pole connector type 24 N (normal) for vehicles with 24 V nominal supply voltage*

ISO 3731, *Road vehicles — Connectors for the electrical connection of towing and towed vehicles — 7-pole connector type 24 S (supplementary) for vehicles with 24 V nominal supply voltage*

ISO 4009, *Commercial vehicles — Location of electrical and pneumatic connections between towing vehicles and trailers*

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

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

ISO 7638-1, *Road vehicles — Connectors for the electrical connection of towing and towed vehicles — Part 1: Connectors for braking systems and running gear of vehicles with 24 V nominal supply voltage*

ISO 7638-2, *Road vehicles — Connectors for the electrical connection of towing and towed vehicles — Part 2: Connectors for braking systems and running gear of vehicles with 12 V nominal supply voltage*

ISO 11992-1, *Road vehicles — Interchange of digital information on electrical connections between towing and towed vehicles — Part 1: Physical layer and data-link layer*

ISO 11992-3, *Road vehicles — Interchange of digital information on electrical connections between towing and towed vehicles — Part 3: Application layer for equipment other than brakes and running gear*

3 Terms and definitions

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

4 Dimensions

4.1 General

Details not specified are at the manufacturer's discretion.

The contacts shall be floating and shall align to the datum position when plug and socket are engaged.

4.2 Plug

Dimensions of the plug shall be in accordance with Figure 1. The locking lever design shall take into consideration the space required for screws used to fasten the socket (see Figure 2).

4.3 Socket

Dimensions of the socket shall be in accordance with Figure 2. The cover is shown in the open position. It shall close automatically when the plug is disconnected.

4.4 Park socket

Dimensions of the park socket shall be in accordance with Figure 3. The cover is shown in the open position. It shall close automatically when the plug is disconnected.

5 Application of the connector

5.1 General

The coiled cable assembly is fitted to the semi-trailer towing vehicle (fifth-wheel tractor) and may be connected to the electrical on-board network of the towing vehicle with or without the connection (see Figure 4).

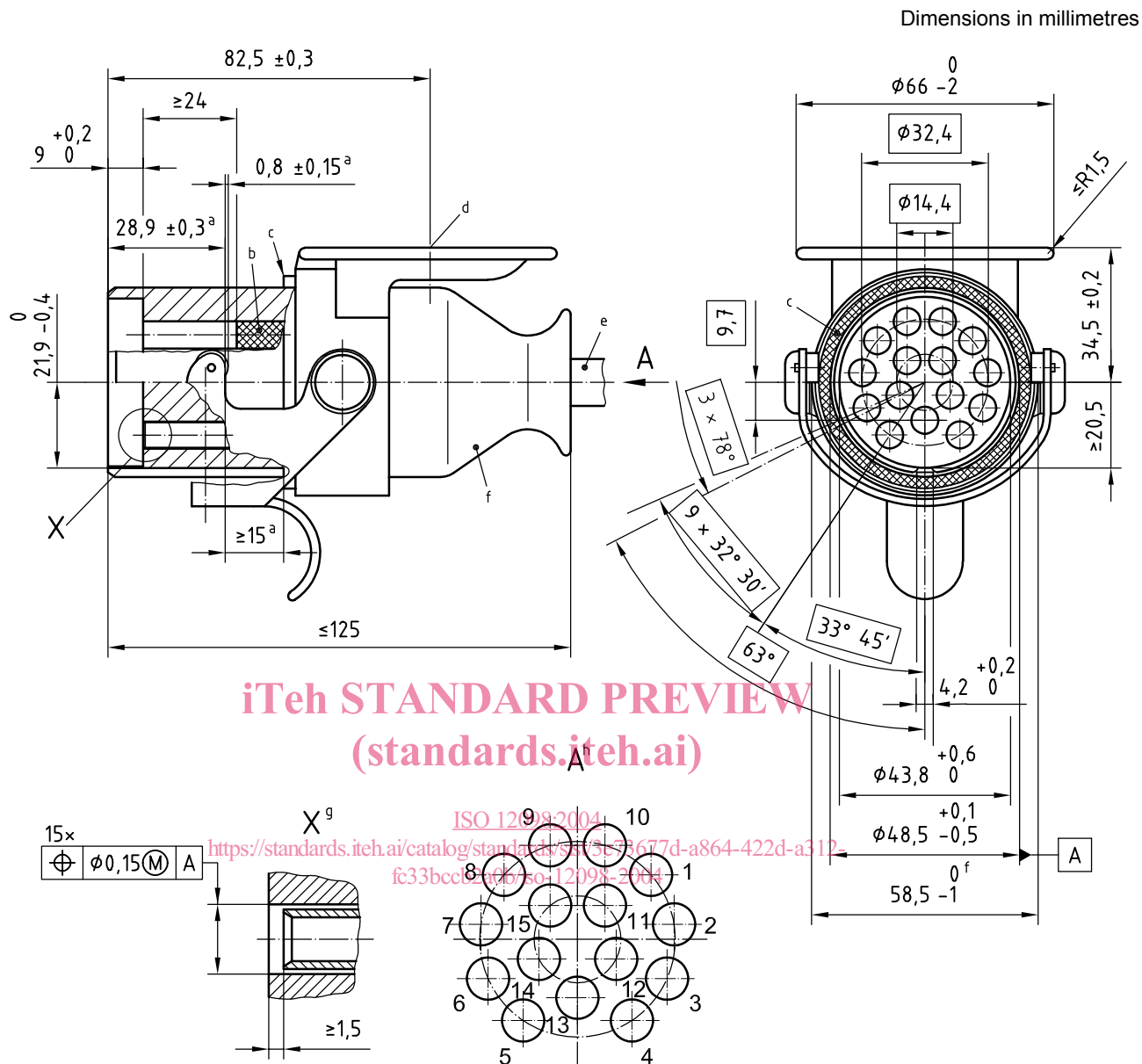
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The uncoiled cable assembly is fitted to the drawbar trailer. Therefore, the trailer towing vehicle (drawbar tractor) shall be fitted with a socket mounted at the rear of the vehicle (see Figure 4).

5.2 Connector positions and free space

The positions of and free space around the connectors shall be in accordance with ISO 4009.

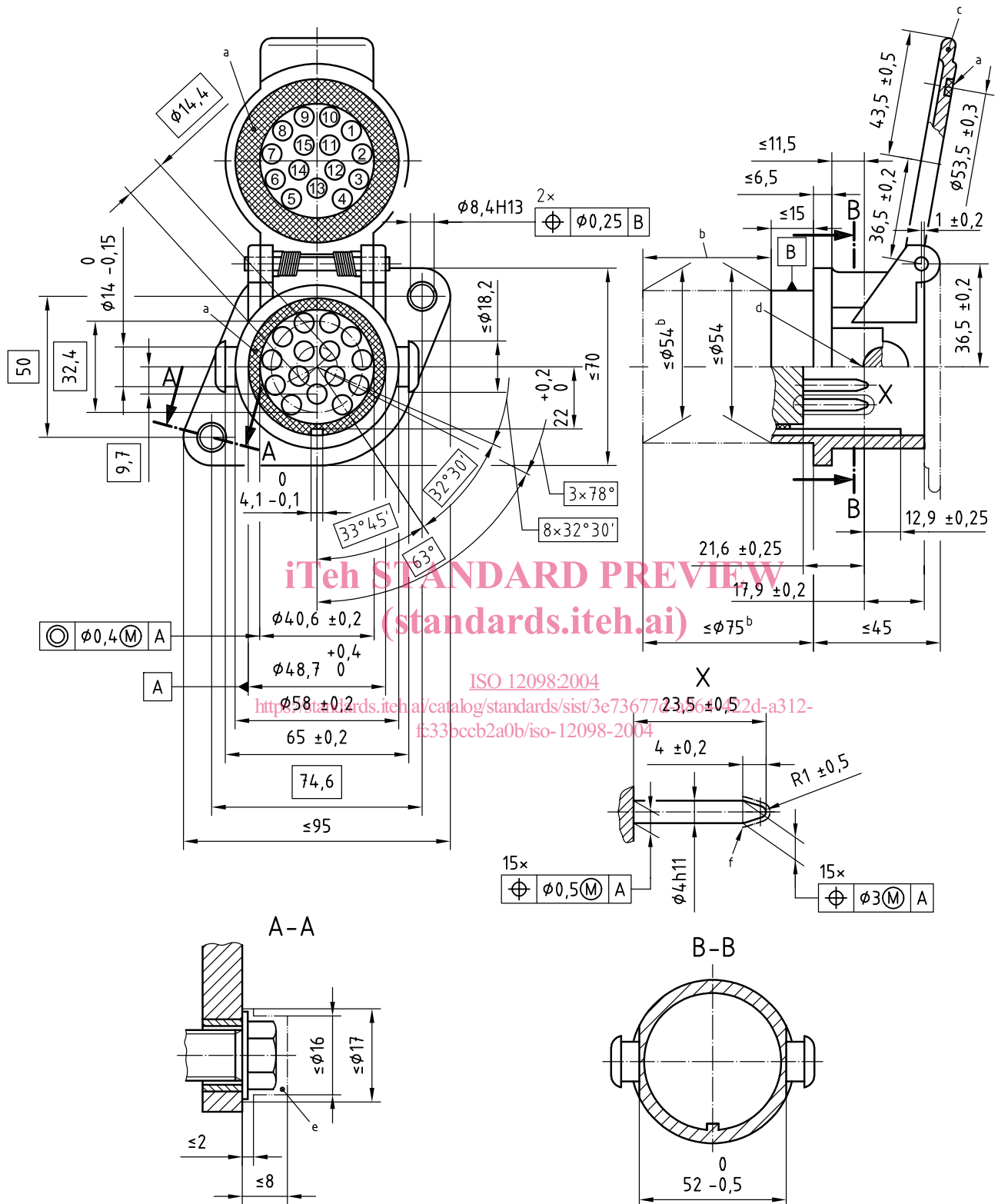
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- a Dimension refers to the locking lever in its locked position.
- b If Contacts 14 and 15 are not used, blanking plugs shall, where applicable, be inserted to accept later fitment of pins and tubes.
- c The sealing ring shall be mounted such that it cannot become detached under normal use.
- d Centre of cover rest.
- e See ISO 4141-3.
- f Other housing designs are permitted provided they are in compliance with the maximum distance of 58 mm for the locking lever.
- g Spring tube.
- h Contact numbers.

Figure 1 — Plug

Dimensions in millimetres



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- a The sealing ring shall be mounted such that it cannot become detached under normal use.
- b For existing products for which the cable outlet is mounted from the rear, the outside diameter of the outlet may be larger with the vehicle manufacturer's agreement. However, to ensure socket exchangeability, future applications should have a maximum outside diameter of 54 mm over a maximum length of 75 mm.
- c Opening angle $\geq 120^\circ$.
- d Reference point for engaged locking lever.
- e Minimum space required for screws used to fasten the socket.
- f This area shall be smooth and burr-free.

Figure 2 — Socket

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