
**Road vehicles — Connectors for the
electrical connection of towing and towed
vehicles — Connectors for electronically
monitored charging systems with 12 V or
24 V nominal supply voltage**

*Véhicules routiers — Raccords pour les connexions électriques des
véhicules tracteurs et des véhicules tractés — Raccords pour systèmes
de charge contrôlés électroniquement à tension d'alimentation nominale
de 12 V ou 24 V*



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Foreword

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Road vehicles — Connectors for the electrical connection of towing and towed vehicles — Connectors for electronically monitored charging systems with 12 V or 24 V nominal supply voltage

1 Scope

This International Standard specifies dimensional characteristics, contact allocation, tests and requirements of 7-pole connectors for electrical connections of electronically monitored charging systems of towing and towed vehicles. The electronic monitoring system is designed to detect 12 V and 24 V nominal supply voltage and to limit the current to 50 A. This is a connector without breaking capacity.

This electrical connection is intended for use with separable truck-trailer combinations in order to connect an additional battery pack of the trailer with the generator of the truck using an electronically monitored charging system. Additional battery packs in trailers are basically used with tailgate lifts, electrical forklifts or other technical equipment with high current consumption.

This International Standard further specifies a park socket used to receive and store the plug when it is disconnected.

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 and towed vehicles — Definitions, tests and requirements*

ISO 4141-3, *Road vehicles — Multi-core connecting cables — Part 3: Construction, dimensions and marking of unscreened sheathed low-voltage 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 12098, *Road vehicles — Connectors for the electrical connection of towing and towed vehicles — 15-pole connector for vehicles with 24 V nominal supply voltage*

IEC 60512-13-5, *Connectors for electronic equipment — Tests and measurements — Part 13-5: Mechanical operation tests — Test 13e: Polarizing and keying method*

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.

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 as in Figure 1.

The locking lever design shall take into consideration the space required for screws used to fasten the socket (see section B-B in Figure 2).

4.3 Socket

Dimensions of the socket shall be as in Figure 2.

The cover is shown in opened position. It shall close automatically when the plug is disconnected.

4.4 Park socket

Dimensions of the park socket shall be as in Figure 3.

The cover is shown in closed position. It shall close automatically when the plug is disconnected.