INTERNATIONAL STANDARD

ISO 7637-2

Third edition
2011-03-01

Road vehicles — Electrical disturbances from conduction and coupling —

Part 2: Electrical transient conduction along supply lines only

Véhicules routiers — Perturbations électriques par conduction et par couplage —

Partie 2: Perturbations électriques transitoires par conduction uniquement le long des lignes d'alimentation

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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 7637-2 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 7637-2:2004), which has been technically revised. It also incorporates the Amendment ISO 7637-2:2004/Amd.1:2008. It does not specify test pulses 4, 5a, and 5b, which are now specified in ISO 16750-2 and ISO 21848.

ISO 7637 consists of the following parts, under the general title *Road vehicles — Electrical disturbances from conduction and coupling*:

— *Part 1: Definitions and general considerations*

— *Part 2: Electrical transient conduction along supply lines only*

— *Part 3: Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines*

Road vehicles — Electrical disturbances from conduction and coupling —

Part 2:
Electrical transient conduction along supply lines only

1 Scope

This part of ISO 7637 specifies test methods and procedures to ensure the compatibility to conducted electrical transients of equipment installed on passenger cars and commercial vehicles fitted with 12 V or 24 V electrical systems. It describes bench tests for both the injection and measurement of transients. It is applicable to all types of road vehicles independent of the propulsion system (e.g. spark ignition or diesel engine, electric motor).

Function performance status classification for immunity to transients is given in Annex A.

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 7637-1, *Road vehicles — Electrical disturbances from conduction and coupling — Part 1: Definitions and general considerations*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7637-1 apply.

4 Test procedure

4.1 General

Methods for measuring the transient emission on supply lines and test methods for the immunity of devices against such transients are given. These tests, called “bench tests”, are performed in the laboratory.

The bench test methods, some of which require the use of the artificial network, will provide comparable results between laboratories.

A bench test method for the evaluation of the immunity of a device against supply line transients may be performed by means of a test pulse generator. This may not cover all types of transients which can occur in a vehicle; therefore, the test pulses described in 5.6 are characteristic of typical pulses.

In special cases, it may be necessary to apply additional test pulses. However, some test pulses may be omitted if a device, depending on its function or its connection, is not influenced by comparable transients in the vehicle. It is part of the vehicle manufacturer's responsibility to define the test pulses required for a specific device.