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Road vehicles — Connection interface for pyrotechnic devices, two-way and three-way connections —

Part 1: Pocket interface definition

Véhicules routiers — Interface de raccordement pour dispositifs pyrotechniques, deux voies et trois voies —

Partie 1: Définition de l'interface du support allumeur

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 32, *Electrical and electronic components and general system aspects*.

This third edition cancels and replaces the second edition (ISO 19072-1:2014), which has been technically revised.

The main changes compared to the previous edition are as follows:

— greater detail has been specified in 5.2 regarding the contacts and short circuit areas for the male contacts;

— Annex C has been added to define an alternative material variant of the pyrotechnic device/initiator harness connector assembly.

A list of all parts in the ISO 19072 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Road vehicles integrate an increasing number of pyrotechnic devices contributing to occupant safety in vehicles (for example, frontal and side air bag, safety belt pretensioner, etc.).

Various pocket definitions currently exist all over the world. This situation appears difficult to manage for the different equipment makers. The goal of this document is to define a common specification.

A sealed option of the pyrotechnic device/initiator harness connector assembly is defined in Annex A.

A variant without retainer of the pyrotechnic device/initiator harness connector assembly is defined in Annex B.

An alternative material variant of the pyrotechnic device/initiator harness connector assembly is defined in Annex C.

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Road vehicles — Connection interface for pyrotechnic devices, two-way and three-way connections —

Part 1: Pocket interface definition

1 Scope

This document defines the minimum specification of the pyrotechnic device pocket interface.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1302, *Geometrical Product Specifications (GPS) — Indication of surface texture in technical product documentation*

ISO 8092-2, *Road vehicles — Connections for on-board electrical wiring harnesses — Part 2: Definitions, test methods and general performance requirements*

ASTM B488, *Standard Specification for Electrodeposited Coatings of Gold for Engineering Uses*

ASTM B689, *Standard Specification for Electroplated Engineering Nickel Coatings*

ASTM B735, *Standard Test Method for Porosity in Gold Coatings on Metal Substrates by Nitric Acid Vapor*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8092-2 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
connector
assembly used to connect several conductors together or a single conductor to an appliance

Note 1 to entry: A male (female) connector is a housing containing male (female) contacts and accessory items. A male connector may be permanently fixed to a wiring harness or to an appliance [an electronic control unit (ECU) for example]. A female connector is generally permanently fixed to a wiring harness.

3.2
housing
connector without its contacts

3.3
initiator
part of the pyrotechnical device with two male contacts

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3.4
pocket
squib holder inner interface including male contacts

3.5
retainer
ring holding an optional shorting clip (shunt) and providing coding and electrical insulation, generally made of plastic

Note 1 to entry: The shorting clip (shunt) may be omitted by decision between manufacturer and supplier.

3.6
shorting clip
shunt
metallic bar of the retainer providing the electrical connection between two male contacts

3.7
squib holder
part of the pyrotechnic device, holding the initiator and the retainer

4 Dimensional features — Squib holder interface including male contacts

The contact and short-circuit areas when male and female connectors are mated shall comply with Figure 1.

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