International Standard

ISO 22760-4

First edition

Road vehicles — Dimethyl ether (DME) fuel system components —

Part 4: Level indicator

Véhicules routiers — Composants des systèmes de combustible Diméthyle Ether (DME) —

Partie 4: Indicateur de niveau

PROOF/ÉPREUVE

Reference number
ISO 22760-4:2024(en)

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Published in Switzerland

Contents

Page

Foreword

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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 document 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 41, *Specific aspects for gaseous fuels*.

A list of all parts in the ISO 22760 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.

Road vehicles — Dimethyl ether (DME) fuel system components —

Part 4: Level indicator

1 Scope

This document specifies definitions of and general requirements to level indicators, intended for use on the types of motor vehicles defined in ISO 3833. It also provides general design principles, and specifies requirements for instructions and marking.

This document is applicable to vehicles using gaseous fuels in accordance with ISO 16861. It is not applicable to the following:

a) fuel containers, except to the extent explicitly referred to in this document;

b) stationary, ship, railroad vehicle or aircraft DME engine installations;

c) electronic fuel management;

d) refuelling receptacles.

NOTE 1 It is recognized that miscellaneous component properties not specifically addressed herein can be examined for compliance with the criteria of any applicable part of the ISO 22760 series, including subjecting the component to the appropriate functional tests.

NOTE 2 All pressures referred to in this document are gauge pressures unless otherwise specified.

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 22760-1, *Road vehicles — Dimethyl ether (DME) fuel system components — Part 1: General requirements and definitions*

ISO 22760-2, *Road vehicles — Dimethyl ether (DME) fuel system components — Part 2: Performance and general test methods*

IEC 60529:1989+A1:1999, *Degrees of protection provided by enclosures (IP Code)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22760-1 apply.

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

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

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

4 Marking

Marking of the component shall provide sufficient information to allow the following to be traced:

a) the manufacturer's or agent's name, trademark or symbol;

b) the model designation (part number);

c) the working pressure or working pressure and temperature range.

The following additional marking entries are recommended:

— the direction of flow (when necessary for correct installation);

— the type of fuel;

— the electrical rating (if applicable);

— the symbol of the certification agency;

— the type approval number;

— the serial number or date code;

— a reference to this document.

NOTE This information can be provided by a suitable identification code on at least one part of the component when it consists of more than one part.

5 Design and assembly

The level indicator shall comply with the applicable provisions of ISO 22760-1 and ISO 22760-2 and pass the tests specified in Clause 6.

The electrical connections shall be of IP54 specifications according to IEC 60529-1989+A1:1999.

The accuracy of level sensing by the level indicator in a given vehicle is up to the vehicle's manufacturer to provide, with one exception: its accuracy shall be sufficient to ensure that the 85 % stop valve satisfies requirements to the accuracy of the point of transition of the 85 % stop valve from the open to the cut-off position (see ISO 22760-3:—[1)], Clause 5).

The requirements according to these exceptions cannot usually be satisfied by the level indicator alone, as the indicator's accuracy is dependent on its relative position with the fuel container and other factors. Hereby, attention is drawn to the importance of other standards containing requirements to the complete system assemblies where level indicators are used.

6 Tests

6.1 Applicability

The required tests are indicated in Table 1.

1) Under preparation. Stage at the time of publication: ISO/DIS 22760-3:2024.