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INTERNATIONAL STANDARD

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colour inside

Fuel cell technologies –
Part 4-600: Fuel cell power systems for propulsion other than road vehicles and auxiliary power units (APU) – Fuel cell/battery hybrid systems performance test methods for excavators

Technologies des piles à combustible –
Partie 4-600: Systèmes à piles à combustible pour la propulsion, autres que les véhicules routiers et groupes auxiliaires de puissance (GAP) – Méthodes d'essai des performances des systèmes hybrides à piles à combustible/batterie pour les pelles



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FUEL CELL TECHNOLOGIES –

Part 4-600: Fuel cell power systems for propulsion other than road vehicles and auxiliary power units (APU) – Fuel cell/battery hybrid systems performance test methods for excavators

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IEC 62282-6-600 has been prepared by IEC technical committee 105: Fuel cell technologies. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
105/914/FDIS	105/925/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts of IEC 62282 series, published under the general title *Fuel cell technologies*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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FUEL CELL TECHNOLOGIES –

Part 4-600: Fuel cell power systems for propulsion other than road vehicles and auxiliary power units (APU) – Fuel cell/battery hybrid systems performance test methods for excavators

1 Scope

This part of IEC 62282 covers the requirements for the performance test methods of fuel cell/battery hybrid systems intended to be used for electrically powered applications for excavators.

For this purpose, this document covers electrical performance and vibration tests for the fuel cell/battery hybrid system. This document also covers performance test methods which focus on vibration and other characteristics for balance of plant (BOP) installed in heavy-duty applications with fuel cell/battery hybrid system.

This document applies to both gaseous hydrogen-fuelled fuel cell power, liquid hydrogen-fuelled fuel cell power, direct methanol fuel cell power and battery hybrid power pack systems.

The following fuels are considered within the scope of this document:

– gaseous hydrogen, and

– methanol.

This document does not apply to reformer-equipped fuel cell power systems.

This document can be applied to fuel cell power systems used for either propulsion or for auxiliary power units (APU) purposes. In case of APU, the same hybrid power pack can be used on board or as a stationary APU. In case of the latter, this document can also be applied.

A block diagram of a fuel cell/battery hybrid system is shown in Figure 1. This document covers the configuration, mode of hybridization, operation mode for fuel cell and battery in power pack systems.

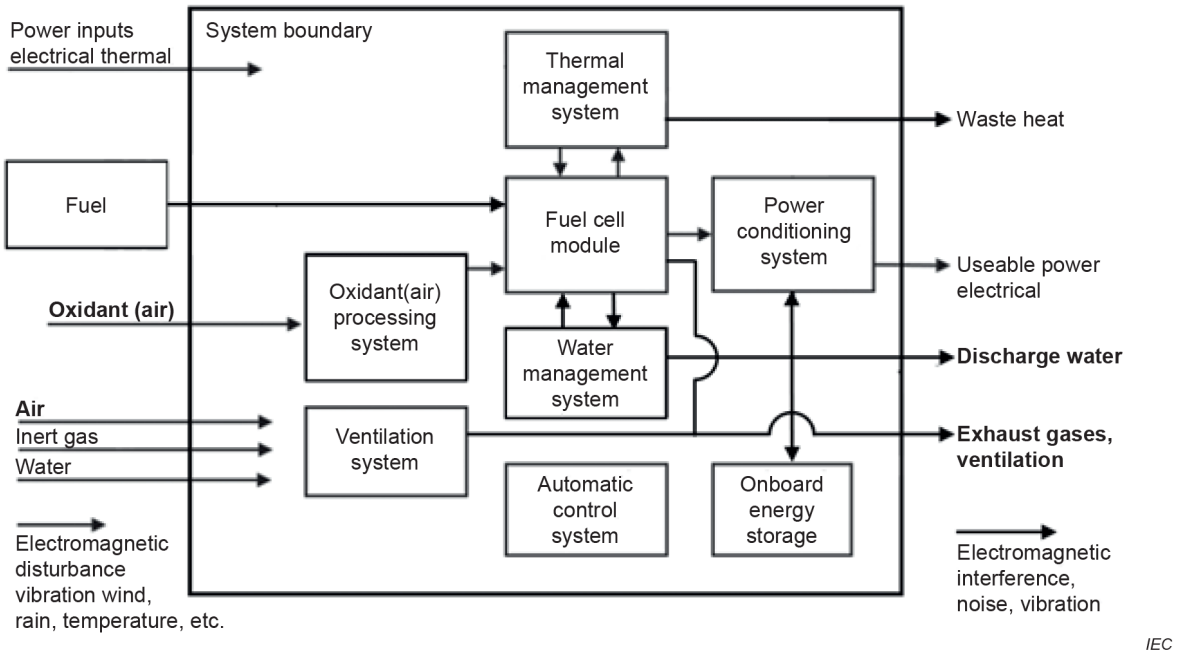


Figure 1 – Fuel cell/ battery hybrid systems block diagram

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.

IEC 60050-485, *International Electrotechnical Vocabulary (IEV) – Part 485: Fuel cell technologies*

IEC 60068-2-64:2008, *Environmental testing – Part 2-64: Tests – Test Fh: Vibration, broadband random and guidance*
IEC 60068-2-64:2008/AMD1:2019

IEC 62282-4-101:2022, *Fuel cell technologies – Part 4-101: Fuel cell power systems for propulsion other than road vehicles and auxiliary power units (APU) – Fuel cell power systems for electrically powered industrial trucks – Safety*

IEC 62282-6-300:2012, *Fuel cell technologies – Part 6-300: Micro fuel cell power systems – Fuel cartridge interchangeability*

ISO 14687:2019, *Hydrogen fuel quality – Product specification*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given IEC 60050-485 and the following apply.