



BSI Standards Publication

## Guidelines for the use of monitor systems for lead-acid traction batteries

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## National foreword

This Published Document is the UK implementation of IEC TR 61431:2020.

The UK participation in its preparation was entrusted to Technical Committee PEL/21, Secondary cells and batteries.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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# TECHNICAL REPORT

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## Guidelines for the use of monitor systems for lead-acid traction batteries

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**GUIDELINES FOR THE USE OF MONITOR SYSTEMS  
FOR LEAD-ACID TRACTION BATTERIES****FOREWORD**

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IEC TR 61431, which is a Technical Report, has been prepared by IEC technical committee 21: Secondary cells and batteries.

This second edition cancels and replaces the first edition, published in 1995. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) The guidelines have been streamlined in terms of technical content and focussed for automatic monitoring systems.

The text of this Technical Report is based on the following documents:

Enquiry draft	Report on voting
21/1044/DTR	21/1053A/RVDTR

Full information on the voting for the approval of this Technical Report can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

## **GUIDELINES FOR THE USE OF MONITOR SYSTEMS FOR LEAD-ACID TRACTION BATTERIES**

### **1 Scope**

This document is an informative document relating to aspects of automatic monitor systems as utilized in lead-acid traction battery applications. It lists the characteristics and features that need to be monitored and evaluated to properly assess the operative status of a traction battery. Guidance concerning the accuracy and reliability of the generated information is also provided.

### **2 Normative references**

There are no normative references in this document.

### **3 Terms and definitions**

No terms and definitions are listed in this document.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### **4 Desirable characteristics and features**

#### **4.1 General**

This Clause 4 lists relevant characteristics and features, which, if measured or implemented, would contribute information towards the assessment of the operational condition of a lead acid traction battery. The characteristics are not listed in any order of priority.

The battery monitor system (BMOS) described in this document is a device solely collecting and reporting data and should not be confused with a battery management system (BMS) actively controlling the battery.

#### **4.2 Physical location of the monitoring device**

The device may be installed in one of the following locations:

- a) directly on the battery,
- b) on the charger,
- c) on the vehicle.

Location a) is the preferred option as it provides continuous and continued monitoring. Option b) and c) require additional methods to properly identify which battery is currently being monitored. This requires a unique battery ID to be made available for battery recognition. Such an ID could be stored for example on an RFID tag, a 2D QR code, NFC device or similar information depositories.