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Responsible committee: JPEL/64 Electrical Installations of Buildings - Joint Committee

Interested committees:

Title: Draft BS EN IEC 60364-5-57 Low-voltage electrical installations. Part 5: Selection and erection of electrical equipment - Clause 57: Erection of stationary secondary batteries.

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- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



64/2229/CD

COMMITTEE DRAFT (CD)

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SUPERSEDES DOCUMENTS:

64/2161/CD, 64/2226/CC

IEC TC 64 : ELECTRICAL INSTALLATIONS AND PROTECTION AGAINST ELECTRIC SHOCK

SECRETARIAT:

Germany

SECRETARY:

Mr Reinhard Pelta

OF INTEREST TO THE FOLLOWING COMMITTEES:

TC 120

PROPOSED HORIZONTAL STANDARD:

☐

Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☐ EMC

☐ ENVIRONMENT

☐ QUALITY ASSURANCE

☒ SAFETY

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Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Low-voltage electrical installations - Part 5: Selection and erection of electrical equipment - Clause 57: Stationary secondary batteries

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW VOLTAGE ELECTRICAL INSTALLATIONS

Part 5: Selection and erection of electrical equipment

Clause 57 Stationary secondary batteries

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International Standard IEC 60364 has been prepared by subcommittee TC64: Electrical installation and protection against electric shock: Low-voltage electrical installations - Part 5: Selection and erection of electrical equipment - Clause 57: Stationary secondary batteries, of IEC technical committee PT 60364-5-57.

The text of this standard is based on the following documents:

FDIS	Report on voting
64/XX/FDIS	64/XX/RVD

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

- 156 This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.
- 157 The committee has decided that the contents of this publication will remain unchanged until
158 the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data
159 related to the specific publication. At this date, the publication will be
- 160 • reconfirmed,
 - 161 • withdrawn,
 - 162 • replaced by a revised edition, or
 - 163 • amended.
- 164

165 The National Committees are requested to note that for this publication the stability date
166 is 20XX.

167 THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED
168 AT THE PUBLICATION STAGE.

169

INTRODUCTION

As stated in the IEC/MSB white paper: Electrical Energy Storage (EES), the EES systems can be classified according to the following Energy storage system schemes as shown in Figure 1; Mechanical, Electrochemical, Electrical, Chemical and Thermal.

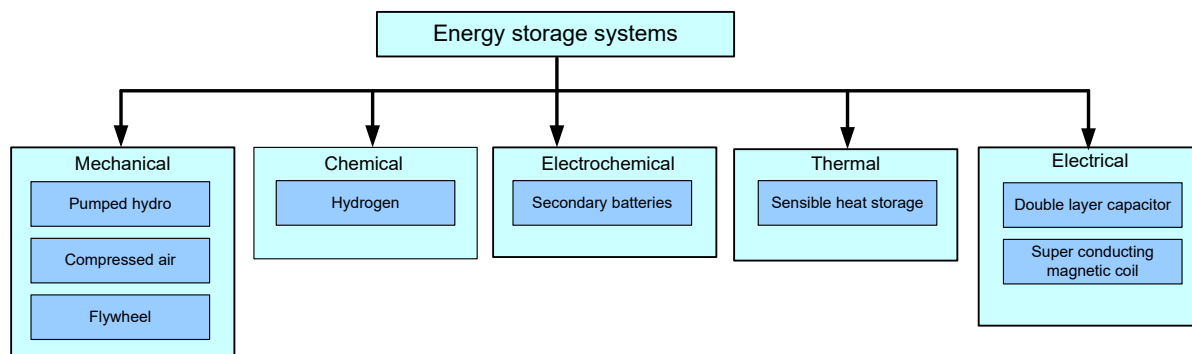


Figure 1: Examples of (EES) Energy Storage Systems

Electrochemical storage is one of the most popular technologies used by industry at the present time for storing electrical energy. Energy storage easily used in the form of electricity will certainly be one of the most challenging issues for the success of Smart Grid concept in the near future.

Stationary batteries are understood as coordinated set of secondary cells used for storing electrical energy within a fixed low-voltage electrical installation or system. With the development of Smart Electrical Installation as well as because of new technologies available for secondary cells, their impact within fixed electrical installations will be more and more important.

LOW VOLTAGE ELECTRICAL INSTALLATIONS

Part 5: Selection and erection of electrical equipment

Clause 57 – Connection of Stationary secondary batteries to a low voltage installation

570.1 Scope

This part of IEC 60364 provides requirements and recommendations for the design, erection, and correct use and protection of secondary stationary batteries.

This part is not applicable to product and system design (including batteries) which are already covered by their own IEC standard.

This part does not cover the assembly of batteries.

570.2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60364-4-41	<i>Low-voltage electrical installation – Part 4-41: Protection for safety – Protection against electric shock</i>
IEC 60364-4-43	Low-voltage electrical installations - Part 4-43: Protection for safety - Protection against overcurrent
IEC 60364-5-53	<i>Low-voltage electrical installation – Part 5-53: Selection and erection of electrical equipment – Isolation, switching and control</i>
IEC 60364-5-55	Low-voltage electrical installation – Part 5-55: Selection and erection of electrical equipment – Other equipment
IEC 60364-8-2	LV requirements with respect to smart grid/micro grid
IEC 60398-2	Electrical accessories - Circuit-breakers for overcurrent protection for household and similar installations - Part 2: Circuit-breakers for AC and DC operation
IEC 60479	<i>Effects of current on human beings</i>
IEC 60479-2	Low-voltage switchgear and controlgear - Part 2: Circuit-breakers
IEC 60479-3	Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units
IEC 60623	<i>Secondary cells and batteries containing alkaline or other non-acid electrolytes - Vented nickel-cadmium prismatic rechargeable single cells</i>
IEC 60896-21	Stationary lead-acid batteries – Part 21: Valve regulated types – Methods of test
IEC 61140	<i>Protection against electric shock – Common aspects for installation and equipment</i>
IEC 61660-1	<i>Short-circuit currents in d.c. auxiliary installations in power plants and substations - Part 1: Calculation of short-circuit currents</i>

234	IEC 61660-2	<i>Short-circuit currents in d.c. auxiliary installations in power plants and</i>
235		<i>substations - Part 2: Calculation of effects</i>
236	IEC 62485-2	Safety requirements for secondary batteries and battery installation –
237		Part 2: Stationary batteries
238		
239		

240 570.3 Terms and definitions

241 For the purposes of this document, the following terms and definitions apply

242 570.3.1**243 Cell**

244 Basic functional unit, consisting of an assembly of electrodes, electrolyte, container, terminals
245 and usually separators that is a source of electric energy obtained by direct conversion of
246 chemical energy

247 Note 1 to entry: See primary cell and secondary cell

248 [SOURCE: 482-01-01]

249 [SOURCE: IEC 811-20-03]

250 570.3.2**251 Capacity (of a cell or battery)**

252 The quantity of electricity (electric charge), usually expressed in amperes-hour (Ah), which a fully
253 charged battery can deliver under specified conditions.

254

255 [SOURCE: IEC 811-20-03]

256 570.3.3**257 Primary cell**

258 Cell which is not designed to be electrically recharged

259 [482-01-02]

260 570.3.4**261 Secondary cell**

262 Cell which is designed to be electrically recharged

263 NOTE 1 to entry– The recharge is accomplished by way of a reversible chemical reaction.

264 [482-01-03]

265 570.3.5**266 Battery**

267 One or more cells fitted with devices necessary for use, for example case, terminals, marking
268 and protective devices

269 [482-01-04]

270 570.3.6**271 Vented cell**

272 Secondary cell having a cover provided with an opening through which products of
273 electrolysis and evaporation are allowed to escape freely from the cell to the atmosphere

274 [482-05-14]

275 570.3.7**276 Valve regulated lead acid battery****277 <VRLA>**

278 Secondary battery in which cells are closed but have a valve which allows the escape of gas if
279 the internal pressure exceeds a predetermined value

280 NOTE 1 to entry – The cell or battery cannot normally receive additions to the electrolyte

281 [482-05-15]

282 **570.3.8**283 **Battery bank**

284 Set of batteries of the same type so connected as to act together

285 [151-12-11 modified]

286 **570.3.9**287 **Overcurrent protective device**288 **<OCPD>**289 Device provided to interrupt an electric circuit in case the conductor current in the electric
290 circuit exceeds a predetermined value for a specified duration

291 [SOURCE: IEC 826-14-14].

292 **570.3.10**293 **Converter**

294 Device for changing one or more characteristics associated with electrical energy

295
296 Note: Characteristics associated with energy are for example voltage, number of phases and frequency including
297 zero frequency.

298 [SOURCE: IEC 151-13-36]

299

300 **570.3.11**301 **Inverter**302 Electric energy converter that changes direct electric current to single-phase or polyphase
303 alternating currents

304 [SOURCE: IEC 151-13-46]

305