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BSI Standards Publication

Photovoltaic devices

Part 13: Electroluminescence of photovoltaic modules

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee GEL/82, Photovoltaic Energy Systems.

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

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Photovoltaic devices –
Part 13: Electroluminescence of photovoltaic modules

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 60904-13, which is a technical specification, has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
82/1292/DTS	82/1424/RVDTS

Full information on the voting for the approval of this technical specification 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.

A list of all parts in the IEC 60904 series, published under the general title *Photovoltaic devices*, 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 "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- withdrawn,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.

A bilingual version of this publication may be issued at a later date.

PHOTOVOLTAIC DEVICES –

Part 13: Electroluminescence of photovoltaic modules

1 Scope

This part of IEC 60904 specifies methods to:

a) capture electroluminescence images of photovoltaic modules,

b) process images to obtain metrics about the images taken in quantitative terms, and

c) provide guidance to qualitatively interpret the images for features in the image that are observed.

This document is applicable to PV modules measured with a power supply that places the cells in the modules in forward bias.

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 TS 61836:2016, *Solar photovoltaic energy systems – Terms, definitions and symbols*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC TS 61836 as well as the following apply.

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

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

3.1
electroluminescence
EL
emission of optical radiation resulting from the application of electrical energy

3.2
open circuit
electrical circuit that has a break, or “open”, somewhere in the conductive path

Note 1 to entry: A module or laminate exhibits an “open circuit” if defective or damaged so that no current can flow through it when attached to an external circuit at the module electrical connection points.

Note 2 to entry: A PV module itself is in open circuit condition if one or both of the module electrical connection points are not connected to anything or current is not flowing as defined in IEC TS 61836:2016, 3.4.57.