IEC TS 63349-2

Edition 1.0 2022-02

TECHNICAL SPECIFICATION

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Photovoltaic direct-driven appliance controllers – Part 2: Operation modes and graphic display

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 27.160

ISBN 978-2-8322-1072-2

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PHOTOVOLTAIC DIRECT-DRIVEN APPLIANCE CONTROLLERS –

Part 2: Operation modes and graphic display

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IEC TS 63349-2 has been prepared by IEC technical committee 82: Solar photovoltaic energy systems. It is a Technical Specification.

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

Draft	Report on voting
82/1948/DTS	82/1984/RVDTS 82/1984A/RVDTS

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 Technical Specification 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 in the IEC 63349 series, published under the general title *Photovoltaic direct-driven appliance controllers*, 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

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- withdrawn,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

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INTRODUCTION

The distributed solar energy industry has been developing rapidly in recent years. Utilizing photovoltaic (PV) installation to drive appliances directly is more and more popular among solar energy applications, which will boost energy efficiency, simplify control system, reduce dependence on electrical grid and expand solar energy application. Photovoltaic direct-driven appliances (PVDDA) are an emerging type of PV installation. The PVDDA controller is an essential component of the PVDDA that lacks standardization. When PVDDA is operating, users might want to have a graphic display to monitor the real-time status and energy generating/consuming situation, which is what this document focuses on.

PHOTOVOLTAIC DIRECT-DRIVEN APPLIANCE CONTROLLERS –

Part 2: Operation modes and graphic display

1 Scope

This part of IEC 63349 defines operation modes of photovoltaic direct-driven appliance (PVDDA) controllers and describes one example of a graphic display. The graphic display is an interface to PVDDA users, which uses easily understood graphics to show a real-time operation mode, such as what equipment is installed, controlled and monitored in the system, which equipment is generating power and how much it generates, and which equipment is consuming power and how much it consumes. This helps with user's interest, knowledge, planning on renewable energy usage.

IEC 63349 is a series of standards for PVDDA controllers which can be used in various appliances including air conditioners, water pumps, refrigerators, etc. These standards only cover the requirements of PVDDA controllers.

Requirements for appliances are covered by their specific standards, for example, standards developed by IEC TC 59 on performance of household and similar electrical appliances, or by IEC TC 61 on safety of household and similar electrical appliances.

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, *Solar photovoltaic energy systems – Terms, definitions and symbols*

IEC 61850-7-420, *Communication networks and systems for power utility automation – Part 7-420: Basic communication structure – Distributed energy resources and distribution automation logical nodes*

IEC 63349-1, *Photovoltaic direct-driven appliance controllers – Part 1: General requirements*[1]

[1] To be published.