IEC TS 62939-2

Edition 1.0 2018-11

TECHNICAL SPECIFICATION

colour inside

Smart grid user interface –
Part 2: An architecture and requirements

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.200

ISBN 978-2-8322-6229-0

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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 62939-2, which is a Technical Specification, has been prepared by IEC project committee 118: Smart grid user interface.

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

Enquiry draft	Report on voting
118/93/DTS	118/97A/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 62939 series, published under the general title *Smart grid user interface*, 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- withdrawn,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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

Over the years, several ecosystems (especially telecommunications, sustainable energy, home automation) have been growing in parallel but separately in the customer premises. The perspective of energy applications is triggering a high level of interest in new markets such as smart home, smart community, smart building, smart industrial park, distributed energy resources, and electric vehicles. It is a growing trend that the traditional energy consumer may eventually turn out to be the prosumer, who not only consumes power from but also feeds power back to the grid, which raises the challenge for grid management.

Considering the relevance and common interests while connecting various demand-side objects with the power grid, it is urgent and important to ensure effective, economical and secure operation of the power grid from the point of view of a user as well as enhance the energy efficiency of the demand-side system and equipment. Under the circumstances, information exchange may play a more critical role in this field. Currently, various communication standards have been developed by organizations and manufacturers for customer facility management and control. However, the industry has become impatient with the lack of standard interfacing methods and solutions to exchange information with the grid.

This document focuses on standardization in the field of interfacing for information exchange between smart equipment and/or systems and the grid from the point of view of the user to the grid for customer facility management and control applications.

IEC 62939 consists of the following parts under the general title *Smart grid user interface*:

Part 1: Interface overview and country perspectives

Part 2: An architecture and requirements

In addition to the above parts, two documents in the IEC 62746 series cover the SGUI bridge standard for demand response application. The first is IEC PAS 62746-10-1 and the other is IEC 62746-10-3.

SMART GRID USER INTERFACE –

Part 2: An architecture and requirements

1 Scope

This part of IEC 62939 provides an architecture to define interfaces for the information exchange between smart equipment/systems from the demand side and the power grid. It facilitates the interoperability between the IEC common information model (CIM) and customer facility standards for smart grid applications.

This document presents one possible architecture to connect non-CIM/IEC 61850-based demand-side standards to the CIM, to support demand response type applications. It presents an immediately available architecture approach for home and building grid users for demand response applications to cope with the fragmented market and lack of harmonized standard solutions.

It proposes that a three-layer application be implemented but this does not preclude the ongoing long-term efforts of IEC ideally to promote from a semantic perspective only two-layer implementations.

2 Normative references

There are no normative references in this document.