



BSI Standards Publication

Information technology — Home Electronic System (HES) application model

Part 3-30: Energy management agent functional requirements and interfaces

National foreword

This British Standard is the UK implementation of ISO/IEC 15067-3-30:2024.

The UK participation in its preparation was entrusted to Technical Committee IST/6/-/12, Home Electronic Systems.

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

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Published by BSI Standards Limited 2024

ISBN 978 0 539 20023 2

ICS 35.200

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 March 2024.

Amendments/corrigenda issued since publication

Date	Text affected
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ISO/IEC 15067-3-30

Edition 1.0 2024-03

INTERNATIONAL STANDARD



**Information technology – Home Electronic System (HES) application model –
Part 3-30: Energy management agent functional requirements and interfaces**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 35.200

ISBN 978-2-8322-8355-4

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INFORMATION TECHNOLOGY – HOME ELECTRONIC SYSTEM (HES) APPLICATION MODEL –

Part 3-30: Energy management agent functional requirements and interfaces

FOREWORD

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ISO/IEC 15067-3-30 has been prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
JTC1-SC25/3203/FDIS	JTC1-SC25/3218/RVD

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 International Standard 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 the ISO/IEC Directives, JTC 1 Supplement available at www.iec.ch/members_experts/refdocs and www.iso.org/directives.

A list of all parts of the ISO/IEC 15067 series, published under the general title *Information technology – Home Electronic System (HES) application model*, can be found on the IEC and ISO websites.

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INTRODUCTION

This document specifies energy management agent (EMA) functional requirements and interfaces for interconnected energy management agents in a house, an apartment complex, or a residential community with multiple EMAs. It supports energy management by facilitating interactions among EMAs, appliances, consumer electronics, distributed energy resources (DER) and electric vehicle (EV) chargers. These EMA functional requirements and interfaces complement the reference model for interconnected EMAs specified in ISO/IEC 15067-3-3. The EMA interfaces identify interactions and information exchanges for energy management applications. The goal of this document is to specify a framework for multiple EMAs to provide energy management co-operatively by using communication protocols that link devices participating in energy optimization, transactive energy (TE), and demand response (DR) programmes, subject to constraints such as a consumer's budget for energy or goals for reducing greenhouse gas emissions.

This document explains a high-level view of the EMA functional requirements and reference interfaces in energy environments beyond the traditional public utility. Such energy environments include energy supplies from DER and TE sources. DER encompasses supplies from wind turbines, solar panels, and other local power generators, plus storage equipment (stationary and mobile batteries). Also, the EMA can assist the prosumer (a consumer who also produces power) in buying or selling TE.

As specified in ISO/IEC 15067-3-3, the EMA can interact with other EMAs, smart appliances, DERs or other consumer products. Interacting EMA are anticipated to be important for apartment complexes with multiple apartments and possibly multiple houses or buildings on a campus. ISO/IEC 15067-3-3 accommodates an EMA per apartment, per building, per campus, and possibly a cloud-based EMA. Options for interconnecting EMAs to create an EMA framework (EMF) are specified.

This document and related standards accommodate flexible and efficient energy management by co-ordinating and optimizing energy consumption and generation within a residential community consisting of houses and apartments. The ISO/IEC 15067-3 series enables automated energy management including optimal load control for allocating energy consumption and generation among multiple products in a house or a small building. The co-ordination among products offers improved energy management applications and overall efficiency according to goals set by the occupants. Multiple EMAs organized according to this document will be especially useful as DER proliferates with fluctuating energy generation and storage.