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IEEE Standard for Green Smart Home and Residential Quarter Control Network Protocol

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IEEE Std 1888.4™-2016

IEEE Standard for Green Smart Home and Residential Quarter Control Network Protocol

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of the
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Abstract: Protocols are provided for measurement and control networks for home and residential quarters so that they can achieve green, smarter functions. The interactive data format between devices and systems—as well as the standardized definitions of the sensor, actuator, and equipment, together with the data communication processes—are specified. The data format definition for configuration and management-oriented functions; the data format definition for deployment and control-oriented functions; and the method definition for conformance tests and interoperability tests are also included.

Keywords: actuators, application (APP), communication protocol, component, data, energy saving, gateway (GW), IEEE 1888.4™, linkage, management of energy, registry, remote control, scene, sensors, smart home, storage, timer

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At the time this IEEE standard was completed, the Green Smart Home and Residential Quarter Standard Working Group had the following membership:

BII Group Holdings Ltd.
China Datang Corporation (CDT)
China Telecommunications Corporation
Guangzhou Smart Home Technology Standards Promotion Center
Guangzhou Video-star Electronics Industrial Co., Ltd.

The Working Group gratefully acknowledges the contributions of the following participants. Without their assistance and dedication, this standard would not have been completed.

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China Telecommunications Corporation
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Introduction

This introduction is not part of IEEE Std 1888.4™-2016, IEEE Standard for Green Smart Home and Residential Quarter Control Network Protocol.

According to the smart home progress in China, the market can develop a standard computing device for all new apartments that combines management of energy, smart home technology, energy savings, internet, etc. that can be the single point of control for each home.

IEEE Std 1888™, Standard for Ubiquitous Green Community Control Network Protocol is very valuable to carry out our new idea for improving and upgrading traditional home and building automation for measurement and control tasks regarding energy saving and emission reduction, as well as comfort. These are the reasons we propose a new Standard for Green Smart Home and Residential Quarter Control Network Protocol.

According to the network structure of IEEE Std 1888, combined with specific application features of Green Smart Home and Residential Quarter, IEEE Std 1888.4 will be based on IEEE Std 1888 to give the communication protocol for the smart home and residential energy management more detail.

Contents

IEEE Standard for Green Smart Home and Residential Quarter Control Network Protocol

1. Overview

1.1 Scope

This standard provides protocols for measurement and control networks for home and residential quarters, so that they can achieve green, smarter functions. It specifies the interactive data format between devices and systems; and it gives standardized definitions of the sensor, actuator and equipment and data communication interfaces.

This standard also includes:

— The data format definition of configuration and management-oriented functions.

— The data format definition of deployment and control-oriented functions.

— The method of definition for conformance tests and interoperability tests.

1.2 Purpose

IEEE Std 1888™ is limited to the general protocol of the high level, and does not address down to the lowest level, such as sensors and actuators on equipment. IEEE Std 1888.4™ defines all equipment addresses and function instructions for peer-to-peer communication/control between equipment and the human machine interface (HMI) and between equipment and smart phones and smart terminals to perform green and smart functions for homes and residential quarters.

2. Normative references

The following referenced documents are indispensable for the application of this document (i.e., they must be understood and used, so each referenced document is cited in text and its relationship to this document is explained). For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies.

IEEE Std 1888, IEEE Standard for Ubiquitous Green Community Control Network Protocol.[1,2]

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