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Residential Controls—ClimateTalk 2.1 HAC Motor Application Profile

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Foreword

ClimateTalk is a universal language for innovative, cost-effective solutions that optimize performance, efficiency, and home comfort. The ClimateTalk Open Standards define a set of messages and commands to enable interoperability, enhanced user interface, and machine to machine control independent of the physical layer connecting the devices.

This document defines the application requirements corresponding to OSI Layer 7 that are specific to a Heating and Air Conditioning (HAC) motor operation and interaction with other devices on a ClimateTalk network.

These standards are periodically reviewed by the Residential Controls Section of NEMA for any revisions necessary to keep them up-to-date with advancing technology. Proposed or recommended revisions should be submitted to:

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History of Standards

The Residential Controls Section of NEMA was formed in 1940 to promote the standardization of products within the scope of the section. NEMA standards are voluntary and are designed to eliminate misunderstandings between the purchaser and the manufacturer.

This publication is one of a series sponsored by the Residential Controls Section. Other publications in this series are identified as Pub. No. NEMA BS XX (followed by the year of issue).

The present publication, NEMA BS 31012-2023, is published in accordance with NEMA's policy of periodic review and revision to keep NEMA standards contemporary with industry needs and technological advancement.

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Section 1
General

1.1 Scope

ClimateTalk is an open standard that defines a set of messages and commands to enable interoperability, enhanced user interface, and machine to machine control independent of the physical layer connecting the devices.

The messages and commands defined by ClimateTalk Information Model (CIM) are the presentation and application layers as defined by the OSI Model.[1] ClimateTalk Applications are fully defined at Layer 7 of the OSI Model by a combination of a Device Specific Application Profile, the Generic Application Specification, and the Command Reference.

ClimateTalk messages can be carried over any physical medium following the OSI Model. The ClimateTalk Presentation Layer defines how messages are executed over the various physical mediums in use.

CT-485 and CT-LWP are wired serial physical and network layers designed to support the formation of ClimateTalk networks and transport ClimateTalk messages, but other OSI based protocols—including wireless transports—can be used as well.

This document defines the specific application requirements for a variety of Heating and Air Conditioning (HAC) motors designed to ClimateTalk Open Standards. This profile defines how to operate and monitor the motors and how the motor interacts with other devices on a ClimateTalk network. This profile builds on the *Generic Application Specification* defining requirements common to all ClimateTalk enabled devices.

The ClimateTalk Open Standards package shown in Figure 1 OSI Layers for ClimateTalk Implementation prescribes the mandatory requirements to ensure proper network formation of interoperable devices. Membership in the ClimateTalk Alliance as well as successful completion of mandatory conformance testing is required for listing a product as a ClimateTalk Certified Device.

[1] http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=20269

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