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Building automation and control systems (BACS) —

Part 6: Data communication conformance testing

Systèmes d'automatisation et de gestion technique du bâtiment —

Partie 6: Essais de conformité de la communication de données

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FOREWORD

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 205, *Building environmental design*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 247, *Building Automation, Controls and Building Management,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement) and with the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE).

This fifth edition cancels and replaces the fourth edition (ISO 16484-6:2020), which has been technically revised.

The main changes are as follows:

— See the detailed list of changes on pages 977 to 981.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Building automation and control systems (BACS) —

Part 6:
Data communication conformance testing

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1. PURPOSE

To define a standard method for verifying that an implementation of the BACnet protocol provides each capability claimed in its Protocol Implementation Conformance Statement (PICS) in conformance with the BACnet standard.

2. SCOPE

This standard provides a comprehensive set of procedures for verifying the correct implementation of each capability claimed on a BACnet PICS including:

(a) support of each claimed BACnet service, either as an initiator, executor, or both,
(b) support of each claimed BACnet object-type, including both required properties and each claimed optional property,
(c) support of the BACnet network layer protocol,
(d) support of each claimed data link option, and
(e) support of all claimed special functionality.

3. DEFINITIONS

All definitions from ANSI/ASHRAE Standard 135-2020 also apply to this addendum.

3.1 Terms Adopted from International Standardss

local network: the network to which a BACnet device is directly connected.

remote network: a network that is accessible from a BACnet device only by passing through one or more routers.

test database: a database of BACnet functionality and objects created by reading the contents of an EPICS.

3.2 Abbreviations and Acronyms Used in the Standard

BNF Backus-Naur Form syntax
EPICS electronic protocol implementation conformance statement
IUT implementation under test
TCSL testing and conformance scripting language
TD testing device
TPI text protocol information

3.3 Common language used in tests

'**any valid value**': Any valid value refers to any value of the correct data type and within the vendor's range specified for the property this is applied to.

'**any appropriate password**': Any password that meets the Configuration Requirements specified in the test or test section. Passwords when required by the vendor are required to be no more than 20 characters.

'**reset**': Some tests require to reset the IUT. Reset includes power cycle via switch, power cycle via loss of power, and reinitializeDevice WARMSTART. As defined by the BACnet standard, "WARMSTART shall mean to reboot the device and start over, retaining all data and programs that would normally be retained during a brief power outage."

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