

BSR/ASHRAE Addendum *h*
to ANSI/ASHRAE Standard 135-2008

Public Review Draft

ASHRAE® Standard

Proposed Addendum *h* to Standard 135-2008, *BACnet*®—A Data Communication Protocol for Building Automation and Control Networks

Fourth Public Review (March 2009)
(Draft Shows Independent Substantive
Changes to First Public Review Draft)

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed addendum, go to the ASHRAE website at <http://www.ashrae.org/technology/page/331> and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE web site) remains in effect. The current edition of any standard may be purchased from the ASHRAE Bookstore @ <http://www.ashrae.org> or by calling 404-636-8400 or 1-800-527-4723 (for orders in the U.S. or Canada).

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[This foreword and the “rationale” on the following page are not part of this standard. They are merely informative and do not contain requirements necessary for conformance to the standard.]

FOREWORD

The purpose of this addendum is to present a proposed change for public review. These modifications are the result of change proposals made pursuant to the ASHRAE continuous maintenance procedures and of deliberations within Standing Standard Project Committee 135. The proposed changes are summarized below.

Remove: 135-2004*h*-7. Add support for the UTF-8 character encoding, p. 1.

In the following document, language to be added to existing clauses of ANSI/ASHRAE 135-2008 and Addenda is indicated through the use of *italics*, while deletions are indicated by ~~striketrough~~. Where entirely new subclauses are proposed to be added, plain type is used throughout. Only this new and deleted text is open to comment as this time. All other material in this addendum is provided for context only and is not open for public review comment except as it relates to the proposed changes.

Note to Reviewers: The only change that this fourth public review draft makes to Addendum 135-2008*h* is to remove Section 7 of the first public review draft. The effect of this change is to remove the addition of UTF-8 (Unicode Transfer Format 8) from the addendum. If the response to this public review draft is favorable, the project committee hopes publish Addendum *h* with the miscellaneous changes described in the first public review draft (except those in Section 7) with the further modifications described in the second and third public review drafts. Support for UTF-8 has been transferred to Addendum 135-2008*k*, which is also posted for public review at this time.

[Fourth Public Review version]

Note to Reviewers: In this fourth public review draft, Section 7 in the first public review draft is being removed from this addendum. This independent substantive change is the only change being made in this fourth public review draft. Also note that Standard 135-2004 has been republished as Standard 135-2008 since the first public review occurred. The affected pages in the new edition are pp. 420-421 and page 495.

Remove: 135-2004h-7. Add support for the UTF-8 character encoding, p.1.

[First Public Review version]

135-2004h-7. Add support for the UTF-8 character encoding.

Original Rationale
BACnet has not supported UTF-8 (Unicode Transfer Format 8), a specific form of encoding Unicode characters, which has become the base for data format and communication standards used in several markets and computing platforms. Efforts to add UTF-8 support within the context of discussions of the definition of "support" have stalled; support is added here independently and in the same context as already-supported character sets.

Addendum 135-2004h-7

[Change **20.2.9**, "Encoding of a Character String Value," pp. 381-382.]

20.2.9 Encoding of a Character String Value

The encoding of a character string value shall be primitive.

The encoding shall contain an initial contents octet, and zero, one, or more additional contents octets equal in value to the octets in the data value, in the order in which they appear in the data value, i.e., most significant octet first, and with the most significant bit of an octet of the data value aligned with the most significant bit of an octet of the contents octets.

The initial octet shall specify the character set with the following encoding:

- X'00' ANSI X3.4
- X'01' IBM™/Microsoft™ DBCS
- X'02' JIS C 6226
- X'03' ISO 10646 (UCS-4)
- X'04' ISO 10646 (UCS-2)
- X'05' ISO 8859-1
- X'06' ISO/IEC 10646 AM1 (UTF-8)

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Example: Application-tagged character string (UCS-2)

```

ASN.1 = CharacterString
Value = "This is a BACnet String!" (ISO 10646 UCS-2)
Application Tag = Character String (Tag Number = 7)
Encoded Tag = X'75'
Length Extension = X'31'
Encoded Data = X'04005400680069007300200069007300200061002000420041
0043006E0065007400200073007400720069006E00670021'

```

Example: Application-tagged character string (UTF-8)

ASN.1 = CharacterString

Value = "This is a BACnet String!" (UTF-8)
Application Tag = Character String (Tag Number = 7)
Encoded Tag = X'75'
Length Extension = X'19'
Character Set = X'06' (UTF-8)
Encoded Data = X'546869732069732061204241
436E657420737472696E6721'

[Change ANNEX A, p. 450.]

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Character Sets Supported:

- | | | |
|---|---|-------------------------------------|
| <input type="checkbox"/> ANSI X3.4 | <input type="checkbox"/> IBM™/Microsoft™ DBCS | <input type="checkbox"/> ISO 8859-1 |
| <input type="checkbox"/> ISO 10646 (UCS-2) | <input type="checkbox"/> ISO 10646 (UCS-4) | <input type="checkbox"/> JIS C 6226 |
| <input checked="" type="checkbox"/> ISO 10646 (UTF-8) | | |

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