

BACnet Errata
ANSI/ASHRAE STANDARD 135-2024
A Data Communication Protocol for Building Automation and Control Networks

February 28, 2025

This document lists all known *errata* to ANSI/ASHRAE Standard 135-2024 as of the above date. Each entry is cited first by clause, then page number, except where an erratum covers more than one clause. The back page marking identifying the electronic publication of Standard 135-2024 is “Product code: D-86950”.

Changes are indicated by using ~~strikeout~~ for text to be removed and *italics* for text to be added, unless noted otherwise. Grey highlighting is used for marking small corrections.

1) Clause 12, throughout. Add ‘read-only’ to property definitions where the intent is that these properties are read only.

[Change **Clause 12.5.4 Minimum_Value**, page 187]

12.5.4 Minimum_Value

This *read-only* property, ...

[Change **Clause 12.5.5 Minimum_Value_Timestamp**, page 187]

12.5.5 Minimum_Value_Timestamp

This *read-only* property, ...

[Change **Clause 12.5.6 Average_Value**, page 187]

12.5.6 Average_Value

This *read-only* property, ...

[Change **Clause 12.5.7 Variance_Value**, page 187]

12.5.7 Variance_Value

This *read-only* property, ...

[Change **Clause 12.5.8 Maximum_Value**, page 187]

12.5.8 Maximum_Value

This *read-only* property, ...

[Change **Clause 12.5.9 Maximum_Value_Timestamp**, page 187]

12.5.9 Maximum_Value_Timestamp

This *read-only* property, ...

[Change **Clause 12.9.1 Present_Value**, page 187]

12.9.1 Present_Value

This *read-only* property, ...

[Change **Clause 12.10.6 In_Process**, page 217]

12.10.6 In_Process

This *read-only* property, ...

[Change **Clause 12.10.7 All_Writes_Successful**, page 217]

12.10.7 All_Writes_Successful

This *read-only* property, ...

[Change **Clause 12.11.8 Firmware_Revision**, page 223]

12.11.8 Firmware_Revision

This *read-only* property, ...

[Change **Clause 12.11.12 Protocol_Version**, page 223]

12.11.12 Protocol_Version

This *read-only* property, ...

[Change **Clause 12.11.13 Protocol_Revision**, page 224]

12.11.13 Protocol_Revision

This *read-only* property, ...

[Change **Clause 12.11.15 Protocol_Object_Types_Supported**, page 224]

12.11.15 Protocol_Object_Types_Supported

This *read-only* property, ...

[Change **Clause 12.11.22 Active_VT_Sessions**, page 225]

12.11.22 Active_VT_Sessions

~~The Active_VT_Sessions~~ This *read-only* property is a BACnetList of BACnetVTSession...

[Change **Clauses 12.11.35 Database_Revision**, page xxx]

12.11.35 Database_Revision

This *read-only* property, ...

[Change Clause 12.11.37 Last_Restore_Time, page xxx]

12.11.37 Last_Restore_Time

This *read-only* property, ...

[Change Clause 12.11.40 Last_Restart_Reason, page xxx]

12.11.40 Last_Restart_Reason

This *read-only* property, ...

[Change Clause 12.11.41 Time_Of_Device_Restart, page xxx]

12.11.41 Time_Of_Device_Restart

This *read-only* property, ...

[Change Clause 12.11.50 Backup_And_Restore_State, page xxx]

12.11.50 Backup_And_Restore_State

This *read-only* property, ...

[Change Clause 12.11.65 Active_COV_Multiple_Subscriptions, page xxx]

12.11.65 Active_COV_Multiple_Subscriptions

This *read-only* property,

[Change Clause 12.13.7 Modification_Date, page xxx]

12.13.1 Modification_Date

This *read-only* property, ...

[Change Clause 12.23.17 Count_Before_Change, page xxx]

12.23.17 Count_Before_Change

This *read-only* property, ...

[Change Clause 12.28.5 Present_Value, page 345]

12.28.5 Present_Value

This *read-only* property, ...

[Change Clause 12.28.16 Expected_Shed_Level, page 347]

12.28.16 Expected_Shed_Level

This *read-only* property, ...

[Change Clause 12.28.17 Actual_Shed_Level, page 347]

12.28.17 Actual_Shed_Level

This *read-only* property, ...

[Change Clauses 12.25.16/12.27.15/12.30.21/12.64.12 Total_Record_Count, page xxx,xxx,xxx]

12.x.y Total_Record_Count

This *read-only* property, ...

[Change Clauses 12.25.18/12.27.17/12.30.23 Records_Since_Notification, page xxx, xxx, xxx]

12.x.y Records_Since_Notification

This *read-only* property, ...

[Change Clauses 12.25.19/12.27.18/12.30.24 Last_Notify_Record, page xxx, xxx, xxx]

12.x.y Last_Notify_Record

This *read-only* property, ...

[Change Clause 12.53.10 Member_Status_Flags, page 493]

12.50.10 Member_Status_Flags

~~The Member_Status_Flags property,~~ *This read-only property is a logical combination...*

[Change Clause 12.53.7 Write_Status, page 513]

12.53.7 Write_Status

This *read-only* property, ...

[Change Clause 12.54.7 In_Progress, page 526]

12.54.7 In_Progress

This *read-only* property, ...

[Change Clause 12.55.12 Egress_Active, page 537]

12.55.12 Egress_Active

This *read-only* property, ...

[Change Clause 12.56.13 Changes_Pending, page 552]

12.56.13 Changes_Pending

This *read-only* property, ...

[Change Clause 12.56.56 Subordinate_Address_Binding, page 562]

12.56.56 Subordinate_Address_Binding

This *read-only* property, ...

2) Clause 21.2.5, the scope member of the token-request member of AuthRequest-Request should be optional per 17.6.2.1, Table 17-4.

```
AuthRequest-Request ::= CHOICE { -- CHOICE of the "sub service" allows future extensibility
  token-request [0] SEQUENCE {
    client [0] Unsigned32, -- client device instance to bind the token to
    audience [1] SEQUENCE OF Integer32, -- target device(s) and/or group(s).
    scope [2] BACnetAuthorizationScope OPTIONAL; -- requested scope
  }
}
```

3) Clause 21, the host member of the BACnetAuthenticationPeer sequence should be context tagged 0.

```
BACnetAuthenticationPeer ::= SEQUENCE {
  Host [0] BACnetHostNPort,
  device Unsigned32, -- 4194303 if unknown
  auth-aware Boolean,
  router Boolean,
  hub Boolean
}
```

4) Clause 21, Incorrect ASN.1 context tagging for BACnetAuthorizationDescription.

```
BACnetAuthorizationScopeDescription ::= SEQUENCE {
  name [0] CharacterString, -- usable as OAuth/JWT scope token
  description [1] CharacterString
}
```

5) Clause 15.1.1.3.1, The INVALID_ARRAY_INDEX situation is incomplete per Addendum 135-2020ci.

An array index is provided that is greater than the PROPERTY INVALID_ARRAY_INDEX current length of the array *or is zero*.

6) Clause K.2.16, Incorrect Table Clause references.

Device A shall support DS-RP-A and DS-WP-A. The A device shall be capable of using ReadProperty to retrieve and WriteProperty to modify any of the event and fault algorithm parameters listed in Tables K-15 and K-16.

7) Clause 12.3.35, Typo (Duplicate “Property” in name)

12.3.35 ~~Property~~Property_List

8) Clause 12.17.19, List begins with wrong letter order

...

- (a) the Present_Value property shall be decoupled from the algorithm;
- (b) the Reliability property, if present, and the corresponding state of the FAULT flag of the Status_Flags property shall be decoupled from the algorithm;
- (c) the Present_Value property and the Reliability property, if present and capable of taking on values other than NO_FAULT_DETECTED, shall be writable to allow simulating specific conditions or for testing purposes;
- (d) the property referenced by Manipulated_Variable_Reference and other functions that depend on the state of the Present_Value or Reliability properties shall respond to changes made to these properties, as if those changes had been made by the algorithm.

9) Table 12-71.2, “REAL” is the wrong ASN.1 type

Table 12-71.2. Additional Properties of the Network Port Object Type if Network Type is ETHERNET

Property Identifier	Property Datatype	BACNET_APPLICATION	PROTOCOL	PHYSICAL
Network_Number	Unsigned16	(R)		
Network_Number_Quality	BACnetNetworkNumberQuality	(R)		
APDU_Length	Unsigned	(R)		
Routing_Table	BACnetLIST of BACnetRouterEntry	O		
MAC_Address	OctetString			(R) ¹
Link_Speed	Real			O
Link_Speeds	BACnetARRAY[N] of REAL Real			O
Link_Speed_Autonegotiate	Boolean			O
Network_Interface_Name	CharacterString			O
Device_Address_Proxy_Enable	Boolean	O ²		
Device_Address_Proxy_Timeout	Unsigned	O ²		

10) Table 12-71.3, “OCTETSTRING” is the wrong ASN.1 type

Table 12-71.3. Additional Properties of the Network Port Object Type if Network Type is IPV4

Property Identifier	Property Datatype	BACNET_APPLICATION	PROTOCOL	PHYSICAL
...				
IP_DNS_Server	BACnetARRAY[N] of OCTET STRING OctetString		(R) ⁶	
...				

11) Clause 21, Incorrect comment text

```

BACnetConfirmedServiceChoice ::= ENUMERATED {
...
-- Services added after 2016
   -- confirmed-audit-notification    (32) see Alarm and Event Services
   -- audit-log-query                 (33) see Object Access Services

-- Services added after 20162020
   -- auth-request                    (34) see Security Services
...
    
```

12) Clause 21, BACnetEngineeringUnits per-second and per-minute deleted

```

...
per-minute (100),
per-second (101),
psi-per-degree-fahrenheit (102),
radians (103),
...

```

13) Clause 21, additions incorrectly added for BACnetEventParameter

```

...
change-of-discrete-value [21] SEQUENCE {
    new-value [0] CHOICE {
        boolean Boolean,
        unsigned Unsigned,
        integer Integer,
        enumerated ENUMERATED,
        characterstring CharacterString,
        octetstring OctetString,
        datePattern Date,
        timePattern Time,
        objectidentifier BACnetObjectIdentifier,
        datetime [0] BACnetDateTime
    }
}
status-flags [1] BACnetStatusFlags
}
change-of-discrete-value [21] SEQUENCE {
    time-delay [0] Unsigned
}
...

```

14) Clause 21, correct parameter names for BACnetNotificationParameters (this is the original location for the parameter name changes shown above)

BACnetNotificationParameters ::= CHOICE {

```

...
-- context tag [20] is not used, see note below
change-of-discrete-value [21] SEQUENCE {
    new-value [0] CHOICE {
        boolean Boolean,
        unsigned Unsigned,
        integer Integer,
        enumerated ENUMERATED,
        characterstring CharacterString,
        octetstring OctetString,
        date DatePattern,
        time TimePattern,
        objectidentifier BACnetObjectIdentifier,
        datetime [0] BACnetDateTime
    },
    status-flags [1] BACnetStatusFlags
},
...

```

15) Clause 17, Page/Section header incorrect throughout

~~17. VIRTUAL TERMINAL SERVICES~~
~~Virtual Terminal Model~~
17. AUTHENTICATION AND AUTHORIZATION SERVICES
Authentication and Authorization Services

16) Clause 21, enumerations for BACnetNetworkPortCommand conflict with final assigned values in multiple addenda.

BACnetNetworkPortCommand ::= ENUMERATED {

idle	(0),
discard-changes	(1),
renew-fd-registration	(2),
restart-subordinate-discovery	(3),
renew-dhcp	(4),
restart-autonegotiation	(5),
disconnect	(6),
restart-port	(7),
restart-device-discovery	(8),
generate-csr-file	(9),
validate-changes	(10),
<i>generate-csr-file</i>	(8),
<i>validate-changes</i>	(9),
<i>restart-device-discovery</i>	(10),

...

}

-- Enumerated values 0-127 are reserved for definition by ASHRAE. Enumerated values

-- 128-255 may be used by others subject to the procedures and constraints described

-- in Clause 23.

17) Clause 12.22.6 Reason_For_Halt to harmonize the property description.**12.22.6 Reason_For_Halt**

This read-only property, of type BACnetProgramError, reflects the reason the application program halted. If the process executing the application program this object represents encounters any type of error that causes process execution to be halted, then this property shall reflect the reason why the process was halted. ~~The Reason_For_Halt property shall be an enumerated type called BACnetProgramError.~~ The values that may be taken on by this property are:

...

18) Clause 12.11.39 Active_COV_Subscriptions to clarify the property description.**12.11.39 Active_COV_Subscriptions**

~~The Active_COV_Subscriptions property is a BACnetList of BACnetCOVSubscription, each of which consists of a This read-only property, of type BACnetList of type BACnetCOVSubscription, provides a network-visible indication of those COV subscriptions that are active at any given time. Each list entry consists of a COV context, a Recipient, a Monitored Property Reference, an Issue Confirmed Notifications flag, a Time Remaining value and an optional COV Increment. This property provides a network-visible indication of those COV subscriptions that are active at any given time.~~ Whenever a COV Subscription is created with the SubscribeCOV or SubscribeCOVProperty service, a new entry is added to the Active_COV_Subscriptions list. Similarly, whenever a COV Subscription is terminated, the corresponding entry shall be removed from the Active_COV_Subscriptions list. If the subscribed-to property represents a numeric quantity, the COV Increment in use for the COV subscription shall be included in the Active_COV_Subscriptions entry otherwise it is a local matter whether the COV Increment is included in the Active_COV_Subscriptions entry.

...

19) Clause 17.3.3, Relaying Identity, correct option name**17.3.3 Relaying Identity**

...

In BACnet/SC, the capability to relay identity is indicated by the 'identity relay' bit of the "Hello" ~~Data Destination~~ Option, and the permission to relay is provided by query parameters on the SAN in the certificate. If the datalink is part of a router, the query parameter "router" is appended, and if the datalink hosts a hub function, the parameter "hub" is appended. For example, "bacnet://1234?router", "bacnet://1234?hub", "bacnet://1234?router&hub", "bacnet://1234?hub&router".

...

20) Clause 17.1, fix incorrect clause reference.**17.1 Overview**

...

This clause defines mechanisms that can be used for a variety of situations that require a device to be authorized before it can perform a protected operation in another device. Performing a protected operation requires both authentication of the client device and the presence of policy that authorizes that client to perform the operation. See Clause 17.3.75 for a description of the variety of authentication options that are available for interactions among different capabilities of devices and networks.

...

21) Clause 17.4.6, Correct grammatical typo**17.4.6 Access Tokens**

...

An access token is an access policy wrapped with information that allows the target device to trust the authenticity and validity of the policy. An access token contains the following information:

- The device instance of the authorization server that generated the token, known as the 'issuer'.
- The date and time the token was issued.
- The "audience" of the token, i.e., the list of devices and groups that can be the target of the token.
- The identification of the client device that is authorized to use the token.
- ~~An~~ indication of what the client is authorized to do.
- A digital signature, signed by the authorization server, that ensures the authenticity of the preceding data.

...

22) Clause 19.6.4, Incorrect clause reference in Table 19-4

19.6.3 Audit Notification Configuration

...

Source User Id	Unsigned16	The user performing the operation. The value in this field depends on the user authentication model in use. See Clause 24.14 <i>W.3.11</i> on user authentication for information on this value. This field shall not be included if no user identification is available.
Source User Role	Unsigned8	The role of the user performing the operation. The value in this field depends on the user authentication model in use. See Clause 24.14 <i>W.3.11</i> on user authentication for information on this value. This field shall not be included if no user role information is available.

...

23) Clauses K.4.11 and K.4.12, Inaccurate language

K.4.11 BIBB - Trending-View-A (T-V-A)

...
 The A device uses ReadRange to retrieve and display *record value(s) of the* trend object Log_Buffer ~~properties~~ *property*.
 ...

K.4.12 BIBB - Trending-Advanced View and Modify-A (T-AVM-A)

...
 The A device shall be capable of using ReadRange to retrieve and display *record value(s) of the* trend object Log_Buffer ~~properties~~ *property*, ReadProperty to retrieve and display trend object properties, WriteProperty to modify trend object properties, and CreateObject and DeleteObject to create and delete trend objects, Event Enrollment and Notification Class objects. The properties that the A device shall be capable of reading and writing are listed below. Device A may use alternate services where support for execution of the alternate service is supported by the B Device.
 ...