

**INTERPRETATION IC 135-2024-17 OF
ANSI/ASHRAE STANDARD 135-2024 BACnet® -
A Data Communication Protocol for Building
Automation and Control Networks**

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Reference: This request for interpretation refers to ANSI/ASHRAE Standard 135-2024 and pertains to the Time Series Data Exchange File Format defined in Clause AA.1.

Background:

AA.1.2 Representation of Data

Each data value shall be represented as a string that is appropriate for the data type, and shall be formatted as if returned in 'plain text' from the services described in Clause W.9, plus the requirements for quoting specified by RFC 4180. **Only primitive data types can be represented.** The following table summarizes the requirements made by Clause W.9, which in turn references clauses in Annex Q and Annex Y.

Source Data Type	Serialization Type	Examples	Notes
BitString	xs:string	fault fault;overridden <empty string>	A semicolon separated list of the names of the bits that are true. i.e., an empty string means that all bits are false. See Clause Y.12.11
Boolean	xs:boolean	true false	
Date	xs:date	2018-01-24	
Date with unspecified value	xs:string	----/--/--	See Clause W.9
DatePattern	xs:string	*-01-24 2018-01-* *_*.*	See Clause Y.12.14
DateTime	xs:dateTime	2018-01-24T08:56:00+01:00 2018-01-24T07:56:00.00Z	Time zone indicator is required for CSV files
DateTime with unspecified value	xs:string	----/--/--T--:--:--Z	See Clause W.9
DateTimePattern	xs:string	2018-01-24 10:*:*.* *_*.* 3 10:00:00.00 *_*.*.*.*.*	See Clause Y.12.16
Double	xs:double	123456789.00	
Enumerated	xs:string	high idle	See Clause Y.12.12
Integer	xs:integer	1234	
Link	xs:string	http://example.com/abc	
ObjectIdentifier	xs:string	calendar,12	See Clause Y.20.1
ObjectIdentifierPattern	xs:string	calendar,*	See Clause Y.20.2
OctetString	xs:hexBinary	0103CAFEBABE99 0103cafebabe99	

Raw	xs:hexBinary	0103CAFEBABE99 0103cafebabe99	
Real	xs:float	1234.56	
String	xs:string	hello world "hello, world"	Embedded commas need to be quoted in CSV
StringSet	xs:string	foo;bar;baz	See Clause Y.12.10.
Time	xs:time	12:05:22 12:05:22.55	Fractional seconds is optional
Time with unspecified value	xs:string	--:--:--	See Clause W.9
TimePattern	xs:string	10:24:*. * *.*.*.*	See Clause Y.12.18
Unsigned	xs:nonNegativeInteger	1234	
WeekNDay	xs:string	"1,1,*"	See Clause Y.20.3

Missing data shall be represented by a string consisting of a question mark followed by a space followed by a decimal error number defined by Table W-14. See Clause W.40.

Problems:

The log buffer for a Trend Log or Trend Log Multiple object will contain log-status and time-change entries. The value of these entries is BitString and Real respectively which are primitive data types.

The log buffer for a Trend Log or Trend Log Multiple object can contain failure entries that contain a BACnet Error Class and Error Code. A failure entry is not a primitive data type so cannot be exported. For a Trend Log Multiple object, this means the entire row of values cannot be exported.

Interpretation #1:

All log-status and time-change entries in the log-buffer of a Trend Log or Trend Log Multiple object shall not be included in an exported Time Series Data file.

Question #1: Is this Interpretation correct?

Answer #1: YES

Comment #1:

Interpretation #2:

When exported to a Time Series Data file, a failure entry in the log buffer of a Trend Log or Trend Log Multiple object can be represented as missing data as specified in Clause AA.1.2.

Question #2: Is this Interpretation correct?

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Answer #2: YES

Comment #2: