



**BACnet[®] TESTING LABORATORIES
ADDENDA**

**Addendum epics to
BTL Test Package 23.3**

**Revision v2
Revised 7/17/2024**

Approved by the BTL Working Group on May 2, 2024;
Approved by the BTL Working Group Voting Members on July 17, 2024;
Published on July 18, 2024.

[This foreword and the “Overview” on the following pages are not part of this Test Package. They are merely informative and do not contain requirements necessary for conformance to the Test Package.]

FOREWORD

The purpose of this addendum is to present current changes being made to the BTL Test Package. These modifications are the result of change proposals made pursuant to the continuous maintenance procedures and of deliberations within the BTL-WG Committee. The changes are summarized below.

BTL-23.3 epics-1: Add Missing DataLinks to EPICS [BTLWG-1344].....	2
BTL-23.3 epics-2: Update Character Encoding Section of EPICS [BTLWG-1514].....	3
BTL-23.3 epics-3: Update Data Link Layer Options Section of EPICS [BTLWG-1515].....	4
BTL-23.3 epics-4: EPICS Example Section Object Types Supported of EPICS [BTLWG-1523]	5

In the following document, language to be added to existing clauses within the BTL Test Package 23.3 is indicated through the use of *italics*, while deletions are indicated by ~~strikerough~~. Where entirely new subclauses are proposed to be added, plain type is used throughout.

In contrast, changes to BTL Specified Tests also contain a **yellow** highlight to indicate the changes made by this addendum. When this addendum is applied, all highlighting will be removed. Change markings on tests will remain to indicate the difference between the new test and an existing 135.1 test. If a test being modified has never existed in 135.1, the applied result should not contain any change markings. When this is the case, square brackets will be used to describe the changes required for this test.

Each addendum can stand independently unless specifically noted via dependency within the addendum. If multiple addenda change the same test or section, each future released addendum that changes the same test or section will note in square brackets whether or not those changes are reflected.

BTL-23.3 epics-1: Add Missing DataLinks to EPICS [BTLWG-1344]

Overview:

135.1 – 4.5.7 - Special Functionality is missing B/IPv6 and B/SC

Changes:

Checklist Changes

None

Test Plan Changes

None

Specified Test Changes

[Add section 4.5.7 from 135.1-2023 into BTL Specified Tests and add new entries shown below.]

4.5.7 Special Functionality

This section indicates which BACnet special functionalities are supported. The syntax is shown below. Each special functionality supported shall be listed one per line between the curly braces. The maximum APDU size and window sizes shall be specified as integers.

Special Functionality: ↵

{↵

Maximum APDU size in octets: ↵

Segmented Requests Supported, window size: ↵

Segmented Responses Supported, window size: ↵

Router↵

BACnet/IP BBMD↵

BACnet/IPV6 BBMD↵

BACnet/SC Hub↵

BACnet/SC Direct Connect↵

}↵

BTL-23.3 epics-2: Update Character Encoding Section of EPICS [BTLWG-1514]

Overview:

The Character Encoding (4.1) and Character Sets (4.5.6) sections of the EPICS in 135.1 do not include the change to the character set code 0 that changed ANSI X3.4 to ISO 10646 (UTF-8)

Changes:

Checklist Changes

None

Test Plan Changes

None

Specified Test Changes

[Add section 4.1 from 135.1 into BTL Specified Tests with these changes]

4.1 Character Encoding

...

Table 4-1. Character Set Codes

code	character set
0	ANSI X3.4/ISO 10646 (UTF-8)
1	IBM™/Microsoft™ DBCS
2	JIS C 6226/JIS X 0208
3	ISO 10646 (UCS-4)
4	ISO 10646 (UCS-2)
5	ISO 8859-1

[Add section 4.5.6 from 135.1-2023 into BTL Specified Tests with these changes]

4.5.6 Character Sets

This section indicates which BACnet character sets are supported. The syntax is shown below. Each supported character set shall be listed one per line between the curly braces.

```
Character Sets Supported: ↵
{↵
  ISO 10646 (UTF-8)ANSI X3.4↵
  IBM/Microsoft DBCS↵
  JIS X 0208JIS C 6226↵
  ISO 8859-1 ↵
  ISO 10646 (UCS-4) ↵
  ISO 10646 (UCS2) ↵
}↵
```

BTL-23.3 epics-3: Update Data Link Layer Options Section of EPICS [BTLWG-1515]

Overview:

The Data Link Layer Options section (4.5.5) does not include the new data links like BACnet/SC. It would be helpful to update these.

Changes:

Checklist Changes

None

Test Plan Changes

None

Specified Test Changes

[Add section 4.5.5 from 135.1-2023 into BTL Specified Tests with these changes]

4.5.5 Data Link Layer Options

This section indicates which standard data link layer options are supported. The syntax is shown below. Each supported data link layer type shall be listed between the curly braces one per line. MS/TP and Point-To-Point data links shall also specify supported baud rate(s).

```

Data Link Layer Option: {
  ISO 8802-3, 10BASE5
  ISO 8802-3, 10BASE2
  ISO 8802-3, 10BASET
  ISO 8802-3, fiber
  ARCNET, coax star
  ARCNET, coax bus
  ARCNET, twisted pair star
  ARCNET, twisted pair bus
  ARCNET, fiber star
  ARCNET, twisted pair, EIA-485, Baud rate(s): [ ]
  MS/TP master. Baud rate(s): 9600, [ ]
  MS/TP slave. Baud rate(s): 9600, [ ]
  Point-To-Point. EIA 232, Baud rate(s): [ ]
  Point-To-Point. Modem, Baud rate(s): [ ]
  Point-To-Point. Modem, Autobaud range: [ ]to [ ]
  BACnet/IP, 'DIX' Ethernet
  BACnet/IP, Other
  BACnet/IPv6
  BACnet/SC,Node
  BACnet/SC,Hub
  Zigbee
  Other
}

```

BTL-23.3 epics-4: EPICS Example Section Object Types Supported of EPICS [BTLWG-1523]

Overview:

The example shown in 135.1-2023, section 4.5.4 needs to be corrected.

1. The section should have a correct title "Standard Object Types Supported:"
2. The body should include Access Door as mentioned in the text above or make them consistent.

Changes:

Checklist Changes

None

Test Plan Changes

None

Specified Test Changes

[Add section 4.5.4 from 135.1-2023 in BTL Specified Tests and update example as shown]

4.5.4 Object Types Supported

This section indicates which standard object types are supported. The syntax is shown below. Each supported object type shall be listed between curly braces one object type per line, optionally followed by the words "Createable", "Deleteable", or both to indicate that dynamic creation or deletion is supported.

```
Standard Object Types Supported: ␣  
{␣  
  ␣␣  
  ␣ Createable␣  
  ␣ Deleteable␣  
  ␣ Createable Deleteable␣  
}␣
```

The standard objects may be any of the objects listed in the Clause 21 production, BACnetObjectTypesSupported.

The format should be the title of each corresponding object section in the standard minus the text Object Type. For example, if the device supports the **analog value** object **access door**, the text **Access Door'Analog Value'** should be included in this section.

For example:

```
BACnet Standard Application Services-Object Types Supported: ␣  
{␣  
  Analog Value Createable Deleteable␣  
  Analog Input␣  
  Device␣  
}
```