

Date: 2/4/2004

Vendor Name: **TRIATEK Lighting, Inc.**

Product Name: **ELINK**

Product Model Number: **ELINK**

Applications Software Version: **ExecB ELINK** Firmware Revision: **1.72**

BACnet Protocol Revision: **2**

Product Description:

TRIATEK Lighting’s new E-Link module is a microprocessor-based controller designed for two-way communications between TRIATEK Lighting control system and a BACnet or Modbus network. BACnet objects are spawned within the device as a result of downloading graphical control programs. The ELINK will automatically function as a BBMD if the BACnet/IP port is enabled and a BDT is received that contains its own IP address. The ELINK can be configured to simultaneously function as a BACnet/Internet Protocol Packet-Assembler-Disassembler according to Annex H.3. It also supports one PTP connection with dial-up modem support.

BACnet Standardized Device Profile (Annex L): B-AAC

List all BACnet Interoperability Building Blocks Supported (Annex K):

DS-RP-A	AE-N-I-B	SCHED-I-B	T-VMT-I-B	DM-DDB-A
DS-RP-B	AE-ACK-B		T-ATR-B	DM-DDB-B
DS-RPM-B	AE-ASUM-B			DM-DOB-A
DS-WP-A	AE-INFO-B			DM-DOB-B
DS-WP-B				DM-DCC-B
DS-WPM-B				DM-PT-A
DS-COV-A				DM-PT-B
DS-COV-B				DM-TS-B
DS-COVU-A				DM-UTC-B
DS-COVU-B				DM-RD-B
				DM-LM-B

Segmentation Capability:

- Able to transmit segmented messages
- Able to receive segmented messages

Window Size _____
 Window Size _____

Standard Object Types Supported:

On a separate page, please list each standard Object Type supported (i.e., an object of this type may be present in the product). For each standard Object Type supported provide the following data:

- 1) Whether objects of this type are dynamically creatable using BACnet’s CreateObject service
- 2) Whether objects of this type are dynamically deletable using BACnet’s CreateObject service
- 3) List of the optional properties supported
- 4) List of all properties that are writable where not otherwise required by this standard
- 5) List of proprietary properties and for each its property identifier, datatype, and meaning
- 6) List of any property range restrictions

(List starts on page 2 ...)

Analog Value (PAR):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - cov-increment
 - deadband
 - description
 - event-enable
 - event-time-stamps
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - priority-array
 - reliability
 - relinquish-default
 - time-delay
4. Writeable properties:
 - cov-increment
 - deadband
 - description
 - event-enable
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
 - units
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
present-value	limited by min-pres-value and max-pres-value properties
relinquish-default	limited by min-pres-value and max-pres-value properties
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Analog Value (RS):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - reliability
4. Writeable properties:
 - out-of-service
 - present-value
 - units
5. Proprietary properties: None
6. Range restrictions: None

Analog Value (STAT):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - cov-increment
 - deadband
 - description
 - event-enable
 - event-time-stamps
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - reliability
 - time-delay
4. Writeable properties:
 - cov-increment
 - deadband
 - description
 - event-enable
 - high-limit
 - limit-enable
 - low-limit
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
 - units
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Binary Value (PAR):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - active-text
 - alarm-value
 - change-of-state-count
 - change-of-state-time
 - description
 - elapsed-active-time
 - event-enable
 - event-time-stamps
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - priority-array
 - reliability
 - relinquish-default
 - time-delay
 - time-of-active-time-reset
 - time-of-state-count-reset
4. Writeable properties:
 - active-text
 - alarm-value
 - change-of-state-count
 - description
 - elapsed-active-time
 - event-enable
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

active-text	limited to 50 octets in length
change-of-state-count	0 to 4294967295
description	limited to 50 octets in length
elapsed-active-time	0 to 4294967295
inactive-text	limited to 50 octets in length
minimum-off-time	0 to 4294967295

minimum-on-time	0 to 4294967295
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Binary Value (CLOCK):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - active-text
 - alarm-value
 - change-of-state-count
 - change-of-state-time
 - description
 - elapsed-active-time
 - event-enable
 - event-time-stamps
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - priority-array
 - reliability
 - relinquish-default
 - time-delay
 - time-of-active-time-reset
 - time-of-state-count-reset
4. Writeable properties:
 - active-text
 - alarm-value
 - change-of-state-count
 - description
 - elapsed-active-time
 - event-enable
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

active-text	limited to 50 octets in length
change-of-state-count	0 to 4294967295
description	limited to 50 octets in length
elapsed-active-time	0 to 4294967295
inactive-text	limited to 50 octets in length
minimum-off-time	0 to 4294967295

minimum-on-time	0 to 4294967295
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Binary Value (STAT):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - active-text
 - alarm-value
 - change-of-state-count
 - change-of-state-time
 - description
 - elapsed-active-time
 - event-enable
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - reliability
 - time-delay
 - time-of-active-time-reset
 - time-of-state-count-reset
4. Writeable properties:
 - active-text
 - alarm-value
 - change-of-state-count
 - description
 - elapsed-active-time
 - event-enable
 - inactive-text
 - minimum-off-time
 - minimum-on-time
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

active-text	limited to 50 octets in length
change-of-state-count	0 to 4294967295
description	limited to 50 octets in length
elapsed-active-time	0 to 4294967295
inactive-text	limited to 50 octets in length
minimum-off-time	0 to 4294967295
minimum-on-time	0 to 4294967295
notification-class	must be valid notification-class
time-delay	0 to 4294967295

Binary Value (MODULE ALARM):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - alarm-value
 - description
 - event-enable
 - event-time-stamps
 - notification-class
 - notify-type
 - time-delay
4. Writeable properties:
 - alarm-value
 - event-enable
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
5. Proprietary properties: None
6. Range restrictions:
 - notification-class must be valid notification-class
 - time-delay 0 to 4294967295

Calendar:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - description
4. Writeable properties:
 - date-list
 - description
5. Proprietary properties: None
6. Range restrictions:
 - date-list limited to 30 BACnetCalendarEntry
 - description limited to 50 octets in length

Device:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - active-vt-sessions
 - apdu-segment-timeout
 - daylight-savings-status
 - description
 - list-of-session-keys
 - local-date
 - local-time
 - location
 - max-info-frames
 - max-master
 - time-synchronization-recipients
 - utc-offset
 - vt-classes-supported
4. Writable properties:
 - apdu-segment-timeout
 - apdu-timeout
 - description
 - local-date
 - local-time
 - location
 - max-info-frames
 - max-master
 - number-of-apdu-retries
 - object-identifier
 - object-name
 - time-synchronization-recipients
 - utc-offset
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
location	limited to 50 octets in length
max-master	1 to 127
object-identifier	must be a valid device identifier
object-name	limited to 50 octets in length
utc-offset	-780 to 780

Multi-State Value (PAR):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - alarm-values
 - description
 - event-enable
 - event-time-stamps
 - fault-values
 - notification-class
 - notify-type
 - priority-array
 - reliability
 - relinquish-default
 - state-text
 - time-delay
4. Writeable properties:
 - alarm-values
 - description
 - event-enable
 - fault-values
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
notification-class	must be valid notification-class
present-value	must be valid state
relinquish-default	must be valid state
time-delay	0 to 4294967295

Multi-State Value (CLOCK):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - alarm-values
 - description
 - event-enable
 - event-time-stamps
 - fault-values
 - notification-class
 - notify-type
 - priority-array
 - reliability
 - relinquish-default
 - state-text
 - time-delay
4. Writeable properties:
 - alarm-values
 - description
 - event-enable
 - fault-values
 - notification-class
 - notify-type
 - out-of-service
 - present-value
 - relinquish-default
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
notification-class	must be valid notification-class
present-value	must be valid state
relinquish-default	must be valid state
time-delay	0 to 4294967295

Multi-State Value (STAT):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - alarm-values
 - description
 - event-enable
 - event-time-stamps
 - fault-values
 - notification-class
 - notify-type
 - reliability
 - state-text
 - time-delay
4. Writeable properties:
 - alarm-values
 - description
 - event-enable
 - fault-values
 - notification-class
 - notify-type
 - out-of-service
 - time-delay
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
notification-class	must be valid notification-class
present-value	must be valid state
time-delay	0 to 4294967295

Schedule (ENUM):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - priority-for-writing
 - description
 - exception-schedule
 - priority-array
 - relinquish-default
 - weekly-schedule
4. Writeable properties:
 - description
 - effective-period
 - exception-schedule
 - present-value
 - priority-for-writing
 - relinquish-default
 - weekly-schedule
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
exception-schedule	limited to 30 BACnetSpecialEvents, each being limited to 6 BACnetTimeValues
present-value	0 to 4294967295
relinquish-default	0 to 4294967295
weekly-schedule	limited to 6 BACnetTimeValues per BACnetDailySchedule

Schedule (UNS):

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - priority-for-writing
 - description
 - exception-schedule
 - priority-array
 - relinquish-default
 - weekly-schedule
4. Writeable properties:
 - description
 - effective-period
 - exception-schedule
 - present-value
 - priority-for-writing
 - relinquish-default
 - weekly-schedule
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
exception-schedule	limited to 30 BACnetSpecialEvents, each being limited to 6 BACnetTimeValues
present-value	0 to 4294967295
relinquish-default	0 to 4294967295
weekly-schedule	limited to 6 BACnetTimeValues per BACnetDailySchedule

Trend-log:

1. Creatable? NO
2. Deletable? NO
3. Optional properties supported:
 - acked-transitions
 - client-cov-increment
 - cov-resubscription-interval
 - current-notify-time
 - description
 - event-enable
 - event-time-stamps
 - log-device-object-property
 - log-interval
 - notification-class
 - notification-threshold
 - notify-type
 - previous-notify-time
 - records-since-notification
 - start-time
 - stop-time
4. Writeable properties:
 - buffer-size
 - client-cov-increment
 - cov-resubscription-interval
 - description
 - event-enable
 - log-enable
 - log-interval
 - notification-class
 - notification-threshold
 - notify-type
 - record-count
 - start-time
 - stop-time
 - stop-when-full
 - total-record-count
5. Proprietary properties: None
6. Range restrictions:

description	limited to 50 octets in length
log-interval	0 to 4294967295
notification-class	must be valid notification-class
notification-threshold	0 to 4294967295
record-count	can only be written to 0
total-record-count	can only be written to 0

Data Link Layer Options:

- BACnet IP, (Annex J)
 - Able to register as a Foreign Device
- ISO 8802-3, Ethernet (Clause 7)
- ANSI/ATA 878.1, 2.5 Mb ARCNET (Clause 8)
- ANSI/ATA 878.1, RS-485 ARCNET (Clause 8) baud rate(s) **156k baud**
- MS/TP master (Clause 9), baud rate(s): **9600, 19200, 38400, 76800**
- MS/TP slave (Clause 9), baud rate(s): _____
- Point-To-Point, EIA 232 (Clause 10), baud rate(s): **9600, 19200, 38400, 57600, 115200**
- Point-To-Point, modem, (Clause 10), baud rate(s): **9600, 19200, 38400, 57600, 115200**
- LonTalk, (Clause 11), medium: _____
- Other: _____

Device Address Binding Methods Supported:

- Send Who-Is, receive I-Am (BIBB DM-DDB-A)
- Receive Who-Is, send I-Am (BIBB DM-DDB-B)
- Send Who-Has, receive I-Have (BIBB DM-DOB-A)
- Receive Who-Has, send I-Have (BIBB DM-DOB-B)
- Manual configuration of recipient device's network number and MAC address.
- None of the above

Networking Options:

- Router, Clause 6 - List all routing configurations, e.g., ARCNET-Ethernet, Ethernet-MS/TP, etc.
Ethernet-UDP/IP, Ethernet-PTP, BACnet/IP-UDP/IP, BACnet/IP-PTP, Ethernet-BACnet/IP, Ethernet-BACnet/IP-UDP/IP, Ethernet-BACnet/IP-PTP, ARCNET-UDP/IP, ARCNET-PTP, Ethernet-ARCNET, Ethernet-ARCNET-UDP/IP, Ethernet-ARCNET-PTP, BACnet/IP-ARCNET, BACnet/IP-ARCNET-UDP/IP, BACnet/IP-ARCNET-PTP, Ethernet-BACnet/IP-ARCNET, Ethernet-BACnet/IP-ARCNET-UDP/IP, Ethernet-BACnet/IP-ARCNET-PTP, MS/TP-UDP/IP, MS/TP-PTP, Ethernet-MS/TP, Ethernet-MS/TP-UDP/IP, Ethernet-MS/TP-PTP, BACnet/IP-MS/TP, BACnet/IP-MS/TP-UDP/IP, BACnet/IP-MS/TP-PTP, Ethernet-BACnet/IP-MS/TP, Ethernet-BACnet/IP-MS/TP-UDP/IP, Ethernet-BACnet/IP-MS/TP-PTP, ARCNET-MS/TP, ARCNET-MS/TP-UDP/IP, ARCNET-MS/TP-PTP, Ethernet-ARCNET-MS/TP, Ethernet-ARCNET-MS/TP-UDP/IP, Ethernet-ARCNET-MS/TP-PTP, BACnet/IP-ARCNET-MS/TP, BACnet/IP-ARCNET-MS/TP-UDP/IP, BACnet/IP-ARCNET-MS/TP-PTP, Ethernet-BACnet/IP-ARCNET-MS/TP, Ethernet-BACnet/IP-ARCNET-MS/TP-UDP/IP, Ethernet-BACnet/IP-ARCNET-MS/TP-PTP
- Annex H.3, BACnet Tunneling Router over UDP/IP
- BACnet/IP Broadcast Messaging Device (BBMD)
 - Does the BBMD support registrations by Foreign Devices? Yes No

Character Sets Supported:

Indicating support for multiple character sets does not imply that they can all be supported simultaneously.

- ANSI X3.4
- IBM™/Microsoft™ DBCS
- ISO 8859-1
- ISO 10646 (UCS-2)
- ISO 10646 (ICS-4)
- JIS C 6226

If this product is a communication gateway, describe the non-BACnet equipment/networks(s) that the gateway supports:

TRIATEK Lighting protocol, Modbus