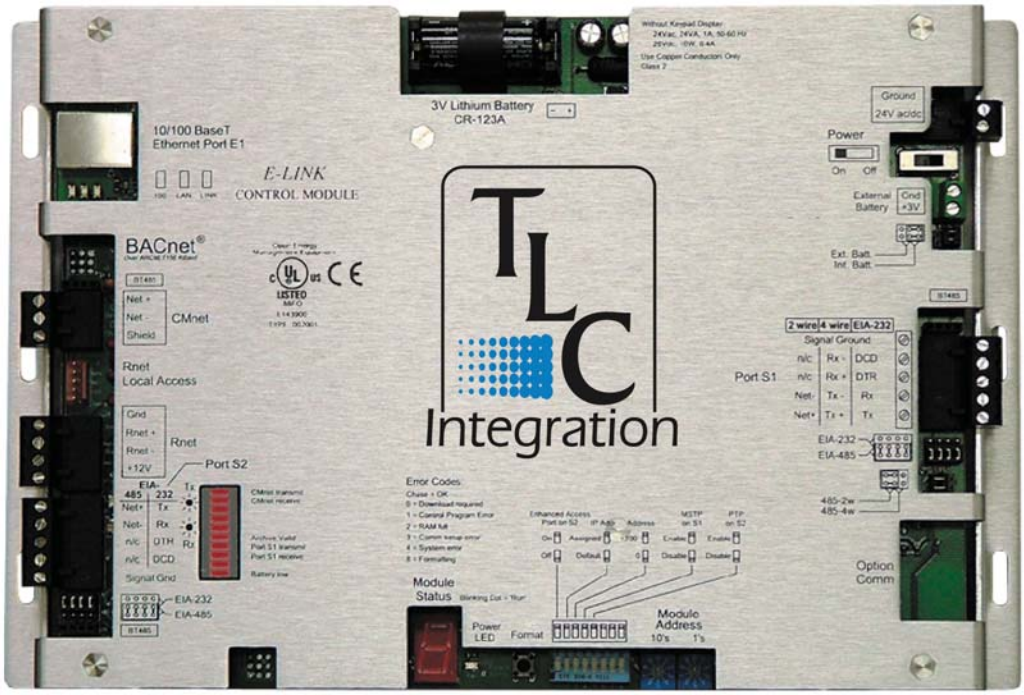
TURNKEY LIGHTING CONTROL Integration

E-Link

Protocol Converter

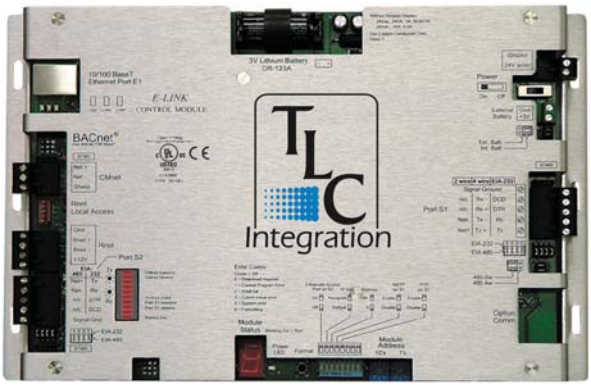


Integration

Due to continuous product improvement, Turnkey Lighting Control reserves the right to change product specifications without notice.

Turnkey Lighting Control
Component: E-Link Data Sheet

TLC E-Link Control Module



Turnkey Lighting Control's E-Link Control Module is a full-featured controller, router and translator that is designed to integrate Turnkey Lighting Control control systems into a BACnet or Modbus Building Automation System. The E-Link's powerful high-speed processors can handle the most demanding BACnet and Modbus applications. And whether your applications require BACnet over IP, Ethernet, ARCNET 156K, MS/TP, PTP, or whether they require Modbus RTU or ASCII, it's diverse set of ports enable you to control and monitor your Turnkey Lighting Control network no matter which of these protocols you employ.

The E-Link is also easy to install. It mounts directly by its rugged aluminum cover that protects the electronics from damage. And because the E-Link module is pre-programmed by Turnkey Lighting Control technicians according to your lighting panel and network specifications, once you mount and wire the E-Link, it's ready for operation. Integration to your network is seamless.

Features and Benefits

- 10/100Base-T Fast Ethernet provides high speed communications to controller; ideal for critical control applications
- 10/100Base-T Fast Ethernet allows modules to serve as a BACnet router between BACnet/IP system backbone and field devices subnetwork.
- Native BACnet communications to field devices over a high-speed ARCNET 156 kbps or BACnet MS/TP network.
- Protocol translator package allows the E-Link controller to serve as a gateway between BACnet or Modbus and Turnkey Lighting Control network.
- Designed with a high-speed true 32-bit microprocessor with cache memory, Fast Ethernet controller, high performance 32-bit serial communications co-processor, and ARCNET communications co-processor, the E-Link controller has the horsepower to serve the most demanding control applications.
- 16 MByte battery-backed SDRAM (32 bit wide) stores application programs, trends and other data when power is lost.
- Tough construction delivers superior performance and reliability. Modules are constructed with a rugged aluminum cover which provides optimum electrical protection and noise immunity.

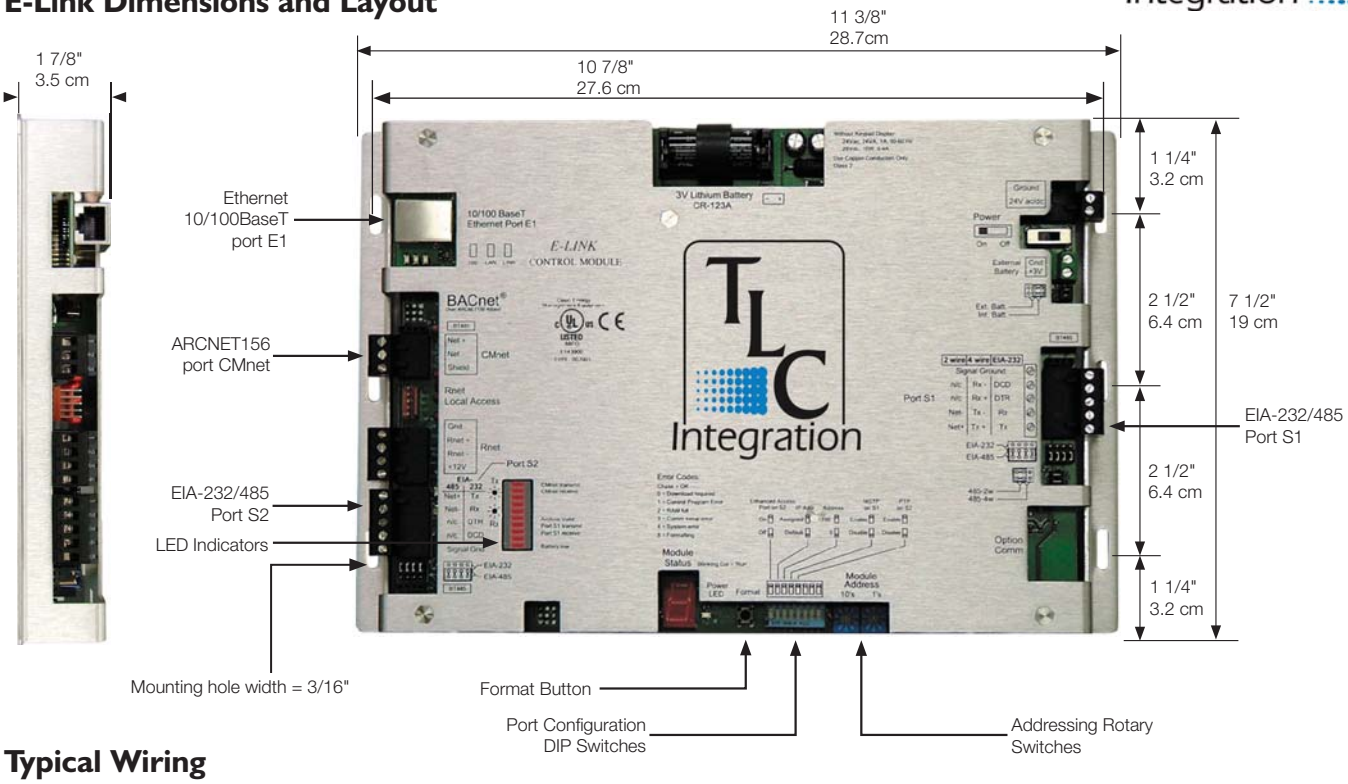
Specifications

BACnet support:	Conforms to the BACnet Building Controller (B-BC) Standard Device as defined in BACnet 135-2001 Annex L
Communication	The following ports are available on the E-Link modules: • 10/100Base-T Ethernet RJ-45 port for BACnet/IP network or BACnet over Ethernet • CMnet port for ARCNET 156 • EIA-232/EIA-485 configurable port for MS/TP or Modbus (EIA-485 is 2 or 4 wire selectable). See "Typical Wiring" for port assignments. • EIA-232/EIA-485 port for Turnkey Lighting Control or PTP. See "Typical Wiring" for port assignments.
Microprocessor	32-bit Motorola Power PC microprocessor with cache memory, Fast Ethernet controller, high performance 32-bit communication co-processor, ARCNET communication co-processor and I/O expansion CAN co-processor
Memory	16 MByte non-volatile battery-backed SDRAM, 8 MByte Flash memory, 32-bit memory bus. (Battery shelf life is 10 years with 720 hours of continuous operation)
Real-time Clock	Battery-backed real-time clock.
Status Indicators	LED Status indicators for EIA-232/485 communication, Ethernet port communication, and low battery status. Seven segment status display for running, error, and power status
Module Addressing	Rotary dip switches for intuitive network addressing of modules
Protection	Built-in surge and transient protection circuitry for power and communications
Listing	UL916 (Canadian Std C22.2 No. 205-M1983), CE, FCC Part 15 - Subpart B - Class A
Power requirements	24 Vac ± 10%, 50 to 60 Hz, 24 VA, or 24 Vdc ± 10%, 10W
Environmental	
Operating Range	-20°F to 140°F (-29°C to 60°C); 10 to 90% relative humidity, non-condensing Note: Control Modules should be installed within the building.

Mechanical

Physical	Rugged aluminum cover. Removable screw terminal blocks
Weight	1.4 lb. (45.5 kg)
Dimensions	See “E-Link Dimensions and Layout” below.

E-Link Dimensions and Layout



Typical Wiring

Port Assignments for E-Link

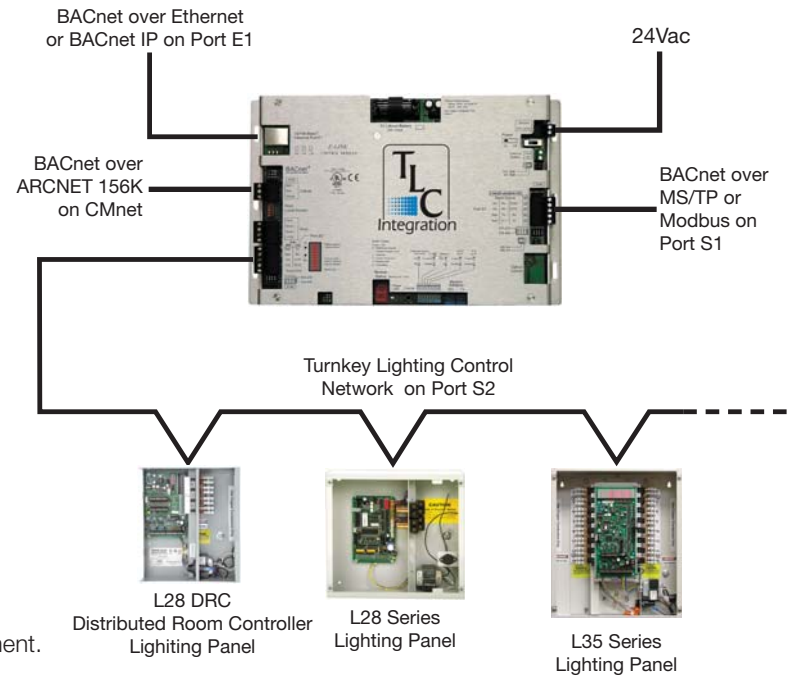
Protocol	Port
Turnkey Lighting Control	S2*
BACnet IP	E1**
BACnet over Ethernet	E1**
BACnet over ARCNET	CMnet**
BACnet over PTP	S2**
BACnet over MS/TP	S1**
Modbus	S1

*Use Port S1 for Turnkey Lighting Control protocol when communicating BACnet over PTP, otherwise use Port S2.

**Only one (1) BACnet protocol may be used with the Turnkey Lighting Control network per E-Link. For complete wiring diagrams refer to the E-Link installation Guide.

***Note: Factory configuration is required before shipment.

BACnet Wiring Applications



(Example Lighting Panels)

Ordering Instructions

At time of order, specify if you want Standard or custom programming of the E-Link.

Factory configuration is required before shipment.

Standard Programming Accomodates:

20 Turnkey Lighting Control Panels
60 Lighting group per panel
1 Analog Input per panel - If more are required, please use the custom programming option
BACnet / IP
BACnet / Ethernet
BACnet / MSTP
BACnet / ARCnet

Custom Programming Accomodates:

Modbus
TI-4500-NET Telephone Interface
BACnet / PTP
up to six Analog Inputs per each L28 or L28 DRC panel
Special control sequence - contact a Turnkey Lighting Control Technical Support representative for additional details.
More than 20 panels, or a second E-Link

Order:

Standard - E-Link-Standard
Custom - E-Link-Custom