



nLiGHT ECLYPSE System Controller User Manual

[Home](#) » [nLiGHT](#) » nLiGHT ECLYPSE System Controller User Manual 

nLiGHT ECLYPSE System Controller User Manual



Contents

- [1 OVERVIEW](#)
- [2 FEATURES](#)
- [3 ORDERING INFORMATION](#)
- [4 CONNECTIVITY PLANS](#)
- [5 FEATURES](#)
- [6 SPECIFICATIONS'Control Module](#)
- [7 COMMUNICATION](#)
- [8 SYSTEM ARCHITECTURE](#)
- [9 EXAMPLE NLiGHT ECLYPSE NOMENCLATURE AND OPTIONS](#)
- [10 Documents / Resources](#)
 - [10.1 References](#)
- [11 Related Posts](#)

OVERVIEW

The nLiGHT ECLYPSE™ system controller connects an nLiGHT® lighting network to support connectivityand

management over an IP network, control and device setting adjustment, integration with building management, integration with demand response, and more.

FEATURES

- Communicates over IP, allowing the system controller and connected lighting controls devices to be accessed and configured across a local area network
- Each system controller supports up to 750 nLight and nLight AIR devices. Additional controllers can connect and scale a system of lighting controls to a maximum of 20,000 devices
- BACnet Testing Laboratories (BTL) listed as a BACnet Building Controller (B-BC)
- Can be discovered and managed through free SensorView software and through an onboard web GUI
- Provides time-of-day and astronomical time clock capabilities for scheduled lighting control events
- Manages forwarding of global control channels and system profiles to affect devices on multiple controllers at the same time
- Enhanced security through toggleable HTTP or HTTPS connections, a FIPS 140-2, Level 1 compliant security interface, SSO or Radius Server capabilities, and more
- Optional demand response client allows activation of configurable load shed dimming levels by utility DRAS through OpenADR 2.0a

ORDERING INFORMATION

NECY		Example: NECY MVOLT BAC ENC		
Series	Voltage	BACnet	AutoDR	Visualization Software
nECYnLight ECLYPSE	MVOLT120-277VAC347120-277VAC, 347VAC	[blank]BACNot EnabledBACnet/IP & MS/TP Enabled	[blank]Not EnabledADROpen ADR VEN	[blank]Not EnabledSVS 1Envysion

Cellular Modem	Enclosure	Wi-Fi Adapter	Options
[blank] No Cellular ModemREM 5 Prewired CLAIRITY™ Link router with cellular SIMREMR 2,5 Prewired CLAIRITY™ Link router with cellular SIM and cloud-toggleable relay	ENC NEMA Type 1metal enclosure	[blank] Includes Wi-Fi Adapter NW No Wi-Fi Adapter Included	[blank] NoneSEP Single Ethernet PortGFXK 3 Touchscreen interface (model nGWY2 GFX, mounted separately), PS 150 power supply, CAT5 cableAIR 4 Includes NECYD NLTAIR G2

ACCESSORIES
nECY ENC: NEMA 1 Enclosure and pre-mounted 120-277VAC input, 24VDC output (Max 50W) power supply nECYD NLTAIR G2: nLight AIR wireless adapter nECYREPL INTF: nLight Interface module (introduces 750 device limit if added to an ECLYPSE with AIR option))

Notes

1. Requires BACnet option.
2. Cloud-toggleable relay is prewired and intended to powercycle the nLight ECLYPSE remotely.
3. If 347 voltage option is selected, includes PS150 347.
4. AIR option supports 150 devices. RJ45 ports for connecting nLight wired devices are not available with the AIR option. GFXK option is not available with AIR option.
5. 347 option is required for cellular connectivity in Canada. MVOLT versions will support connectivity in the United States and Mexico only. Active connectivity plan required for cellular connectivity. All routers ship with 12-months Ethernet connectivity enabled. See CLAIRITY Link router specification sheet for more information.
6. Cellular connectivity performance may be affected by carrier coverage and antenna placement. Coverage by supported carriers should be verified prior to purchase.
7. See the Specifications section for a list of all supported carriers per country.
8. Use of default SIM included with hardware is required for REMCONN CELL connectivity plan. REMCONN ETH does not require use of a cellular SIM but is required for connectivity with the portal using a non-standard, third-party SIM, provided by, paid for, and maintained by others. Compatibility with non-default, third party SIMs is not guaranteed or warranted.

CONNECTIVITY PLANS

Remote support via the **CLAIRITY** Link solution is enabled through a connectivity plan (**REMCONN**). Purchase of a CLAIRITY Link router includes an initial 12-month Ethernet connectivity plan that begins upon shipment of hardware from the factory. For extended periods of connectivity, or for cellular connectivity, supplementary plans can be purchased. Flexible plans are offered in 3-month to 24-month durations and can be purchased at any time.

FEATURES

- Flexible connectivity periods offer affordable, connected assistance from nLight technical experts
- With no hidden fees and no continuous costs, CLAIRITY Link connectivity is an on-demand service that can be purchased at any time
- On-premise systems continue to operate when a connectivity plan is inactive
- Optional service plans affordably supplement the ability to remotely connect, adding comprehensive programming, sustainment, and preventative maintenance options

Example: REMCONN ETH 24MO CAR1			
Series	Connection Type	Service Length	Supported Countries
REMCONN Connectivity plan to enable remote access by factory representatives	ETH: Uses Ethernet connection to a customer-provided network with Internet access for communication with the CLAIRITY Link portal CELL 6,7,8: Includes a cellular plan to supplement or replace Ethernet connectivity for communication with the CLAIRITY Link portal	3MO: 3-month length 6MO: 6-month length 9MO: 9-month length 12MO: 12-month length 18MO: 18-month length 24MO: 24-month length	CAR1 US, Mexico, and Canada

SPECIFICATIONS'Control Module

Microprocessor: Single core 1.0 GHz Sitara ARM processor

Size: 4.74" H x 3.57" W x 2.31" D (12.03 cm x 9.07 cm x 5.86 cm)

Mounting: DIN rail mounted nLight ECLYPSE Assembly Size: 4.74" H x 14.76" W x 2.43" D (12.03 cm x 37.5 cm x 6.16 cm)

Ports: Ethernet: (2) switched RJ-45 Ethernet ports

USB Connections: 2 x USB 2.0 ports

RS-485 Serial Communications: Screw terminals (Used for either BACnet MS/TP

Subnet: RJ-45

Real Time Clock (RTC): Real Time Clock **RTC Battery:** 20 hours charge time, 20 days discharge time. Up to 500 charge / discharge cycles

Enclosure: FR/ABS UL94-V0 flammability rating

Environmental: Operating Temperature: 32°F to 122°F (0 to 50°C)

Storage Temperature: -22°F to 158°F (-30 to 70°C)

Relative Humidity: 0 to 90% non-condensing

Ingress Protection Rating: IP20

Security: FIPS Publication 140-2, Level 1 Compliant Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)

nLight Network Interface Module Size: 4.74" H x 3.20" W x 2.31" D (12.03 cm x 8.12 cm x 5.86 cm)

Mounting: DIN rail mounted

Ports: 3 nLight bus ports (RJ-45) nLight Bus Power Output: 0mA per port

Power Supply Module (24V)

Size: 24V: 4.74" H x 2.85" W x 2.31" D (12.03 cm x 7.24 cm x 5.86 cm)

Operating Voltage: 24V: 24VAC/DC; ±15%; Class 2 Output Voltage,

Rated Current & Power: 24V: 18VDC regulated, 0-1.6A, 30W max

Enclosure

Type: NEMA 1 rated surface mount screw cover

Size: 14.25"H x 14.25"W x 4.00"D (36.20cm x 36.20cm x 10.16cm)

Rating: UL 2043 (Plenum) Rated

CLAIRITY Link Router

Size: 2.92"H x 3.27"W x 0.99"D (74mm x 83mm x 25mm)

Power Consumption: < 6.5W

Input Voltage Range: 9-30VDC

Mobile: 4G LTE – up to 150Mbps

3G – up to 42Mbps

2G – up to 236.8kbps

United States – ATT, T-Mobile/Sprint, US

Cellular, Alaska Wireless

Mexico – Telefonica

Canada – Tellus, Bell, SaskTel6

Ethernet: WAN – 10/100Mbps; connects to an ownerprovided, Internet-connected network. May be used for nLight ECLYPSE controller discovery on the same network.

LAN-10/100Mbps; used for discovery of nLight ECLYPSE controllers that are connected to a network without Internet connectivity

Wireless Mode – IEEE 802.11b/g/n

Security – WPA2-Enterprise

Wi-Fi Hotspot – used for modem and SIM diagnostics

Wi-Fi Client – not supported

Environmental: Operating temperature – -40C to 75C

Operating humidity – 10% to 90% noncondensing

Storage temperature – -45C to 75C

Security: Firewall – pre-configured firewall

Attack Prevention – DDOS prevention, port scan prevention

WEB filter – whitelist for specifying allowed sites only

Access control – control of TCP, UDP, ICMP packets, MAC address filter

Complies with California Civil Code Title

1.81.26, Security of Connected Devices,

approved under Senate Bill No. 327 (2018)

Ingress Protection: IP30

Regulatory: FCC, IC/ISED, EAC, RCM, PTCRB, RoHS, CE/RED,

WEEE, Wi-Fi Certified, CCC, Anatel, GCF, REACH,

Thailand NBTC, Ukraine UCRF, SDPPI (POSTEL)

Antennas: Mobile – 698-960/1710-2690 MHz, SMA male connector

Wi-Fi – 2400-2483.5 MHz, SMA male connector

Input/Output Input: – 1x digital, non-isolated input (on 4 pin power connector)

Output – 1 x digital, open collector output (30 V,

300 mA, on 4 pin power connector)

SIM 1 x SIM slot (Mini SIM – 2FF), 1.8V/3V, external

SIM holder

Dimensions 83 x 25 x 74 mm

COMMUNICATION

Ethernet Connection Speed: 10/100 Mbps

Internet Protocol: IPv4

BACnet Profile: BACnet Building Controller (B-BC)

BACnet Listing: BTL, B-BC

BACnet Interconnectivity: BBMD forwarding capabilities

BACnet/IP to BACnet MS/TP routing

BACnet Transport Layer: MS/TP & IP (optional)

Web Server Protocol: HTML5

Web Server Application Interface: REST API

Supported BACnet MS/TP Connectivity:

- 1 x RS-485 serial communications port for BACnet MS/TP
- RS-485 EOL Resistor – Built-in
- RS-485 Baud Rates – 9600, 19200, 38400, or 76800 bps

Supported Wireless Connectivity:

- Wireless Adapter – USB Port Connection
- Wi-Fi Communication Protocol – IEEE 802.11b/g/n
- Wi-Fi Network Types – Client, Access Point, Hotspot

SYSTEM ARCHITECTURE

The nLight ECLYPSE serves as the backbone for nLight and nLight AIR digital lighting networks. The nLight ECLYPSE provides networked devices with schedule management and remote software programming via SensorView web-based software. The backbone also provides support for system-wide controls such as master override switches, automated demand response, and BACnet integration. One nLight ECLYPSE is capable of handling up to 750 total devices and up to 128 global channels for the entire network. The nLight ECLYPSE is also compatible with other Distech ECLYPSE products, offering a full suite of BAS capabilities.

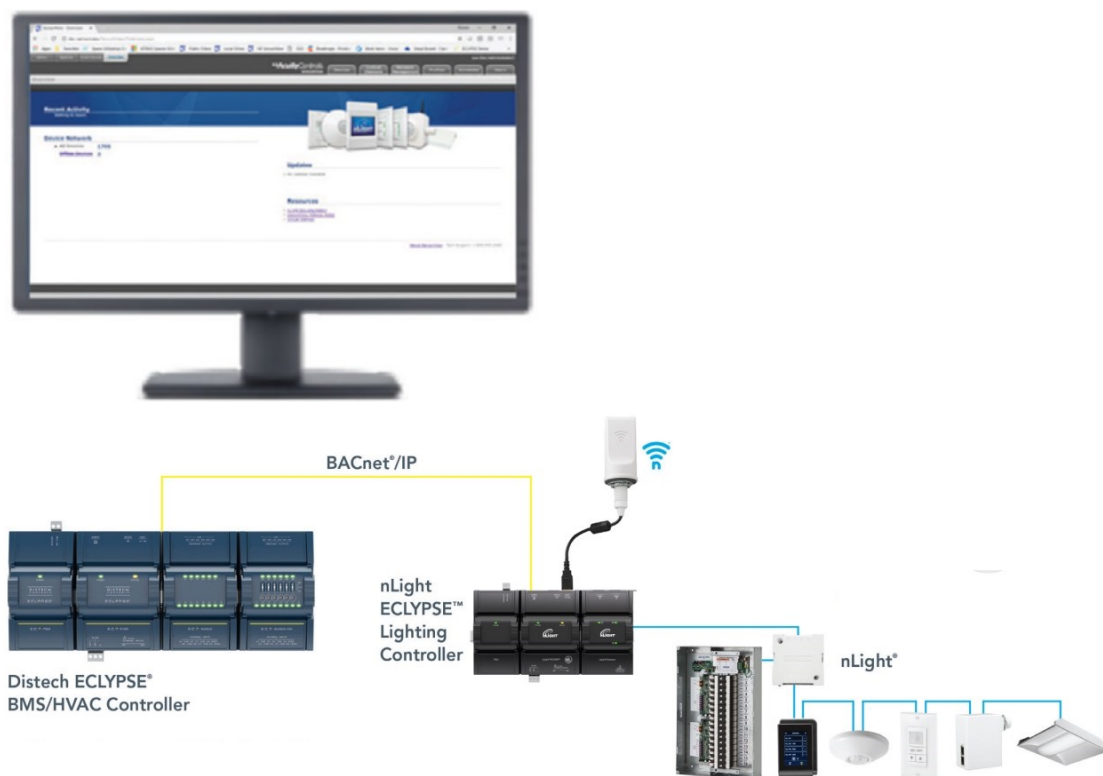
ENVYISION Lighting Control and Visualization



Space Utilization Edge Application



SensorView Lighting Configuration



Lightnetwork connects to nECY via onboard light port alight AIR network connects to NECY wa NECYD NLTAIR G2 adapter connected to ECY USB port).


nLight® AIR Wireless Controls



EXAMPLE NLIGHT ECLYPSE NOMENCLATURE AND OPTIONS

Example Nomenclature	Connection to Wired Devices	Maximum of 150 Wireless Devices	Maximum of 750 Wireless Devices	All License Options Available (BAC, SVS, SVEA)
NECY MVOLT ENC	✓	No AIR Adapter	No AIR Adapter	✓
NECY MVOLT ENC +NECYD NLTAIR G2	✓	Not Limited at 150	✓	✓
NECY MVOLT ENC <u>AIR</u>	No Wired Interface Module	✓	Reduced Capability	✓
NECY MVOLT ENC <u>AIR</u> + NECYREPLY INTF	✓	Not Limited at 150	✓	✓

Documents / Resources

	<p>nLiGHT ECLYPSE System Controller [pdf] User Manual ECLYPSE System Controller, ECLYPSE, System Controller, Controller</p>
-----------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------

References

-  [nLight® Networked Lighting Controls Platform](#)
-  [Terms and Conditions and Warranties | Acuity Brands](#)
-  [nLight® Networked Lighting Controls Platform](#)