Catalog Number: | Date: | Project:

OVERVIEW

The nLight ECLYPSE™ system controller connects an nLight® lighting network to support connectivity and 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

Warranty

Five-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

BACnet is a registered trademark of ASHRAE. ASHRAE does not endorse, approve or test products for compliance with ASHRAE standards. Compliance of listed products to the requirements of ASHRAE Standard 135 is the responsibility of BACnet International (BI). BTL is a registered trademark of BI.

Patents:
- US9819544B2
- EP3250970B1
- EP3139697B1
- US9924243B2
- US10073423B2
- US9608538B2
- CA2971061A1

nLight ECLYPSE™
System Controller

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ORDERING INFORMATION

NECY				Example: NECY MVOLT BAC ENC
Series	**Voltage**	**BACnet**	**AutoDR**	**Visualization Software**
nECY nLight ECLYPSE	MVOLT 120-277VAC 347 120-277VAC, 347VAC	[blank] Not Enabled BAC BACnet/IP & MS/TP Enabled	[blank] Not Enabled ADR Open ADR VEN	[blank] Not Enabled SVS[1] Envysion

Cellular Modem	**Enclosure**	**Wi-Fi Adapter**	**Options**
[blank] No Cellular Modem REM[5] Prewired CLAIRITY™ Link router with cellular SIM REMR[2,5] Prewired CLAIRITY™ Link router with cellular SIM and cloud-toggleable relay	ENC NEMA Type 1 metal enclosure	[blank] Includes Wi-Fi Adapter NW No Wi-FI Adapter Included	[blank] None SEP Single Ethernet Port GFXK[3] Touchscreen interface (model nGWY2 GFX, mounted separately), PS 150 power supply, CAT5 cable AIR[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 CL**AIR**ITY Link solution is enabled through a connectivity plan (REMCONN). Purchase of a CL**AIR**ITY 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, CL**AIR**ITY 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 CL**AIR**ITY Link portal CELL[6,7,8] Includes a cellular plan to supplement or replace Ethernet connectivity for communication with the CL**AIR**ITY 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

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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 with rechargeable battery. Supports SNTP network time synchronization
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, SaskTel[6]
Ethernet:	WAN - 10/100Mbps; connects to an owner-provided, 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% non-condensing 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

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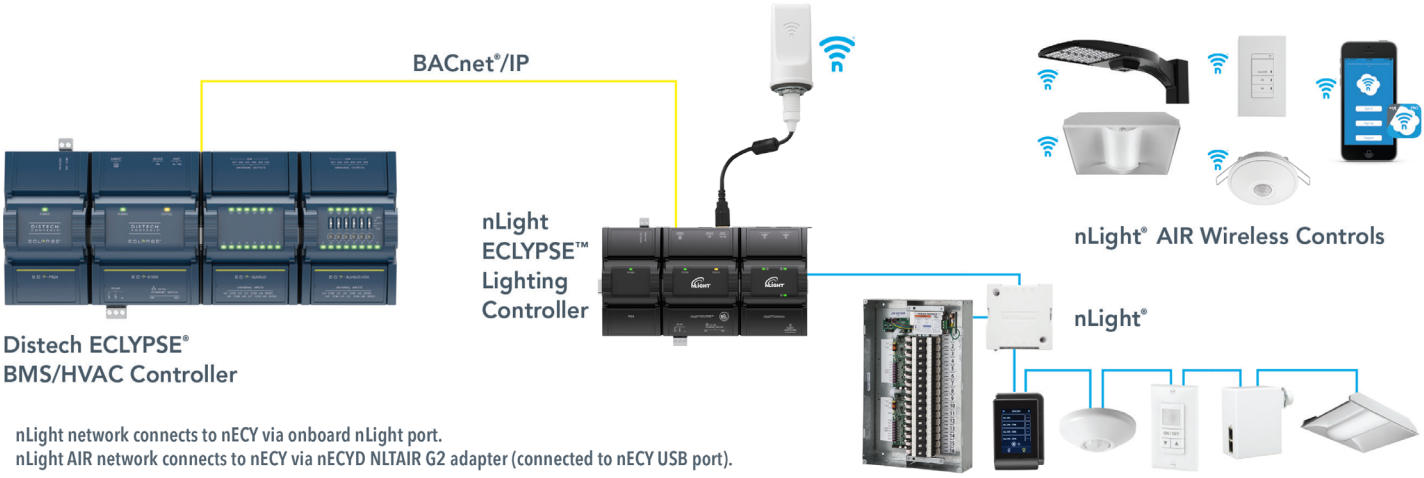
SYSTEM ARCHITECTURE

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.

ENVYSION
Lighting Control and Visualization

Space Utilization
Edge Application

SensorView
Lighting Configuration



nLight network connects to nECY via onboard nLight port.
nLight AIR network connects to nECY via nECYD NLTAIR G2 adapter (connected to nECY USB port).

HVAC Integration with ECLYPSE and Third Party Controllers

Lighting Management and Control Through Web Applications

Connection with nLight Wired and nLight AIR Devices

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 AIR	No Wired Interface Module	✓	Reduced Capability	✓
NECY MVOLT ENC AIR + NECYREPLY INTF	✓	Not Limited at 150	✓	✓

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