

LightSweep™

Modular Lighting Control System



GE's modular indoor lighting control solution is scalable and highly flexible making it easier to meet specification without having to over-engineer the control design. From a single space to multiple facilities, from simple schedules to advanced energy management systems...our solution can be easily designed and tailored to address your lighting control needs.

Component modules simply snap in and are factory installed in panels or field installed remotely.

Scalable system from switching platform to time clock to computer interface to web enabled.

Installed as stand-alone or networked panels.

Device networking done using Cat 5 cabling.

Web server for custom graphic and remote control using a web browser.

- **Pre-wired RR7 or RR9 relays**
- **Push-button override with LED status indication for each relay**
- **Maintenance free flash memory**

Ordering

A complete assembly consists of four components

CLCTUBXX	Metal Tub
CLCCOVXXS	Metal Cover
CLCINTERXXXX	Interior with Optional Modules
CLCXFRXX	120/277 or 347 VAC Transformer

Optional Components

CLCGSM8	Group Switch Module
CLCRMS6/CLCRM6	Relay Module
CLCPIM	Power Injector Module

Network Components

CLCDLS	Dataline Scheduler
CLCSWTX	Dataline Switch

Specifications

Enclosure Sizes (HxWxD)

6 relay:	12" x 12" x 4.1"
12 relay:	23.1"x14.2"x 4.1"
24 relay:	38.1"x14.2"x 4.1"
36 relay:	48.9"x14.2"x 4.1"
48 relay:	60.1"x14.2"x 4.1"

Inputs

Switch, motion sensor and photocell

Outputs

Relay output
Network devices
Additional Panels
Dataline switches
Dataline scheduler

Communications Port

CAN Network @40k bps

Device Address

Set via rotary dials Address range: 1 to 99

Connectors

Class 1: lighting circuit loads
Class 2: module connections

Network Wiring

CAT5

Input Power

120 VAC or 277 VAC 50Hz/60Hz
347 VAC 50Hz/60Hz

Ambient

32° to 104°F (0° to 40°C),
with enclosure 10-90% RH (non-condensing)

Approvals/Standards

UL 916

LightSweep™

Modular Lighting Control System

CLCRM6/RMS6



Application

The **CLCRMx6** provides control of up to six relays per module allowing a lighting panel to be built up based on the number of relays the panel requires and reducing costs. This also allows for simple expansion of a panel to add in additional modules and relays until the panel capacity is reached.

The version of the module has six 2-position (On/Off) terminals with pilot/locator functionality. These terminals allow for 3-wire and 2-wire Momentary and Maintained switch operation based on how the switches are wired to the terminals.

Specifications

Inputs

6 2-position closed-contact switch inputs (RMS6)

Outputs

Compatible with RR7 and RR9 relays

Technology

32-bit ARM Processor with internal A/D, Flash and RAM

Communications Port

CAN Network @40k bps

Device Address

Set via rotary dials Address range: 1 to 99

Connectors

Inputs: spring-clip terminal connectors

Outputs: 5-pin MTA

Network/Power: (2) 4-pin MTA

Wiring Class

Class 2

Power

24 VAC

4 VA

Ambient

32° to 131°F (0° to 55°C), with enclosure

10-90% RH (non-condensing)

Dimensions

5 1/2 x 4 3/4 x 1 1/8 in.

(14 x 12.1 x 2.9 cm) with housing

0.34 lb. (155g) with housing

Compliance

CE

FCC

Approvals/Standards

UL 916

The **CLCRMx6 Relay Module** will connect up to six RR style relays to the modular lighting control system. Supports relays with or without feedback with LED status indication and pushbutton toggle operation.

The **CLCRMS6** has six switch input terminals with pilot light operation for relays which have the optional feedback, or jumper selectable locator light operation for those without.

- Controls up to 6 relays with or without feedback
- Optional relay control via 6 hardwired switch inputs
- Color-coded spring-type terminals for switch wiring
- Pushbutton programming capable for basic operation
- Toggle relay state via pushbutton
- Jumper selectable for Pilot or Location switch functionality
- Communicating on CAN lighting network

Ordering

Order the controller and desired options with the following product numbers:

CLCRM6 6 Relay Control Module

CLCRMS6 6 Relay Control Module with 6 direct-control switch inputs

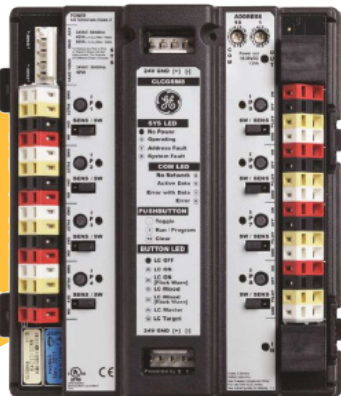
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Modular Lighting Control System

CLCGSM8



The **CLCGSM8** Group Switch Module will connect up to eight inputs to the Modular Lighting Control System. Through the color-coded spring clip terminals, the device supports switches, photocells and motion sensors. When not used for switches, the pilot light terminals may be configured to provide power to the connected sensors simplifying installation.

Pushbutton programming provides a simple means of assigning the input to groups of relays and other group inputs on the lighting network. Module doubles as a power injector distributing power to the panel's relay modules and the lighting network, providing status indication for network power monitoring.

- **8 programmable inputs**
- **Inputs can be configured for switches, photocells or motion sensors**
- **Color-coded spring-type terminals for switch wiring**
- **Pushbutton programming capable for basic operation**
- **Toggle switch state via pushbutton**
- **Jumper selectable for binary contacts or analog photocell**
- **Communicating on CAN lighting network**

Ordering

Order the controller and desired options with the following product numbers:

CLCGSM8

8 Group Switch Module

Application

The **CLCGSM8** provides a way to map a variety of system input devices such as switches, motion sensors and photocells to relays and smaller nested lighting groups. Status indication on the device is derived from the status of the devices which is under its control providing immediate useful feedback about them. Pushbutton programming allows users to quickly program basic group switch to relay associations, while more advanced motion sensor and photocell operation is programmed via software or the dataline scheduler.

Specifications

Inputs\Outputs

8 4-position connectors for closed-contact switch/motion/photocell inputs including pilot/locator light outputs

Technology

32-bit ARM Processor with internal A/D, Flash and RAM

Communications Port

CAN Network @40k bps

Device Address

Set via rotary dials Address range: 1 to 99

Connectors

Power In: 5-pin MTA
Inputs: spring-clip terminal connectors
Network/Power: (2) 4-pin MTA, (2) RJ45

Wiring Class

Class 2

Power

24 VAC
14.5 VA

Ambient

32° to 131°F (0° to 55°C), with enclosure
10-90% RH (non-condensing)

Dimensions

5 1/2 x 4 3/4 x 1 1/8 in.
(14 x 12.1 x 2.9 cm) with housing
0.34 lb. (155g) with housing

Compliance

CE
FCC

Approvals/Standards

UL 916

LightSweep™

Modular Lighting Control System

CLCPIM



The **CLCPIM** Power Injector Module is used to provide 24 VAC power to field devices (network switches) or can be used in relay panels instead of the **CLCGSM8** if there is no need for Group Switching.

- **Provides network continuity and power for field devices or relay panels.**

Application

The **CLCPIM** can be used in relay panels if no group switching or dimming functions are required.

CLCPIM allows to expand the number of switches connected to the dataline.

Ordering

Order the controller and desired options with the following product numbers:

CLCPIM Power Injector Module

Specifications

Inputs\Outputs

N/A

Communications Port

CAN – pass through

Device Address

No address required

Connectors

Power In: 5-pin MTA

Network/Power: (2) 4-pin MTA, (2) RJ45

Wiring Class

Class 2

Power

24 VAC

14.5 VA

Ambient

32° to 131°F (0° to 55°C), with enclosure
10-90% RH (non-condensing)

Dimensions

5 1/2 x 4 3/4 x 1 1/8 in.

(14 x 12.1 x 2.9 cm) with housing

0.34 lb. (155g) with housing

Compliance

CE

FCC

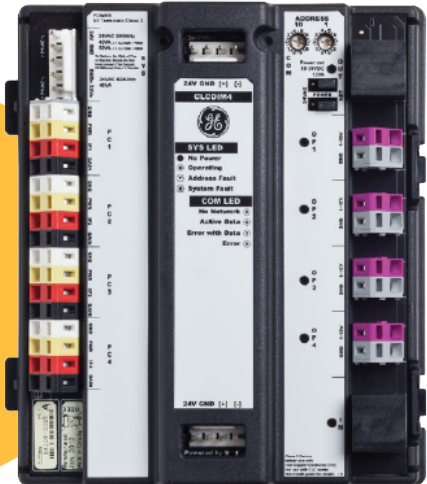
Approvals/Standards

UL 916

LightSweep™

Modular Lighting Control System

CLCDIM4



The **CLCDIM4 dimming module** controls four dimming channels. Through the color-coded spring terminals, the device provides 0-10V dimming controlled by a photocell for daylighting operations, as well as advanced scene control via devices in the CLC network.

The module can be powered via the CLC network or can double as a power injector distributing power to the panel's relay modules and the lighting network, providing status indication for network power monitoring.

- Connects up to 4 photocell inputs
- Connects up to 4 0-10V dimming outputs
- Color-coded spring-type terminals for photocell and ballast
- Closed-loop daylighting control build into channel
- LED output indication of level
- Jumper selectable for network or transformer power
- Communicating on CAN lighting network.

Ordering

Order the controller and desired options with the following product numbers:

CLCDIM4

4 Channel Dimming Module

Application

The **CLCDIM4** provides daylighting and analog scene control to the CLC system.

The channels daylighting setpoint, or analog outputs can be controlled using switches in the CLC system so that operation is coordinated with On/Off relay control of the circuits.

Photocell control provides closed loop control for indoor type sensors, and open loop control for outdoor, atrium or skylight sensors. Closed loop will allow setpoint control to a given footcandle value, while open loop control will linearly vary the output based on a specified range of the photocell.

Specifications

Inputs\Outputs

4 photocell inputs/
4 – 0-10v outputs – 25mA sync current per output

Technology

32-bit ARM Processor with internal A/D,
Flash and RAM

Communications Port

CAN Network @40k bps

Device Address

Set via rotary dials Address range: 1 to 99

Connectors

Power In: 5-pin MTA
Inputs: spring-clip terminal connectors
Network/Power: (2) 4-pin MTA, (2) RJ45

Wiring Class

Class 2

Power

24 VAC
13 VA

Ambient

32° to 131°F (0° to 55°C), with enclosure
10-90% RH (non-condensing)

Dimensions

5 1/2 x 4 3/4 x 1 1/8 in.
(14 x 12.1 x 2.9 cm) with housing
0.34 lb. (155g) with housing

Compliance

CE
FCC

Approvals/Standards

UL 916

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CLCDLS



The **CLCDLS touch screen Scheduler** provides 8 schedules to control any relays or groups in the lighting system. It also provides astronomical clock information, calculating sunrise and sunset times based on UTC and location. 8 additional lighting control groups are available for Common Area control or other grouping needs.

The device is powered off the same structured cabling which powers the CLCSWTx Network Switches, and provides a user interface into the network for configuring any device in the network independent of where it is located.

- **3.5" Full Color Touchscreen**
- **8 weekly schedules with up to 8 durations per day**
- **Single or recurring exceptions to each schedule**
- **Real time clock with Super-cap backup**
- **Configuration interface for entire lighting network**
- **Astronomical clock functionality**
- **8 additional programmable groups**
- **Communicating and powered from CAN lighting network**

Ordering

Order the controller and desired options with the following product numbers:

CLCDLS Touchscreen Dataline Scheduler

Application

The **CLCDLS** can turn On and/or Off up to 60 individual relays or lighting control groups for each schedule, with scheduling exceptions or astro functionality. Any lighting control group in the network may enable or disable functionality based on time of day by subscribing to any schedule.

The dataline scheduler doubles as a user interface into the lighting network allowing the user to configure, edit and operate all switches, sensors, relays and remote schedules in the system. It can be mounted in the LCP or on a standard electrical wall box for mounting in the space. Each **CLCDLS** adds 8 schedules to the system, providing scalability for any advanced lighting application scenarios.

Specifications

Technology

32-bit ARM Processor with internal A/D, Flash and RAM

Communications Port

CAN Network @40k bps

Device Address

Set via touchscreen Address range: 1 to 99

Connectors

Network/Power: (2) RJ45

Wiring Class

Class 2

Power

24 VDC
3 VA

Ambient

32° to 131°F (0° to 55°C),
with enclosure 10-90% RH (non-condensing)

Dimensions

5 x 3 1/4 x 1 1/4 in.
(12.7 x 8.3 x 2.6 cm) with housing
0.34 lb. (155g) with housing

Compliance

CE
FCC

Approvals/Standards

UL 916

LightSweep™

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CLCBNET



The **CLCBNET controller** expands the features of a stand-alone Lighting Control System to a fully programmable with computer front-end system, with capability for seamless integration to EMS using the BACnet protocol.

It is a fully programmable native BACnet controller, supporting the BACnet MS/TP, BACnet over Ethernet and BACnet IP.

The CLCBNET maps the lighting system's objects: relays, analog I/O's (dimming channels, photocell inputs) and provides control and schedule functionality.

It is a fully programmable native BACnet controller, supporting the BACnet MS/TP, BACnet over Ethernet and BACnet IP.

The CLCBNET maps the lighting system's objects: relays, analog I/O's (dimming channels, photocell inputs) and provides control and schedule functionality.

- **Controls up to 99 CAN devices**
- **Dynamically learns all devices on the CAN bus and displays the object configuration.**
- **Allows for remote programming and monitoring via Ethernet or TCP/IP**
- **Push-button switch for automatic program transfer to CAN devices**
- **Custom programming**
- **Event logging and trending, alarming**

Ordering

Order the controller and desired options with the following product numbers:

CLCBNET BACnet Interface Module

Application

CLCBNET is used for applications requiring computer front-end for programming and monitoring, integration to EMS using the BACnet protocol, web interface for lighting control system. campus applications with remote buildings or multi-site applications.

Specifications

Communication Ports

CAN lighting network

- Communication speed 40 kbps
- Maximum 99 nodes per CAN segment

Ethernet

- 3-Port 10/100 Switch
 - BACnet IP, BACnet Ethernet
- USB – 2 USB ports

Inputs

Two push-buttons (Reset, Transfer)

Technology

ARM Processor with internal Flash and RAM
Real-time clock
Ultra capacitor backup for RTC

Device Address

BACnet - set via software
CAN – set to 100

Connectors

CAN Network 3-pin terminal
Ethernet – 3-port RJ45 connector
Power: 2-pin terminal
BACnet RS485: 3-pin terminal

Wiring Class

Class 2

Power

24 VAC 50/60 Hz, 12VA
10-28 VDC, 4.2W

Ambient

32° to 131°F (0° to 55°C),
10-90% RH (non-condensing)

Dimensions

5"x5.4"x2.6"

Compliance

CE
FCC

Approvals/Standards

UL 916

LightSweep™

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CLCSWTX



The **CLCSWT** Network Switch uses capacitive touch technology to eliminate the lifecycle issues usually present in mechanical switches. The touch areas can be user configured for 1, 2, 4 and 8 buttons per gang and fit in a standard decor style switch plate cover to allow for whatever look the designer wants. Simple switch labeling provides designers with infinite flexibility for background and text color along with font choices.

LED indicators for each button show the status of the lights under its control. Basic programming can be done through the same simple pushbutton programming which is present in the Relay and Group Switch modules, while advanced setup is handled through the Scheduler and software interfaces.

- **User configurable for 1, 2, 4 or 8 buttons**
- **LED status for each button**
- **Fits standard decor style light switch plate cover**
- **Pushbutton programming capable for basic operation**
- **Customizable labeling**
- **Powered off the lighting network structured cabling**
- **Communicating on CAN lighting network**

Ordering

Order the controller and desired options with the following product numbers:

CLCSWT1	Preconfigured 1 Button Network Switch
CLCSWT2	Preconfigured 2 Button Network Switch
CLCSWT4	Preconfigured 4 Button Network Switch
CLCSWT8	Preconfigured 8 Button Network Switch

Application

The CLCSWT Network Switch provides the best in functionality and flexibility. Décor style plate sizing allows for off-the-shelf plate covers in all available colors, while the one piece label can be printed using color printers to match any color or style imaginable.

The configurable number of buttons can expand as the installation does, allowing the same switch to operate more circuits without having to swap out hardware. LED status of the controlled circuits is based of real feedback from the system.

Specifications

Inputs

8 capacitive touch switch buttons
1 capacitive touch program button

Outputs

8 pilot/locator light outputs

Technology

32-bit ARM Processor with internal Flash and RAM

Communications Port

CAN Network @40k bps

Device Address

Set via rotary dials Address range: 1 to 99

Connectors

Network/Power: (2) RJ45

Wiring Class

Class 2

Power

24 VDC
0.5 VA

Ambient

0° to 131°F (0° to 55°C), with enclosure
10-90% RH (non-condensing)

Dimensions

4.13 x 1.65 x 0.71 in.
(10.5 x 4.2 x 1.8 cm) with housing
0.1 lb. (47g) with housing

Compliance

CE
FCC

Approvals/Standards

UL 916

LightSweep™

Modular Lighting Control System

CLCTSIX



The **CLCTSIX** is a 7-inch diagonal, high resolution, wide-screen format, color LCD used for interfacing with the LightSweep™ modular lighting control system. The CLCTSIX uses BACnet over Ethernet to communicate with controllers on a local area network. User created graphics allow the CLCTSIX to be completely customized for a given application.

- **High resolution, wide-screen display**
- **Touch screen interface, no stylus required**
- **Attractive, modern design, install in any location**
- **Panel, wall, new and retrofit wallboard mounting**
- **Create custom graphics using GE software**
- **Modify controller schedules and calendars**
- **Display and acknowledge alarms**
- **Change setpoints, monitor inputs and outputs**
- **Multiple users and passwords for restricting access**
- **Supports BACnet over Ethernet communications**
- **Firmware can be flash loaded over the network**

Ordering

Order the controller and desired options with the following product numbers:

CLCTSI-1	Operator Display
CLCTSI-2	BACnet System Manager
CLCTSI-3	BACnet System Manager with embedded web server

Application

The **CLCTSIX** allows operators to monitor and manage LightSweep™ modular lighting control system by using custom real-time graphics. Designed to be mounted in small spaces, the **CLCTSIX** can be wall or panel mounted in an administrative area, allowing for light monitoring, setting time schedules.

or changing the output level for the daylight harvesting. It can also be used as a Master Switch station to control the lighting in different sections in the building using custom graphic screens representing the floor layouts.

Specifications

BACnet Device Profile

BACnet Operator Display (B-OD)
(proposed new profile)

Communication

BACnet over Ethernet

Technology

32-bit ARM9 Processor @ 240MHz

256MB Flash Memory
(~195 MB available for graphics and CLCTSI database)

Real-time clock

Super capacitor for 72-hr backup of real-time clock

LCD Display

Touch screen LCD
with 7-inch diagonal widescreen display

High resolution 800 x 480 (WVGA), 16bit color

~40,000 hrs backlight lifetime

Sound

2-Speakers

Occupancy Sensor

Passive infrared motion sensor
5m detection

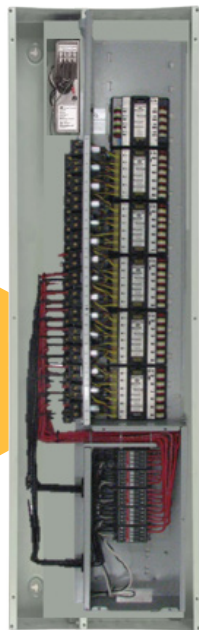
Approvals/Standards

UL 916

LightSweep™

Modular Lighting Control System

UL 924 – Emergency Lighting Equipment



UL 924 Panel Features

- Pre-wired RR9 relays and lighting contactors for emergency circuits
- Push-button override with LED status indication for each relay
- Maintenance free flash memory
- CLCGSM8 – Group Switch Module

Network Components

CLCDLS Dataline Scheduler

CLCSWTX Dataline Switch

Specifications

Enclosure Sizes (HxWxD)

24 relay: 38.1"x14.2"x 4.1"

48 relay: 60.1"x14.2"x 4.1"

Inputs

Switch, motion sensor and photocell

Outputs

Relay output
Network devices
Additional Panels
Dataline switches
Dataline scheduler

Communications Port

CAN Network @40k bps

Device Address

Set via rotary dials Address range: 1 to 99

Connectors

Spring-clip terminal connectors
RJ45 for network

Wiring Class

Class 1: lighting circuit loads
Class 2: module connections

Network Wiring

CAT5

Input Power

120 VAC or 277 VAC 50Hz/60Hz

Ambient

32° to 104°F (0° to 40°C),
with enclosure 10-90% RH (non-condensing)

Approvals/Standards

UL916; UL 924

The **UL 924** panel can be included as a part of any LightSweep system. The UL 924 panel provides for control of emergency circuits when main power is interrupted.

GE's modular indoor lighting control solution is scalable and highly flexible making it easier to meet specification without having to over-engineer the control design. From a single space to multiple facilities, from simple schedules to advanced energy management systems...our solution can be easily designed and tailored to address your lighting control needs.

Scalable system from switching platform to time clock to computer interface to web enabled. Installed as stand-alone or networked panels. Device networking done using Cat 5 cabling. Web server for custom graphic and remote control using a web browser.

Ordering

A complete assembly consists of four components

CLCTUBXX	Metal Tub (24 or 48 size only)
CLCCOVXXS	Metal Cover (24 or 48 size only)
CLCXFRMV	120/277 Transformer
INTE24-S12-G00X	12 emergency circuits
INTE48-S18-G00X	18 emergency circuits plus 12 normal circuits
INTE48-S24-G00X	24 emergency circuits

x = 1 for 120VAC contactor, 2 for 277VAC contactor

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