# GLPP

## Crestron Green Light® Power Pack

> Lighting control for 100-277 Volt AC loads

> Ideal for new construction or retrofits

> Quick and easy commissioning via optional handheld remote (GLPPA-REMOTE-PROG)

> Wired or wireless link to central Crestron® system

> 1-, 2-, and 3-channel models available

> Switched and 0-10V dimming models available

> Occupancy sensor and photosensor integration

> Support for up to three remote keypads

> Easy keypad wiring using existing switch-loop wiring

> Optional handheld remote for daily use (GLPPA-REMOTE-USER)

> Real-time energy monitoring on select models

> Adaptive zero-cross switching for extended life

> Seamless integration with Crestron AV systems

> CEC Title 24 2013 Compliant

> UL 2043 Listed

The Crestron Green Light® Power Pack (GLPP) family delivers affordable room lighting control with essential features for reducing energy usage. Available with up to three channels of switching or 0-10V dimming, each GLPP model includes inputs for a photosensor and for an occupancy sensor for intelligent lighting control based on the amount of natural light and the presence of people in a space. The GLPP Series offers a cost-effective and powerful lighting control solution for classrooms, small offices, and open-plan offices.

Ideal for new construction as well as retrofitting existing buildings, GLPPs are designed to install and commission quickly and without hassle. Additionally, the GLPP can be connected to a central control system, enabling it to become an integral part of the building energy management system. The dimming models also include built-in power monitoring to track energy usage in real time, providing accurate metrics to assess real power savings. When installed as a standalone lighting system, the GLPP can be easily commissioned via an optional, wireless IR remote (the GLPPA-REMOTE-PROG).

### Easy Installation
Designed to mount directly over a pair of adjacent 4" square electrical boxes, the GLPP is easy to prepare for and install. High- and low-voltage connections are made using the labeled, color-coded flying-lead wires. Once installed, each unit is instantly operational with out-of-the-box default settings adequate for many applications.

Further commissioning tweaks to the GLPP are a snap with the optional GLPPA-REMOTE-PROG remote. For added convenience, this remote can use the IR receiver on a GLS-ODT-C-NS or GLS-OIR-C-NS occupancy sensor that is connected to the GLPP to send commissioning and setup commands. If occupancy sensors are not present, the optional GLPPA-IRGW-F flush-mount, external IR receiver facilitates the smooth operation of a GLPP remote in any size room.

### Energy Efficiency
Occupancy sensor and photosensor inputs drive the potential for significant energy savings. Lights will turn off automatically when the room is vacated, and rooms with adequate daylight will dim automatically. During the simple commissioning process, these cost-saving techniques can be made permanent to prevent users from overriding them

### Built-in Power Monitoring
Power monitoring, included on all dimming models,[1] tracks the real time energy usage of each GLPP to help control energy costs. By analyzing real data, organizations can make more educated decisions regarding energy resources, which will have greater impact on the bottom line.

### User Interface Options
Recall specific scenes or manually adjust lighting in a space with up to three, 4-button GLPPA-KP keypads or the optional handheld GLPPA-REMOTE-USER user remote. To help promote installation in existing spaces, these discrete keypads can be installed in place of standard toggle switches by utilizing existing switch-loop wiring.[2]

### Adaptive Zero-Cross Switching
The GLPP is built to last and to extend the life of the connected ballasts and lamps. By using a proprietary, closed-loop zero-cross switching scheme, the GLPP ensures that relay contacts close under no load.

### Crestron® Integrated Building Control System
As with all Crestron products, control goes beyond just a single room. While the GLPP is a great single room solution, it is designed to be part of a larger Crestron integrated building system, linked via wired or wireless communication to the central control system. With Crestron Fusion® software, building managers have total energy monitoring, management, and control capabilities over all GLPPs and other installed Crestron equipment.

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**Cresnet® Models - Wired Communications**

Robust and reliable communications between the GLPP and a control system is provided over the Cresnet bus. The versatile topology of Cresnet means that installers can home-run, daisy-chain, or mix and match as needed. Cresnet connects to the GLPP via flying leads with wire nuts, eliminating any need for crimpers or connectors and making for a more secure, trouble-free termination.

**infiNET EX® Models - Wireless Communications**

Ultra-reliable infiNET EX wireless technology provides steadfast 2-way RF communications throughout a commercial structure without the need for physical control wiring. Employing a 2.4 GHz mesh network topology, each infiNET EX device functions as an expander, passing command signals through to every other infiNET EX device within range (approximately 150 feet or 46 meters indoors), ensuring that every command reaches its intended destination without disruption.[3]

The GLPP communicates with a Crestron control system via an infiNET EX Wireless Gateway (model CEN-GWEXER, DIN-AP3MEX, or MC3 [4]). Up to 100 infiNET EX devices may coexist on a single wireless network, and every device that is added to the network effectively increases the range and stability of the entire network by providing multiple redundant signal paths.[3]

## SPECIFICATIONS

### Load Ratings

**Number of Dimming or Switching Channels:**  1, 2, or 3, depending on model
**Per Unit:**  16 Amps at 100-277 Volts AC, 50/60 Hz (20 Amps, de-rated to 80%)
**Dim Load Types:**  0-10 Volt fluorescent ballast (4-wire); 0-10 Volt LED drivers; 60 mA max current sink
**Switch Load Types:**  Fluorescent ballast, incandescent, magnetic low-voltage, electronic low-voltage, neon/cold cathode, high-intensity discharge
**Relay Lifetime:**  1,000,000 cycles

### Power Requirements

**Power Consumption:**  Wired Models: 1.5 Watts at 120-277 Volts, with no sensors or keypads attached;
Wireless Models: 2 Watts at 120-277 Volts, with no sensors or keypads attached
**Main Power:**  100-277 Volts AC, 50/60 Hz
**Available Sensor Power:**  150 mA at 24 Volts DC (sufficient for powering multiple sensors)

### Wired Communications — Cresnet® Models Only

Cresnet [5]

### Wireless Communications — infiNET EX® Models Only

**RF Transceiver:**  infiNET EX 2-way RF, 2.4 GHz ISM Channels 11-26 (2400 to 2483.5 MHz), default channel 15; IEEE 802.15.4 compliant

**Range (Typical):**  150 ft (46 m) indoor, 250 ft (76 m) outdoor, to nearest mesh network device(s); Subject to site-specific conditions and individual device capabilities[3]
**Gateway:**  Requires an infiNET EX gateway[4]

### Controls & Indicators

**POWER:**  (1) Green LED, indicates line voltage is supplied to unit
**STATUS:**  (1) Red LED, indicates unit is in Setup mode
**STATUS:**  (1) Recessed push button, toggles Setup mode
**IR RECEIVER:**  (1) IR window, for use with commissioning remote control

### Connections (Class 1)

**HOT:**  (1) 14 AWG Class 1 flying lead, black, line in (100-277 VAC)
**NEUT:**  (1) 14 AWG Class 1 flying lead, white
**SW HOT:**  (1, 2, or 3) 14 AWG Class 1 flying lead(s), red, switched hot labeled with channel number
**GROUND:**  (1) 14 AWG Class 1 flying lead, green with yellow stripe

### Connections (Class 1) – Dimmer Models Only

**0-10V dim(+):**  (1, 2 or 3) 18 AWG Class 1 flying lead(s), violet, labeled with channel number
**0-10V dim(-):**  (1) 18 AWG Class 1 flying lead, gray

### Connections (Class 2)

**COM:**  (1) 18 AWG Class 2 flying lead, black; common for sensors, IR and Cresnet
**24V:**  (1) 18 AWG Class 2 flying lead, red, sensor power
**OCC:**  (1) 18 AWG Class 2 flying lead, orange, signal for occupancy sensor
**PHOTO:**  (1) 18 AWG Class 2 flying lead, yellow, signal for photo sensor
**IR:**  (1) 18 AWG Class 2 flying lead, brown wire, connects to IR terminal of GLS-ODT-C-NS or GLS-OIR-C-NS occupancy sensor; if sensors are not present, brown wire can also connect with optional flush-mount, external IR receiver (GLPPA-IRGW-F)
**KEYPAD:**  (2) 18 AWG Class 2 flying leads, white with black stripe, supports up to three (3) GLPPA-KP Power Pack Keypads

### Connections (Class 2) – Cresnet Models Only

**CNET Z:**  (1) 18 AWG Class 2 flying lead, blue, Cresnet Data Z
**CNET Y:**  (1) 18 AWG Class 2 flying lead, white, Cresnet Data Y

### Connections (Class 2) – infiNET EX Models Only

**Antenna:**  (1) Connection for supplied antenna

### Construction

**Chassis:**  20-gauge galvanized steel enclosure
**Mounting:**  Attaches to two (2) adjacent standard 4" square electrical junction boxes;[6] 3-channel versions require a box depth of 2-1/8" (54 mm); meets the requirements of UL 2043 for installation in an environmental air-handling (plenum) space

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## Environmental

**Temperature:**  32° to 104° F (0° to 40° C)
**Humidity:**  10% to 90% RH (non-condensing)

## Dimensions

**Height:**  4-1/4 in (108 mm)
**Width:**  8-5/8 in (220 mm);
9-13/16 in (250 mm) with antenna at 90° angle (wireless models only)
**Depth:**  1-7/8 in (48 mm)

## Weight

2 lbs (907 g)

## Standards & Certifications

FCC;
UL 916;
UL 2043 listed for installation in an environmental air handling space;
Relays listed under UL 508 Section 41 (Endurance Test) and Section 61C (Electronic Ballasts);
CEC Title 24 2013 Compliant

## MODELS & ACCESSORIES

### Available Models

**GLPP-SWCN:**  Crestron Green Light® Power Pack, 1-Channel Switch w/ Cresnet®
**GLPP-1SW2CN:**  Crestron Green Light® Power Pack, 2-Channel Switch w/ Cresnet®
**GLPP-1SW3CN:**  Crestron Green Light® Power Pack, 3-Channel Switch w/ Cresnet®
**GLPP-DIMFLVCN-PM:**  Crestron Green Light® Power Pack, 1-Channel 0-10V Dimmer w/Cresnet® & Built-in Power Monitoring
**GLPP-1DIMFLV2CN-PM:**  Crestron Green Light® Power Pack, 2-Channel 0-10V Dimmer w/Cresnet® & Built-in Power Monitoring
**GLPP-1DIMFLV3CN-PM:**  Crestron Green Light® Power Pack, 3-Channel 0-10V Dimmer w/Cresnet® & Built-in Power Monitoring
**GLPP-SWEX:**  Crestron Green Light® Power Pack, 1-Channel Switch w/ infiNET EX® Wireless
**GLPP-1SW2EX:**  Crestron Green Light® Power Pack, 2-Channel Switch w/ infiNET EX® Wireless
**GLPP-1SW3EX:**  Crestron Green Light® Power Pack, 3-Channel Switch w/ infiNET EX® Wireless
**GLPP-DIMFLVEX-PM:**  Crestron Green Light® Power Pack, 1-Channel 0-10V Dimmer w/infiNET EX® Wireless & Built-in Power Monitoring
**GLPP-1DIMFLV2EX-PM:**  Crestron Green Light® Power Pack, 2-Channel 0-10V Dimmer w/infiNET EX® Wireless & Built-in Power Monitoring
**GLPP-1DIMFLV3EX-PM:**  Crestron Green Light® Power Pack, 3-Channel 0-10V Dimmer w/infiNET EX® Wireless & Built-in Power Monitoring

### Available Accessories

**GLPPA-KP-W-S:**  In-wall Keypad for GLPP, White Smooth

**GLPPA-KP-B-S:**  In-wall Keypad for GLPP, Black Smooth
**GLPPA-KP-A-S:**  In-wall Keypad for GLPP, Almond Smooth
**GLPPA-REMOTE-PROG:**  Commissioning Remote for GLPP
**GLPPA-REMOTE-USER:**  User Remote for GLPP
**GLPPA-IRGW-F:**  IR Gateway for GLPP, Flush Mount
**GLS-ODT-C-NS:**  Dual-Technology Ceiling Mount Occupancy Sensor
**GLS-OIR-C-NS:**  Passive Infrared Ceiling Mount Occupancy Sensor
**GLS-LOL:**  Crestron Green Light® Photocell, Open-Loop
**GLS-LCL:**  Crestron Green Light® Photocell, Closed-Loop
**GLS-LEXT:**  Crestron Green Light® Photocell, Outdoor
**CEN-GWEXER:**  infiNET EX® & ER Wireless Gateway (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)
**MC3:**  3-Series Control System® w/infiNET EX® (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)
**DIN-AP3MEX:**  DIN Rail 3-Series® Automation Processor w/infiNET EX® (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)
**CLW-EXPEX-GD-W-T:**  infiNET EX® Wireless Expander, Ground Pin Down, White Textured (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)
**GLA-EXPEX:**  Crestron Green Light® Wireless Expander for infiNET EX® Networks (Only for: GLPP-1DIMFLV2EX-PM, GLPP-1DIMFLV3EX-PM, GLPP-1SW2EX, GLPP-1SW3EX, GLPP-DIMFLVEX-PM, GLPP-SWEX)

Notes:

1.  Models with suffix "-PM"
2.  Two dedicated wires are required from the keypad location to the GLPP.
3.  Any infiNET EX device that provides expander functionality will effectively extend the range of the wireless network beyond the initial range of the gateway. Battery-powered infiNET EX devices do not provide expander functionality. Crestron also offers dedicated infiNET EX expanders (models CLW-EXPEX or GLA-EXPEX, sold separately), which may be deployed to fill gaps in coverage and extend the wireless range of the mesh network. Up to 100 infiNET EX devices are permitted per gateway, although best practices suggest a limit of approximately 50. Additional gateways may be deployed to support more devices, with a maximum of 16 gateways permitted on a complete system (RF conditions allowing).
4.  Item(s) sold separately.
5.  Cresnet is for communications only, not power.
6.  Some models may need a box extension to meet code requirements.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

Certain Crestron products contain open source software. For specific information, visit www.crestron.com/opensource.
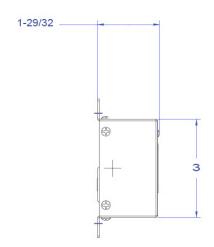
## CAD DRAWINGS
GLPP-1SW3CN Shown



BACK

FEED-THROUGH WIRES
FROM UNIT EXIT FROM
THIS SIDE

8-21/32
2-1/8
3-3/16
1-5/8
4-1/4
1-29/32
3

7/16
7/32
3-9/32
15/16
(4X) 7/32
(MTG HOLES FOR
SINGLE 4X4 BOX)
(8X) 3/16 MTG HOLES FOR
(2) 4X4 BOXES.
3-3/8
2-1/2
3-3/8

STATUS

GLPP-1SW3CN
Cresnet Power Pack
INPUT: 100 - 277 VAC, 50/60 Hz
MAX LOAD: 16A TOTAL
SWITCHED LOAD TYPES:
INCANDESCENT, MLV, ELV, NEON, CC,
FLUORESCENT BALLAST, HID
MOTORS: 1/2 hp @ 120V
         1 hp @ 230V/277V

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S Y S T E M
Power Pack

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FRONT

## APPLICATION DIAGRAMS



GLPP-1DIMFLV3CN-PM

**Color Key**
- Cresnet
- Switched 120 ~ 277 VAC
- 120 ~ 277 VAC Feed
- Photocell/Occupancy RF Sensor
- Keypad

Shows 3-channel Cresnet model in typical installation



Shows typical multi-room application