Product Specification Sheet

WNC-DLC-PWR

Wireless Power Supply for Dome Light Controller



WNC-8PNS-PS
Wireless Pro-Switch

The Wireless Power Supply for Dome Light Controller is a regulated, commercial-grade power delivery module engineered specifically to provide continuous, ripple-free low-voltage power to wireless dome light controllers and corridor lamps. Operating as a critical infrastructure backbone component for wireless nurse call networks, this power supply converts standard high-voltage AC mains into the stable DC or low-voltage AC output required by digital controllers and multi-zoned wireless receivers.

Designed for hidden installation inside standard electrical junction boxes, equipment closets, or ceiling plenums, the WNC-DLC-PWR features integrated thermal and over-current protections. This ensures that even under continuous multi-lamp visual alarm cycles, connected wireless dome light controllers receive the uniform current delivery necessary to prevent RF signal degradation, voltage drops, or flickering LEDs.

Architects' and Engineers' Specifications

1.1 Power Infrastructure Components

The electrical contractor shall furnish and install a dedicated Class 2 power supply module, SKU WNC-DLC-PWR, for each wireless dome light controller or designated controller group.
The power supply must be capable of accepting a wide-range input voltage of 100-240VAC and transforming it to a stabilized low-voltage output optimized for continuous LED drive array operations.

1.2 Protection and Environmental Safety

The device shall feature fully integrated, auto-resetting short-circuit, over-current, and thermal overload safety metrics. Units requiring manual internal fuse replacements following a circuit trip shall not be accepted.
The chassis architecture must comply with plenum-rated installation rules where specified, allowing the hardware to be safely mounted within ceiling voids, distribution enclosures, or standard deep junction boxes adjacent to the emergency signaling array.

Specifications

- Component Class: Class 2 Power Supply Unit
- Input Voltage Range: 100 VAC to 240 VAC, 50/60 Hz
- Output Voltage: 12 VDC / 24 VDC / 24 VAC (Configured precisely to model controller requirements)
- Rated Output Current: 1.0A to 2.5A Continuous (Optimized for multiple concurrent LED drive channels)
- Wiring Connections: Color-coded 18 AWG flying leads (Input/Output)
- Housing Material: High-durability thermal plastic or vented aluminum chassis
- Operating Temperature: 32°F to 122°F (0°C to 50°C)

Equipment Options

The WNC-DLC-PWR power platform is available with modular installation options to fit diverse facility electrical layouts:

- WNC-DLC-PWR Standard Unit: The base regulated transformer module with open-wire leads for direct termination inside deep junction boxes or plenum spaces.
- J-Box Integrated Assembly: Pre-mounted configuration inside an approved metal enclosure with knockout holes for streamlined conduit connection.
- Multi-Station Power Bus Configuration: High-output variant designed to feed a shared parallel power circuit supplying multiple close-proximity dome light controllers from a single location.

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Features

The WNC-DLC-PWR power platform is available with modular installation options to fit diverse facility electrical layouts:

- **Regulated Linear/Switching** Architecture: Limits voltage fluctuation to maximize the operational lifespan of sensitive internal microprocessors and wireless RF transceiver chips housed in the dome light controllers.
- **Automated Thermal Shutdown:** Built-in thermal monitoring automatically interrupts power delivery if the unit overheats due to external electrical faults, resetting once safe operating temperatures return.
- **Short-Circuit and Over-Load Protection:** Features self-healing solid-state circuit safety elements (PTCs) that defend the downstream nurse call hardware against building-side power surges.
- **Noise and Ripple Suppression:** Contains integrated filtering arrays to block line noise and electromagnetic interference (EMI), preserving clean wireless range and signal reception for supervised peripheral networks.
- **Compact Footprint:** Low-profile geometry allows the power supply to be tucked cleanly behind standard multi-gang electrical backboxes or inside ceiling enclosures.

Compliance and Certification

The WNC-DLC-PWR complies with stringent safety regulations mandated for building power electronics and signaling system interfaces:

- **UL Listed (60950-1 / 60950-1 Class 2):** Fully tested and recognized under United States safety benchmarks for Class 2 power units, ensuring safe power limits and lowering fire hazards within commercial spaces.
- **FCC Part 15 Class B Compliance:** Features rigorous internal filtering that matches line-conduction limits, preventing harmful electrical feedback or interference with local Wi-Fi, telemetry, or medical wireless communication devices.
- **RoHS Certified:** Formulated using eco-safe manufacturing standards that completely restrict lead, cadmium, hexavalent chromium, and polybrominated biphenyl flame retardants.

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