

THE BENEFITS

High operating efficiency is achieved by minimizing the interface losses found in most other power systems. This is primarily achieved through Nextek's **patented direct-coupled** power circuitry and state-of-the art power designs to achieve very high conversion efficiencies over a broad load range. For end-use applications such as lighting, this means lower operating cost compared with conventional incandescent, fluorescent, and HID lighting systems.

Power un-interruptibility and storage control are built into the Nextek power module as an optional means for insuring continuous power to the load in the event of a primary or secondary interruption of power. Combining Nextek lighting with solar PV and battery storage provides **reliability of 99.999%**. The interface additionally provides critical battery storage management for long stationary storage life and optimum power transfer of the battery. **Direct coupling** yields longer periods of operation with smaller storage volumes for greater economy and compactness.

Load shifting and Grid displacement – when incorporating battery storage with solar PV, Nextek offers load shifting (off-grid) capabilities to eliminate peak demand charges, enabling optimum energy usage & cost.

Alternative power-ready – the Nextek system is designed for greater energy independence and security. Solar installations are as simple as connecting the cable from the solar collector to the two terminals of the power unit. Everything else is automatic; optimum power is transferred to the load and more significant payback than other systems.

Greater power flexibility – the Nextek lighting system permits several application configurations covering single, multiple, and stand-alone power operation, while embracing the utility power supply with value-added features.

Ideal for both new and retrofit applications – the Nextek power system is non-obtrusive and compatible with both utility power and all building infrastructures, enabling easy installation. In typical installations, the system is placed between the circuit breaker of the power panel and the loads. Its compact size enables it to be treated as a standard electrical device box and therefore additional utility service space is not required.

Increased electric safety – because the load-side or end-use side is **low voltage (26VDC or 53VDC)**, Nextek eliminates high voltage hazards. Low voltage permits enhanced lighting control through simple, low-cost wiring. In addition, the power unit output is current limited. Built-in short circuit protection provides automatic shut down of the supply, should the output experience a short circuit. Any faults removed from the system allow power to automatically restore.

High power quality – high power factor and low total harmonic distortion (*THD*) of the power lines ensures more capacity and reliable operation of electrical equipment. Nextek's system achieves a very high power factor (>0.99) and a very low THD ($<5\%$).

Reduced pollution emissions – the Nextek lighting system, combining solar PV and battery storage, **produces zero emissions**.