

DINEX Lighting System

The I/O Controls LED based DINEX Lighting System is a highly efficient next-generation lighting solution for transit vehicles. The system has been specifically designed to increase passenger comfort and safety. The solid state high power LEDs is expected to maintain on average 60-70% of original output brightness after 60,000 hours of operation, which can dramatically reduce maintenance and operating cost.

The DINEX Lighting System is an intelligent network controlled by the multiplex system. Its software is programmable to control the on/off or dimming function on any one of the light fixtures depending on operational requirements. The DINEX Lighting System is designed for unlimited number of on-off cycles with no decline in service life.

Using a built-in photo sensor the light will operate at 100% capacity during the night, while automatically dimming to 60% capacity during the day. If high temperatures occur then the lights will automatically go to the dim setting. If high temperatures persist the lights will shut down to prevent damage to the lighting components.

The lighting fixtures have been



UNIQUE ADVANTAGES

Increased passenger comfort

- Smooth and comfort lighting
- Automatic photo sensor detects and adjusts light level relative to ambient light.
- Soft fade in/fade out courtesy light
- Reduced glare by directing light to reading plane and floor.

Increased passenger safety

- Optional emergency backup lighting system for quick evacuation.*

Decreased operating cost

- Long life Nichia or Philips high power LEDs with 12 years or 500,000 miles of expected operating life with unlimited on-off cycles.
- Software programmable for each individual light fixture to control on/off or dimming function.*
- Reduced battery consumption by automatically adjusting light level based on ambient light, minimize power drain by interior lighting when the engine and alternator are not running.
- Easy lens cleaning*
- Reduced wire harness as a result of simple daisy-chain cable connection between adjacent light fixtures*
- Built-in self protection features such as automatic thermal shut-down and restart, PWM output to regulate current*

* Patent pending

designed for easy installation. Very little design work is needed to add the Dinex Lighting System to a vehicle. Each section (2 foot to 5 foot) connects to the next section using daisy-chain wiring that is built into each fixture. There is no need to fabricate a wiring harness for each light fixture. By reducing number of connections will improve overall system reliability.

Optional emergency backup lighting system keep certain lighting fixtures to remain at minimum output illuminated under battery power for a considerable length of time, allowing for passenger visibility and timely egress from the vehicle during emergency conditions.

The DINEX Lighting System provides soft fade in/fade out courtesy lights. The light output is continuously variable and starts at a low level increasing steadily when turned on. This gives the eye time to acclimate to the light level. When switched off, the Dinex Lighting System slowly fades to darkness.

The DINEX Lighting System has low power consumption compared to fluorescent lights. In addition the lights are dimmed during the day to reduce the power consumption. The system minimizes power drain by interior lighting when engine and alternator are not running and reduces battery load further extending battery life.

The lenses may be cleaned periodically by hooking a vacuum cleaner to



one end of the lighting fixture to remove dust or insects from the group of fixtures.

The DINEX Lighting System can be used in conjunction with the DINEX Multiplex System, a telltale light or dashboard display window may be used to indicate "Lighting System Failure". The optional Multi-Function Display can show a pictogram of the vehicle indicating which Light(s) or

Driver Module(s) have failed. The system will look for supply current and lighting fixture temperature to be approximately the same for all of the Light Modules, and will show which module(s) seem to has (have) a problem.

I/O Controls provides a 12 year limited warranty on LED lights and a 6 year limited warranty on driver modules. Limited warranty does not cover abuse, misapplication.

