

Winter Just Got a Lot Better...

For Fleet Managers



Intelligent Parking Lot Controller

Developed and Marketed by Vantera Incorporated



Keeping Your Fleet Rolling is Essential



Pivate and for-hire trucking fleets and transportation companies that operate more than 10.5 million commercial vehicles and buses across the United States and Canada are essential transportation pipelines for delivering products, services and people to fuel the continental economy.

As fleet owners and managers, keeping your vehicles rolling when needed is essential for your company's financial success and reputation with customers. A non-operating vehicle can cost thousands of dollars per day in fixed expenses, lost revenues and penalties.

THE CHALLENGE OF OPERATING IN NORTHERN CLIMATES

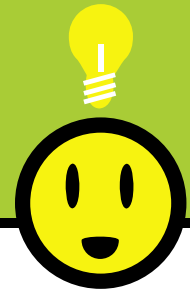
Winter climates are not friendly to diesel-powered vehicles, which make up about 75 percent of commercial truck and bus fleets. Engine block temperatures need to be maintained above 40° F (5° C) to ensure reliable starts

which means either leaving engines running or ensuring vehicle block heaters are functioning and plugged in at all times. Escalating fuel costs and greenhouse gas emissions are making running engines less attractive.

Diesel block-heater installations (which involve three heaters drawing about 1,500 watts of electricity per hour) are not efficient either. They draw the same power regardless of whether the outside temperature is +40° F (5° C) or -40° F (-40° C). Depending on power rates every year, that could cost you close to \$100 per vehicle in unnecessary electricity costs times the number of vehicles in your fleet.

In the increasingly competitive and cost-intensive commercial-transportation sector, you need every tool available to maintain your advantage and reliability.

Introducing the Intelligent Parking Lot Controller



The Intelligent Parking Lot Controller (IPLC) is a CSA-approved smart power receptacle that can replace any existing block-heater power outlet. It incorporates a temperature sensor with a micro-processor to measure the outdoor temperature and wind chill to automatically regulate the optimum power flow to ensure strong starts at any temperature using factory programmed settings for diesel* or gasoline engines. This intelligent operation reduces electrical consumption and costs by up to 65 percent, a full 30 percent more than competing systems.

** Diesel-programmed IPLC's are equipped with T-slot power outlets to accommodate typical T-plugs used for connecting diesel block-heater installations.*

IPLCs are user friendly, too. Their red and green LED lights instantly tell your drivers the status of the system: if there's power at the plug and if their block heater is shorted or has a break in the circuit. Each IPLC handles two circuits and each outlet can be individually reprogrammed to meet changing or special needs such as for emergency vehicles. Each receptacle stores connection data that can be downloaded for assessing use patterns on your PC.

Red and green LEDs instantly tell users the status of the power outlet and their equipment, including: a live outlet, a functioning block heater, an open or short circuit block heater.

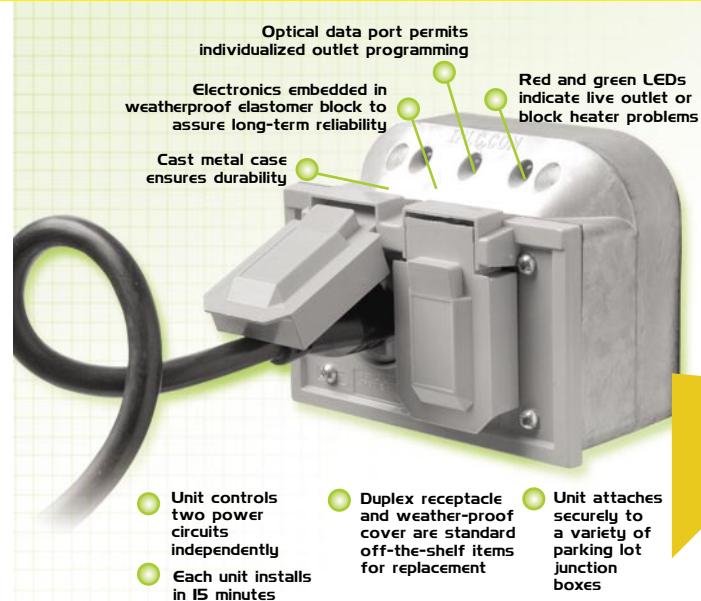


Save 65% in Fleet Power Use and Costs with the Intelligent Parking Lot Controller

Millions of commercial vehicles in northern climates need their engines warmed each winter. Fleet owners or managers know to expect high power costs for fleet (and employee) parking from November through March, regardless of how warm or cold the winter is. To ensure reliable starts during periods of fluctuating temperatures you need to keep your vehicles plugged in all the time to assure they start. This results in wasted power and needless expense. The IPLC lets you benefit from warm temperatures.

Short-circuits, failed block heaters or outlets without power silently rob you of reliability because you may not be aware of a problem until a vehicle fails to start. Every time a vehicle plugs into an IPLC, circuitry automatically signals problems that allow you to schedule immediate vehicle maintenance before you face a non-start.

With short circuits or overloads, the IPLC also automatically cuts power at the outlet to prevent tripped breakers and unnecessary costly service



calls. It continually monitors the circuit, restoring power when a detected short or overload is removed.

Suitable for any Parking Situation with Fast, Easy Installation

The IPLC is ideal for any new or existing fleet or employee parking lot situations. It has been designed and tested to retrofit the wide range of outlet box

configurations found in most parking lots – FS-Box, surface or concrete embedded, steel beam or post. Installing each IPLC unit is estimated to take 15 minutes or less.



How the IPLC Works

IPLC's microprocessor measures both temperature and windchill and, for diesel engines, is factory programmed to deliver no power above 40° F (5° C) but infinitely varies power delivery from 10 percent on-time at 40° F (5° C) to 100 percent on-time at -4° F (-20° C) and colder. [Gasoline-engine programming operates between 23° F (-5° C) and -13° F (-25° C)] These configurations deliver 65 percent in power savings, but individual circuits can be quickly and easily adjusted to an infinite range of settings to meet any

needs using the IPLC Data-Mate (see Page 10) to change this schedule. Once the IPLC first detects a functioning block heater, it cuts power for the first two hours, recognizing how long it will take a hot engine to cool to a temperature requiring block-heater support. IPLC circuits can also be programmed to signal when the circuit is drawing less power than needed for typical three-block-heater installations in diesel engines, which would indicate one or more heaters may have failed.

A Durable and Weatherproof Solution



Each IPLC is housed in a weatherproof, durable cast-metal case. The electronic components are embedded in a molded flexible elastomer block designed to expand and contract with changing temperatures to remain entirely waterproof and airtight. (It's the same material used to seal aircraft electronics.)

The case mounts with a neoprene gasket to existing weatherproof junction boxes with up to six screws to ensure a rugged, long-lasting installation. Since its introduction more than 10 years ago, the IPLC has proven to be very dependable, with a 99.8 percent reliability rating.

As with conventional block heater outlets, the only parts subject to user wear and tear are the hinged face plate and the plug-in receptacle. Both are inexpensive, easy-to-replace, off-the-shelf items available at any electrical parts outlet or home improvement centre.

Intelligence is POWER



IPLC Liked by Users

Vehicle operators like the IPLC since they always know if there's power at the outlet and get a free block heater diagnosis every time they plug in. Fewer complaints are testimony to user satisfaction.

Natural Resources Canada Award Winner

The IPLC won Natural Resources Canada's 2000-2002 Energy Management Technology Award from the Office of Energy Efficiency.

In addition, the IPLC won the Arctic Energy Alliance's 2003 Energy Action Award in Yellowknife.

Helps Reduce Greenhouse Gas Emissions

IPLCs can be an easy and important tool in reducing North American CO₂ emissions, especially for the transportation industry, which is a net emitter of greenhouse gasses. Each kilowatt-hour of power saved reduces CO₂ emissions by over two pounds (one kilogram) across the integrated continental power grid that includes carbon-emitting coal and gas generators. Real-time data taken from IPLCs in the field indicates each IPLC typically saves between 800 and 1,000 kilowatt hours per year for fleet managers which converts to up to half a ton of CO₂ reduced per vehicle. Multiply that by the number of vehicles in your fleet and you'll see the significant impact you can make for little cost and effort. It's the responsible thing to do! If your organization is buying or selling carbon credits, your IPLC savings may be eligible.

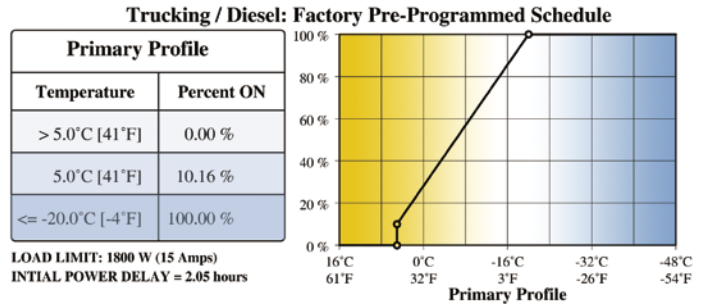
More Flexibility and Less Costly than Centralized Control Systems

Consider the advantages of the IPLC system over centralized parking lot control systems:

- The IPLC system provides flexibility to phase in equipment on a stall-by-stall basis over time as budgets permit, whereas centralized controls require converting entire fleet or employee parking lots at the same time.
- IPLCs allow for individual programming of each circuit to meet differing user needs, whereas centralized controls provide the same program to all stalls.



- In IPLC-equipped parking lots, potential problems are confined to individual circuits and alert drivers to problems, whereas malfunctioning centralized controls affect many or all outlets without automatically alerting drivers.
- IPLCs provide feedback to tell each driver if their outlet and block heater are working properly, whereas centralized controls do not.



“The IPLC is the most advanced, flexible and cost effective parking lot power management device on the market today.”
 – Dr. Glenn Rosendahl, Ph.D., P.Eng., President, Vantera Incorporated





The IPLC Data-Mate Puts You in Control

The optional FCC-approved IPLC Data-Mate is a companion hand-held device designed to easily transfer information between IPLC units and your Windows-based computer. When connected to your computer, proprietary software allows you to change factory settings and customize individual or all your IPLC outlets (operating times, minimum or maximum load warnings, temperature response profiles) to an infinite range of setting to meet your personal preferences. It also allows you to collect data on how the units are being used. The Data-Mate conveniently connects to each IPLC using an optical link on the front of the unit. This allows you to easily transfer performance instructions within seconds from your computer, while capturing use data from the units at the same time to transfer to your computer for analysis. The Data-Mate comes complete with software, a computer interface cable and battery.



Protected by a Three-year Warranty

Each IPLC is protected by a three-year replacement warranty against manufacturing defects. Over a decade of use in some of the harshest environments in North America has proven the IPLC to be robust and reliable.

"Installing Intelligent Parking Lot Controllers have saved my company significant energy costs while assuring me that my diesel equipment will always start when I need it for snow removal or construction."

- Peter Mignacca, P.Eng., Owner, Subterranean Manitoba Ltd.



Helps Counter Rising Electricity Costs

Electricity prices can range up to 18¢ per kilowatt hour across North America and have experienced significant increases in recent years due to deregulation and higher trends in overall energy costs.

While you can't directly control the prices, installing IPLCs let you intelligently control power consumption without sacrificing performance, which translates into significantly reduced costs by up to 65 percent.

Check With Your Local Electric Utility for Rebates

Some electric utilities may provide you with a partial rebate on the purchase price of IPLC units as an incentive to encourage conservation. Check with your utility for availability.



Get plugged into...

The Ultimate Energy and Cost-saving Solution for Fleet Operators

- Intelligent, computer-controlled power outlets that are factory programmed for diesel or gasoline engines but can be individually programmed for special needs
- 65 percent power cost savings
- A flexible, affordable, easy-to-install product that can pay for itself in as little as one year
- User-friendly technology that warns of problems with outlets or block heater circuits
- Usage and performance data recorded for each outlet for download and computer analysis
- A durable low-maintenance product with proven customer satisfaction
- Award-winning technology as an environmentally responsible product.



Intelligent Parking Lot Controller

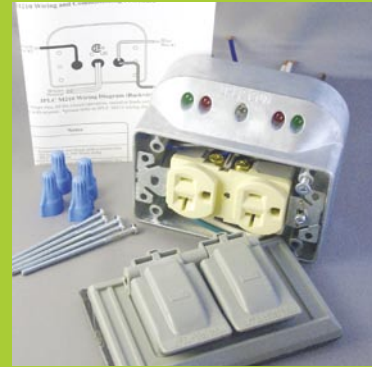
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