

# Winter Just Got a Lot Better...



**Intelligent Parking Lot Controller**

*Developed and marketed by Vantera Incorporated*



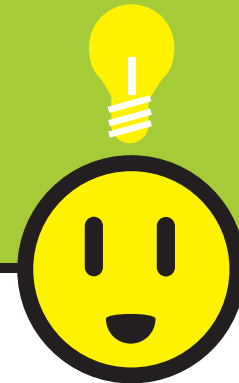
# The Ultimate Energy and Cost-Saving Solution for Parking Lot Operators

## Get plugged into...



- A flexible, affordable, easy-to-install product that can pay for itself in as little as one year
- 65 per cent power cost savings
- Award-winning technology
- Intelligent, computer-controlled power outlets that can be individually programmed and deliver data on their use
- User-friendly technology that warns of problems with outlets or block heater circuits
- A durable low-maintenance product
- An environmentally responsible product
- Proven satisfaction

# Introducing the Intelligent Parking Lot Controller



**T**he Intelligent Parking Lot Controller (IPLC) is a smart power receptacle that can replace any existing parking stall power outlet. It incorporates a micro-processor, temperature sensors, and red and green LED lights to tell users the status of the system. It measures temperature and wind chill, and is factory programmed to automatically regulate the optimum power flow to ensure strong starts at any temperature. This intelligent operation reduces electrical consumption and costs by up to 65 percent, or a full 30 percent more than competing systems.

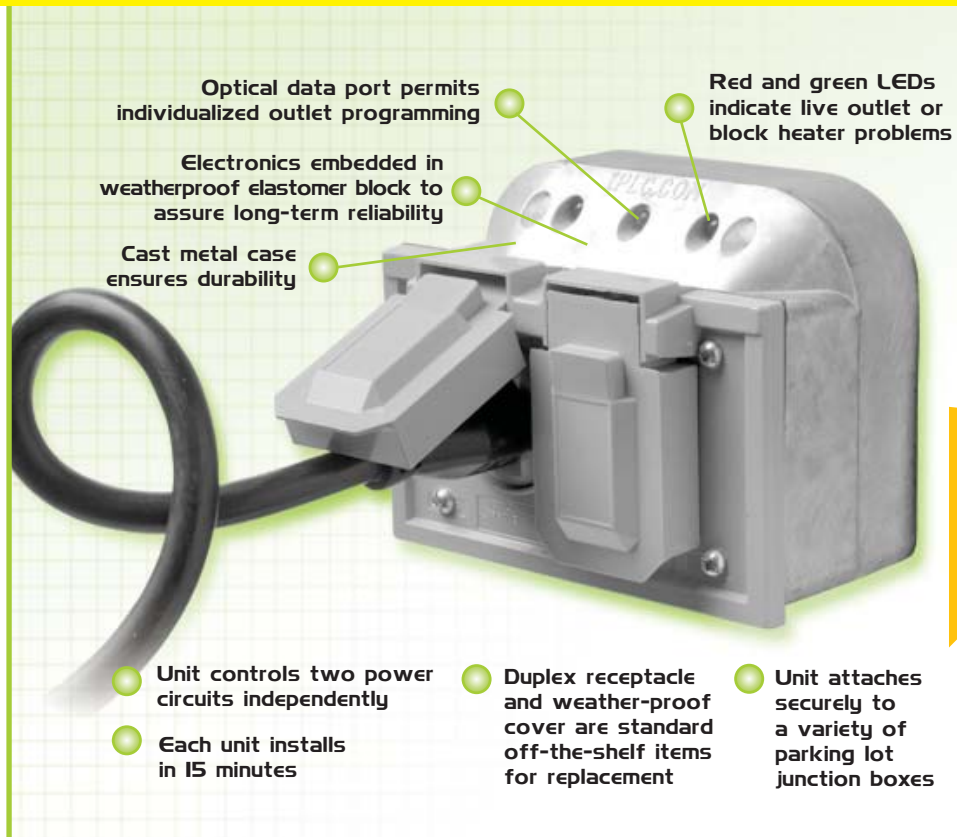
IPLCs are user friendly, too. The LEDs tell users if there's power at the plug, and if their block heater is shorted or has a break in the circuit. Each IPLC handles two circuits and each outlet can be individually programmed to prevent use of in-car heaters, or to meet the special needs of diesel engines or emergency vehicles. And, each receptacle stores connection data that can be captured to assess use patterns.

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 circuit in their block heater, a circuit overload from an in-car heater or a short circuit in the block heater.



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

About 4.8 million Canadian vehicles need their engines warmed each winter. Any parking lot operator providing block-heater outlets knows to expect high power costs from November through March, regardless of how warm or cold the winter is. Many drivers automatically plug in, even on warm days when little or no engine heat is needed to assure a start. This results in wasted power and needless expense.

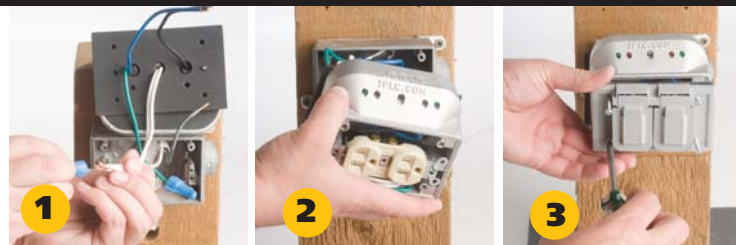


Short-circuited or dead block heaters often lead irate drivers to claim receptacles are malfunctioning or breakers are tripped. NOT with the IPLC! The IPLC prevents these costly service calls, just to reset a breaker or confirm the circuit is working and the driver's block heater is faulty.



# Suitable for Any Parking Lot Situation with Fast, Easy Installation

**T**he IPLC is ideal for multi-residential, commercial, industrial, and institutional parking lots, small or large. 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.



## Fast, Easy Installation

Installation of each IPLC unit is estimated to take 15 minutes or less. Just remove the existing duplex receptacle, connect IPLC's colour coded wiring and attach the weatherproof unit to the existing junction box with screws supplied.

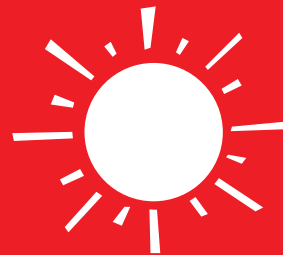
## How the IPLC Works

IPLC's microprocessor measures both temperature and windchill and is factory programmed to deliver no power above  $-5^{\circ}\text{C}$ . It infinitely varies power delivery from 10 percent on-time at  $-5^{\circ}\text{C}$  to 100 percent on-time at  $-25^{\circ}\text{C}$  and colder. This configuration delivers 65 percent in power savings, but circuits can be individually adjusted to change this schedule. Once the IPLC device 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 accept a maximum load to prevent the use of in-car heaters, and will warn drivers of an overload so they can disconnect their in-car heater. The IPLC reduces tripped breakers because it cuts power directly at the outlet. It continually monitors the circuit, restoring power when a detected short or overload problem is removed.

# A Durable and Weatherproof Solution



**E**ach IPLC is housed in a weatherproof, durable cast-metal case. The electronic components are embedded in a moulded flexible elastomer block designed to expand and contract with changing temperatures to be 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 it was first introduced 10 years ago, the IPLC has proven to be very dependable, with a 99.8 percent reliability rate.

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 Canada Meet its Kyoto Commitments**

IPLC can be an easy and important part of helping Canada meet its Kyoto commitments to CO<sub>2</sub> reduction. Each kilowatt-hour of power saved reduces CO<sub>2</sub> emissions by one kilogram across the integrated continental power grid that includes carbon-emitting generators. Multiply that by the number of vehicles you serve and the total number of kilowatt hours you save. If your organization is selling carbon credits, your IPLC savings may be eligible.

In addition, since block heater power is part of a vehicle's total energy use, each kilowatt-hour used is equal to the vehicle driving four extra kilometres in terms of CO<sub>2</sub> emissions. Each kilowatt the IPLC saves, is like saving a four-kilometre drive and a kilogram of CO<sub>2</sub>.





# More Flexibility and Less Costly than Centralized Control Systems

**C**onsider the advantages of the IPLC system over centralized parking lot control systems:

- The IPLC is cost effective for parking lots having from one to over 1,000 stalls whereas centralized controls are not practical or cost effective for small parking lots.
- The IPLC works with any existing power distribution situation, whereas centralized controls require complex wiring, rewiring, or site planning that can be costly for both equipment and labour.
- The IPLC system provides flexibility to phase in equipment on a stall-by-stall basis over time as budgets permit, whereas centralized controls require budgeting for and converting entire parking lots at the same time.
- Because IPLCs are installed on a stall-by-stall basis, the number of parking lots managed is not a consideration. Separate centralized controls are needed for each parking lot where organizations operate more than one lot or distribution panel.







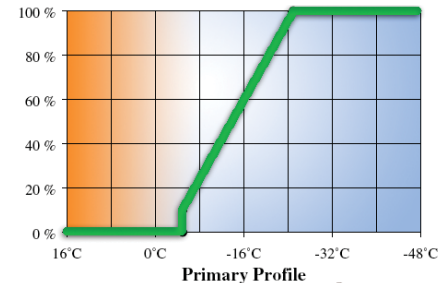
- IPLCs allow for individual programming of each circuit to meet differing user needs, whereas centralized controls provide the same program to all stalls.
- In IPLC-equipped parking lots, potential problems are confined to individual circuits and alert parkers to problems, whereas malfunctioning centralized controls affect many or all outlets in the lot, without automatically alerting parkers.
- IPLCs provide feedback to tell each vehicle operator if their outlet and block heater are working properly, whereas centralized controls do not.

- IPLCs deliver up to 65 percent in energy and cost savings whereas centralized controls typically deliver a maximum of 50 percent in savings.

## Factory Pre-programmed Schedule

Primary Profile	
Temperature	Percent ON
> -5.0 °C	0.00 %
-5.0 °C	9.77 %
<= -25.0 °C	100.00 %

LOAD LIMIT: 1800 W (15 Amps)  
INITIAL POWER DELAY = 2.05 hours



"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 IPLC Data-Mate is a companion handheld device designed to transfer information between IPLC units and your Windows-based computer. When connected to your computer, proprietary software allows you to change factory settings as well as customize individual or all of your IPLC outlets (operating times, load limits, temperature response profiles) and to collect data on how the units are being used. The Data-Mate conveniently links to each IPLC using an optical link on the front of the unit. This allows you to easily transfer performance instructions from your computer, and at the same time capture use data from the units to transfer to your computer. It 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. Nine years of use in some of the harshest environments in North America are proving the IPLC to be robust and reliable.

"It's like finding money in our parking lots."

– Ron Penner, Vice President Operations

*Globe General Agencies, Winnipeg*



## **Helps Counter Rising Electricity Costs**

Electricity prices range from 4¢ to 12¢ per kilowatt hour in Alberta, Saskatchewan, Manitoba and Ontario, which 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.



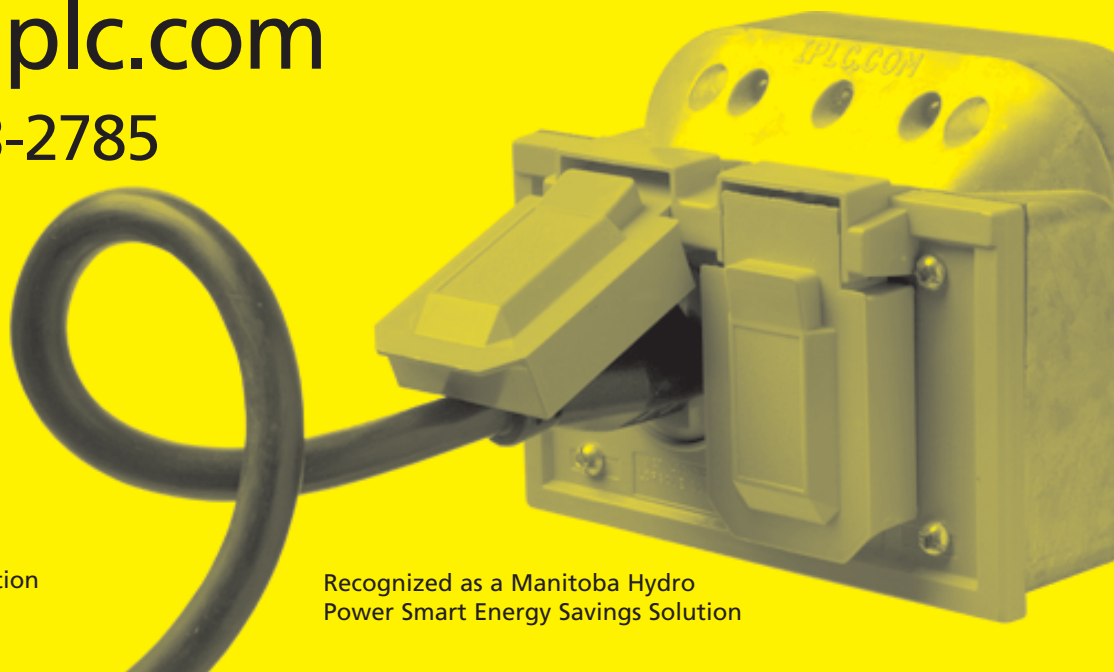
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