

# i-CON MODULAR DATA CENTER™

A BALANCED DESIGN

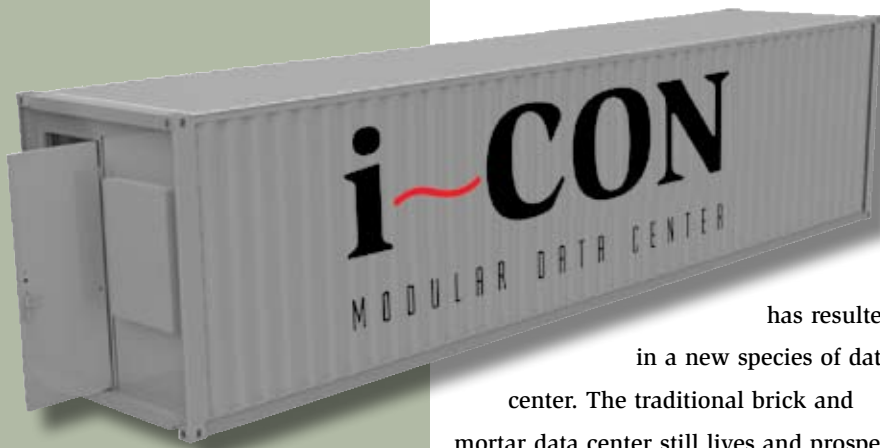
## A NEW SPECIES OF DATA CENTER

**TODAY ADAPTING TO THE EVER-CHANGING IT LANDSCAPE IS BECOMING INCREASINGLY MORE DIFFICULT**

The need for businesses to rapidly increase IT capacity coupled with the need to decrease capital and operational expenditures

## KEY SOLUTION BENEFITS

- PDI's Proven Power Technology – more power options than the competition
- DynaCool On Demand Cooling System™
- i-CON Facility Management System™
- Modular Racks with Integrated Self-contained Cooling Units (SCU) for maximum efficiency and serviceability
- Flexible design allows PDI to create custom versions of our standard product to fit your business needs



has resulted in a new species of data center. The traditional brick and mortar data center still lives and prospers, but a new data center form factor has been spawned. The modular data center has arrived.

The i-CON Modular Data Center is built from a standard ISO shipping container, customized with the key attributes of a standard brick and mortar data center. This approach is incredibly rapid to deploy and significantly more cost effective.

# THE I-CON MODULAR DATA CENTER MAINTAINS THE PROPER BALANCE

## BALANCING THE NEED FOR DENSITY, POWER EFFICIENCY, COOLING EFFICIENCY AND SERVICE ACCESS

Historically, data center planners and designers have worked to balance the need for computational density, power efficiency and cooling efficiency. Moving the data center into a container creates a new factor into the equation...service access.

PDI designed i-CON so facility and IT maintenance is performed from within the container in a way that limits airflow and cooling disruptions that can impact computing operations.

### ● DENSITY

- 672U of standard 19" rack-mount in a 40 ft container (336U / 20 ft)
- Multiple i-CON containers can be stacked and placed side by side for increased density per square foot of real estate

### ● COOLING

- DynaCool On Demand Cooling System supports connections to:
  - Chilled Water Cooling
  - Air Cooling
  - Direct Exchange Ground Loop Cooling
- Superior Refrigerant-based cooling system lowers operating costs compared to water only cooling systems

### ● POWER

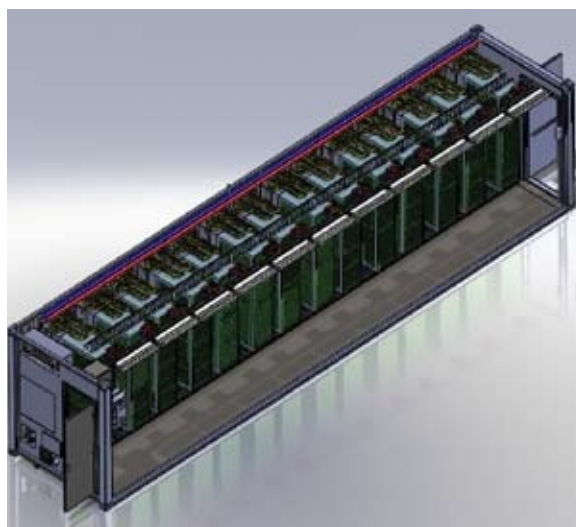
- Power solutions are tailored to best support data center operating requirements resulting in maximum efficiency
- Monitor power consumption and efficiency with PDI's Branch Circuit Monitoring System (BCMS)

### ● SERVICE ACCESS

- IT and facility maintenance is performed from within the i-CON with minimal impact to the container-wide cooling system

## MODULAR, REPEATABLE, SERVICEABLE, YET CUSTOMIZABLE

PDI understands that every customer has unique data center requirements and this is why the i-CON Modular Data Center has been designed with maximum flexibility in mind. Changes to a container's density, power, cooling or accessibility can all have a direct impact on each other, but i-CON's unique design makes it simple to tailor a solution for any customer's needs while being optimized for maximum efficiency.



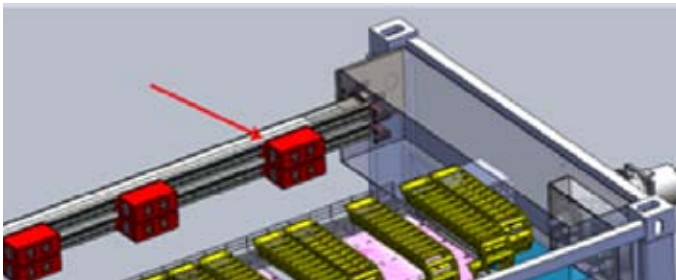
# UNSURPASSED DATA CENTER POWER SOLUTIONS

## FOR OVER 30 YEARS, PDI HAS LED THE POWER SOLUTIONS INDUSTRY

PDI is North America's largest independent designer, manufacturer, and servicer of mission critical power distribution, static switching, and power monitoring equipment for corporate data centers. PDI has been in the data center market for over 30 years and has the widest range of data center power products in the industry. The core distribution products are remote power panels, power distribution units, custom transformers and static transfer switch systems with a wide array of monitoring options centered on PDI's patented Branch Circuit Monitoring System. PDI has incorporated over three decades of experience and generations of proven power technology into the i-CON.

### POWERWAVE BUS SYSTEM™

- 225A & 400A Continuous Rail System
- Integrated WaveStar Communications Bus – Modbus open protocol or SNMP
- Modular Drop Boxes – Tough Rail Technology allows 80A-150A of power to be dropped anywhere along the bus
- The modular design allows an i-CON to be delivered partially loaded and easily field upgraded in the future



## TAILORING THE POWER ARCHITECTURE TO SUIT YOUR NEEDS

### PDI'S SOLUTIONS OFFER MAXIMUM FLEXIBILITY, RELIABILITY AND EFFICIENCY

Businesses all have unique data center power architecture requirements and they want reliable, easy to maintain systems optimized for maximum efficiency and minimal data center operational expense. So i-Con's power architecture was designed to be modular, repeatable, and serviceable yet can be customized to satisfy almost any power architecture requirement more so than any other container product on the market. PDI has continually advanced its products in response to changing customer needs whether it is power transformation, distribution, regulation, harmonic cancellation, switching or systems monitoring.

## POWER MONITORING DOWN TO THE BRANCH CIRCUIT LEVEL

### WAVESTAR™ BRANCH CIRCUIT MONITORING SYSTEM (BCMS) MAKES LIFE EASIER

PDI's patented WaveStar™ Branch Circuit Monitoring System (BCMS) can measure and remotely monitor the current and voltage on each individual branch circuit allowing proactive management of every device in the i-CON. Settings and alarms can also be managed remotely. WaveStar™ BCMS delivers information to the facility management/ power monitoring system via Modbus open protocol or SNMP.

WaveStar™ BCMS Plus offers additional monitoring points:

- Voltage L-L, L-N for all three phases
- Kw, kva, kvar per panel board
- Kwh per panel board
- And many other points allowing for complete control

PDI's WaveStar™ BCMS Hub brings all this information back to you via IP address with custom reports.

# DYNACOOOL ON DEMAND COOLING SYSTEM

IF IT'S NOT DYNACOOOL, THEN IT'S ONLY KINDA COOL

# I-CON FACILITY MANAGEMENT SYSTEM

KEEP AN EYE ON YOUR FACILITY WITH I-CON

PDI's DynaCool On Demand Cooling System is a unique design that utilizes a facility's chilled water supply externally to efficiently remove heat from a closed-circuit, pumped refrigerant system. There is no water inside the container, only refrigerant. The refrigerant stays warmer than chilled water pumped directly into a 'water only' configuration. This reduces the risk of condensation while remaining more efficient at transferring heat than water alone. The DynaCool technology dynamically regulates the amount of chilled water supplied, only using the chilled water when it needs it (aka on demand).

Key highlights of the DynaCool On Demand Cooling System:

- More efficient at transferring heat from the hot air exhaust of the racks to the chilled water return than water only systems
- More efficient design results in reduced operating costs
- Effectively cools up to 25kW per rack
- Flexible design allows eco-friendly connections to air cooling solutions and direct exchange ground loop cooling systems.

Key highlights of the i-CON Facility Management:

- Power Data Monitoring via PDI's BCMS Power Monitoring Solution
- Cooling System Monitoring & Management
- Facility Device Monitoring & Management
- Safety Systems Monitoring & Management
- Security System Monitoring & Management
- Able to feed data directly to existing facility management systems

## SERVICE AND SUPPORT

### WORLD-CLASS SERVICE AND SUPPORT

- Global Field Network offering local experience
- 24X7 phone support
- Options for NBD and 4hr response

### ENGINEERING/DESIGN SERVICES:

- Data Center Advanced Customization

### DEPLOYMENT SERVICES:

- Site Prep / Analysis / Permitting Assistance
- Onsite Container Installation (Start up / Commissioning)

# PDI

creating the perfect wave

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