

A Panduit Smartzone G5 PDU unit is shown at an angle, highlighting its front panel. The unit is black with a silver control panel. The control panel features a small LCD screen displaying a menu with options: Setup, Alarms, Power, and Sensors. To the right of the screen are four circular buttons labeled Select, Menu, Scroll, and a fourth unlabeled button. Below the screen are a USB port, a Status indicator, and an Ethernet port. Further down are two RJ45 ports labeled PDU Out and PDU In/Serial. At the bottom of the control panel are two sensor ports labeled Sensor-1 and Sensor-2. To the right of the control panel is a large silver switch labeled B2, with ON and OFF positions, and a label L1-L2 below it. The unit is set against a background of blue light streaks and a network diagram.

smartzone™ G5

Panduit
Next Generation Advanced
Power Distribution Units
& Accessories

Agenda



- Market Drivers, Trends & Challenges
- Benefits of iPDUs
- iPDU Key Features / Value Proposition
 - PDU Families
 - Depth and Breadth of Offer
- Locking Outlets & Cables
- Intelligent Network Controller (iNC)
 - Redundant Network Access (RNA)
 - Load Balancing
- Accessories
- Typical Solutions



Market Drivers & Trends - VOC

Growing Demand for Higher Power Density and Smaller Footprint

Demand for Intelligent PDU for Energy Efficiency, Maximizing Uptime & Capacity Management

Demand for Environment and Security Add-ons & Features

Design Trends

Higher Temperature, Hot-Swappable Controller, Locking Outlets, High Security, Customization, Pre-Configured, Multi Colors, Mobile Access, etc.

Connected World! Internet of Everything!

Rapidly Increasing Data Traffic and Computing Demand



Challenges / Opportunities

- Maintaining Availability & Uptime
- Reducing Costs (Power & Cooling)
- Capacity Planning and Management
- Improving Utilization (Power, Cooling & Space)
- Managing Large Deployment & Operations
- Maintaining High Level of Security
- Continuous Measurement & Improvement: PUE, DCiE metrics
- Adoption of DCIM Solutions
- Green Initiative



Benefits of Intelligent PDUs

Reduce Energy Costs

- Identify inefficient high power consuming equipment
- Consolidate underutilized equipment
- Monitoring overcooling situations
- Equalize Pressure

Manage and optimize power capacity

- Actual usage vs design assumptions

Rack Security

- Security is top of mind
- Manage directly with iPDU
 - Elec. Swinghandle
 - Door access sensor
 - USB Light Rack Light

Benefits of Intelligent PDUs

Monitor Problems to Ensure Uptime

- Alarm Thresholds
- Log power consumption (graph to DCIM)
- Planned vs. actual temperatures

Switchable outlets

- Start / Restart / Shutdown specific units
- Power sequence to avoid demand spikes

iPDU Key Features

High Density

Outlet configuration allows full length SKU's fit within 42U rack with top, bottom, or front exit cable

Hot Swappable Network Module

For easy maintenance and upgrade-ready



Redundant Network Access (RNA)

In 2N configuration for network redundancy or tenant/client use



USB Port

FW Upgrade / Configuration

Power and Energy Metering

(V,A,VA, W,KWh,pf) to +/- 1% billing-grade accuracy

Color Coded Outlets and Circuit Breakers

For easy source Identification

Low Profile Design

Industry leading design saves rack space and ensures good access

Designed for High Temperature

Safe, Reliable Operation at 60°C with Full Load Rating

Premium Hydraulic-Magnetic Circuit Breakers

Stable trip characteristics at extreme temperatures

Locking IEC Outlets

Provide secure power connection with optional locking cords or integrated locking features

Best-in-Class Billing Grade Accuracy

+/- 1% throughout entire range of operational spec



Daisy Chain

Up to 4 PDUs and 32 sensors



Environmental & Security

Ready with support for up to 8 digital plug-and-play sensors or proximity card access

Value Proposition

- High-temperature components to withstand 60°C
 - At full load
 - For an extended period
 - 3-Year standard & 5-Year extended warranty
- Outlets Designed for High Density & Compact Form-Factor
- Hot-Swappable Controller with large OLED display and high contrast ratio.
- Real-time monitoring with high Networking speed (1G) and with Redundant Network Access (RNA) for connectivity redundancy or for allowing separate Colo/Tenant Network connectivity.
- Enhanced security w/ (SNMPv3 & RESTful/TLS) with certificate-based advanced asymmetric encryption, validated and hardened with multiple security scanning tools.
- Variety of Plug-n-Play Environment & Access Security accessories
- Enhanced User-Experience w/ BYOD WebGUI & colored PDU, cords & cable ties
- Designed to fit into industry standard cabinets and 100% of Panduit Cabinets
- **One-Stop-Shop** – Fully Interoperable Cabinet, PDUs, Accessories & DCIM Solution



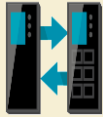
Quality &
Reliability



High Temp



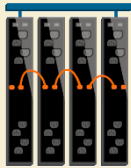
High Power
Density



Hot-Swappable
& Upgradable



Hardened
Security



1G Redundant
Networking



Real-Time
Monitor



Environmental
Plug & Play
Sensors



Multi-Device
WebGUI



Multi-Color

PDU Families

Basic Series

Basic PDUs provide reliable power distribution for all devices in your cabinets and racks. They range in power from 1.4kVA-22kVA per cabinet in single phase and three phase voltages, and horizontal and vertical form factors.

Monitored Input (MI) Series

Rack PDUs that have the ability for aggregate power monitoring to quickly identify potential power issues, and reclaim available or under-utilized power capacity.

Monitored Switched (MS) Series

Rack PDUs that have the ability for aggregate power monitoring and outlet level switching capabilities for individual outlets or a group of outlets. Enabling power sequencing, rebooting equipment or restrict unauthorized use of individual outlets.

Monitored per Outlet (MPO) Series

Rack PDUs that have the ability for outlet level power monitoring to quickly identify potential power issues, and reclaim available or under-utilized power capacity at the outlet level enabling the redeployment or decommissioning of individual servers to reclaim available or under-utilized power capacity.

Monitored and Switched per Outlet (MSPO) Series

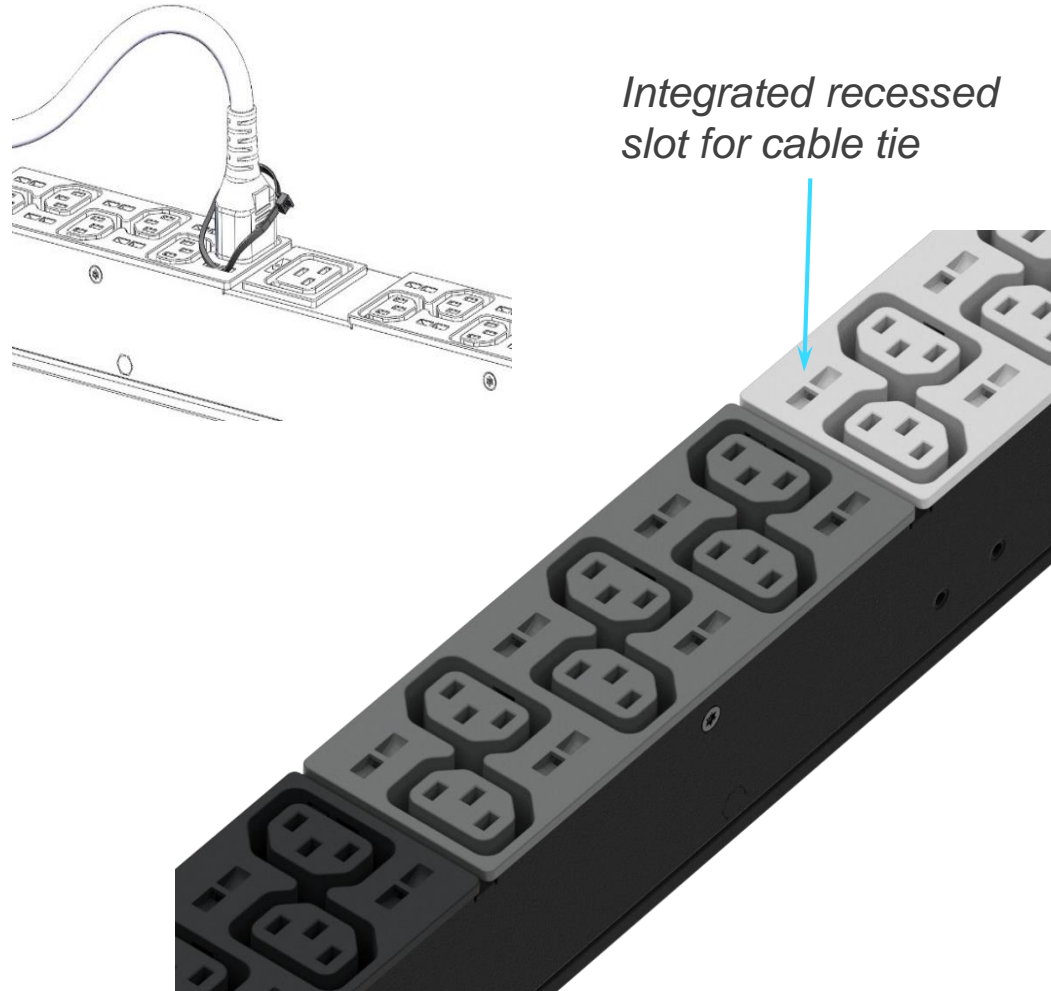
Rack PDUs that have the ability for outlet level power monitoring and outlet level switching capabilities for individual outlets or a group of outlets. Power monitoring at the individual outlet level provides actionable management data on the power consumption of each connected IT device enabling the redeployment or decommissioning of individual servers to reclaim available or under-utilized power capacity.

Depth and Breadth of Offer



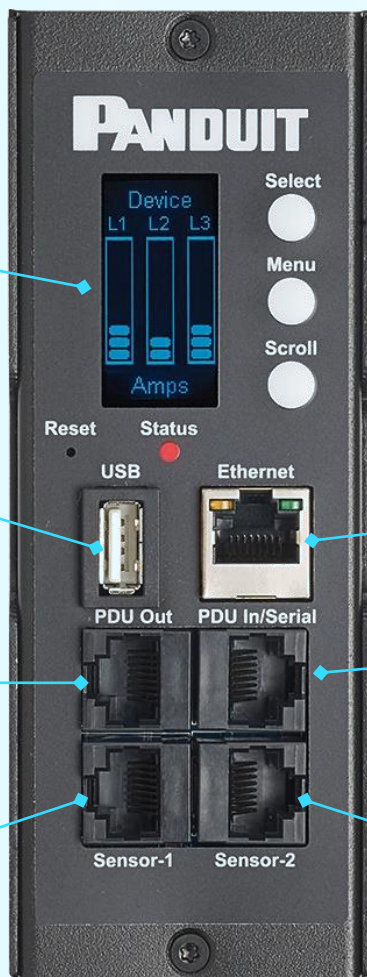
Locking Outlets and Cables

- Locking outlets compatible to V and W power cords
- W power cords provide locking at both end (PDU and equipment)
- Variety of power cords lengths and colors available
- Cable ties supported for locking



G5 iNC (Intelligent Network Controller)

HotSwapable / Upgradable



High Visibility
OLED

USB port for
Firmware /
Configuration
update

PDU Out for
Daisy Chain

Sensor Port

1GB Ethernet
Port

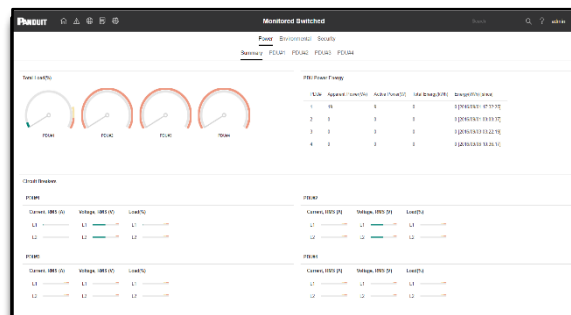
PDU In for
Daisy Chain

Sensor Port

Web GUI (Multi-Device)



Login



Dashboard

BYOD Access



Desktop



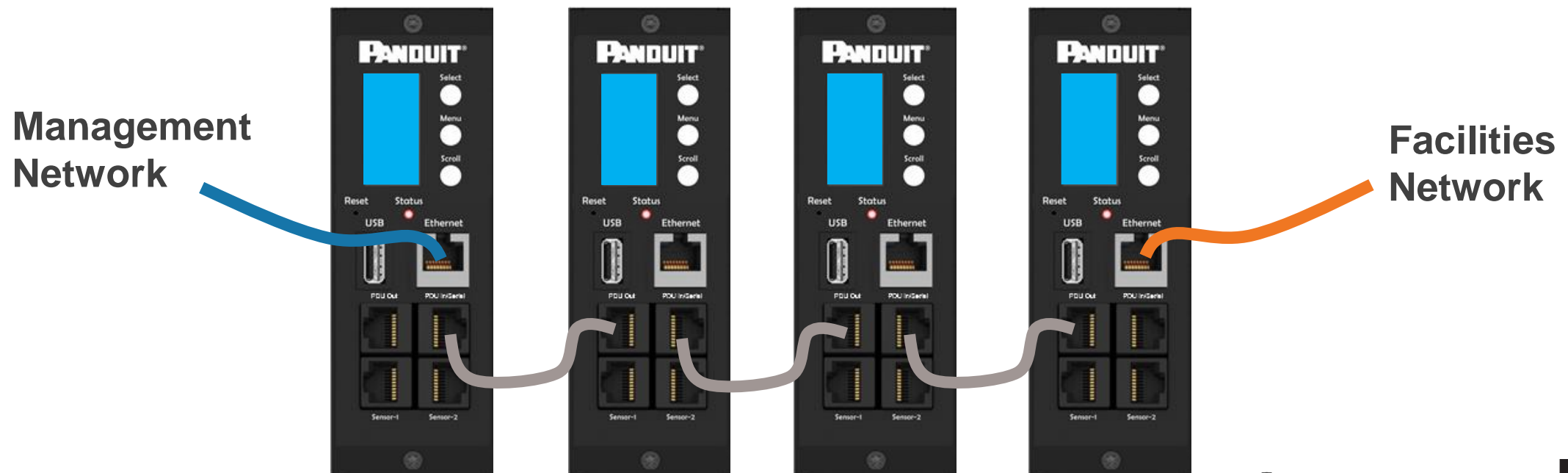
Tablet



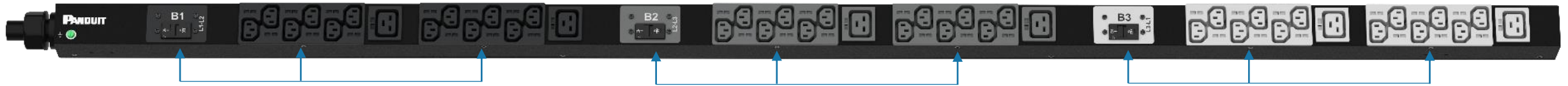
Smartphone

Redundant Network Access (RNA)

- Full network redundancy to protect from network outages
- or
- Allows 2 two separate & secure network access points (Co-Lo Friendly)
 - Facilities Network for power usage
 - Management Network for iPDU control



Load Balancing – Via Color Code & Real-Time Display



Color Coded Outlets and Circuit Breakers For easy source Identification & Load Balancing



Display of Each Phase Load

Real-time indication of each phase; making it easy to load balance all 3 phases.

In addition, all phases load data can be obtain remotely thru SNMPv3, RESTful APIs & CLI.

SmartZone G5 Accessories – Environment, Security & Power Cords

Plug & play style digital sensors (self-identifying electronics design)

Environmental

- Temperature
- Temp + Humidity
- 3Temp + Humidity
- Rope Leak
- Spot Leak
- 3 Sensor Input Hub
- Dry Contact input

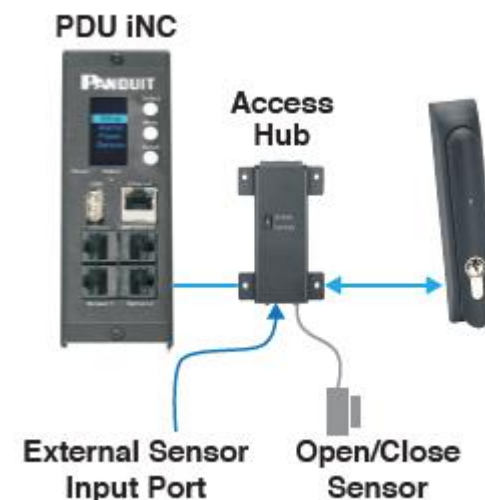
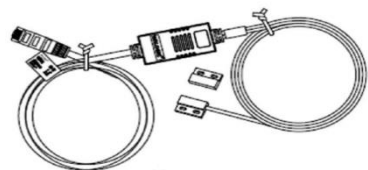


Sensor Hub



Security

- Door Contact Switch
- Access hub for smart handle
- Auto Light Bar



Power Cords

- W & V Locking Cords



SmartZone G5 iPDU Typical Solution

A - Feed

B - Feed

Hot Aisle PDU

Cold Aisle PDU

AUTO LIGHT

HANDLE &
ACCESS
HUB

T Only

OPTION

Dry Contact
Side Panel

Dry Contact
Side Panel

WATER
ROPE

HANDLE &
ACCESS
HUB

3T+H

OPTION

Dry Contact
Micro SW

Dry Contact
Micro SW

iPDU

iPDU

DAISY CHAIN

smartzone™ G5

PANDUIT
infrastructure for a connected world

Thank You!

