

GEIST



Product Overview

From Power Strips to DCiM Solutions

Power

Geist offers the broadest range of power distribution units (PDUs) and custom options available, from robust basic units to sophisticated outlet level switching units. Our on-site raw materials processing center allows for higher quality control and shorter lead times of custom units.

Cool

New data center technologies require a change in operational thinking. Geist's intelligent containment system minimizes energy consumption by containing hot air and expelling it directly to the computer room air conditioner (CRAC) unit. This increase in efficiency could lead to tens of thousands of dollars in savings in one year alone.

Monitor

Geist's array of monitoring products protect critical data center equipment by tracking environmental factors such as heat, humidity, water leakage, electricity, smoke and intrusion. Users can monitor a single element or create an intricate framework of sensors and cameras to observe large data centers, server rooms and network closets.

Manage

Geist has installed more than 350 data center infrastructure management (DCiM) systems worldwide. With comprehensive data aggregation systems to automate data center reporting and provide critical infrastructure management tools, Geist creates real efficiencies by managing the data center as one interconnected unit.





Industry Leader

- Established in 1948
- 65 years of continuous growth
- Privately held company
- 20 percent employee owned
- Installations globally
- Office locations in USA, China and Europe

Quality

Geist is dedicated to developing the highest performing products and most innovative solutions in the industry. From hand-soldered connections in our power strips to enterprise-level DCIM implementation teams, we consistently exceed our customers' expectations.

Tailored

Geist has been customizing cost-effective solutions for clients for more than 65 years. It's part of our culture. Geist can take your road map and desired features and make them a reality. We are committed to quickly meeting each specific customer need with technological expertise and unbeatable detail.

This brochure contains an overview of the products offered by Geist. For more information go to geistglobal.com or call our sales team at **800.432.3219**.



POWER

Power Distribution

Offering thousands of standard PDUs
and extensive customization options

Power Solutions for All Applications

From robust basic units to sophisticated outlet level switching units, Geist supplies a huge range of standard units but also specializes in build-to-order PDUs that meet the unique needs of each client's application. Our on-site raw materials processing center allows for higher quality control and shorter lead times for custom units.

- Made in the USA
- ISO 9001 certification
- Orders ship within 3 days
- Custom orders ship in as little as 5 days
- Record of 99.7 percent on-time delivery
- On-site UL testing lab
- All units 100 percent tested on-site

Other Geist Power Features

Locking Receptacles

Geist offers IEC C13 and C19 receptacles with an integrated locking feature. Locking receptacles come standard on some units and are available for custom orders.

Tested to 1 percent Accuracy

Geist's outlet power monitoring line of PDUs pass a rigorous battery of independent U.S. and international accuracy testing. The tests ensure users that Geist PDUs measure within 1 percent accuracy of power readings recorded at the outlet level and within 1 percent of the voltage, frequency and temperature readings.

Low-Profile Breakers

Geist offers low-profile breakers as a standard feature on select basic and intelligent PDU configurations.

Switched Power

Geist switched PDUs provide hands-on power — even from miles away. While monitored PDUs can display information remotely, only switched PDUs offer the ability to use that information and stay in control of individual power outlets. Manage critical issues that arise with the click of a few buttons on a smart phone or computer. Disable problem equipment by cutting power to specific outlets and reboot equipment remotely by cycling power.

Our Switched Ultra Series has outlet level power monitoring for granular power consumption data of all equipment. Max Group Amps offer an extra level of protection by preventing circuit overload via client-specified thresholds.



Current Monitoring

Geist current monitoring PDUs allow local or remote viewing and alarms for issues that can arise at the outlet, breaker, circuit and aggregate level. With the advantage of seeing current usage feedback in an instant, the chances of overloading a PDU when adding, removing or adjusting equipment is minimized. Current monitoring PDUs are available with unit level or outlet level monitoring capabilities.



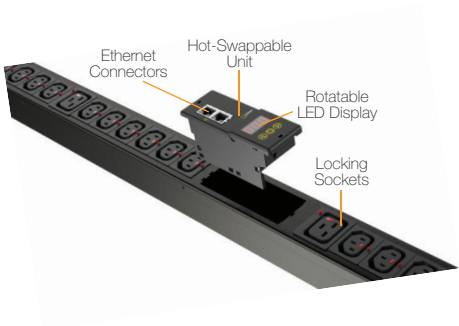
Power Monitoring

Geist RCO PDUs provide a comprehensive view of outlet level power usage in a data center. Local and remote power monitoring display options offer quick access to each outlet's current, volts, real power, apparent power, power factor and kiloWatt hours. The environmental sensor ports provide the ability to track critical climate variables. Power Monitoring PDUs are available with unit level or outlet level monitoring capabilities.



Geist Upgradeable

The new Geist Upgradeable power strips give data center managers the flexibility to install the intelligence required today with the option to upgrade technology as needs evolve. From basic power to power and environmental monitoring, the Geist Upgradeable product line adapts to your business well into the future.



Satellite Power

Geist's line of satellite PDUs maximizes the remote reporting capacity of a single IP address. Without a satellite PDU or a data aggregator solution like Geist's Racknet-A, data center managers wanting to broaden the reach of their remote monitoring capabilities would have to assign a single IP address to each intelligent PDU. Geist's satellite PDUs solve this problem by connecting remote-capable devices under the same IP address.



Geist's range of satellite PDUs offer a variety of current, power and environmental monitoring options. Geist also offers Satellite Switched units for users who require more control.



Geist's **DCiM Solutions** further enhance the control of intelligent PDUs and limit the use of IP addresses. Control, track and present intelligent PDUs and environmental data easily with Geist's **Racknet-Aggregator**.



Basic Power

Geist offers reliable power distribution with no frills, just 100 percent performance, guaranteed for life. Geist's basic PDUs come in surge, non-surge, IEC and NEMA configurations. Incorporating an optional current or power meter is especially useful when adding, removing or adjusting equipment, because it provides instant power usage feedback, helping users avoid overload and costly downtime.



The current meter option provides an accurate true RMS reading of the current draw to monitor PDU performance closely and ensures equipment power usage is within acceptable ranges, helping avoid nuisance breaker trips.

Auto Transfer Switch

Geist's auto transfer switch provides redundant power for single-lead data center equipment. If the primary power source experiences failure, the transfer switch automatically shifts to a secondary source, ensuring uninterrupted service. Once the power from the primary source is restored, the unit automatically switches back to the original source of power.





COOL



OPENGATE

BY  **GEIST**

Intelligent Containment Systems



Maximize cooling efficiency while easily maintaining a perfectly controlled temperature.

Air Management Systems

Opengate by Geist solutions offer sophisticated airflow management to data centers of any size and capacity. By containing and directing hot air, the Opengate line delivers significant cost savings while improving the long-term reliability of mission-critical IT equipment.

- Maintains a perfectly controlled and consistent IT environment
- Maximizes efficiency while maintaining an ideal temperature throughout data centers
- Contains and evacuates 100 percent of the heat so no hot air mixes with cool air
- Exhausts heat directly from the cabinets, eliminating hot-air bypass
- Maximizes chiller plant efficiency with the highest possible return air temperatures
- Eliminates temporary fixes like vinyl plastic sheeting with expertly manufactured chimneys and rack enclosures

Airflow Assessment Program

Geist's highly trained team of experts conducts a thorough site survey to identify key airflow trouble spots and recommend viable solutions in a customized Airflow Assessment Report. This assessment provides detailed insight to the efficiency of your airflow management and summarizes the necessary steps to maximize cooling efficiency.

For details on conducting an Airflow Assessment in your data center, contact one of Geist's cooling experts at 800.432.3219 or sales@geistglobal.com.

Intelligent Cabinet or Row Containment

Geist Opengate Intelligent Containment System centers on two critical components: 1) containing heat and 2) expelling heat directly to the CRAC units. This two-step focus maintains and stabilizes the ideal temperature for data center equipment.

A. Custom Chimney

Opengate chimneys exhaust the cabinet's hot air through the ceiling return plenum or to other desired locations. Chimneys are adjustable to accommodate most ceiling heights. Durable and easy to assemble, each chimney is made of powder-coated steel, matching most data center cabinets.

Adjustable duct extender kits: EC1002-0007X, EC1002-0013X

Fixed-length stackable ducts: EC1002-08S, EC1002-12S, EC1002-24S, EC1002-48S

B. Intelligent Controller

The intelligent controller is the brains behind the Enterprise Cooling (EC) system. It automatically adjusts fan unit speeds to exhaust exactly the right amount of air from the cabinet. The fan speed is controlled by information from pressure sensors that compare pressure inside the cabinet with that in the room. The EC system works to maintain a zero differential between the two environments. The intelligent controller also records valuable temperature and performance data.

EC1001H

C. Fan Units

Opengate fan cartridges evacuate hot air to maintain air flow at the exact rate the IT equipment generates. Each fan unit is manufactured with best-in-class components to ensure maximum run life and unparalleled efficiency.

EC10D, EC20D, EC30R

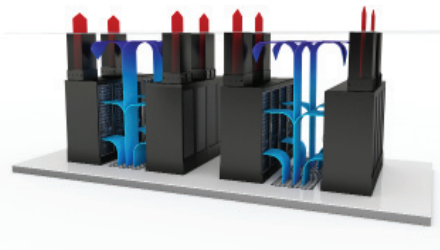
COOL



Passive Containment

Opengate by Geist is the most flexible cooling option on the market. With Opengate Passive Cabinet Containment, low-density cabinets can take advantage of a simple chimney solution to manage modest loads. Then, as cabinet loads increase, the passive system can be upgraded quickly to an Opengate Intelligent Containment System. It grows and adjusts to the needs of any data center with features like:

- **Efficient chimney systems**
 - For low-density cabinets (up to 4 kW)
 - Heat is channeled directly to the hot air return, no mixing with the cooler ambient air
- **No active components** — relies on server fans to push exhaust
- **Highly economical** — simple design is low cost and easy to install
- **Occupies zero floor space** — mounted above the rack allowing for maximum cabinet space
- **Easily upgradable** to an active system for higher density cabinets as density increases



Optional placement of Geist cooling units avoids overhead obstructions such as cable trays.

COOL



Maintain maximum cooling efficiency with airflow management accessories by Upsite Technologies®, located in the **Accessories** section at geistglobal.com.

Switch Cooling

Network switches, load balancers and routers are often mounted in the back of a cabinet for more convenient cabling connections. Unfortunately, devices installed at the back of cabinets can be critically damaged or may go offline when they are fed pre-heated air from the servers. Opengate Switch Cooling addresses this issue by delivering cool air to network devices regardless of where they are mounted. Switch Cooling products are available in a wide range of configurations and rack space sizes. Designed to work with 1U to 9U devices and beyond, Opengate Device Cooling channels air to every kind of intake/exhaust configuration imaginable.



Opengate Switch Cooling guides cool air to network devices mounted in non-ideal locations within the cabinet. Active fans may be incorporated as configuration, size and airflow requirements demand.

Small Room Cooling

Geist's RAC10 system evacuates heat from a small space and sends it to the outside corridor or ceiling plenum return. The unit allows a room to breathe which leads to a perfectly controlled environment for small computer and network rooms using building air. The unit interfaces with temperature sensors to adjust fan speeds as temperatures rise and fall while providing the needed visibility-to-cooling capacity, environmental information and alarms. RAC10's Web interface provides remote alerts and management for superior visibility and room environment control.



The Opengate RAC10 system can be mounted to the wall or the ceiling for automated heat exhaust and critical monitoring and alerts. An optional Duct Kit can be added. RAC10 fan enclosure dimensions are 21" W x 14" L.



MONITOR

Environmental Monitoring

From temperature to humidity to airflow, Geist climate sensors monitor critical environmental conditions.

Environmental factors pose a severe threat to your mission-critical infrastructure. These dangers are minimized with a network of Geist sensors collecting and funneling information to a single point.



Geist's monitoring line of products allows users to observe conditions from a secure Web interface and receive simple network management protocol (SNMP), email or text messages when environmental sensors detect a problem.

The Web interface can display live video surveillance and environmental measurements, including temperature, humidity, airflow, light, sound, power and water detection. Measurements are logged and graphed to track trends. Sensors can be controlled by programmed values or manually through the Web interface.



RS-Wi Wireless Monitoring

The RS-Wi Wireless Gateway is designed for easy integration with data center monitoring and Geist's DCiM systems. The convenient wireless design helps reduce installation costs associated with hard-wired sensors. An auto-discovery mechanism detects sensors as they are installed within the monitoring network.

RS-Wi Compatible Sensors

- Digital temperature sensor
- Digital temperature/humidity sensor
- Digital temperature measurement and dry contact
- Analog input transmitter
- Analog input sensor
- Point repeater



Integrated Sensors

A complete range of analog and digital sensors is available to connect to Geist power strips and environmental monitors. Many Geist devices also have embedded environmental capabilities. The data collected from the sensors can be stored using Geist software packages, and/or viewed through an online Web interface.

Digital Sensors

- CCAT analog to digital converter
- Temperature, airflow, humidity, dew point sensors

Analog Sensors

- Smoke and carbon monoxide detectors
- D-Link® wireless cameras
- City power monitor
- Direct current volts sensors
- Current transformer
- Door position sensor
- Leak detection cable and water sensor

Accessories

- -48 volt DC power supply
- 5-port
- Auto-dialer
- Power over Ethernet splitter and injector

GTHD Sensors

The GTHD and GT3HD sensors collect and transmit real-time temperature, humidity and dew point data to protect data center equipment from heat and moisture. Multiple sensors can be daisy chained using the remote sensor port. The GT3HD model offers two additional RJ12 ports to add remote temperature sensors in alternative locations within the server rack or data center.





MANAGE



ENVIRONET

BY  **GEIST**

**A single point of access for managing
mission-critical hardware**

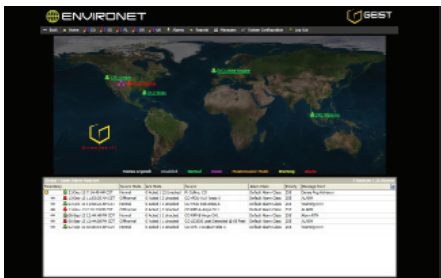
Easy. Intuitive. Effective. Simply Intelligent DCiM

Environet provides all of the data granularity required for efficient management of the data center. It offers unprecedented visibility and management over environmental, power consumption and cooling, transforming complexity into simplicity. Environet's interactive interface provides critical information to drive knowledge-based decision making. Access to real-time, holistic information about assets, power, environment and process empowers users to proactively manage moves, additions and changes. With Environet, decisions are made with speed and confidence—not guesswork.



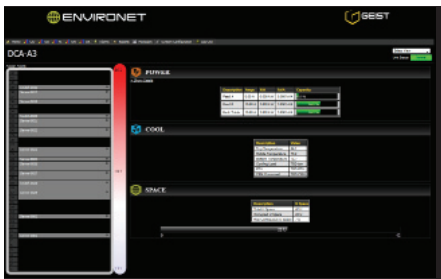
Colocation Management

The Environet DCiM solution from Geist offers an unmatched user experience. Our comprehensive toolset is designed to make managing your colocation facility easier than ever before. With features like Tenant Billing Manager that calculates real-time kWh usage at the server level using peak and non-peak rates, Environet provides unique tools that are easy to implement and deliver effective outcomes.



Global View

Shows the status of facilities around the world.



Rack-Level Graphics

Quickly visualize critical power, cooling and space data at the rack level. Asset drag-and-drop functionality makes placing assets in the rack simple. Immediately calculate how additions to each individual rack impact power and cooling requirements.

Environet

Environet is a custom-built, fully scalable system with a single point of access for all your monitoring needs. It is an enterprise-level system that focuses on integrating many types of equipment via various communication protocols for complete visibility. With Environet, you do not have to worry about design, installation, configuration or system maintenance. Geist designs, programs, installs and provides support for all Environet systems. They are 100 percent turnkey.

- Enterprise scalable
- Complete toolsets
- Custom-built feature sets
- Virtually unlimited capacity
- Set up and maintained for you

Racknet Product Family

Racknet is designed primarily to give visualization to rack-level data and white space, although it is capable of integrating with other monitoring systems. Racknet can be set up and configured by users or by a professional Geist installer, but is capable of being 100 percent user maintained. Racknet uses an SNMP auto-discovery tool to make configuration fast and easy, while template devices make adding equipment to the system simple. Racknet is shipped pre-installed on a server for quick set up.

- White space and rack-level monitoring
- Extensive feature set
- Capable of custom graphics and tools
- Up to 15,000 points
- User maintainable

Racknet Product Family

The Racknet product family offers vendor-neutral options that allow you to integrate and manage a variety of mission-critical equipment. User-defined graphics, calculations and reports allow for a holistic view of your entire data center.

Racknet-Aggregator (Racknet-A): Racknet-A connects to GNET via 48 aggregation ports to collect critical data from Geist products. It prevents users from having to set up and monitor multiple IP addresses on the production network, communicates via SNMP and supports up to 1,000 devices.

Racknet-Aggregator Server (Racknet-AS): Racknet-AS includes the full feature set of the Racknet product line. It can be used with third-party equipment, has 48 aggregation ports for direct connection and includes full customization capabilities.

Racknet-Server (Racknet-S): Racknet-S gathers data from Geist products as well as third-party equipment. It also allows users to fully customize graphics and data collection.

Racknet-Virtual Machine (Racknet-VM): Racknet-VM is a virtual interface with the same features as Racknet-S. Along with the current selection of Racknet appliance versions, users now have the option to deploy Racknet-VM in their new or existing virtual environment.

Racknet-Environmental (Racknet-E): Racknet-E combines high-end data center management software and fully integrated environmental sensors to alert managers when heat or humidity levels threaten sensitive data center equipment. The bundled solution can be fitted with wireless or wired sensors.

	Environet	Racknet
Capacity		
Number of Points Scalability	unlimited enterprise	up to 15,000 multi-device
Communication		
SNMP	X	X
BACnet	X	with converter
Modbus	X	with converter
LONworks	X	with converter
Hardwired I/O	X	with converter
oBIX API	X	X
Design and Configuration		
System Configuration	turnkey	user capable
Vendor Neutral	X	X
Consulting Services	X	additional
Professional Installation	X	additional
Support Contract	X	additional
Custom-Built Features	X	N/A
Features		
Chart Builder	X	X
Notification and Alarms	X	X
Report Manager	X	X
Energy Cost Analysis	X	capable
Power One Line	X	capable
PUE/DCIE	X	capable
Unique Floor Plans and Views	X	capable
Key Performance Indicators	X	capable
Power Capacity Planning	X	capable
Asset Management	X	capable
Integration		
Raised Floor/White Space	X	X
Electrical/Mechanical Rooms	X	capable
Fire Suppression Systems	X	capable
Building Management Systems	X	capable
Network Management Systems	X	capable
Security Systems	X	capable
Other Custom Systems	X	capable



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