Future Thinking • Solutions Today

Product Overview

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Why We Are Different

Geist designs and manufactures industry-leading technology and software for powering, monitoring, cooling and managing critical data centre infrastructure. We produce affordable, quality products while providing our clients with superior service. Whether it's enhancing customer care or implementing new technologies, Geist promotes innovation, quality and satisfaction in all aspects of business.

Expertise

In this ever-changing, technology-driven industry, plenty of companies are forced to react to remain relevant. At Geist, we stay ahead of our competition by actively evolving to meet the demands of our customers. Through technical expertise and skilled engineering, we provide leading-edge products and comprehensive solutions for our customers.

Partnership

Every Geist employee is ready and eager to help solve our customers' problems. Accessible and responsive, our team is committed to providing exceptional personal service and support every day — fulfilling our mission of providing a premier customer experience.

Tailored

Geist has been customizing cost-effective solutions for clients for more than 60 years. It is part of our culture. We are committed to quickly meeting each specific customer need with technological expertise and unbeatable detail.

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 Data Centre Infrastructure Management (DCIM) solutions, we consistently exceed our customers' expectations.

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From Power Strips to DCIM Solutions

Power

Geist offers the broadest range of power distribution units (PDUs) in both standard and custom options, from robust basic to sophisticated outlet level switching units. Our on-site manufacturing centre allows for the highest quality control and industry leading turnaround times.

Cool

New data centre 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 centre 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 centres, server rooms and network closets.

DCIM

Geist has installed more than 500 data centre infrastructure management (DCIM) systems worldwide. With comprehensive data aggregation systems to automate data centre reporting and provide critical infrastructure management tools, Geist creates real efficiencies by managing the data centre as one interconnected unit.

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POWER

Upgradeable PDUs - Power with Flexibility

Basic Units
Upgradeable Local and Remote Power Monitoring
Upgradeable Local and Remote Power Monitoring + Remote Sensing

Description

Geist Upgradeable power strips give data centre managers the flexibility to install the intelligence they require today with the option to upgrade technology as needs evolve. From basic power to sophisticated power monitoring with remote sensors, the Geist Upgradeable product line adapts to your business well into the future. Racknet (purchased separately - see page 12) collects and reports critical power and environmental data for multiple PDUs in one, user configurable interface. Users gain immediate remote access to trends, alarms and histories of devices in the data centre through a standard Web browser. Racknet saves both time and cost associated with managing each device individually. Contact your Geist rep for more details.

Product Summary

Interchangeable Monitoring Device, Power Monitoring + Remote Sensing, Phase (X, Y, Z) Monitoring (A, V, W, VA, kWh, PF) Phase Power Measurements Compliant with ANSI C12.1 and IEC 62053-21 at 1% Accuracy Class Requirements, Circuit/Breaker Monitoring (A), Circuit/Breaker Current Measurements Independently Tested and Verified at 2% Accuracy.

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Features and Benefits

Upgradeable Monitoring – Install the technology you need today with the ability to upgrade as your needs evolve.

Hot-Swappable Units – Add, remove or switch Interchangeable Monitoring Devices (IMD) without interrupting power to critical servers.

High Temperature Grade – 60°C working ambient variants for high temperature environments.

Remote Sensor Port – Monitor environmental conditions such as temperature, air flow, humidity and dew point with the use of a Geist remote sensor.

Input Power Monitoring 1% Accuracy (ANSI and IEC standards) – Allows data centre managers to accurately reconcile power usage.

Fault-Tolerant Daisy Chaining – Simplifies intelligent PDU connectivity and ensures data is reported even with a break in the chain.

Low-Profile Breakers – Compact profile to install in tight spaces for units requiring breakers.

Red LED Rotatable Display – Read power data easily in dimly lit areas.

Available With or Without U-Lock Receptacles – Designed for simplicity, the patented U-Lock technology will naturally capture and securely lock cords in place. Each receptacle is colour injected directly, to assure load balancing is easily achieved.

Upgrade Path

There is a clear route to upgraded functionality for Geist PDUs. However, it is not necessary to start at the most basic level. Simply choose the functionality that suits your requirements today and our future solutions approach allows users to upgrade to the next, most sophisticated level at a later date.

Future Upgrades

We are always looking to add functionality as technology advances, allowing you to get more out of our products into the future. Stay at peak performance when using Geist's upgradeable power products.

IMD – Power Monitoring and Remote Sensor

The latest Interchangeable Monitoring Device allows remote power monitoring that adds the ability to connect up to four remote sensors - ideal for installations requiring environmental monitoring.

IMD – Power Monitoring

A PDU that offers power monitoring: the perfect first step towards increasing PDU functionality.

Basic

Start with the basic upgradeable unit if your facility is not yet ready for power monitoring, but there are future development plans. With the technology built-in and a few, easy steps to upgrade the PDU, you can add functionality when the timing is right (no IMD included with the device).

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The Broadest Range of PDUs and Custom Options Available

Switched Power

Switched PDUs provide hands-on power control, even from miles away. While monitored PDUs can display information remotely, only switched PDUs offer the ability to monitor and control individual power outlets via the Internet and smart phone devices.

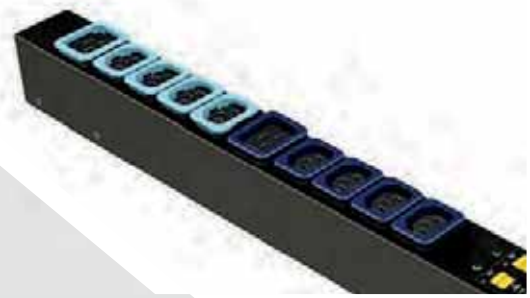
The Switched Ultra Series has outlet level power monitoring for granular power consumption data of all equipment. A Max Group Amps feature offers an extra level of protection by preventing circuit overload via user-selected thresholds.

Power Monitoring

Geist's power monitoring PDUs offer unit level and outlet level monitoring options. Unit level strips provide data for the entire PDU, while outlet level power monitoring tracks each socket's power usage. Outlet level units come with locking receptacles as standard.

U-Lock Receptacles

Geist offers IEC C13 and C19 receptacles with an integrated locking feature. Built within the receptacle housing, the locking mechanism is protected against vibration and external elements that can easily dislodge external locking clips or guides. This self-contained locking mechanism works with any standard IEC plug. Locking receptacles come standard on some units and are available for custom orders.



Transfer Switch

Geist's Auto Transfer Switch provides redundant power for single-corded data centre equipment. If the primary power source fails, 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.

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Local Monitoring

Current Meter PDUs offer local monitoring to display usage at a glance. This reduces the chances of overloading a PDU when adding, removing or adjusting equipment.

The **Power Meter** offers detailed information through a scrolling display of the four critical power measurements: Power Factor, Amps, Volts and Watts. This information can be used to calculate kilowatt hours to easily evaluate power costs and identify usage issues to prevent critical failures.

Upgradeable Inline Power Monitoring allows for the retrofit addition of power monitoring to basic PDUs. Simply insert the monitor between the PDU and the power source to display accurate measurements.

Basic Power Strips

Reliable power distribution with optional local current and power displays for on-site performance tracking.

Surge: Random voltage spikes can cause real, irreparable damage to critical equipment. Surge suppression is ideal for smaller environments that don't have protective surge suppression at the facility level or just when additional protection is needed.

Non-Surge: For facilities already equipped with surge protection, Geist offers non-surge units with or without local meter displays. Geist also has a wide variety of electrical options with Amp ratings ranging from 15A to 120A in both NEMA and IEC configurations.

Low-Profile Breakers

Geist's low-profile breakers reduce the PDU depth by over 40 percent compared to traditional breakers. The slimmer design protects against electrical overloads and allows the PDUs to be easily installed in data centre cabinets with limited space.

Low-profile breakers are a standard feature on select basic and intelligent PDU configurations. Customers may choose to incorporate the smaller breaker design on applicable custom PDU orders.

COOL

Maximise Cooling Efficiency by Maintaining a Perfectly Controlled Temperature

Air Management Systems

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

- Maintains a perfectly controlled and consistent IT environment
- Maximises efficiency while maintaining an ideal temperature throughout data centres
- Contains and removes 100% of the heat so there's no mixture of hot and cold air
- Exhausts heat directly from the cabinets, eliminating hot-air bypass
- Maximises chiller plant efficiency by returning hot air for the highest possible return
- Eliminates temporary fixes like vinyl plastic sheeting with expertly manufactured chimneys and rack enclosures

Airflow Assessment Program

Geist's highly trained team of experts conduct a thorough site survey to identify key airflow trouble spots and recommend viable solutions in a customised Airflow Assessment Report.

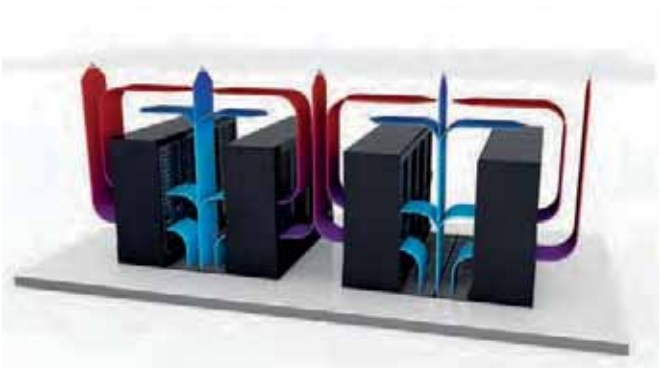
This assessment provides detailed insight into the efficiency of a data centre's cooling circuit and summarizes the necessary steps to maximise cooling efficiency.

Assessment ROI

It's estimated that for every watt of power consumed by IT equipment in an average data centre, another watt is required to remove the heat generated by that equipment. Based on this principle, significant cost savings can be achieved by implementing all or a portion of the steps described in the Airflow Assessment Report. Geist's Airflow Assessment Report specifies many overall benefits of effective airflow management.

Assessment Team

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



Studies show 250 percent over-cooling is required when hot air is uncontrolled.*

Without heat containment, hot air mixes with cold, leading to gross over-cooling. Geist Cool addresses this problem by focusing on containing hot air to improve cooling efficiency by up to 40 percent.

* ""Designing Better Data Centres"," *ASHRAE Journal*, 12/07, EPA - Uptime Institute conference material

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ActiveAir™

Intelligent Airflow Management

Geist ActiveAir Containment System centres 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 centre equipment.

Pressure sensor information is fed into the controller, which is then translated into commands that raise or lower fan speeds based on the server load.

ClosetAir™ Cooling

Small Room Management

Geist's ClosetAir system removes heat from a small space and sends it to the outside corridor or ceiling plenum return. The unit allows the closet to breathe which leads to a perfectly controlled environment for your small computer and network rooms using building air.

The Geist Cool ClosetAir 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.

SwitchAir® Cooling

Network Switch Management

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. Designed to work with 1U to 9U devices and beyond, Geist Cool SwitchAir products channel cool air to every kind of intake/exhaust configuration imaginable.

Active

Passive

Geist Cool SwitchAir guides cool air to network devices mounted in non-ideal locations within the cabinet. In many cases this can be done with a simple passive device. Active fans may be incorporated to meet the demand of your space, airflow requirements and different configurations.

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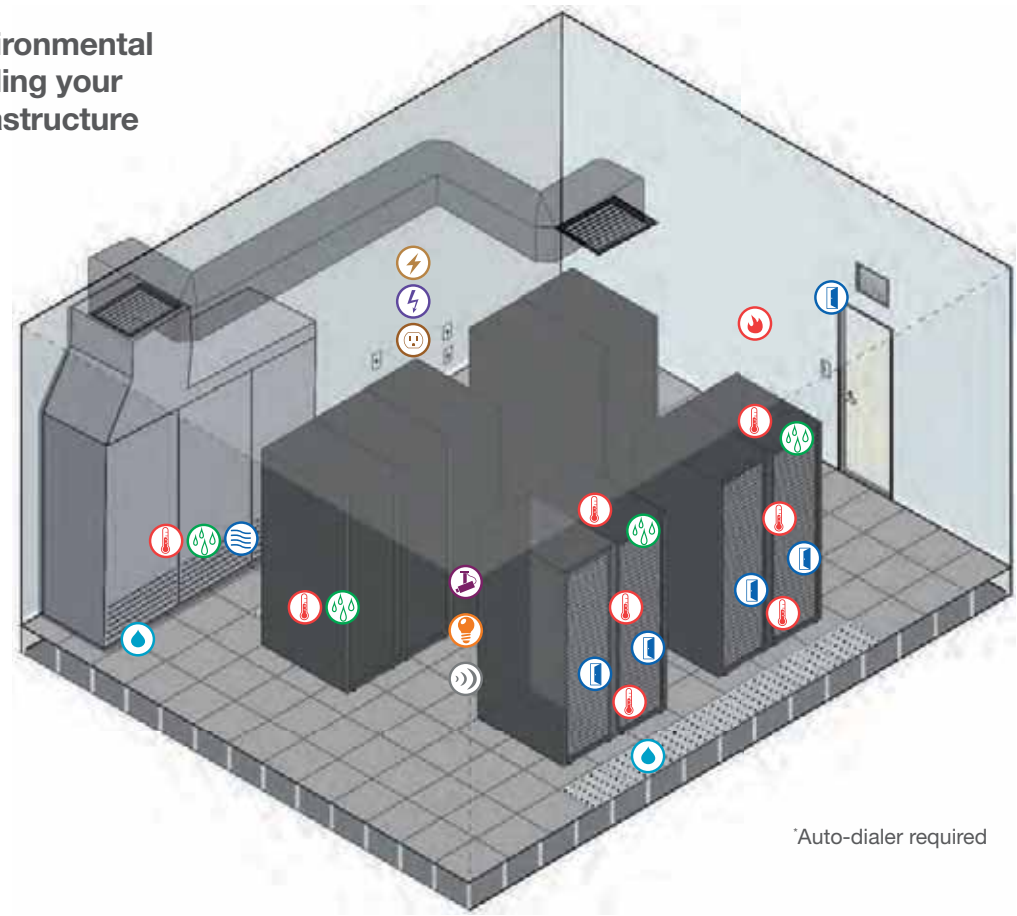
MONITOR

Strategically Monitor to Prevent Downtime and Protect Critical Inventory

Physical Dangers are Just as Important as Cyber-Threats

Prevent climate and power related downtime by monitoring a wide range of environmental parameters including temperature, humidity, airflow, light, sound, leak detection and more over a secure web interface and receive email, email-to-SMS, SNMP and voice call* alert notifications when user-specified alarm thresholds are breached. Your Watchdog can pick up on any trends within your data centre with its logging and graphing features and can be configured to automate external processes on alarm or manually over the web.

Keep an eye on environmental conditions surrounding your mission critical infrastructure



*Auto-dialer required

Temperature
Airflow
Power Failure
Smoke
Light
Amperage
Humidity/Dew Point
Sound
Door Position
Voltage
Water Leaks
Video

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Watchdog 15

The Watchdog 15 is a self-contained environment monitor with an on-board temperature and humidity sensor. Equipped with two digital sensor ports, the Watchdog can support up to four external sensors using a splitter.

The Watchdog 15 is the most cost-effective and reliable solution in the market for monitoring temperature, humidity and other environmental parameters in critical environments.

Watchdog 15 and Watchdog 15-PoE Specifications

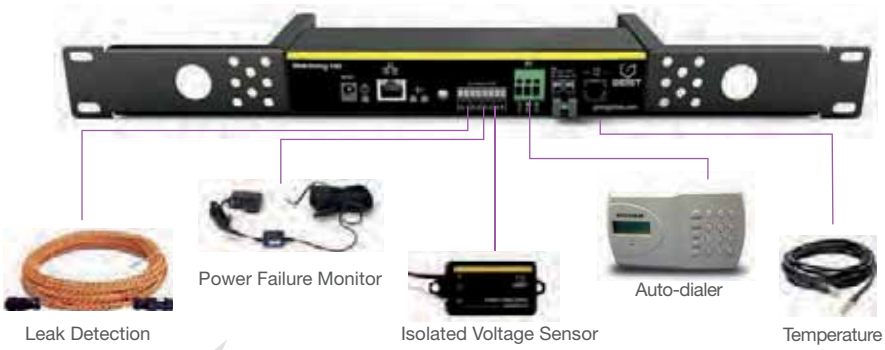
Ethernet Connection. 6-8 VDC Power Supply. Optional Power-over-Ethernet (PoE). Power On Indicator. IP Reset Button. Two Digital Sensor Ports (capacity of four external sensors). On-board Sensors. FCC Part 15 Class A Conformance.

Temperature Range:
-13° F to 176° F (-25° C to 80° C, +/- 0.5° C)
Humidity:
5% to 95%, +/- 3%
Chassis Dimensions:
1.72" H x 5.22" W x 1.29" D

Watchdog 100

The Watchdog 100 combines climate monitoring with remote relay control. The relay outputs can be tied to alarm settings or triggered manually. The unit comes equipped with on-board temperature, humidity sensor and optional built-in Power-over-Ethernet (PoE).

The Watchdog 100 is a compact solution perfect for tight installments. It is shipped with rack-mount brackets offering flexible wire management options.



Watchdog 100 and Watchdog 100-PoE Specifications

Ethernet Connection. 6 VDC Power Supply. Optional Power-over-Ethernet (PoE). Power On Indicator. Idle/Activity Indicator. IP Reset Button. One Digital Sensor Port (connect up to four using splitters). Four Analog Sensor Ports. One Output Relay. On-board Sensors. FCC Part 15 Class A Conformance.

Max Switching Capacity:
DC: 60V, 30W / AC: 30V_{rms}, 1A
Temperature Range:
-4° F to 176° F (-20° C to 80° C, +/- 0.5° C)
Humidity: 5% to 95%, +/- 3%
Chassis Dimensions:
1.6" H x 8.5" W x 2.5" D (with 19" mounting brackets)

Temperature/Humidity/Dew Point Sensor Kit

The GT3HD is an enhanced version of the Temperature, Humidity, Dew Point Sensor (THD) with four 6P6C modular jacks (aka RJ12), one for output to the appliance and a supplementary input for daisy-chaining. Two additional inputs are strictly compatible with the temperature sensors. The unit comes kitted with 3' and 6' temperature sensors and is ideal for monitoring top, middle and bottom of a server rack.

Sensor Details
Temperature Range:
-4° F to 176° F (-20° C to 80° C, +/- 0.5° C)
Humidity:
5% to 95%, +/- 3%
Dew Point:
-58° F to 185° F (-50° C to 85° C)

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DCIM

Easy. Intuitive. Effective. Simply Intelligent DCIM

Complete Data Centre Management

Data centre management can be complex, but Geist DCIM's solutions simplify the process. Data Centre Infrastructure Management (DCIM) consolidates disparate systems into one comprehensive pane of glass. DCIM can help cut costs and provide peace-of-mind to managers knowing that the data centre is fully monitored. DCIM also helps increase efficiency and reduce data centre downtime due to unexpected incidents. With the Environet and Racknet product lines, Geist DCIM is committed to providing high quality data centre solutions as well as industry-leading customer service. Geist has the solutions to get the most out of data centre processes.

Environet Facility

The Ultimate Monitoring & Mangement Solution

Environet Facility simplifies monitoring by integrating multiple communication protocols into one complete system. It provides the data granularity required for efficient management of both the facility and the data centre infrastructure. Environet Facility transforms complexity into simplicity with unprecedented visibility and management over environmentals, power consumption and cooling.

- Enterprise Scalable
- Business Analytics
- Real-time Monitoring
- Full Device Integration
- Interactive Interface
- Trends and Alarms

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Racknet Solutions

A standalone, entry-level DCIM solution, Racknet can be implemented with an appliance or as a virtual machine. There are two solutions available; one capable of monitoring Geist and third party hardware with the other supporting only Geist devices.

Racknet

A Versatile DCIM Solution

The full Racknet solution provides a comprehensive set of products for managing rack level data with a single point of integration. Its auto-discovery feature makes installation fast and simple. The intuitive interface allows for easy drag and drop configurations, giving complete in-house customisation capability. Once integrated, all communicating devices and points can be trended and reported on.

Node Manager

A Simple Solution for Critical DCIM

Racknet Node Manager (NM) is a simple solution created to manage Geist devices. Node Manager provides a single aggregation point for real-time monitoring and trending, along with a set of limited features when compared to the full Racknet solution.

	Environet	Racknet
Communication		
SNMP	•	•
BACnet	•	-
Modbus	•	-
LONworks	•	-
Hardwired I/O	•	-
API	•	•
Design and Configuration		
System Configuration	turn-key	user
Vendor Neutral	•	•
Consulting Services	•	optional
Professional Installation	•	optional
Support Contract	•	•
Features		
Real-time Monitoring	•	•
Notifications and Alarms	•	•
Business Analytics	•	•
Energy Cost Analysis	•	*
Power One Line	•	-
PUE/DCIE	•	*
Unique Floor Plans and Views	•	*
Key Performance Indicators	•	*
Power Capacity Planning	•	-
Asset Management	•	-
Integration		
Raised Floor/White Space	•	•
Electrical/Mechanical Rooms	•	*
Fire Suppression Systems	•	*
Building Management Systems	•	*
Security Systems	•	*
Other Custom Systems	•	-
Workflow Management Systems	•	-

*Contact Geist DCIM for customised product options.

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Delivers Efficiency, Reliability and Excellent Customer Service

Whether Providing a Single PDU or Fully Integrated Data Centre Infrastructure Solution.

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POWER

Geist is known for its PDU pedigree, fast custom delivery and excellent customer service, offering thousands of power strips available in 3-5 days.

COOL

Airflow solutions that push the envelope and deliver cost savings of 40% over conventional data centre cooling, including network switches and closets.

MONITOR

Monitor and track critical environmental points in data centres to produce an efficient and well-maintained environment; maximizing uptime.

DCIM

Provide a single pane of glass to real-time monitoring, predictive future capacity, and workflow management to maximise efficiency and optimise costs.

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