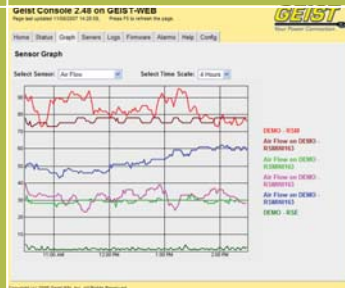


Data Center Environmental Monitoring Solutions



GEIST

Data Center Environmental Crisis Prevention



BASE MODEL NUMBERS

- GRSE-B
- GRSE2X16
- GRSMIN-P
- GRSMINI163

BASE MODEL NUMBERS INCLUDE A POWER SUPPLY COMPATIBLE WITH THESE POWER SYSTEMS

- North America
120VAC/60Hz, NEMA 5-15
- Japan
100VAC/50&60Hz, JIS 8303

BASE MODEL NUMBERS WITH THE (UK) EXTENSION INCLUDE A POWER SUPPLY COMPATIBLE WITH THESE SYSTEMS

- British Standard
240VAC/50Hz, BS1363

BASE MODEL NUMBERS WITH THE (UN) EXTENSION INCLUDE A POWER SUPPLY WITH CHANGEABLE INTERFACE PRONGS COMPATIBLE WITH THESE SYSTEMS

- North America
120VAC/60Hz, NEMA 5-15
- Japan
100VAC/50&60Hz, JIS 8303
- British Standard
240VAC/50Hz, BS 1363
- Europlug
220VAC/50Hz, CEE 7/16
- Australia
240VAC/50Hz, AS 3112

(UN) POWER SUPPLY

Input: AC 100-240V, 50/60HZ
Output: DC 6V, 2A
Plug Types: A, C, G, H



RacSense® Overview

IT equipment continues to push upward in both power consumption and cooling demand. For most IT Managers, understanding where and when these power and environmental conditions impact data center dynamics and reacting to adverse conditions can be a daunting task. Geist's RacSense® line of products brings visibility to the fingertips of data center managers, allowing for the ultimate in remote monitoring of environmental conditions. Whether your data center is across the building, across the country, or around the world, RacSense® keeps you in control.

Conveniently Accessed Diagnostic Data

- ◆ User-defined graphing variables
- ◆ Log data available for export to XML
- ◆ Log data available real-time via SNMP or XML
- ◆ PDA and WAP screen formats
- ◆ User-defined alarm thresholds
- ◆ Simultaneous access by multiple users
- ◆ Diagnostic event log for situational analysis

Timely Monitoring and Alarm Notification

- ◆ SNMP traps for alarm set and alarm clear
- ◆ E-mail notification
- ◆ Audible alarm (GRSE2X16 only)
- ◆ Combinations of the above

Protected Access

- ◆ Multi-level password protection
- ◆ View only privileges
- ◆ HTTPS (SSL & TLS) for secure link

Friendly Names

- ◆ Units & sensors may be given logical names

Self-Contained Operation

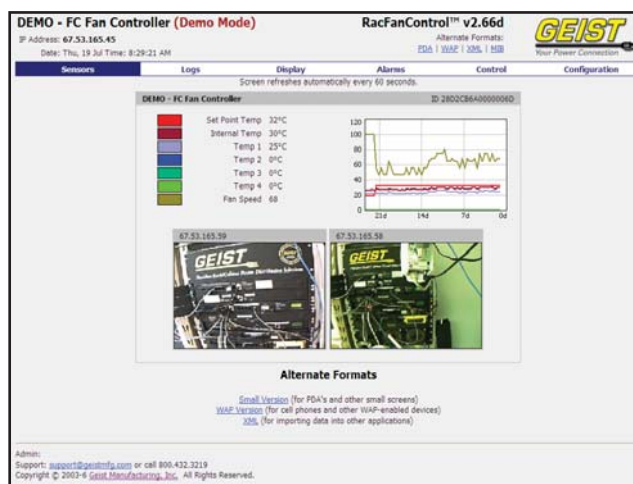
- ◆ No client software required
- ◆ Viewable via web browser
- ◆ Interfaces with remote display and web camera

Simple Installation

- ◆ Static IP - viewable via web browser
- ◆ DHCP IP assignments (optional)
- ◆ Automatic time set via internet time servers

Ease of Expansion

- ◆ External sensors may be added at any time
- ◆ External sensors are automatically discovered



GRSE-B / GRSE2X16

These RacSense® solutions provide remote environmental monitoring and alarming capability needed to detect climate conditions in data centers. Detect temperature, humidity and airflow variations before they result in downtime or loss of equipment. Expand monitoring capabilities with up to 16 remote sensors and 4 IP cameras for more finite climate and security monitoring. The GRSE2X16 features include local display and audible alarm for quick troubleshooting. Models: GRSE-B, GRSE-B-UK, GRSE-B-UN, GRSE2X16, GRSE2X16-UK, GRSE2X16-UN See page 2 for power supply options.



GRSE-B

Connectivity Diagram



Door Position Sensor

Water Sensor

City Power Monitor

Static IP Address for set-up and configuration

GRSE2X16



Temperature Sensor



Temperature, Airflow & Humidity Sensor



DLink® Web Enabled Camera

ETHERNET ETHERNET ETHERNET

GRSE SPECIFICATION

- Internal Climate Sensors
 - Temperature: -55C to 79C, +/-5C
 - Humidity: 0-100%, +/-5%
 - Air Flow: 0-99, relative
 - Sound Level: 0-99, relative
 - Light Level: 0-99, relative
- Ethernet Connection Jack
- Power On Indicator
- Activity Indicator
- Idle Indicator
- Software Reset Button
- DC Connection Jack
- Power Supply Included (varies by model) - see page 2
- External Sensor Ports
 - Five RJ12 Jacks
 - Connect up to 16 remote sensors
 - Three I/O Ports
 - 0-5 VDC analog or contact closure
- Cable management brackets
- CE compliant
- Chassis Dimensions (mm): 41 H x 432 W x 41 D

FEATURES / BENEFITS

- On-board scrolling display (GRSE2X16) provides local reading of user selected critical data
- 5 on-board environmental sensors
- Current status and trend data for environmental conditions
- 3 I/O sensor ports
- Ability to monitor contact closure devices or scale 0-5V signals
- 5 remote climate RJ12 ports
- Monitor environmental conditions via connected sensors
- Threshold alarms
- Instant notification via e-mail and/or SNMP traps
- Interfaces with IP web cameras
- Visual monitoring of cabinet
- Accessible via any web browser
- View data graphs and analyze historical logs

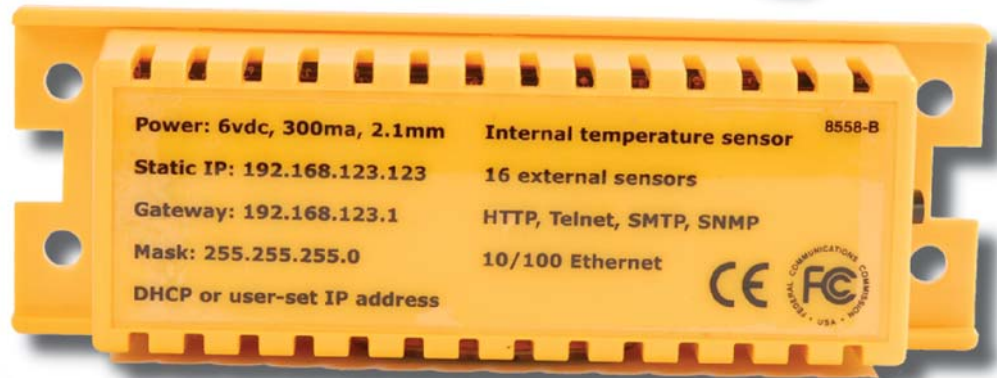
GRSMINI-P

Monitor up to 16 remote climate sensors to a unit 1/3 the size of an GRSE2X16. This compact and powerful unit displays the same user interface, including graphs, as the rest of the RacSense® product line. Ideal for discrete placement in tight locations such as wall cabinets. Models: GRSMINI-P, GRSMINI-P-UK, GRSMINI-P-UN See page 2 for power supply options.



GRSMINI-P SPECIFICATION

- Internal Climate Sensor
Temperature: -10C to 50C, +/-5C
- Ethernet Connection Jack
- DC Connection Jack
- Power Supply Included (see page 2)
- External Sensor Ports
One RJ12 Jack
 - Connect up to 16 remote sensors via splitters
- CE compliant
- Chassis Dimensions (mm):
39 H x 134 W x 39 D

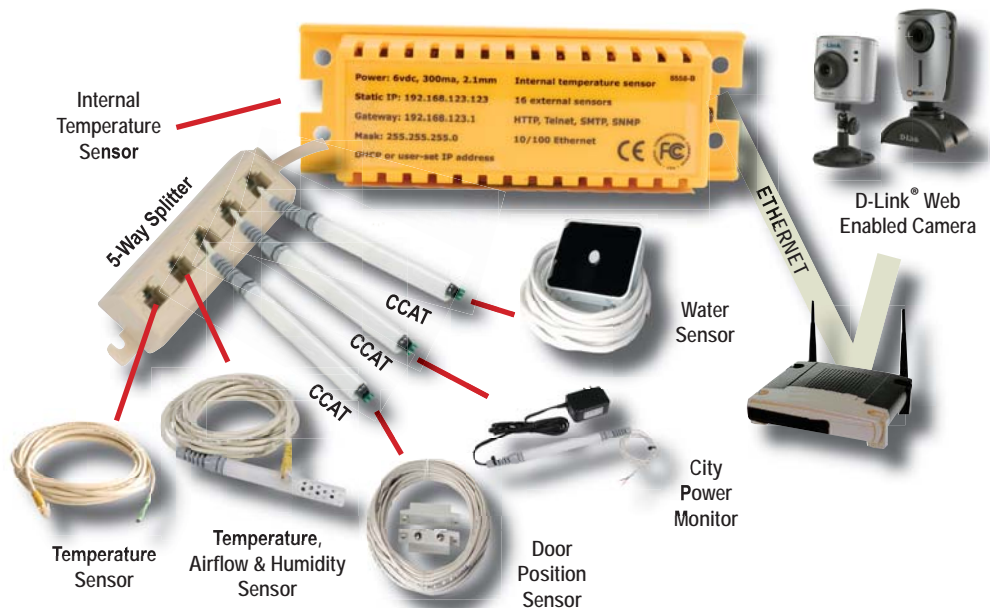


Actual Size

FEATURES / BENEFITS

- On-board temperature sensor
- Current status and trend data for temperature conditions
- One remote climate RJ12 port
- Use 5-port or 16-port splitters to connect up to 16 external sensors
- Connect I/O sensors using CCAT's to adapt them to RJ12 connections
- Threshold alarms
- Instant notification via e-mail and/or SNMP traps
- Small profile
- Mounts in tight locations such as wall cabinets
- Interfaces with IP web cameras
- Visual monitoring of cabinet
- Accessible via any web browser
- Simplistic installation and maintenance - No external software to load or lose

Connectivity Diagram



GRSMINI163

Geist has expanded the feature set of our popular RacSense® GRSMINI-P climate sensor to create the GRSMINI163. The GRSMINI-P is ideal for small installations and tight locations. However, the GRSMINI163 lets you capitalize on the full feature set of the RacSense® product line by providing 16 RJ ports and 3 I/O ports for sensor connection. Models: GRSMINI163, GRSMINI163-UK, GRSMINI163-UN

See page 2 for power supply options.



GRSMINI163 SPECIFICATION

- Internal Climate Sensors
 - Temperature: -55C to 79C, +/- .5C
- Ethernet Connection Jack
- Power On Indicator
- Activity Indicator
- Idle Indicator
- Software Reset Button
- DC Connection Jack
- Power Supply Included (see page 2)
- External Sensor Ports
 - Sixteen RJ12 Jacks
 - Connect up to 16 remote sensors
 - Three I/O Ports
 - 0-5 VDC analog or contact closure
- CE compliant
- Chassis Dimensions (mm):
 - 41 H x 432 W x 41 D

Connectivity Diagram



Door Position Sensor



Water Sensor



City Power Monitor

Static IP Address for set-up and configuration



Temperature Sensor



Temperature, Airflow & Humidity Sensor



DLink® Web Enabled Camera

FEATURES / BENEFITS

- On-board temp sensor
- Current status and trend data for temperature conditions
- Automatically begins logging data as soon as the unit is powered
- 3 I/O sensor ports
- Ability to monitor contact closure devices or scale 0-5V signals
- 16 remote climate RJ12 ports
- Eliminate the use of splitters
- Monitor temperature, air flow, humidity and dew point via connected sensors
- Threshold alarms
- Instant notification via e-mail and/or SNMP traps
- Interfaces with IP web cameras
- Visual monitoring of cabinet
- Accessible via any web browser
- View data graphs and analyze historical logs

ETHERNET ETHERNET ETHERNET ETHERNET

RacSense® Accessories

Door Position Sensor Magnetic Switch

0-99 - relative

Monitor cabinet door position (open vs. closed) with this magnetic sensor. Set alarms to alert when a secure cabinet has been opened. Standard lengths of 9m & 30m with custom lengths available upon request.

Models: GRDPS-9m, GRDPS-30m



Water Sensor

0-99 - relative

Acts as a conductivity bridge to detect the presence of moisture or water in your facility. Standard 6m cord length with custom lengths available upon request.

Model: GRWS



City Power Monitor

0-99 - relative

This clever sensor is connected directly to your city power feed to alert you when city power has been affected. Ideal for down-time prevention when PDU's are connected directly to a UPS. Notification of a possible outage prior to UPS battery exhaustion is critical.

Model: GRCP



I/O to RJ Remote Sensor Converter

This handy accessory enables connection of I/O devices into RJ12 jacks on RacSense® units. Device is programmed for the specific sensor and available for use with Geist I/O remote sensors.

Model: GCCAT



RJ12 5-Way Splitter

Expand the number of sensors connected to your RacSense® unit. Especially ideal for compact units such as the GRSMINI-P.

Model: GSP-5



RJ12 16-Way Splitter

Multiply the power of your GRSMINI-P with this compact 1 "U" 16-port splitter. Designed with four mounting holes for front or rear attachment of the GRSMINI-P. Compatible with all RacSense® units with environmental monitoring.

Model: GSPL16



RacSense® Accessories

Standard sensor lengths include 3.6m, 6m, 15.2m, and 30.5m



Temperature Sensor

Temperature: -55C to 79C*, +/- .5C

Precisely monitor "hot spots" throughout your installation.

Models: GRT-3.6m, GRT-6m, GRT-15.2m, GRT-30.5m



Temperature & Air Flow Sensor

Temperature: -55C to 79C*, +/- .5C

Air Flow: 0-99 - relative

The addition of air flow monitoring in this dual sensor allows for trending analysis as modifications to your installation are made which may create new air flow voids.

Models: GRTAF-3.6m, GRTAF-6m, GRTAF-15.2m, GRTAF-30.5m



Temperature, Air Flow & Humidity Sensor

Temperature: -55C to 79C*, +/- .5C

Air Flow: 0-99 - relative

Humidity: RH Accuracy +/- 2% RH, Range: 0 to 100 % RH, non-condensing
Monitor three environmental conditions in this single cord sensor. Ideal for placement near air intake (coldest/driest conditions) and air exhaust (warmest/moistest conditions).

Models: GRTAFH-3.6m, GRTAFH-6m, GRTAFH-15.2m, GRTAFH-30.5m



Temperature, Humidity & Dew Point Sensor

Temperature: -55C to 79C*, +/- .5C

Humidity: RH Accuracy +/- 2% RH, Range: 0 to 100 % RH, non-condensing
Dew Point: Calculated using data provided by the humidity sensor. Dew Point monitoring in this "3-in-one" sensor is ideal for wiring closets, satellite or outside plant stations where low temperature objects are exposed to rapid temperature change.

Models: GRTHD-3.6m, GRTHD-6m, GRTHD-15.2m, GRTHD-30.5m



DLink® Web Enabled Cameras

Acquire live video stream via IP enabled web cameras. Geist recommends DLink® cameras as an excellent enhancement to your RacSense® installation. Receive e-mail alerts based on your defined motion detection fields. Record snapshot images to a local hard drive via web browser. DLink® cameras are able to capture video in extremely low light environments. (.5Lux)

* RacSense® software limits range to -55C to 50C for enhanced graph readability.



GEIST

The logo for GEIST, featuring the word "GEIST" in a bold, italicized, yellow sans-serif font with a black outline. Below the text is a thick black horizontal line that ends on the right in a stylized graphic element resembling a three-pronged electrical plug.