Metric Usage and Value

SynapSense® Wireless Monitoring and Cooling Control Solution provides metrics for the data center, cabinets, and cooling units. These metrics are based on the data that is collected via the wireless sensors. Each cabinet configuration enables different product features and meets the diverse needs of data center operators, their goals, and requirements.

Cabinet & Room Metric	Value
LiveImaging™ Layers	Assess data center condition. Easily identify issues and evaluate changes to the airflow. Can perform as post incident evaluation of data center environment.
Floor Tile Management	Instrument each cabinet, every other, or every 3rd cabinet and include subfloor pressure nodes to determine where perforated floor tiles should be placed or removed.
Active Control™ Support	Top cabinet intake temperature and subfloor pressure are required for implementation of the Active Control™ feature of SynapSoft® software that enables energy savings and manage environmental risk automatically.
Sub-floor Pressure	Differential pressure between the sub-floor and the room enables air flow management by adjustment of perforated floor tiles. It also enables discovery of air delivery issues before critical thermal issues occur. Sub-floor pressure values are required for Active Control™ management of VFDs.
Dew Point Metric	Manage humidity levels to avoid water condensation and static shock issues. Dew point is normalized across all temperatures.
Relative Humidity	Manage humidity at the IT equipment intake to avoid condensation and static damage issues.
Subfloor Temperature	Manage full cabinet intake stratification. Manage air mixing across full cabinet face. Manage air infiltration in the subfloor.
RMI Hi/Lo	Indicate data center wide humidity health. Identify areas of humidity issues.
RCI Hi/Lo*	Indicate data center wide temperature compliance to ASHRAE standard. Identify areas with temperature issues quickly.
Recirculation Air Metric*	Manage airflow to, from, and around the racks. Identify missing blanking panels or other airflow issues of exhaust air entering the intakes of IT equipment. Typically, IT equipment with high RA values is not receiving enough cold air supply.
Bypass Air Metric*	Manage airflow to, from, and around the racks. Identify missing blanking panels or other airflow issues of exhaust air entering the intakes of IT equipment. Typically, IT equipment with high BPA values is receiving too much cold air.
Average Rack Intake Temp	Indicator of data center room temperature health. Issues can still exist in specific areas of the data center.
Minimum/Maximum Rack Intake Temperature	Identify cabinets that need immediate attention regarding airflow management around the cabinet. Maximum temperatures should be addressed to avoid possible IT equipment failures.
Maximum Rack Exhaust Temperature	Identify cabinets or areas of the data center that can be difficult for data center personnel to work within.

Cabinet & Room Metric	Value
Rack Intake Rate of Change	Identify specific cabinets or areas of the data center where the environment is changing quickly, which indicates a significant change to the cooling systems in the data center.
Rack Intake Alerts	Identify specific environmental conditions that are outside of allowable ranges. Notify users and enable intervention and correction before issues become critical.
Stratification Alerts	Identify and notify users regarding air mixing at the cabinet intake.

Cooling Unit Metric	Value and Use
CRAH/CRAC Delta Temperature	Indication of air mixing in the room that is influencing the efficiency of the cooling equipment. Direct indicator of the cooling efficiency of the unit.
Minimum/Maximum Intake Temperature	Identify cooling units that are in areas of high air mixing in the data center.
Minimum/Maximum Exhaust Temperature	Identify cooling units that are producing over/under cooling temperatures.
Dew Point	Manage cooling units that are over or under humidifying the room.
Air Loss Ratio (ALR)	Identify and manage cooling unit efficiency.