Data Center pDu Temperature Threshold

Overview

Typical requirements: minimum temperature is 15°C, maxi-mum temperature is 32°C, minimum RH is 20%, maximum RH is 80%, maximum dew point is 22°C, rate of change of temperature is less than 5°C/h, rate of change of humidity is less than 5% rh per hour, and no condensation. erence calls, writing drafts, drawing figures, and editing and reviewing text. Thanks also to Jon Fit the white paper and for his leadership of the ASHRAE TC9. Special thanks also to Dave Kelley (Emerson), Paul Artman (Lenovo), John Groenewold (Chase), William Brodsky (IBM). While this document is believed to contain correct information, neither the United States Government nor any agency thereof, nor The Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy. As AI computing demand surges exponentially, single rack power density has skyrocketed from the traditional 5-10 kW to 40-100 kW or higher, and data center cooling system design faces unprecedented challenges. 9 establishes the thermal guidelines that define environmental requirements for data processing environments worldwide. 9) IT Subcommittee ASHRAE Distinguished Lecturer Uptime Institute Accredited Sustainability Advisor April 16, 2025 © 2025 Dustin W.

Article Content

How To Choose the Right Power Distribution Unit for Your Data Center

How To Choose the Right PDU for Your Data Center The two primary factors influencing the choice of PDU are location and staffing.

Top 8 Considerations for Choosing the Right PDU to Fit Your ...

Top 8 Considerations for Choosing the Right Rack Power Distribution Units to Fit Your Needs Executive Summary Power design in

00 ReferenceCard portrait

Typically a data center with tightly controlled environmental parameters (dew point, temperature, and RH) and mission-critical

CONSIDERATIONS FOR A HIGHLY AVAILABLE INTELLIGENT

As power densities continue to increase and more organizations consider increasing the temperature in the data center to reduce

Equipment Thermal Guidelines for Data Processing Environments

Classes A3, A4, B, and C are identical to those included in the 2011 edition of Thermal Guidelines for Data Processing Environments.

Best Practices Guide for Energy-Efficient Data Center Design

This guide concludes with a section on metrics and benchmarking values by which a data center and its systems energy efficiency

Avoid server overheating with ASHRAE data center guidelines

Finding the right operating temperature is a key component to avoid server overheating. ASHRAE data center

What is a power distribution unit (PDU)?

A power distribution unit (PDU) is a device for controlling data center electrical power. The most basic PDUs are large

Reduce Energy Losses from Power Distribution Units (PDUs)

Power Distribution Units (PDUs) deliver conditioned power from the uninterruptable power supply (UPS) system to servers,

Optimizing rack power distribution

Once the power rating of the PDU is considered, data centers should next evaluate technologies when selecting a PDU. Typically,

The ASHRAE Thermal Guidelines for Data Centers Past, Present,

•The recommended envelope gives guidanceto data center operators on maintaining high reliability and also operating their data

ASHRAE Recommended Data Center Temperature & Humidity

Data centers that are operating outside of ASHRAE recommended temperature and humidity ranges are at direct risk for potential

How To Choose the Right Power Distribution Unit for Your Data Center

Learn how to choose the right power distribution unit (PDU) for your data center IT enclosure — from types and specs

Recommended standards for monitoring server rooms

Dew point temperature should be 5.5ºC DP to 60% RH and 15ºC DP. Background Info: Ambient server

ASHRAE TC9.9 Data Center Power Equipment Thermal Guidelines

Data Center Power Equipment Thermal Guidelines and Best Practices Whitepaper created by ASHRAE Technical Committee (TC)

Power & Thermal PDU Reference Guide

A PDU, or power distribution unit, is an essential device to protect and power computer and network equipment. It can also be

Avoid the Meltdown

60°C environment. The 10 AWG input cord on a 24 Amp rPDU is only rated to carry 17.75 Amps continuously in a 60°C environment.

Thermal Guidelines and Temperature Measurements in Data Centers

A DCIM system can help in the process of collecting, analyzing, and displaying the data from a Temperature Sensor

ASHRAE TC 9.9 Thermal Guidelines (5th Ed.) — A1–A4 Limits

ASHRAE TC 9.9 Data Center Thermal Guidelines: From Thermal Guidelines to HVAC System Design Understanding

CONSIDERATIONS FOR A HIGHLY AVAILABLE INTELLIGENT

As the last link in the power chain delivering critical power to IT loads, intelligent rack PDUs are a strategic asset for achieving high

PDU Temperature Ratings Explained: Why They Matter in Hot Aisle ...

Learn why PDU temperature ratings matter, how ambient limits impact performance in hot aisles, and what to consider

Power Distribution Units (PDU) | Power Temp Systems

This PDU offers seamless power isolation, precise voltage transformation, harmonic mitigation, and voltage regulation, along with

Understanding PDU Data to Enhance Data Center Management

PDUs also help optimize performance metrics such as Power Usage Effectiveness (PUE) to ensure efficient and optimal power

“Thermal Management Strategies for Existing Data Centres”

Data Centers Main Thermal Management Needs Capacity: Always available, following the dynamic data centre''s environment:

Data center temperature and humidity guidelines

ASHRAE''s "2021 Equipment Thermal Guidelines for Data Processing Environments" provides temperature guidance

ASHRAE TC 9.9: Data Center Thermal Guide | 2026

Whether you operate an enterprise data center or edge computing facility, proper thermal management is essential for

An Updated Look at Data Center Temperature and Humidity

Learn how to make sure your data center temperature and humidity stays within newly updated thresholds with AVTECH''s Room Alert.

Contact Us

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