EIEI POWER

A-level computer room uninterruptible solar container power supply system configuration

Overview

What is an uninterruptible power supply (UPS) system?

Most organizations, when faced with the likelihood of downtime, and data processing errors caused by utility power, choose to implement an uninterruptible power supply (UPS) system between the public power distribution system and their mission-critical loads.

How to ensure uninterrupted power supply to ups loads?

To ensure uninterrupted power supply to UPS loads, a UPS system is given for the specified period of time. The DG Sets and UPS system are equipped with standby units to ensure an uninterrupted power supply system, in conjunction with the mains supply.

What is a capacity UPS system?

A capacity or ‘N’ system is the most common type of UPS installation and the minimum requirement to provide power protection to the critical load. Also referred to as ‘power parallel’, It comprises a single standalone UPS module or a paralleled set of modules with a matched capacity to the critical load projection.

What is an ups design configuration?

UPS design configurations are often described by nomenclatures using the letter “N” in a calculation stream. For instance, a parallel redundant system may also be called an N+1 design, or a system plus system design may be referred to as 2N. “N” can simply be defined as the “need” of the critical load.

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[Comparing UPS System Design Configurations]

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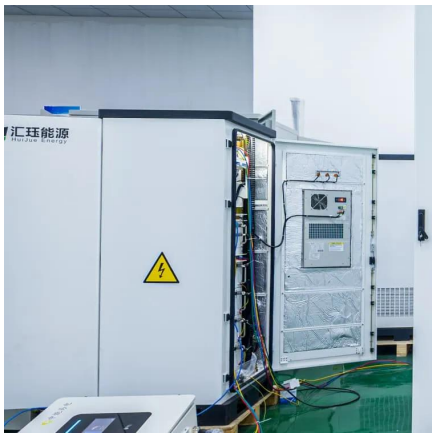

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[Industrial Uninterruptible Power Supply , UPS System Design]

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[Different Types of UPS Systems , Mitsubishi Electric]

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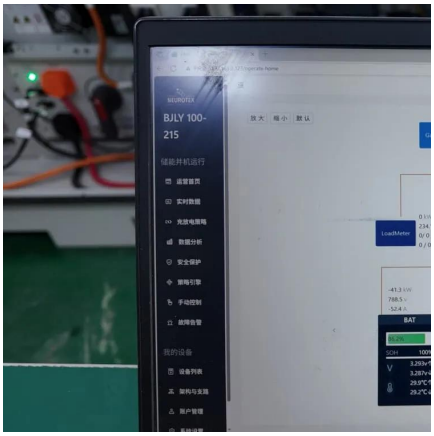

Comparing UPS System Design Configurations

> Executive summaryAvailabilityDisadvantages of an "N" designIsolated Advantages of an isolated redundant designDisadvantages of an isolated redundant designParallel Advantages of an "N+1" designDistributed Tri-redundant UPS configuration (no STS)Static transfer switch (STS) - An STS has two inputs and one output. It typically accepts power from two different UPS systems (or any other type of sources), and provides the load with conditioned power from one of them. Upon a failure of its primary UPS feeders the STS will transfer the load to its secondary UPS feeder in about 4 to 8 milliseconds, and thus keep the load on protected power at all times. This technology was developed in the early 1990's, has been improved over time, and is commonly used in distributed redundant configurations. APC White Paper 48To use STS since the IT equipment would not detect the short transfer time upon failure ofAdvantages of a distributed redundant designDisadvantages of a distributed redundant designIn this example, illustrated in Figure 7, the critical load is 300 kW, therefore the design requires that four 300 kW UPS modules be provided, two each on two separate parallel buses. Each bus feeds the necessary distribution to feed two separate paths directly to the dual-corded loads. The single-corded load, illustrated in Figure 6, shows how a transfer switch can bring redundancy closer to the load. However, tier IV power architectures require that all loads are dual-corded, including electrical feeds to air conditioning equipment.Advantages of a system plus system designDisadvantages of a system plus system designPerforming Effective MTBF

Comparisons for Data Center InfrastructureComplete redundancy between side A & B Easier to keep UPS systems evenly loadedContact usDCSC@Schneider-Electric Appendix - Availability analysis approachThe data used to model the components is from third party sources. In this analysis the following key components are included:Descriptionoccur:Components and valuesThere are five principle UPS system design configura-tions that distribute power from the utility source of a building to the critical loads of a data center. The selection of the appropriate configuration or combina-tion thereof for a particular application is determined by the availability needs, risk tolerance, types of loads in the data center See more on media.zones PDHonline [PDF]

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