

GE  
Critical Power

# Powering DAS Solutions

Solving Today's Wireless  
Bandwidth Issues Where  
Connectivity Is Everything



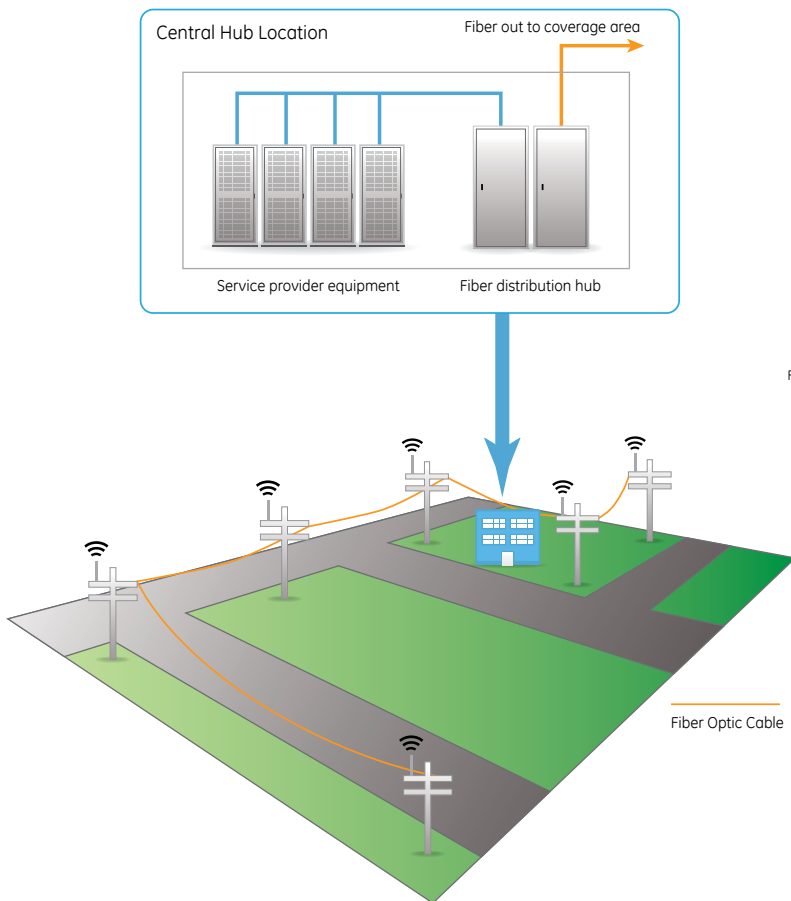
# Power DAS and Small Cell Sites for Indoor and Outdoor Solutions

GE's Critical Power business specializes in DC Power Systems for the telecommunications industry. Bringing together GE's power expertise and Bell Labs heritage, we know how important powering your Distributed Antenna Systems (DAS) solutions are to you and your customers.

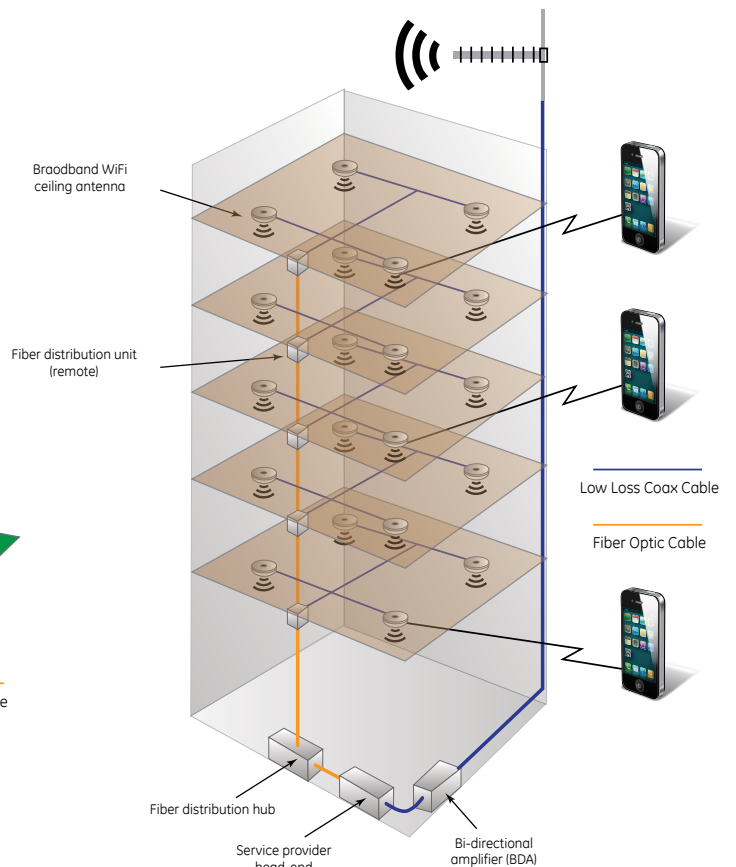
All Distributed Antenna Systems, with various load, power-back-up and cellular performance requirements, are not created equal. Yet a powering system with multiple load locations, coupled with a centralized energy storage system, will typically provide uninterruptible power with the lowest total cost of ownership (TCO) when the initial system costs are considered along with the installation, maintenance and up-keep costs of the entire system.

GE provides full turn-key solutions for your DAS applications, ensuring that you have a solid power foundation, giving you reliable network service.

### Outdoor Distributed Antenna System



### Indoor Distributed Antenna System (IDAS)



# Small Power Solutions



## Power Express

### Class 2 Distribution

The GE Power Express Class 2 Distribution is a 1RU shelf that provides 32 100VA limited circuits for safe powering of remote loads. NEC Class 2 rating allows for power cabling to be deployed in data cable raceway instead of conduit thus reducing labor time and increasing speed to market.

### Features & Benefits

- Delivers NEC Class 2 Circuit
- 1U height, minimized depth
- Four 8-port modules per shelf
- Uplink to Pulsar Plus Controller
- Fast and easy circuit terminations speed deployment
- Replace modules without re-wiring the shelf
- Simple push button operation

## CP Shelf DC-DC Converter Solution

The CP DC-DC converter shelf can be used to extend the reach of Class 2 power circuits by taking the battery plant voltage and regulating it to -57Vdc. By maintaining the voltage at -57Vdc, the effective reach is doubled when compared to the voltage under discharge conditions.

## Power Express Remote Combiner

A single Class 2 circuit can only support 100VA to the Load. When loads require more than 100VA it is advantageous to be able to combine multiple circuits. A combiner is necessary in order to preserve the 100VA safety focused integrity of the Class 2 circuit. The Power Express Remote combiner can bundle up to eight Class 2 power circuits to deliver a reliable bulk -48Vdc power to any load larger than 100VA without compromise to safety or reliability.



## Line Power

The Line Power Systems is designed to remotely power -48Vdc network equipment reliably using +/- 190Vdc over existing copper lines deployed between head end and remote antennas in your DAS sites.

This provides power distribution with battery back-up maintained at a central location to avoid costs of deploying and maintaining remote battery strings at OSP cabinet or customer premise locations.

## Small Power Solutions (cont.)



### Slimline Power System

48V DC Outside Plant and Customer Premise Solution

The Slimline Power System provides advanced controller features in a compact, cost-efficient footprint to power your DAS solution. Built around a high efficiency, 1600W Rectifier, for system solutions with a profile as low as 1U.



### Shelf Options

1U Shelf with Distribution

12", sub-rack size cabinet solution description

Stackable solutions

- 1RU Bulk Rectifier Shelf
- 1RU Distribution Shelves
- 3RU DIN Rail

Vertical Rectifier Bays

- 3U integrated, bullet breaker solutions
- Five, 1600W rectifiers in an 8000W system



### Infinity Flex

The Infinity S-FLEX DC power system is a modular power plant that supports either +24V or -48V operation through the use of a comprehensive range of advanced rectifiers. The Infinity S-Flex Power System can support an output capacity of 16.5kW for a single distribution or 32.7kW for systems equipped with two distribution heads.

# Medium & Large Power Solutions for Head End Applications

GE offers power solutions for head end applications, varying from 200A-27000A at 48V and 24V, with progressive sizing that can fit your unique DAS power requirements.



## Infinity

GE Infinity Power Systems are modular power plants that support dual voltage (+24V/-48V) operation through the use of a comprehensive range of advanced rectifiers and DC/DC converter modules. Primary voltage is supported by rectifiers and battery reserve, while the optional secondary voltage is supported by DC/DC converter modules. These systems include low voltage battery disconnect option for the primary voltage. A low voltage load disconnect option can be used for load shedding to maintain critical loads.

The Infinity S is the smaller solution in the Infinity family, and has a primary voltage capacity of 1,200A at 24V and 800A at 48V. Secondary (-48V) voltage capacity is up to 300A .

The Infinity M has a primary voltage capacity of 1,600A at 24V and 1,600A at 48V. Secondary voltage capacity is up to 600A.



## GPS4827

The GPS4827 capitalizes on the product strengths found in the GPS4848 and Infinity product families by integrating the high efficiency Infinity TE rectifier platform and the time-tested distribution found in the GPS4848. Utilizing the 1U 50A 48Vdc rectifiers, a fully equipped bay only requires 15.75 inches allowing for as much as 54 inches of distribution panels. With this increased density, a single bay GPS4827 system provides ampacity and distribution for most medium and small applications but retains all the features found with the larger GPS4848.

## Distribution

The GE SPDU serves as a secondary power distribution center for +24Vdc or -48Vdc DC power delivered from a battery plant to the load equipment. The 4U (7 in.) tall configuration is versatile with 19" or 23" rack or wall mounted panels with fuse or circuit breakers options, single or dual (A/B) load bus, and 600A carrying capacity per panel (300A per bus in dual load bus configurations.) A digital meter monitors voltage and current of each load bus.







# Cabinet Solutions for Outdoor Applications

Critical Power offers a variety of cabinet solutions for your outdoor DAS applications. All of our cabinets meet the extreme demands of GR-487 certifications to provide reliable enclosure solutions critical to service providers.

## SC1030 Vertical Cabinet

- Powers up to 6kW DC loads
- Open rack space for third party equipment
- Supports 40Ah battery string
- Pole mount, wall mount, or pad mount options

## SC1030 Horizontal Cabinet

- Powers up to 6kW DC loads
- Open rack space for third party equipment
- Supports up to 2 x 180Ah VRLA or 1 x 180Ah NiCd battery strings
- Pole mount, wall mount, or pad mount options

## SC1056 Site Cabinet

- Powers up to 8kW loads
- Open rack space for third party equipment
- Supports up to 2 x 180Ah VRLA or 2 x 180Ah NiCd battery strings
- Pad mount or pole mount options
- AC load center Option w/ manual transfer switch





## Our Critical Power Services Protect Your Critical Load. Our Service Protects Your Investment.

GE's Critical Power offerings range far beyond standard product support: from on-site services for risk-reducing installation and startup, to availability services to help you proactively reduce downtime and meet your service-level commitments. From installation to product retirement, warranty upgrades to remote monitoring, proactive care to 24/7 problem resolution, you can rely on GE's field service organization for all your electrical infrastructure support needs.

### On-Site & Emergency Services

- 24/7 Emergency Hotline
- Spare Parts
- Spare Part Kits
- Product Replacement / Return
- Equipment Rentals
- Battery Replacements

### Contractual Services

- Maintenance Service Contracts
- Remote Monitoring & Diagnostics
- Technical Services

### Training

- Training for Operators & Maintenance Staff
- Product Training
- Web-Based Training

GE  
Critical Power  
601 Shiloh Road  
Plano, TX 75074  
+1 877 546 3243  
[www.gecriticalpower.com](http://www.gecriticalpower.com)

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