LionRock DataCage

Prefabrication · Modularity · All-in-One
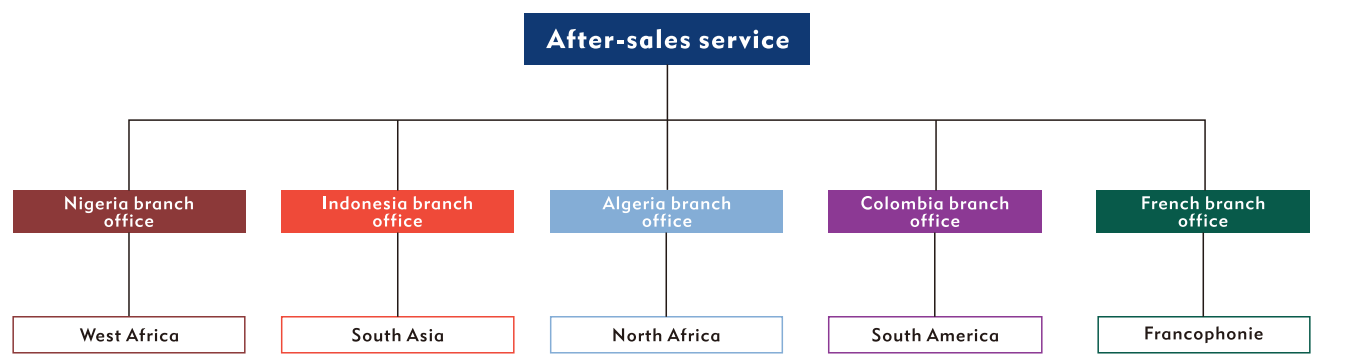
Power People

LIONROCK®

Company Introduction

3Tech Corporate Limited was established in 2002, formerly known as 3Tech(Hong Kong)Corporate Limited, established in 1998. Headquartered in Hong Kong, with a branch in Nigeria and a production base in Dongguan. In the early stage of its establishment, 3Tech mainly engaged in the supply and after-sales service of diesel generator sets in the Greater China region.In 2002, 3Tech began to establish a local electrical and mechanical engineering team in Hong Kong, and participated in electrical and mechanical engineering projects of the Hong Kong SAR Government, public institutions and various major private institutions. Since 2003, 3Tech has actively developed its business in the overseas telecommunications industry and Data Center. It has its own product brand LionRock and Smart Control and Monitoring System OwlEye. LionRock's products have developed from diesel generator set products to energy solutions for communication base stations, prefabricated modular containerized DataCage, seamless connectivity to the burgeoning 5G communication infrastructure construction, and extended from energy products to edge computing infrastructure products. OwlEye is the basic platform of the future Internet of Things (IoT), and its products have been widely used by different multinational operators in the world.


Service Coverage

In addition to the headquarters in China, 3Tech's service outlets are located on five continents around the world: Nigeria, Indonesia, Algeria, Colombia and France. This global presence ensures convenient services and confidence to customers worldwide.

After-sales service				
Nigeria branch office	Indonesia branch office	Algeria branch office	Colombia branch office	French branch office
West Africa	South Asia	North Africa	South America	Francophonie

Company Qualifications

3Tech production plant is ISO9001, ISO14001 and ISO45001 certified, National high-tech enterprise certificate ,data center professional certification -CDCDP®, Uptime professional certification& LionRock diesel generator sets CE marking certified.
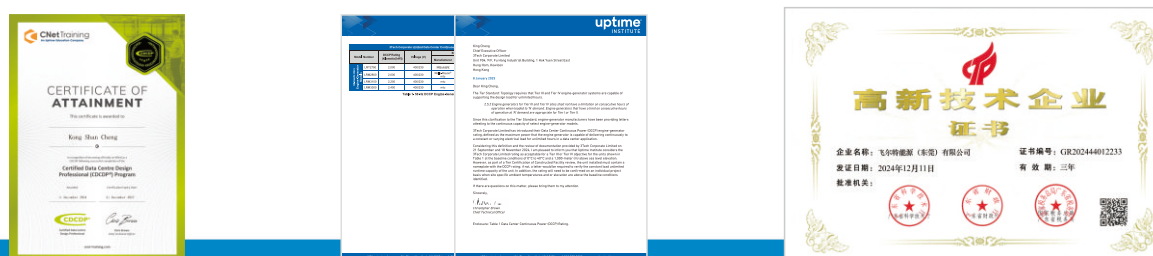
Chartered Engineers certificates awarded by international renowned professional institutes.

Patent Certificates

Product Introduction

With the demand of data communication and edge computing, telecommunication need to deploy medium scale data centre with data communication capability much quicker and more to meet the 5G network development.Combining more than 20 years of industry experience and professional technical reserve resources, 3Tech has developed LionRock container Data Center: DataCage.

DataCage is the product developed to address this need in the market. Other than typical mobile data centre, DataCage offers mixed IT (information technology) and CT (communication technology) power and energy infrastructure in a prefabricated ISO container allowing immediate installation of server and telecom equipment to shorten the deployment and commissioning time. DataCage is designed to operate in various terrains as well as harshest environments.

DataCage is designed to provide uninterrupted support for business operations 24*7, as well as a secure and stable environment for personnel and equipment. Even when unattended, it can monitor the environment comprehensively, improve green environmental protection and high energy efficiency, and reduce operating costs. The modular configuration of DataCage allows for the rapid installation of servers, telecommunication equipment, air conditioning units, power distribution cabinets, and other essentials, reducing deployment and commissioning times. Its prefabricated modular structure, power supply and distribution system, refrigeration system, management system, fire protection system, and integrated wiring are all integrated into one system.
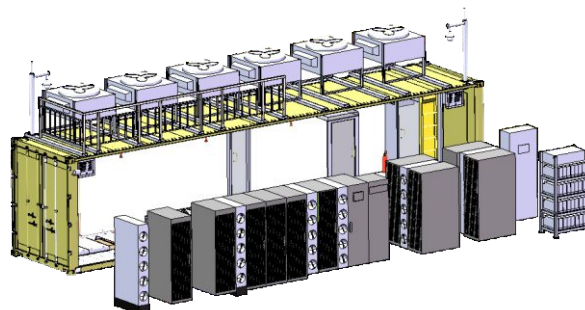
Product Features & Value

Safe and Reliable

- Fully enclosed micro-environment, less dependent on the surrounding environment, with IP55 protection level.
- Redundant design of key equipment ensures stable operation.
- With multi-level automatic alarm function, it provides voice alarm, telephone voice alarm, network video surveillance, etc. to ensure reliable operation of the system.
- Built-in automatic fire alarm and fire extinguishing device, timely prevention and control of fire.

Quick Implementation and Customized Design

- The use of factory assembly line manufacturing, specialised division of labour, and good construction conditions allows for the achievement of modularisation and productisation, as well as improved production efficiency.
- The factory pre-installs infrastructure equipment such as cooling, power supply, racks, etc. Only network cables, power cables, and water pipes need to be provided on site to implement commissioning.
- The factory completes the system commissioning, and the on-site construction and machine room commissioning time is less than one week.
- It is easy to relocate and flexible, meets the requirements of national standard level 3 road transportation, and meets the needs of dynamic deployment of data services and a variety of special scenarios such as military, disaster relief and field operations.

Low Waste and High Energy Efficiency

- Integrated single-module design, refrigeration, power distribution, monitoring, fire protection and cabinet systems are pre-installed in the factory, and the whole system is pre-commissioned and commissioned before delivery, supporting customers to carry out product initial inspection and business experience at the original factory.
- For outdoor applications, civil engineering is simple, only need to provide cement pillars or platforms, humidification and water replenishment, mains power and network access.
- Using the characteristics of prefabricated modules, mature freight mode, modular structure and low-cost transportation, rapid deployment is realized, and expansion and upgrading are simple and convenient.
- High energy efficiency ratio, complete isolation of hot and cold aisles, high cooling efficiency.
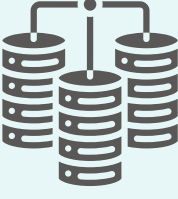
Smart Remote Management System

- The centralized monitoring system oversees the operational status, power status, and ambient temperature of each piece of equipment.
- It supports a variety of alarm methods, such as sound and light, SMS, phone call, email, etc.
- Through the remote monitoring management, it can be optimize and minimize the operation and maintenance cost.

Technical Parameters

Model	40 feet	20 feet
Cabinet size (W×D×H)	600 x1100x2000	600 x1100x2000
Number of cabinets (pcs)	10	5
Single cabinet power(kW)	10	5
Total power (kW)	100	25
Power distribution system		
Power supply system	Dual 320A input ATS optional: 380/4001415V50/60HZ 3Ph+N+PE input anti-head 8/20us, In=20kA, ImaX=40KA	Dual 125A input ATS optional: 380/4001415V50/60HZ 3Ph+N+PE input anti-8/20us, In=20kA, ImaX=40KA
UPS capacity	UPS200kVA,2N	UPS 60kVA,2N
UPS power module	50kVA	30kVA
Battery backup	1 battery cabinet, 48V-100AH*12PCS, backup time about 30mins	1 battery cabinet, 48V-100AH*8PCS, backup time about 30mins
Refrigeration system		
Refrigeration method	Inter-column frequency conversion air-cooled, 3+1 redundancy	Inter-column frequency conversion air-cooled, 1+1 redundancy
Refrigerants	R410A	
Cooling capacity (kW)	The refrigeration capacity of a single unit is 40, and the maximum total cooling capacity is 160	The refrigeration capacity of a single unit is 25, and the maximum total cooling capacity is 50
Fans	EC fans	
Closed passages	Closed cold/hot aisles	
Monitoring system		
Monitoring and management	The monitoring host can realize the monitoring of the internal power distribution, environment, access control, video, alarm, etc. of the module: support sound and light, WeChat, SMS, Telephone, Email, voice and other alarm methods	
The video system	Supports eight high-definition cameras	
Access control system	Support card + password + fingerprint three-in-one access control system	
System display	Support 10-inch touch display, support capacitive touch screen, remote client, remote Web, mobile App and a variety of display methods	
Fire protection system		
Fire extinguishing system	Support automatic fire extinguishing system, automatically control the release of fire gas through fire linkage, and support sound and light alarm	
Fire extinguishing gases	Heptafluoropropane/NOVEC1230 optional	
Structural systems		
Box size (HxWxL) mm	40ft 2896x2438x12192	20ft 2896x2438x6058
The weight of the box is about (kg)	10000	5000
Channel system (mm)	Cold aisle width 610; Hot aisle width 540	
Enclosure protection	Degree of protection: IP55 thermal insulation performance, total heat transfer coefficient ≤ 0.36 W/(m²*K)	
Operating environment		
Outside temperature (°C)	-20~45	
Altitude (m)	Above 1000, derating is required	
Environmental category	Class C, more than 500m from the sea	

Application Scenarios

IT ROOM	ENERGY INDUSTRY	PAN-GOVERNMENT	ENTREPRISES	OTHER
Renovation of new and old computer rooms Distributed, mobile, single-module deployment	Distributed, single-module deployment Areas such as wilderness, mining areas, and deserts	Distributed, single-module deployment The environment is diverse, suchascampuses, campuses, and urban areas	Put in place a Business Continuity Plan Mobile and quick deployments High reliability rating	Distributed, single-module deployment Most of them are in the suburbs, and no machine room is available Gain space within the premises

Projects

DataCage (Maldives)

- A fully integrated mobile data centre meeting tier III standard
- 2 x 600A 48VDC rectifier system for external data communication
- Fully battery backup for upto 90minutes continuous operation
- Air conditioning with 2+1 redundant cooling systems
- LionRock diesel generator sets in 1+1 configuration
- Embedded inside enclosure to noise level of 65dBA@1m
- Fully bunded 1000L fuel tank for 60 hours continuous running during mains power failureaintenance for 10 years operation

DataCage (Middle Eastern Countries)

- 200kW, Dual Container Solution
- Two 40ft high containers (one for IT load, one for power and cooling).
- Meet Tier 3 Uptime institude
- Designed to support 12 racks of 15kW capacity each with 42U space
- With power distribution unit
- 60-minute UPS runtime with redundancy (150kVA)
- Separate UPS system for cooling units.

3 Tech

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