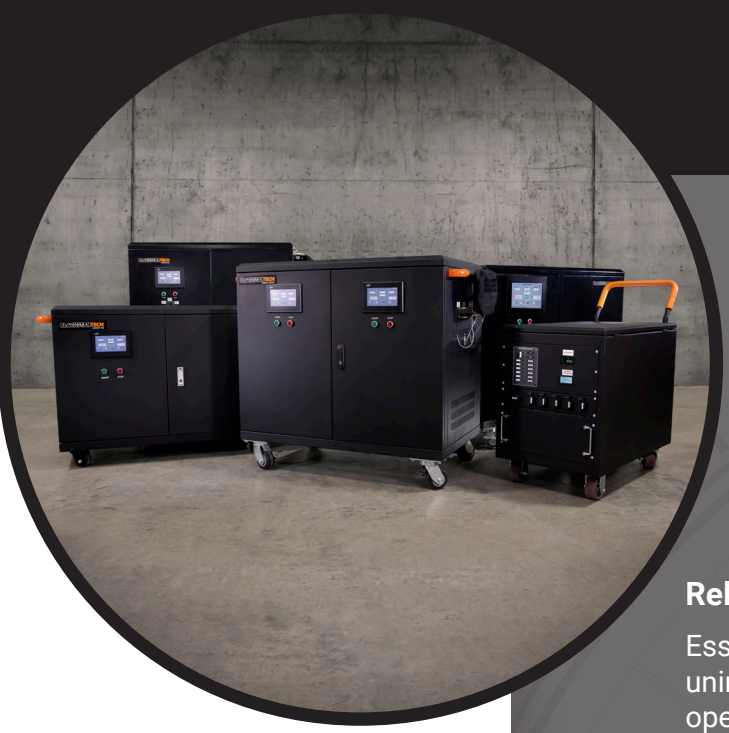

GENESIS
POWER CART SERIES

Reliable Portable Emergency Battery Backup Power

Essential industries and critical infrastructure require an uninterruptable flow of AC and DC electricity to support safe operations and functionality of important to safety systems. In the event of a power outage due to natural disaster, grid overload, human error, terrorist attack or some other circumstance, providing backup power as fast as possible is crucial to the safety of personnel and to the recovery of the facility.

BlackStarTech's Genesis Power Cart Series is designed to provide rapid response portable backup power to commercial, medical, industrial and municipal facilities of all sizes and configurations. Designed with ease of mobility in mind, the heavy-duty but agile construction of each Power Cart facilitates immediate deployment throughout your facility. In the event of an interruption in power, the Genesis Power Carts and related equipment can help you restore essential functions in less than 30 minutes – providing reliable, uninterruptible power to your facility for 30 days and beyond.

The Genesis Power Cart Series relies on energy delivered from specialty Lithium Iron Phosphate ($LiFePO_4$) batteries to initially power targeted loads, typically for 8 to 12 hours, until the integrated compact backup propane generator gets connected to power the equipment for 30 days or more. The Genesis Power Carts provide a variety of DC and AC power supply sources (including 3-phase 480VAC and greater voltage) to key critical indicators, controls and essential emergency system components.

Whether you need to support critical equipment during the loss of AC power, increase safety margins or perform essential maintenance, Genesis Power Carts deliver rapidly deployable power that enables robust, resilient, efficient and flexible site emergency operations, accident response and maintenance power solutions saving time and money.

Applications

Nuclear Power Generation Facilities

Utilities

Telecommunications

Schools, Universities and Research Facilities

Medical and Healthcare

Industrial and Chemical Processing Facilities

Law Enforcement

Fire Protection and Security

Military Services

Government Emergency Management

BlackStarTech Genesis Power Cart Series Vs. Competitive Backup Power Systems

BlackStarTech	Typical Competitor Product
Utilizes Lithium Iron Phosphate ($LiFePO_4$) batteries	Utilizes lead acid batteries, nicad batteries, nickel batteries or fuel
Minimal maintenance as the battery management system and automated predictive features take action to protect and predict the health of the batteries	Requires frequent routine maintenance for both batteries and re-fueling
15-year expected battery lifespan	Frequent replacement of batteries
Delivers backup power 30 days and beyond when integrated with the Genesis Defender Generator Series	Provides backup power for a short amount of time
Excellent in extreme conditions	Unreliable in extreme conditions

This unique set of features puts the Genesis Power Cart Series significantly ahead of the competition by enhancing recovery solutions from power outages, boosting facility safety, providing alternative power solutions during maintenance activities, and improving productivity and efficiencies.

$LiFePO_4$ Batteries: Superior and Safer Than Your Existing Battery

The Genesis family of products uses $LiFePO_4$ batteries, which are safe, reliable and more environmentally friendly than lead acid batteries. The internal battery management system (BMS) monitors battery parameters including cell voltage, maximum charge and discharge current, overvoltage, overcurrent, temperature, cell balancing, short circuit and more. The BMS takes protective actions to improve reliability and safety using notification alarms through data communications or by automatically disconnecting the battery.

The chemical make-up allows the battery to maintain an expected lifespan of 15 years, which is significantly better than having to replace lead acid batteries every 3 to 5 years. This means fewer battery replacements, less downtime and increased reliability. Genesis also offers an optional integrated battery health diagnosis device automating the measurement of battery performance and remote monitoring to minimize requirements to conduct in-plant battery surveillance testing.

Genesis Power Cart Series products can be integrated with the Genesis Defender Generator Series to power the equipment for 30 days or more.

Supporting Critical Operation and Maintenance Applications

The Genesis Power Cart Series can be utilized during an unexpected loss of power across nearly every industry and business sector. These include but are not limited to telecommunications, domestic utilities, nuclear power stations, law enforcement stations, fire stations, hospitals, computer mainframe warehouses, tech facilities, manufacturing plants and more.

The Genesis Power Cart Series presents unequalled value to a variety of industrial sectors. In the event of an unexpected loss of power, Genesis can quickly provide highly targeted power where it's needed most, allowing critical operations and resilient safety response. The Genesis solutions provide additional margins and recovery solutions to emergency response scenarios minimizing unforeseen damage and can even aid your facility to avoid the lost revenue and down time with unforeseen power unavailability.

First Responders

In the event of a flood, fire, earthquake, infrastructure breach, building collapse or some other disaster which interrupts power, paramedics, EMTs, police officers and firefighters will not be in the dark. Genesis backup power solutions can be deployed to supply immediate power for field response to critical infrastructure facilities so that first responders can work to keep their fellow citizens safe.

Medical Facilities

A power failure for a hospital Intensive Care Unit (ICU) is a matter of life and death for many patients. While most ICU facilities have backup power generators, there are not typically redundant power options beyond the backup generators. This type of loss of backup power situation has occurred time and time again from natural disasters, unplanned power outages, and unforeseen equipment failure. Utilizing Genesis backup power solutions on-site provides portable power resiliency solutions when the unthinkable happens.

Nuclear Facilities

Nuclear Stations utilize many backup power systems to maintain defense in depth for safety and reliability. BlackStarTech Genesis systems provide another layer of safety response capabilities to power critical functions including main control room recorders and instrument control loops, reactor core cooling, and reactor pressure control. As an alternative to the nuclear industry's FLEX strategy, during an extended loss of all AC power, the Genesis backup power systems can be deployed quickly, surgically applying power where it is needed most to provide another layer of safety, resilience, and redundancy.

Law Enforcement

Police stations, substations, holding facilities, jails, and prisons must have constant power in order to keep the premises secure and operational. A power outage in conjunction with a failure of the installed backup power system within one or more of these facilities can present a very serious threat to public safety. Rapidly restore power with one of the many Genesis power supply solutions in the event of an outage to assist law enforcement officials in serving and protecting citizens.

Supporting Maintenance and Creating Efficiencies

While the Genesis backup power solutions can be utilized in critical emergency applications, they can also be employed to support personnel during planned outages and regular maintenance work activities, creating greater efficiencies and operational flexibilities.

Industrial Facilities

Industrial facilities can greatly benefit during planned shutdowns by using the battery power delivery systems from Genesis. The Genesis solutions can provide power capabilities when power isn't available to support critical safety activities, essential testing and equipment availability. Benefits of these portable power systems are readily seen with chemical plants, nuclear sites, manufacturing facilities, and other industrial facilities that rely on planned shutdowns to perform periodic maintenance.

Often, these planned shutdowns can last days to even weeks, where saving critical path time equates to significant monetary cost savings and resources. With Genesis backup power solutions, personnel can resequence work, optimize maintenance activities, perform verification testing to ensure proper operation and shorten restorations regardless of power availability. Work that was hindered by the lack of power availability can now be completed providing solutions for parallel activities instead of in series work on multiple components.

Genesis Power Cart Series

The Genesis Power Carts each act as an uninterruptible power supply (UPS). These easy-to-move units can be used in conjunction with a separate AC source or generator. If the AC source is lost, the loads will automatically transfer to battery without losing essential loads. When AC is restored the unit will automatically transfer to AC source, carry the load seamlessly and recharge the batteries to be ready for next loss of power event. The Genesis Power Carts can be charged in standby condition by any standard 120VAC receptacle or by a connection to a Genesis Defender Generator Series product that can be purchased separately.

Genesis Power Cart 125 (VDC)
Model # Genesis-Power-Cart-125

The Genesis Power Cart 125VDC (Genesis-Power-Cart-125) can be deployed in situations requiring standalone portable battery backup 125VDC power solutions that can be surgically targeted for scenarios including emergencies, safety enhancement, and improving maintenance and productivity. This portable unit delivers quick solutions across a wide array of applications.

Genesis Power Cart 250 (VDC)
Model # Genesis-Power-Cart-250

The Genesis Power Cart 250 (Genesis-Power-Cart-250) addresses an array of applications requiring portable battery backup 250VDC power supply solutions that can be utilized for disaster response and equipment maintenance.

Genesis Power Cart 125/250 Dual (VDC)
Model # Genesis-Power-Cart-Dual

The Genesis Power Cart Dual 125/250VDC (Genesis-Power-Cart-Dual) is a dual capacity unit offering that delivers flexible portable backup 125VDC and 250VDC power solutions used in critical applications including emergencies and maintenance.

Genesis Power Cart 3-Phase (VAC)
Model # Genesis-Power-Cart-480

The Genesis Power Cart 3-Phase (VAC) (Genesis-Power-Cart-3-Phase) is designed to supply backup 3-phase 480VAC power during events requiring heavy loads or the powering of large, motorized tools and assemblies. It can be utilized to support any unit that relies on 3-phase 480VAC power such as valves up to 25 horsepower, fans, and small motors up to 25 horsepower.

Genesis Nano-Grid 5kW (VAC/VDC)
Model # Genesis-Nano-Grid

The Genesis Nano-Grid 5kW (VAC/VDC) (Genesis-Nano-Grid) is a compact, highly mobile power cart designed to quickly supply backup power to critical control and indication instruments within facilities such as hospitals, telecommunications stations, and nuclear power plants. It provides 120VAC through six available outlets. The Nano-Grid also comes with DC power supplies to power the following voltages: 125VDC, 24VDC, and 24/48VDC. These can be used to provide power to different types of equipment and instruments such as recorders and indicators.

Specifications for Genesis Power Cart Series

		Genesis Power Cart 125 (VDC)	Genesis Power Cart 250 (VDC)	Genesis Power Cart 125/250 Dual (VDC)	Genesis Power Cart 3-Phase (VAC)	Genesis Nano-Grid Cart (VAC/VDC)
Model #		Genesis-Power-Cart-125	Genesis-Power-Cart-250	Genesis-Power-Cart-Dual	Genesis-Power-Cart-480	Genesis-Nano-Grid
Power Cart						
	Unit Dimensions (W x H x D)	46" x 53" x 28" (cart)				45" x 42" x 21" (cart)
	Operating Weight	1060 lbs	1016 lbs	1031 lbs	1302 lbs	409 lbs
	Portability Mechanism	Wheels				
	Wheel Count	4				
	Operating Temperature Range (°C)	-40° ~ 45° normal; 45° ~ 75° reduced output				-20° ~ 75° normal
	Storage Temperature (°C)	40° ~ 75°				- 40° ~ 85°
	Relative Humidity	0 ~ 95%				5% ~ 95%
	Altitude	Guaranteed performance under 2000 m				
	Startup	Automatic startup with power on				
	Cooling	Forced air cooling with fans				
	Display	Output Voltage and Current				Remaining Ah, Output voltage, current, watts, watt-hr
	Connection	Rear Wiring				
	Maintenance Charger	DC 138/ 4A	DC 276V / 4A	DC 138 / 4A	DC 442	28.8
Voltage						
	AC 1 input voltage	176VAC ~ 300VAC Single phase three wire		176VAC~ 300VAC, Single phase	176VAC~ 300VAC, Single phase three wire	164VAC ~ 243VAC
	AC 2 input voltage2	N/A		100VAC~ 300VAC, Single phase	N/A	
	AC Frequency	45Hz ~ 65Hz				58Hz ~ 64Hz
	Input power factor	20 ~ 50% load, >0.97; 50 ~ 100% load, >0.99				
	Rated output voltage	DC146 / DC138	DC292 /DC276	DC146 / DC138	DC467 / DC442	120 to 240V
	Rated current	15/15	10/10	15	7 Stage 1 / 7 Stage 2	40A @ 120V and 25A @240V
	Timed output switching	12				

Continued on next page.

Specifications for Genesis Power Cart Series (continued)

		Genesis Power Cart 125 (VDC)	Genesis Power Cart 250 (VDC)	Genesis Power Cart 125/250 Dual (VDC)	Genesis Power Cart 3-Phase (VAC)	Genesis Nano-Grid Cart (VAC/VDC)
Battery						
	Type	Lithium Iron Phosphate ($LiFePO_4$)				
	Rated Voltage (V)	128	256	128	410	25.6
	Typical Capacity (Ah)	150	100	100	50	200
	Standard Charge Voltage (V)	146	288	144	442	29.2
	Maximum Charge Current (A)	150	100		200	200
	Maximum Discharge Current (A)	300	200			300
	Maximum Instant Discharge Current (A)	400			210	300
	Over-current Protection (A)	350±40			486±0.5	500
	Over-discharge Protection Voltage (V)	100	292	100	330±0.5	20
	Over-charge Protection Voltage of Single Cell (V)	3.65±0.05				3.7
	Over-charge Protection Restoration of Single Cell (V)	3.65±0.05			3.60±0.05	3.55±0.02
	Over-discharge Protection Voltage of Single Cell (V)	2.50±0.05			2.50±0.05	2.5
	Maximum Delay Time of Over-charge Protection (s)	3			1	
	Maximum Delay Time of Over-discharge Protection (s)	1				
	Maximum Delay Time of Over-current Protection (ms)	200			300	120
	BMS Programming port	RS485 (concealed)				ZW-3SABM0-H02
	BMS Leakage Current (mA)	≤10				
	Working Temperature Range of Charge (°C)	0 ~ 45			-185 ~ 53	-0 ~ 60
	Working Temperature Range of Discharge (°C)	-20 ~ 55			-20 ~ 60	
Warranty						
		1 Year Manufacturer's Warranty				

For more information on standard or customized products,
contact us at 1-844-585-6439 and info@blackstartech.com.

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