

PowerCore Fully Integrated Power Center

A container-type uninterruptible power supply and energy distribution system designed to ensure uninterrupted power continuity in critical mission areas such as data centers, energy production and distribution facilities, industrial control infrastructures, and defense applications.



Telecommunications

Reliable power support for uninterrupted communication infrastructure

Energy Distribution

Guaranteed continuous operation in critical energy systems

Industrial Control

Uninterrupted power continuity in production lines

Railway & Transportation

Safe energy management in transportation systems

Renewable Energy

Integrated solutions for clean energy systems

Defense & Outdoor ICT

Reliable power infrastructure in harsh conditions

Product Overview



Deckro PowerCore is a fully integrated UPS power center designed to provide uninterrupted energy continuity in critical application areas such as data centers, energy production and distribution facilities, industrial control infrastructures, and defense applications.

All electrical, mechanical, and environmental systems are offered in an integrated manner within a single ISO High Cube container. This structure combines UPS units (300 / 400 / 500 kVA), up to 480 battery systems, isolation transformers, precision cooling, fire detection and suppression systems, and monitoring and access control infrastructure into a single solution.

PowerCore offers fast installation and ease of maintenance thanks to its high energy efficiency, long-term backup capacity, and modular internal layout. With its "Plug & Play" concept, it requires minimal on-site assembly and ensures safe operation performance in harsh environmental conditions with its IP55 protection class.



Key Features and Advantages



20 FT ISO High Cube

Fully integrated system in standard container dimensions



300-500 kVA Power

Scalable solution with flexible capacity options



480 Battery Capacity

Uninterrupted backup time of up to 90 minutes



95% Efficiency

High energy efficiency and low operating cost

2N or N+1 Redundancy

Dual redundant configuration options for critical applications. Ensures maximum reliability and uninterrupted service continuity.

IP55 Protection

Full protection against dust and water. Safe operation in harsh environmental conditions with C4-H corrosion resistance.

Precision Cooling

N+1 redundant precision cooling system for optimal temperature control and maximization of equipment life.



Models and Configurations

The PowerCore series is offered with three main models for different power needs. Each model can be supplied in 2N or N+1 redundancy configuration.

Model	UPS Model	Power (kVA/kW)	Total Capacity	Redundancy
PowerCore20/300	3300H	300 / 300	600 kVA	2N / N+1
PowerCore20/400	3400H	400 / 400	800 kVA	2N / N+1
PowerCore20/500	3500H	500 / 500	1000 kVA	2N / N+1

3

Model Options

300, 400, and 500 kVA capacities

480

Maximum Battery

High capacity backup system

90

Minutes Autonomy

Long-term uninterrupted
operation



Container Structure and Features

Physical Specifications

- Type: 20 FT ISO High Cube Container
- External Dimensions: 6058 × 2438 × 2896 mm
- Body: 2 mm galvanized steel
- Insulation: 60 mm sandwich panel
- Weight: 11-12 tons (equipped)
- Floor Bearing Capacity: 1500 kg/m²

Protection and Durability

- IP55 protection class
- C4-H corrosion resistance (ISO 9227)
- Operating temperature: -25°C to +55°C
- Design life: ≥25 years

Door and Access System

Easy access with rear double-wing main door and side service door. IP55 protection level with industrial hinge system, multi-point locking mechanism, and air-dust sealed EPDM rubber gasket.

Cable Entries

IP-protected multi-cable channels with brush and gland base entry. Optimized entry points for all electrical connections.

Internal Equipment

Industrial LED lighting, service socket, emergency lamp, earthing bar, and maintenance area markings are provided as standard equipment.



UPS System Technical Specifications

The PowerCore series is equipped with DS Power H series UPS technology. It offers superior performance with a transformerless, Online Double Conversion (VFI) topology and a 3-Level IGBT + DSP controlled fully digital structure.



Topology and Technology

Transformerless Online Double Conversion (VFI) topology. 3-Level IGBT and DSP controlled fully digital structure. Up to 8 systems can be connected in parallel.



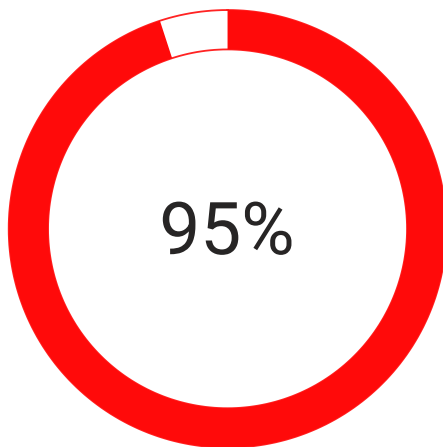
Input Features

380/400 VAC $\pm 20\%$ wide input range. Power factor ≥ 0.99 . Input current harmonic $\leq 3\%$. Generator-compatible design.



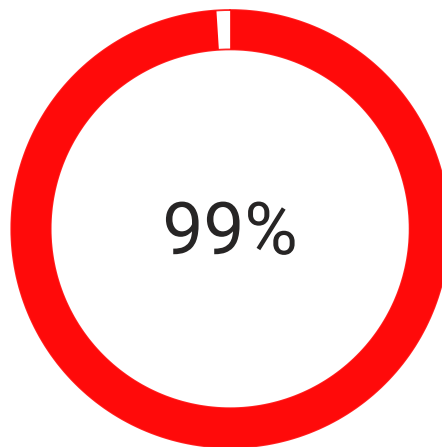
Output Performance

380/400 VAC $\pm 1\%$ precise voltage. Pure sine wave output. THD $\leq 2\%$ (linear load). Crest factor 3:1.



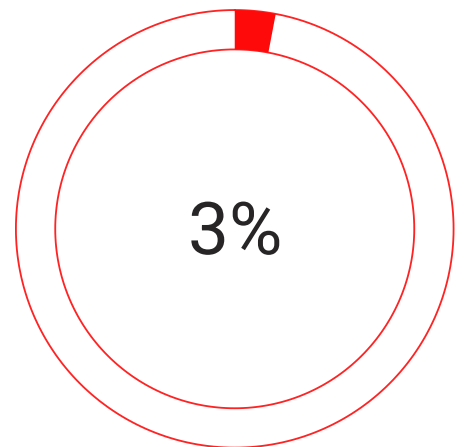
AC-AC Efficiency

High energy efficiency



Input Power Factor

Grid-friendly design



Maximum THDi

Low harmonic distortion



Battery System and Energy Storage

The PowerCore battery system provides scalable autonomy from 15-90 minutes with a maximum of 480 maintenance-free VRLA (AGM/Gel) or LFP (LiFePO₄) type batteries.

It offers 2N or N+1 configuration capability with two independent battery strings (String A & B). The seismic-resistant, electrostatic powder-coated steel rack system provides vibration resistance up to 1G.

Battery Monitoring and Protection

Cell-by-cell voltage and temperature monitoring with optional Battery Monitoring System (BMS). Automatic discharge test every 72 hours. Three-stage alarm system (pre-warning / low voltage / critical voltage).

Technical Parameters

- Nominal DC Voltage: 2 × 405 VDC
- End of Discharge Voltage: 2 × 300 VDC
- Capacity: 480-960 Ah
- Operating Temperature: 0°C - 40°C (VRLA)
- Nominal Life: 10-12 years (VRLA) / ≥15 years (LFP)



Battery Selection

VRLA or LFP technology option



Smart Charging

Temperature compensated IUoU algorithm



Continuous Monitoring

Real-time status tracking with BMS



Protection System

Multi-stage security and alarm

Cooling and Air Conditioning System

PowerCore is equipped with an industrial-type cabinet air conditioner. Two units operating in an N+1 redundant configuration provide a total cooling capacity of 10-14 kW.

01

Compressor System

Closed-circuit air circulation with hermetic scroll or piston compressor. Use of R134a or R407C ozone-friendly refrigerants.

02

Airflow Control

Automatic speed-controlled 800-1200 m³/h airflow with EC or AC axial fan. Bottom intake, top discharge principle.

03

Temperature Management

Precise temperature control between +20°C - +45°C (±1°C) with digital thermostat. Stainless steel drain line and steam trap drainage system.

04

Filtration and Protection

Clean air circulation with G2/G3 class dust filter. IP54 protection class. -20°C to +55°C outdoor operating range.

The N+1 redundant cooling system maximizes the lifespan of the entire system by automatically rotating and regularly switching between active and redundant units.



Fire Detection and Suppression System

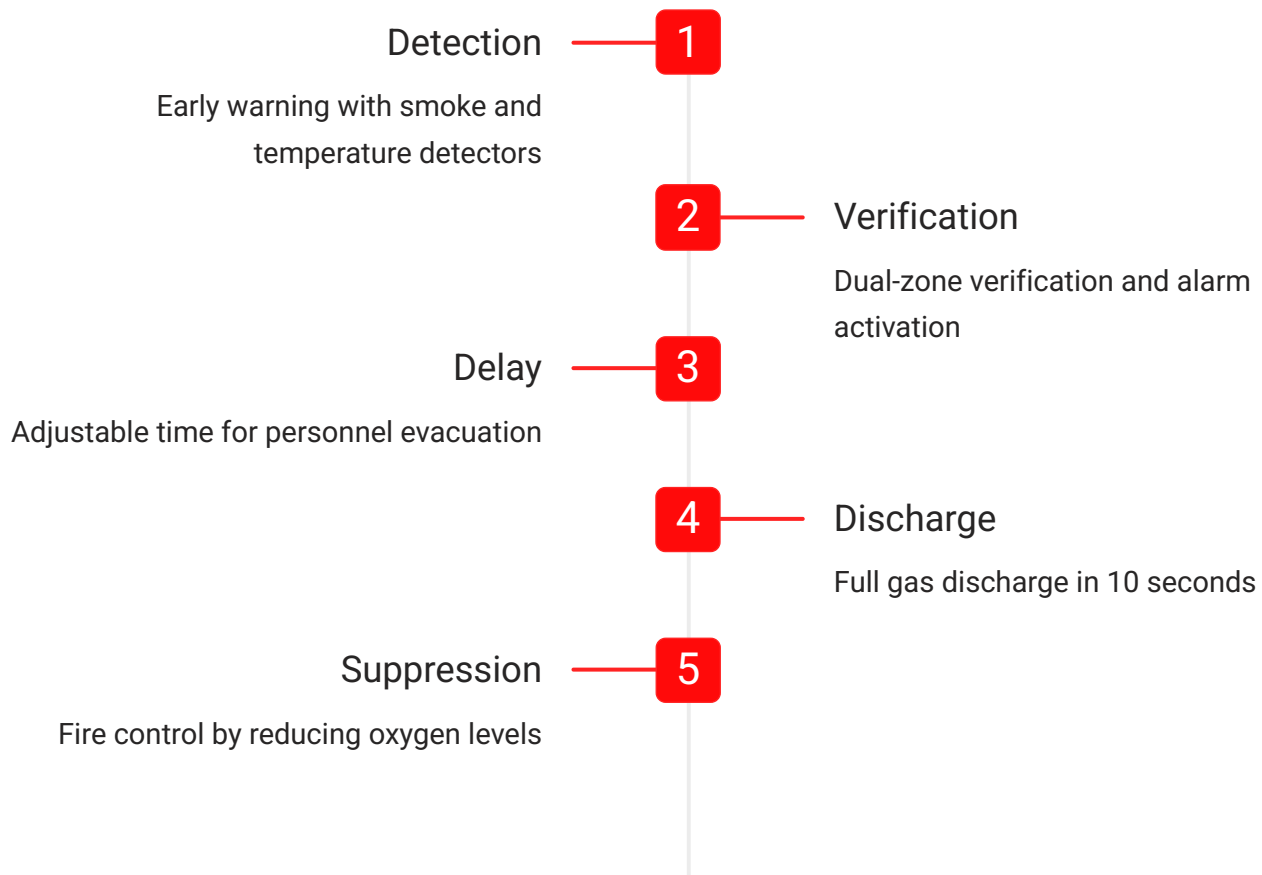
System Features

Clean agent, automatic detection and suppression system. Uses Novec™ 1230 or FM-200 (HFC-227ea) extinguishing agent. Harmless to electronic equipment, ozone-friendly composition.

Gas extinguishing control panel compliant with EN 12094-1 with dual-zone detection (UPS compartment and Battery/Transformer compartment). EN 54-7 certified optical smoke detectors and EN 54-5 temperature detectors.

Safety and Control

- Dual detector approved discharge (cross-zone)
- Manual activation and abort function
- Audible and visual alarm devices
- ≤10 sec discharge time
- 25-70 kg cylinder capacity
- Stainless steel discharge nozzles



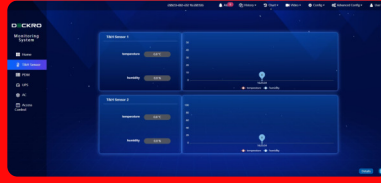
Monitoring and Control System

The Integrated Monitoring and Management System provides central control of UPS, battery, air conditioning, fire, and access systems. It offers web-based monitoring with Deckro Monitoring Software, a local TFT panel, and SNMP/Modbus TCP/IP communication.



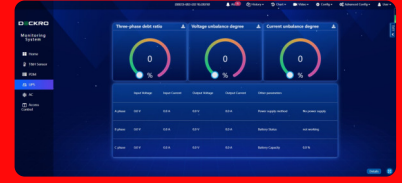
Real-time Monitoring

Tracking of UPS voltage, current, load ratio, power factor, and operating mode. Monitoring of battery voltage, current, temperature, and health status.



Alarm Management

Three-stage alarm structure (pre-warning/critical/emergency). Email and SNMP trap notification. 512 event logs and 46,000 alarm history.



Remote Access

Web browser, SNMP, or SCADA integration. RS232, RS485, Modbus RTU/TCP, TCP/IP protocol support.

Environmental Sensors

Environmental monitoring with temperature, humidity, smoke, and water leak sensors.

User Levels

3 access levels: Operator, Administrator, and Service.

Reporting

Weekly report generation in PDF/CSV format and data transfer.



Access Control and Security

Mechanical Access Control

High-security industrial multi-point locking system (3 or 5 pin structure). Stainless steel (AISI 304) body and latch system. Central key management with a special profile master-key system.

Mechanical "panic bar" handle on the inside for immediate opening in emergencies. IP55 protection class for dust and water resistance.



Electronic Access Control (Optional)

RFID card reader, fingerprint sensor, or PIN keypad options. Up to 200 users for card/fingerprint registration. IP65 rated outdoor type reader unit.

1

Authentication

Access control in <1 second
with RFID, biometric or PIN

2

Recording and Monitoring

Up to 1000 access logs, with
time and user ID information

3

Integration

Synchronized door status
and alarm report with T-Mon
software

Electrical Distribution and Grounding

Three-phase (3P+N+PE) industrial power distribution system. Provides safe and efficient power distribution with 400V AC $\pm 10\%$, 50/60 Hz TN-S system.

Power Distribution Panel

Metal enclosure with IP55 protection class. 4-pole MCCB main switch, 50 kA breaking capacity. Separate circuits for UPS, air conditioning, lighting, and fire systems.

Protection Equipment

MCCB, MCB, RCD, Type 2 SPD (40 kA nominal discharge current). Flame-retardant, halogen-free LSZH cable system. Continuous monitoring with digital energy analyzer.

Grounding System

TN-S system, with separate PE and N lines. Copper busbar (Cu 25x3 mm) main grounding busbar. Equipotential bonding for all equipment. Target ground resistance $\leq 1\Omega$.

 **Security Note:** All electrical components are designed and tested in accordance with IEC 60364, EN 61439, and IEC 61643 standards. The equipotential bonding system provides low impedance connection between UPS, air conditioning, panel, rack, cabinet, and enclosure.



Standards and Certifications

The PowerCore series is designed and manufactured in full compliance with international safety, performance, and quality standards.



UPS and Power Systems

IEC/EN 62040-1/2/3 (UPS safety, EMC, and performance), IEC/EN 60950-1 (IT equipment safety), IEC/EN 61000-6-2/6-4 (EMC immunity and emission)



Battery Systems

IEC/EN 60896-21/22 (VRLA performance), IEC 62619 (LFP safety), UL 1989 and UN 38.3 (battery transport and safety)



Fire Safety

EN 12094-1 (gaseous extinguishing control), EN 54 Series (fire detectors and alarms), ISO 14520-1 (gaseous extinguishing performance)



Quality and Management

ISO 9001:2015 (quality management), ISO 14001:2015 (environmental management), ISO 45001:2018 (occupational health and safety), CE Mark

Electrical Standards

- IEC/EN 61439-1/2
- IEC/EN 60364-4-41
- EN 50522
- IEC/EN 61643-11

Mechanical Standards

- ISO 668 / ISO 1496-1
- IEC 60068-2-6/14/30
- EN ISO 12944-6
- ISO 9227 / ASTM B117

Test and Approval

- FAT (Factory Acceptance)
- SAT (Site Acceptance)
- TSE Certificate
- GOST-R Certificate

Optional Configurations

The PowerCore series is offered with customizable optional hardware according to different application requirements.



Battery Technology Options

VRLA Battery Pack:

Maintenance-free lead-acid (AGM/GEL) batteries, 15-90 minutes backup, economical and reliable solution.

LiFePO₄ Battery Pack:

Long-life (≥15 years), high-cycle, integrated BMS controlled lithium iron phosphate batteries.



Fire Suppression Systems

Novec™ 1230: EN 12094-1

certified clean agent gas, harmless to electronic equipment, 10 sec discharge.

FM-200: UL approved

HFC-227ea gaseous system, suitable alternative for small volume containers.



Access Control Systems

Electronic System: RFID

card, fingerprint or PIN code, T-Mon integration, access log record.

Mechanical System:

Multi-point stainless steel locking, master-key system, power-free solution.

Monitoring and Communication

T-Mon software, GSM notification module, IP camera integration, 7" touch HMI panel, environmental sensor set

Special Applications

C4-H corrosion protection, isolation transformer set, Ex-proof hardware, acoustic insulation, special paint systems



Product Codes and Contact

The PowerCore series is offered in six main models in standard and redundant configurations.

Stock Code	Product Description	Capacity	Redundancy	Battery
PC20-300S	PowerCore 20FT / 300 kVA – Standard	300 kVA	N	480
PC20-300R	PowerCore 20FT / 300 kVA – Redundant	300 kVA	N+1	480
PC20-400S	PowerCore 20FT / 400 kVA – Standard	400 kVA	N	480
PC20-400R	PowerCore 20FT / 400 kVA – Redundant	400 kVA	N+1	480
PC20-500S	PowerCore 20FT / 500 kVA – Standard	500 kVA	N	480
PC20-500R	PowerCore 20FT / 500 kVA – Redundant	500 kVA	N+1	480

For Critical Infrastructures

Ideal solution for data centers, telecommunications, power generation and distribution facilities

Fast Installation

Plug & Play concept with minimal on-site assembly, factory-tested delivery

Durable in Harsh Conditions

IP55 protection, C4-H corrosion resistance, operating range -25°C to +55°C

PowerCore: Uninterrupted power, maximum reliability. Fully integrated power center solution for your critical infrastructures.