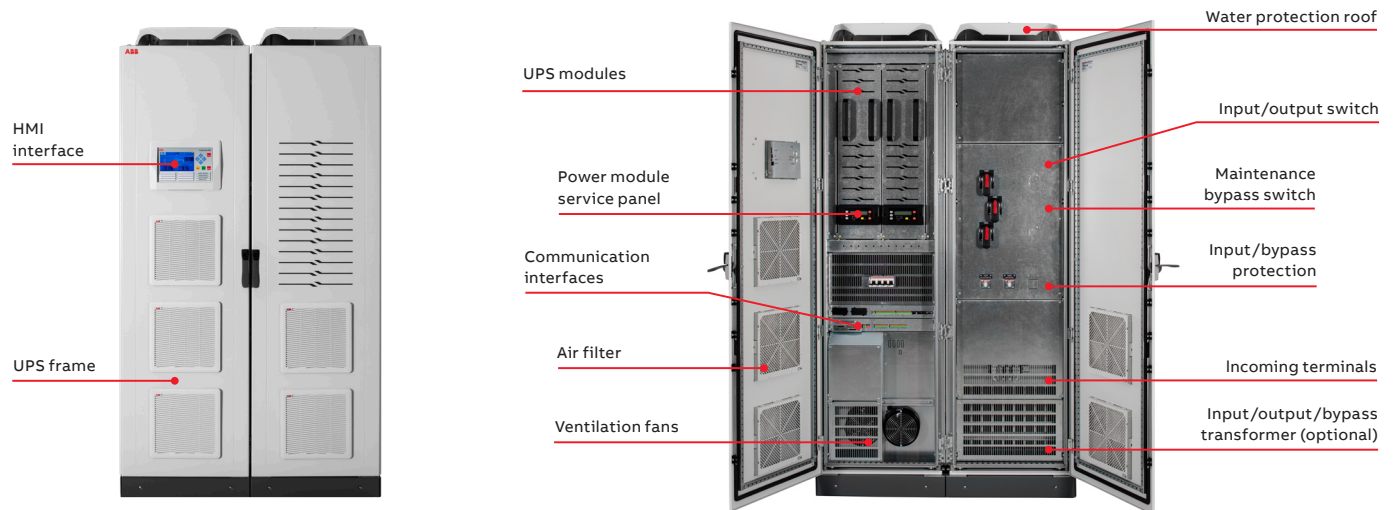


# PowerLine DPA

## Full power for industrial applications



PowerLine DPA (3ph and 1ph) is an online double conversion UPS and makes the advantages of ABB's unique modular UPS architecture available for locations that are usually rough on electronic equipment. PowerLine DPA is based on ABB's Decentralized Parallel Architecture (DPA) that ensures the very best UPS design in terms of availability, serviceability, safety and ease of use.

Its robust design is suitable for industrial plant environments that have a variety of temperatures, dust, moisture and corrosive contaminants. The PowerLine DPA is designed to have a design life of 15 years. Its pre-configured options, tailored for industry, allow agile implementations with short lead times.

### Fail safe electrical design

- High overload and short circuit capability
- System integrated galvanic isolation and step up-down voltage transformers (optional)
- High capacity for battery current charge for long battery banks

### High availability

- Decentralized Parallel Architecture (DPA)
- Replace or add modules with no downtime (online swappable)

### Fail safe mechanical design

- High degree of protection: IP31 (standard), IP42 (optional)
- Designed for deployment in demanding industrial situations
- Small foot print /high power density

### Efficient service concept

- User-friendly operating interface
- Fast maintenance
- Full front access
- Reduced spare parts needed

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# PowerLine DPA

## Product Features

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01 Local control and metering are provided via a HMI (human-machine interface) consisting of graphical display showing the UPS mimic diagram, UPS operating status (normal, battery and bypass), and programmable alarms.

### The robust UPS

PowerLine DPA's IP31-rated protection can easily cope with dust, water condensation, excessive humidity (up to 95 percent), corrosive air contamination and rough manhandling. The UPS is designed to operate in a temperature range of  $-5$  to  $+45^{\circ}\text{C}$ . High priority has been given to safety and PowerLine DPA features a high degree of protection for users and maintenance staff. The device's compliance with the relevant standards – IEC/EN 62040-1 for general and safety aspects, IEC/EN 62040-2 for EMC and IEC/EN 62040-3 for performance and test – has been verified. All sort of transformers are available to meet customer voltage requirements and electrical isolation. In addition, PowerLine DPA has a high overload capacity and robust short-circuit capability, and is available with rated powers of 20 to 120 kVA. With input and output (three-phase) voltages in the range 220 to 415 VAC the UPS requires no onerous electrical installation considerations and is straightforward to service.

### Monitoring

PowerLine DPA UPS can be supplied with relay boards and a network management card that provide connection to a DCS (distributed control system) or SCADA (supervisory control and data acquisition) system via SNMP, ModBus TCP or ModBus RS-485.

These interfaces allow:

- Environmental monitoring
- Extensive alarm handling and dispatching
- Redundant UPS monitoring
- Integration of PowerLine DPA into multivendor and multiplatform environments
- The supply of UPS data to Web applications

### Battery bank

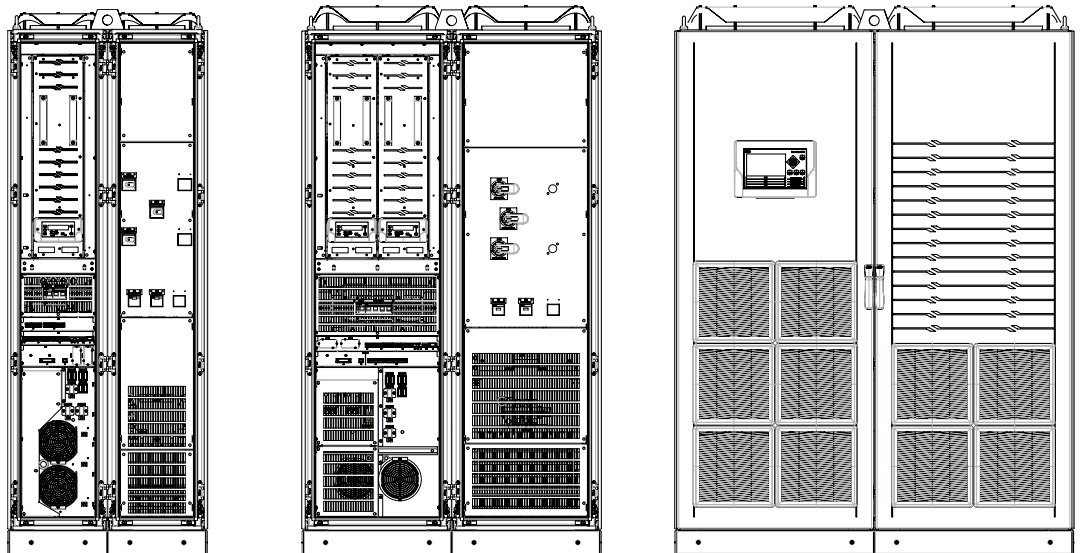
Most industrial processes will draw substantial amounts of power from a UPS. Therefore, PowerLine DPA is able to work with valve-regulated lead-acid (VRLA), NiCad and lithium-ion batteries to support autonomy times up to 10h. Fast recharging is also catered for to get the UPS battery bank back up to operational levels as quickly as possible.

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# PowerLine DPA

## Available models



Cabinet type	PowerLine DPA 40	PowerLine DPA 80	PowerLine DPA 120
Number of modules	1	2	3
Dimension w×h×d	800×2200×800 mm	1200×2200×800 mm	1600×2200×800 mm
Weight in kg (without transformers)	Up to 300 kg	Up to 500 kg	Up to 850 kg

### UPS cabinet configuration

- 3ph and 1ph online double conversion UPS
- Decentralized Parallel Architecture
- Housed in an industrial metal enclosure, IP31, RAL 7035, bottom cable entry
- Halogen free cable
- Forced ventilation with monitored fans
- Input, bypass and battery protection
- Manual bypass switch
- Integrated back-feed protection
- HMI interface with graphical display, control push keys, UPS operating status indication and programmable alarm section
- Communication interfaces: Relay board with 9 programmable outputs and 8 inputs, RS-232 and USB ports

### Options

- Input, output, bypass aluminum transformer
- Customized input & output voltages
- Ingress protection IP42
- Top cable entry
- Redundant fan monitoring (N + 1)
- Tropicalization and anti-corrosion protection for electrical boards
- Anti-condensator heater
- Lifting eyes
- Control and monitoring (ModBus RS-485, ModBus TCP/IP, SNMP)
- Battery temperature sensor
- Cold start
- Redundant configuration

# PowerLine DPA

## Technical specification

General data	PowerLine DPA 40	PowerLine DPA 80	PowerLine DPA 120
System power range	20 - 120 kVA (3ph); 20 - 80 kVA (1ph)		
Nominal power / frame	20kVA	40kVA	80 kVA
Number of UPS modules	1	2	3
Output power factor	1.0		
Topology	Online double conversion		
UPS configuration	Single, redundant, dual, N+1		
UPS type	Modular (Decentralized Parallel Architecture)		
Input			
Nominal input voltage	3×400/230 V+N		
Voltage tolerance (referred to 3×400 / 230 V)	For loads <100% (–15%, +10%), <80% (–20%, +10%), <60% (–25%, +10%)		
Input distortion THDi	≤4%		
Frequency	50 or 60 (selectable)		
Power factor	0.99		
Output			
Rated output voltage	3× 400/230 AV (3ph); 230 (1ph)		
Voltage distortion (referred o 3 ×400/230 V)	<1%		
Frequency	50 Hz or 60 Hz		
Overload capability	150% 1 min, 125% 10 min		
Output short capability	2.7 × Inom (3ph); 2.4 x Inom (1ph)		
Unbalanced load	100% (all three phases regulated independently)		
Crest factor	3:1 (load supported)		
Efficiency			
Overall efficiency / transformerless	Up to 96% (3ph); 94% (1ph)		
In eco-mode configuration	98%		
Environment			
Storage temperature	–25 °C to +70 °C		
Operating temperature	–5 °C to +45 °C		
Humidity	5% to 95% without condensation		
Altitude	1000m without derating		
Electrical / Mechanical			
Degree of protection	IP31, IP42 (optional)		
Color	RAL 7035		
Cable entry	Bottom, Top (optional)		
Wiring	Halogen free cable		
Operating and maintenance access	Front access		
Ventilation	Forced ventilation with monitored fans		
Battery			
Battery type	VRLA / NiCd / Li-Ion		
Autonomy	According to customer's requirement		
Communications			
HMI	Graphical display for control and metering, 8 programmable alarm indications		
Relay contactors	8 in /9 out programmable relays		
LCD	On system level HMI with graphical display and alarm indications; on module level service control interface		
LEDs	LED for notification and alarm		
Communication ports	USB, RS-232, SNMP slot, potential-free contacts		
Standards			
Safety	IEC / EN 62040-1		
Electromagnetic compatibility (EMC)	IEC / EN 62040-2		
Performance	IEC / EN 62040-3		
Product certification	CE		
Manufacturing	ISO 9001:2015, ISO 14001:2015, OHSAS18001		
Weight, dimensions			
Weight (with modules /without transformers)	Up to 300 kg	Up to 500 kg	Up to 850 kg
Dimensions w × h × d (mm)	800×2200×800 mm	1200×2200×800 mm	1600×2200×800 mm