



Product brochure

# ABB power protection solutions

## PCS100 MV UPS, up to 6 MVA – 6.6 kV

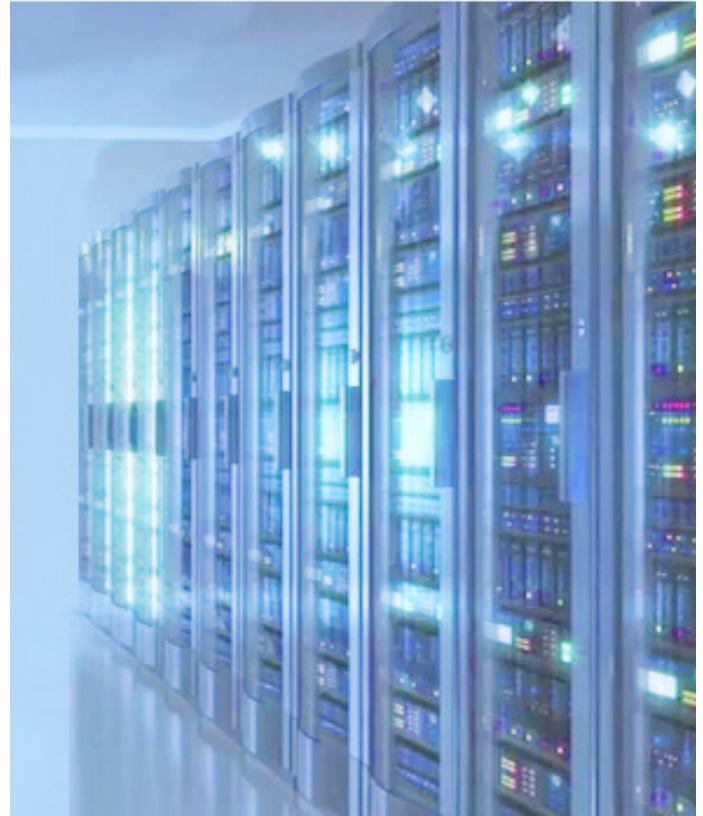
### Medium voltage UPS

Power and productivity  
for a better world™



# Complete power protection

Provides reliable and efficient power for industry and large data centers



## Product overview

The dependence on a rock-solid supply of good-quality power has driven the massive growth in the UPS and power conditioner business in recent years. Almost every organization – health authorities, banks, government departments, retail outlets, and corporations – requires the safe storage of enormous amounts of information. The solution is to install the UPS at the medium voltage level for complete power protection.

When ABB's PCS100 MV UPS is installed at medium voltage levels, it can be put in less-crowded spaces away from the target devices – in medium voltage electrical rooms or plant substations, for instance – thus freeing up space for more important infrastructure, such as servers or manufacturing tools.

ABB's PCS100 MV UPS has been designed to provide clean, reliable and efficient power, and lower costs for customers in industry and in large data centers who have sensitive or critical loads. The single-conversion topology used is a natural choice for medium voltage as losses are extremely small, meaning efficiencies well in excess of 99.5 percent can be achieved. The PCS100 MV UPS can be installed to protect the complete supply or just selected sensitive loads.

## Data centers

A PCS100 MV UPS can be installed into the electrical supply to protect the complete supply to the data center or alternatively just server or mechanical loads. Installing the UPS protection at medium voltage provides the most energy efficient configuration and allows the possibility of installation outside the main data center building.

## Industrial applications

Large critical manufacturing processes, such as chemical or semiconductor manufacturing, require a lot of uninterrupted power. Using the PCS100 MV UPS to protect critical manufacturing processes ensures complete plant protection with the lowest operating costs. Retrofit is also possible by providing protection at the incoming medium voltage level.

## Unique technology

The technology of the PCS100 MV UPS allows a system design where the power converter and energy storage can remain at low voltage, with a transformer coupling these to medium voltage. Also at the medium voltage level is a thyristor-based utility disconnect switch which prevents backfeed into the grid in the event of a power loss or voltage sag. Because the energy storage is kept at low voltage levels, a wide range of energy storage options is available.

# PCS100 MV UPS, up to 6 MVA – 6.6 kV

The ideal solution for complete protection with the lowest cost of ownership



## Features

- Industry leading efficiency
- Designed for industrial loads and large data centers
- Modular design with integrated redundancy
- Very high fault current capacity
- Generator walk-in algorithm for a controlled transfer of the load to backup generators
- Ratings up to 6 MVA – 6.6 kV

## PCS100 MV UPS advantages

### Complete power protection

When installed at medium voltage levels, the PCS100 MV UPS can be put in less crowded spaces away from the target devices – in medium voltage electrical rooms or plant substations, for instance – thus freeing up space for more important infrastructure, such as servers or manufacturing tools.

### Lowest total cost of ownership

The unparalleled efficiency of the PCS100 MV UPS, its minimized maintenance costs and small system footprint minimize ownership costs. The fact that the energy storage and converter is at the low voltage level also greatly simplifies maintenance and reduces system cost.

### Retrofit possibilities

The PCS100 MV UPS has many retrofit possibilities that allow custom designs that suit applications in plants that are currently unprotected or where traditional rotary UPS solutions require replacement.

### Energy storage options

The PCS100 MV UPS is compatible with a wide range of energy storage depending on the duration of protection required. Ultracapacitors and flywheels provide high density coverage for seconds while batteries can be used for longer backup times up to 15 minutes.

## Technical specifications

Input		Environmental	
Nominal Voltage	Up to 6.6 kV	Efficiency	99.5% (typical)
Current Rating	600 A	MV Enclosure IP rating	IP23
Power System Type	3-Phase (3-Wire) IT or TN	LV Enclosure IP rating	IP20
Nominal Frequency	50 or 60 Hz	IEC Pollution degree rating	2
Basic Impulse Level (BIL)	60 kV	Operating Temperature	0°C to 40°C (excluding energy storage)
Output		Noise	75 dBA typical at 1 m
Capacity Rating	Up to 6.0 MVA	Cooling	Forced air cooled
Displacement Power Factor	0.7 lagging to 0.9 leading	Enclosures	
Transfer time	≤ 1.8 ms (typical)	Material	Electro-galvanized steel
Autonomy time	Up to 15 min	Color	RAL 7035
Frequency accuracy	0.10% (inverter operation)	Enclosure Access	Hinged doors with key lock
Voltage accuracy	+/- 5.0% (inverter operation)	User Interface	
Voltage distortion	< 2.5% THDv for linear loads	Type	Color LCD Touchscreen
Energy storage		Communications type	Modbus TCP, Web server, digital I/O
Nominal DC Voltage	750 V dc	Standards and Certifications	
Discharging Voltage Range	812 V dc to 554 V dc	Quality	ISO 9001
Recharge Power	Typically 10% of rated kVA	Performance	IEC 62040-3, VFD SS 211
Storage technology	Ultracapacitors, flywheels or batteries (lead acid, Li-Ion)	Construction and Safety	IEC 60664-1 IEC 62271-200

\* For further technical information, please refer to ABB's PCS100 MV UPS technical catalogue.

# Contact us

For more information contact your local ABB representative or visit:

**[www.abb.com/pcs100-power-converters](http://www.abb.com/pcs100-power-converters)**

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