

PRODUCT BROCHURE

# HiPerGuard

## Medium Voltage UPS 6.6 kV - 24 kV



- Continuous clean power
- Efficiency of 98 %
- Scalable power from 2.25 MW up to 22.5 MW
- System energy reserve available for grid support services
- Design life of fifteen years

# HiPerGuard MV UPS

## Medium Voltage UPS based on ZISC architecture

The space and electrical power needed to run a large critical power facility have increased over the past decade. Facilities are now faced with the need for energy efficient and reliable power as it is essential to have clean, continuous power to avoid any major losses



01

ABB's HiPerGuard MV UPS is the next generation of medium voltage UPS intended for multi megawatt power protection. Based on the ZISC architecture, the HiPerGuard MV UPS introduces a flexible solution for higher reliability and efficiency in critical power installations.

01. HiPerGuard MV UPS

### Medium voltage

The transition from low voltage (LV) to medium voltage (MV) level is a natural progression of power protection for large critical power installations. The approach offers two main benefits. It increases reliability and reduces costs of the critical power facility build and operation.

Increased reliability is derived from the MV design approach with larger protected load blocks, lower switchgear count and the operating culture of medium voltage systems.

Installing the power protection at the MV level provides the most energy efficient configuration as the lower currents at this voltage result in smaller cables and lower losses, leading to less cooling requirements.

### HiPerGuard

HiPerGuard is the next generation of medium voltage UPS intended for multi megawatt power protection. Based on the impedance isolated static converter (ZISC) architecture, the HiPerGuard MV UPS introduces a flexible solution with high reliability and high efficiency for critical power installations.

The HiPerGuard is the most recent addition to ABB's Power Protection product portfolio, creating a complete power protection solution. This increased flexibility removes the need for complex power distribution architectures.

# Complete power protection

## Reliable and clean power with optimized operating costs

The HiPerGuard MV UPS's key benefits and advantages create a robust and extremely reliable power protection device for critical facilities.

### High Efficiency

- Leading efficiency UPS - 98% at 50% to 100% loading.
- Substantial energy savings during the product lifespan when compared to rotary systems.

### Performance

- Performance in line with IEC62040-3 Class 1.
- High fault clearing capability.
- Higher availability due to modular design.

### Flexibility

- Scalable power from 2.25MW up to 22.5MW in parallel allows load growth with less stranded capacity, minimizing CAPEX.

### Sustainability

- CO<sub>2</sub> emissions reduced thanks to the high efficiency.

### Connectivity and monitoring

- Event analysis and waveform capture.
- Remote monitoring and diagnostics.
- ABB Ability™ to increase productivity and safety at lower costs.

### Serviceability

- Plug and play power converters.
- Power converters and energy storage at low voltage.
- MTTR typically less than fifteen minutes.
- Comprehensive service log.
- Up to ten years between intrusive maintenance activities.

### Demand Response

- System energy storage reserve available for grid support services or peak shaving.



02. Graphical Display Module (GDM)



03. Power Electronics Building Block (PEBB)

# Technical Data

Product Class	7.2 kV IEC	12 kV IEC	15 kV ANSI	24 kV IEC
Rated Voltage <sup>1</sup>	6-6.6 kV	10 – 11 kV	12.47 – 13.8 kV	20 – 22 kV
Rated apparent power	2250 kVA			Single unit
Rated active power	2250 kW			Load power factor 1.0
Hard parallel configuration	Up to 10 units			

## Performance

Efficiency	98% for 50% to 100% loading	Under nominal conditions
Dynamic output performance	In line with IEC62040-3 VI SS 111	
Architecture	ZISC enabled line interactive	

## Input

Voltage tolerance	±10 %	From nominal voltage
Rated frequency	50 Hz/60 Hz	
Power Distribution system <sup>1</sup>	IT, 3-Wire Input	

## Output

Rated frequency	50 Hz or 60 Hz	
Load power factor range	0.9 leading to 0.8 lagging	

## Energy Storage

Energy storage type	Li-Ion batteries	
Energy storage supplier	ABB qualified	
Energy storage autonomy range <sup>1</sup>	15 sec to 15 min	

## Interface

System display	10" touchscreen display	
Display advanced functionality	Waveform capturing Event analysis Trending Comprehensive service log	
Communication	Ethernet Modbus TCP™	

Note: For other voltages, distribution systems, and autonomy options, please contact ABB.



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